CALIFORNIA
Water Boards

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State Water Resources Control Board

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Comments of State Water Resources Control Board and San Diego Regional Water Quality Control Board on Test Claim No. 16-TC-05, *California Regional Water Quality Control Board, San Diego Region, Order No. R9-2015-0100*[1]

Dear Ms. Halsey:

The State Water Resources Control Board (State Water Board) and the San Diego Regional Water Quality Control Board (San Diego Water Board) (collectively, "Water Boards") jointly submit this Opposition to Test Claim No. 16-TC-05 (Test Claim). The Test Claim was filed with the Commission on State Mandates (Commission) by the County of Riverside and the Riverside County Flood Control and Water Conservation District and the cities of Murrieta, Temecula and Wildomar (Claimants). Claimants seek reimbursement of estimated and other unspecified costs of implementing or complying with certain requirements set forth in San Diego Water Board Order No. R9-2013-0001, as amended by Orders No. R9-2015-0001 and R9-2015-0100 (Regional Permit). The Regional Permit, issued pursuant to the National Pollutant Discharge Elimination System (NPDES) Permit Program, has covered Claimants' discharges to waters of the United States since the effective date of the last amendment to the Regional Permit in November 2015. According to Claimants, many of the requirements at issue in this particular permit are unfunded state mandates that require subvention. For the reasons set forth below, the Commission should deny the Test Claim in its entirety.

I. INTRODUCTION

The federal Clean Water Act (CWA)[2] prohibits discharges of pollutants to waters of the United States except in compliance with a NPDES permit. The San Diego Water Board issued the

[1] San Diego Region Order No. R9-2013-0001 and National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0109266, was amended by Orders Nos. R9-2015-0001 and later R9-2015-0100 to include dischargers in Orange and Riverside Counties, respectively, among other revisions.

[2] Federal Water Pollution Control Act (FWPCA; 33 U.S.C.A. §§ 1251 et seq.) The federal Act is referred to herein by its popular name, the Clean Water Act (CWA) and the code sections used are those for the CWA.

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Regional Permit[3] pursuant to the CWA, its implementing regulations, and guidance from the United States Environmental Protection Agency (U.S. EPA) on May 8, 2013.[4] It was later amended in 2015 to provide coverage to Orange County copermittees (February 2015) and later Riverside County copermittees (November 2015). Broadly, the Regional Permit regulates the discharge of storm water (wet weather) from and non-storm water (dry weather) discharges into the municipal separate storm sewer systems (MS4s) within the San Diego Region, which drain into the watersheds of the San Diego Region, in the following ways:

- By prohibiting the discharge of non-stormwater discharges *into* the Copermittees'[5] MS4s;
- By requiring controls to reduce the discharge of pollutants to the "maximum extent practicable," or MEP; [6]
- By requiring that Copermittees take actions, known as Best Management Practices (BMPs), to reduce the flow of pollutants into waters in the San Diego Region in order to improve water quality;[7] and
- By requiring Copermittees to perform monitoring and reporting designed to determine whether they are operating in compliance with their federal permit.[8]

Claimants bring this Test Claim to determine who must pay for many of the Regional Permit's provisions. Specifically, Claimants invoke California Constitution article XIII B § 6, arguing that the Regional Permit imposes unfunded State mandates that require subvention. Article XIII B, section 6, of the California Constitution provides, "[w]henever the Legislature of any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service." In order to obtain reimbursement, the Claimants must show as a threshold matter that the state has imposed new programs or created a "higher level of service" over the previously required level of service.[9] The California Supreme Court has defined a "program" for purposes of article XIII B, section 6 of the California Constitution, as: (1) programs that carry out the governmental function of providing services to the public, or (2) laws which, to implement a state policy, impose unique requirements on local governments and do not apply generally to all residents and entities in the state.[10] A "higher level of service" occurs when the new "requirements were intended to provide an enhanced service to the public."[11] Conversely, Claimants are not entitled to subvention if the costs are imposed as a result of federal mandates

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[3] References to the Regional MS4 Permit are interchangeable with Regional Permit.

[4] The State Water Board and San Diego Water Board have been authorized by the U.S. EPA to issue NPDES permits—which are mandated by the CWA—in lieu of issuance of these permits by U.S. EPA. See, discussion, *infra,* at Background Section II.

[5] Copermittees used herein refers to a subset of or all 38 entities regulated under the Regional Permit. Claimants as used herein refers only to the County of Riverside, Riverside County Flood Control and Conservation District, and the cities of Murrieta, Temecula and Wildomar, within the San Diego Region.

[6] CWA § 402(p)(3)(B)(ii).

[7] 40 CFR § 122.2.

[8] See CWA §§ 308(a), 402(a)(1); 40 CFR §§ 122.41 (h), (j)-(l), 122.44(i) and 122.48.

[9] Cal. Const., Art. XIII B, § 6, subd. (a); *San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal.4th 859, 878; *Lucia Mar Unified School District v. Honig* (1988) 44 Cal.3d 830, 835-836.

[10] Cal. Const., Art. XIIIB, § 6, subd. (a); *San Diego Unified School Dist., supra,* at p. 878; *Lucia Mar Unified School Dist., supra,* at p. 835.

[11] *San Diego Unified School Dist., supra*, 33 Cal.4th at p. 878.

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rather than state mandates, if they proposed the permit provisions, or if any additional costs beyond a federal mandate are *de minimis*. Finally, Claimants must establish that they are required to use tax monies to pay for permit implementation of permit provisions before receiving reimbursement.[12] If Claimants have the "authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service," no subvention is required.[13]

As explained in detail below, Claimants are not entitled to subvention of funds for the provisions challenged through their Test Claim. There are several reasons for this. First, the Regional Permit is not a "program" subject to article XIII B, section 6 of the California Constitution. Claimants are unable to show that the requirements of the Regional Permit carry out a governmental function of providing public services or is unique to local government. Compliance with NPDES laws and regulations, and specifically with stormwater and non-stormwater permitting requirements, is required by private industry as well as non-local governments. NPDES permits governing private entities contain similar provisions requiring that those entities manage stormwater and non-stormwater to prevent or reduce discharges of pollutants.

Second, assuming a Permit is a "program," there is no evidence that many of the requirements at issue impose a new program. To the contrary, the San Diego Water Board issued the first municipal storm water permit to Claimants and others in 1990, pursuant to the CWA amendments of 1990.[14] In 1998, and again in 2004 and 2010,[15] the San Diego Water Board renewed the Claimants' permit. The Permit that is the subject of this test claim is the fifth such permit, and many (if not all) of the requirements at issue here are not new.

Third, again assuming the Permit is a "program," there also is no evidence suggesting that any of the programs or requirements imposed upon copermittees a higher level of service. As a general matter, the Regional Permit carries over and builds on the prior permit programs and implements independent federal requirements, all with a focus on water quality outcomes. Innovations included in the Permit are a part of the iterative process and applied technological advances, both of which are contemplated by federal law.[16]

Fourth, Claimants have not shown (and cannot show) that the challenged provisions constitute state (versus federal) mandates. Indeed, when it considered the Permit, the San Diego Water Board specifically found that its provisions and requirements were necessary to meet the MEP

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[12] See Cal. Gov. Code § 17556.

[13] Cal. Gov. Code § 17556 subd. (d).

[14] Order 90-46 was issued to Riverside County Copermittees in July 1990.

[15] Order No. 98-02, Order No. R9-2004-001, and Order No. R9-2010-0016.

[16] See, e.g., 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")

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standard, and that they were based exclusively on federal law.[17] The factual findings supporting this legal conclusion are entitled to deference by the Commission, and should not be disturbed.[18]

Fifth, even if there were substantial evidence supporting Claimants' challenges to the Permit (and there is not), one or more exceptions under mandates law applies to each provision, precluding a finding that subvention of funds is required.

Further, Claimants rely on the California Supreme Court decision in *Department of Finance v. Commission on State Mandates* (2016) 1 Cal.5th 749, *as modified on denial of rehearing* (Nov. 16, 2016) (*Department of Finance*), in support of its position. However, Claimants' challenges here are distinguishable. The Supreme Court's opinion was limited to a narrow issue: whether the Clean Water Act's MEP standard required the four provisions concerning trash receptacles and inspections in the 2001 Los Angeles County MS4 Permit to reduce the discharge of pollutants to the MS4.[19]

By contrast, the Regional Permit here reflects the San Diego Water Board's findings and determinations that requirements in the permit, including each of the challenged terms, were *necessary* to comply with the CWA and its implementing regulations and, thus, the permit was based entirely on federal authority.[20] The Supreme Court noted the absence of these findings in the LA Permit and further opined that such findings would be entitled to deference.[21] In addition, the Supreme Court's primary focus was the construction of MEP. But as set forth below, this Test Claim raises the following legal questions or factually distinct circumstances that the Supreme Court did not address:

1. Unlike the Los Angeles Regional Water Quality Control Board in the *Department of Finance* case, the San Diego Water Board found the permit requirements at issue in this test claim were federal mandates. "Had the Regional Board found when imposing the disputed permit conditions, that those conditions were the only means by which the maximum extent practicable standard could be implemented, deference to the board's expertise in reaching that finding would be appropriate."[22] Such findings are "case specific, based among other things on factual circumstances."[23]

2. Since the narrow issues presented by the appellants in *Department of Finance* was limited to the federal mandates exception concerning the MEP standard, the Los Angeles County MS4 permittees and Los Angeles Water Board did not argue at the Supreme Court whether each of the four challenged requirements in the 2001 permit were a new program or higher level of service.[24] That issue, as well as others, was remanded back to the trial

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[17] Regional Permit, Attachment F, Fact Sheet (hereafter, "Fact Sheet"), p. F-35.

[18] *Department of Finance v. Comm'n on State Mandates* (2016) 1 Cal.5th 749, *as modified on denial of rehearing* (Nov. 16, 2016) (*Department of Finance*).

[19] *Department of Finance,* 1 Cal.5th at p. 757 (citing CWA § 402(p)(3)(B)).

[20] Regional Permit, Attachment F, Fact Sheet, p. F-35.

[21] *Department of Finance*, 1 Cal.5th at p. 768.

[22] *Ibid.*

[23] *Ibid.*, fn. 15.

[24] *Ibid.*, at p. 762.

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court for further proceedings. Here, the Water Boards contend that none of the challenged requirements is a new program or higher level of service.

3. There was no evaluation of whether the contested provisions were required under a TMDL or other independent federal mandate such as the mandate to effectively prohibit non-storm water discharges into their MS4s or for permittees to self-monitor their discharges and the impacts, if any, such discharges have on surface waters. These are critical issues in this test claim.

4. Unlike here, none of the four requirements evaluated by the Supreme Court were identifiable terms in any U.S. EPA-issued MS4 NPDES permits in the record.[25] Here, the Boards point to similar or identical provisions in EPA-issued NPDES permits or guidance.

5. The Supreme Court did not evaluate whether the local government had the authority to levy fees or assessments pursuant to Government Code section 17556, subdivision (d).[26]

6. The Supreme Court did not consider the exception to unfunded state mandates for generally applicable requirements. The Permit's discharge requirements are generally applicable and do not impose "unique" obligations on municipal entities.[27]

Accordingly, and because the Supreme Court's November 16, 2016, modifications to its opinion underscore that the determination of whether a particular requirement exceeds the federal standards is a case-specific, factual determination, the *Department of Finance* decision is largely, if not wholly, inapplicable to this case.

Finally, and to the extent that Claimants also invoke the recent California Court of Appeal, Third Appellate District, decision concerning the 2007 San Diego County MS4 Permit in *Department of Finance v. Commission on State Mandates,* 18 Cal.App.5th 661 (the "*San Diego DOF Decision*"), the decision likewise is inapplicable to this Test Claim. Notably, like *Department of Finance*, the *San Diego DOF Decision* did not address critical questions here, including but not limited to: (a) whether NPDES permits or the requirements therein are a "program," including whether the requirements have general applicability; (b) whether the requirements at issue are new or represent a higher level of service than required in previous permits; (c) whether requirements implementing the Clean Water Act's effective prohibition of non-stormwater discharges through the MS4 to receiving waters is federally mandated; (d) whether permit provisions implementing TMDLs required by section 303(d) of the Clean Water Act are federally mandated; (e) whether

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[25] *Ibid.* at pp. 761 and 771-72.

[26] *Ibid.* at p. 761 (acknowledging that the Commission found that the local governments were not entitled to reimbursement because they had authority to levy fees to pay for the required inspections, an issue the Supreme Court did not review).

[27] The Water Boards note that in several instances Claimants rely upon the Commission's prior findings in Statement of Decisions in *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009) and *In re Test Claim on San Diego Regional Water Quality Control Board Order No. R9-2007-0001, Case No. 07-TC-09* (March 26, 2010) as support for the arguments in this Test Claim. In considering the challenged Permit provisions, the Water Boards urge the Commission to recognize factual distinctions between the permits and the fact that challenges to the Commission's findings on mandates law matters in the Statement of Decisions have not yet been fully resolved by the courts. Specifically, the courts have not yet determined how, if at all, the *Department of Finance* decision affects that matter and numerous other issues were raised but not addressed by *Department of Finance.*

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permit provisions establishing monitoring and reporting requirements are federally mandated; and (f) whether permittees have the authority to impose fees or charges to fund the programs at issue.

In summary, for the reasons set forth below, Claimants' Test Claim must be denied in its entirety.

II. BACKGROUND

In this section, the Water Boards provide an overview of the legal and regulatory context for the Water Boards' decisions, and the issuance of MS4 permits, under federal law generally, and for the Regional Permit in particular.

A. Regulatory Overview of the Clean Water Act MS4 Program

In 1972, Congress extensively amended the CWA to implement a permitting system for all discharges of pollutants from "point sources" to waters of the United States.[28] The permits are known as "NPDES permits," and the 1972 amendments allowed U.S. EPA to authorize states to issue these permits.[29] California was the first state in the nation to obtain such authorization.[30] In order to obtain this authorization, the California Legislature amended the Water Code, finding that the state should implement the federal law in order to avoid direct regulation by the federal government.[31] The California legislature mandated that California's permit program must ensure consistency with federal law.[32]

The State Water Board and the nine regional water boards are the state agencies charged with implementing the federal NPDES program.[33] The State Water Board's regulations incorporate the U.S. EPA regulations implementing the federal permit program.[34] Therefore, both the CWA and U.S. EPA regulations are applicable to the permit program in California.[35] In California, permits to allow discharges into state waters are termed "waste discharge requirements."[36] When issuing permits for discharges to waters of the United States, the term "waste discharge requirements" is equivalent to the term "permit" in the CWA.[37] Thus, waste discharge requirements that the Water

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[28] CWA §§ 301 and 402. "The term 'point source' means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return from irrigated agriculture." (CWA § 502(14).) The Claimants's MS4 is a point source. (40 C.F.R. § 122.26(b)(4).)

[29] CWA § 402(b).

[30] Since that time, forty-six other states have received U.S. EPA's approval to issue NPDES permits. The list of states with the U.S. EPA's approval to issue NPDES permits can be found at https://www.epa.gov/npdes/npdes-state-program-information. Idaho, Massachusetts, New Hampshire, New Mexico, the District of Columbia, and many U.S. territories do not have approved NPDES programs.

[31] Wat. Code, § 13370 *et seq.*, adding Chapter 5.5 to the Porter-Cologne Water Quality Control Act.

[32] *Id.*, § 13372.

[33] *Id.*, § 13370.

[34] Cal. Code Regs., tit. 23, § 2235.2.

[35] The permits *may* also include additional state requirements. (Cal. Code Regs., tit. 23, § 2235.3; *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.)

[36] Wat. Code, § 13263.

[37] *Id.*, § 13374.

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Boards issue for discharges to waters of the United States are NPDES permits under federal law. When the San Diego Water Board, a state agency, issues an NPDES permit in lieu of U.S. EPA, it must adopt as stringent a permit as the federal agency would have.[38]

To ensure that state-authorized programs comply with the U.S. EPA's mandates and federal law, the U.S. EPA maintains oversight and supervision of these programs. The state must provide the U.S. EPA with proposed permits and notice of any action related to a discharger's permit application.[39] The U.S. EPA may object to a permit, finding that it violates the CWA's requirements.[40] Should the U.S. EPA determine that a state program does not comply with federal NPDES program guidelines, it may withdraw approval for the state program.[41]

The CWA prohibits the discharge of pollutants from point sources to waters of the United States, except in compliance with an NPDES permit.[42] In 1973, U.S. EPA issued regulations that exempted certain types of discharges from NPDES permit requirements that it determined at that time were administratively difficult to regulate, including stormwater runoff. The reason that such regulation was deemed difficult is that stormwater runoff is much more diffuse, discharging at numerous points across the landscape. It runs off urban streets, into gutters and drainage ways, and flows directly into streams, lakes, and the ocean.[43] This exemption was overruled in *Natural Resources Defense Council v. Costle* (1977),[44] which held that the exemption was illegal, and ordered U.S. EPA to require NPDES permits for stormwater discharges. In *Costle*, the court suggested innovative methods for permitting, including using general permits for numerous sources and issuing permits that "proscribe industry practices that aggravate the problem of point source pollution."[45] Where permits prescribe actions that dischargers must implement to prevent or reduce pollutant discharges, these requirements are commonly called "best management practices" (BMPs).[46]

Controlling MS4 discharges is important, because stormwater and non-stormwater discharges are one of the most significant sources of water pollution in the nation.[47] When stormwater flows over urban environs, it collects heavy metals, sediments, nutrients (nitrogen and phosphorus), trash and debris, petroleum products, untreated sewage, pesticides, and other toxic pollutants,

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[38] CWA § 402(b).

[39] *Ibid.*, subd. (d)(1).

[40] *Ibid.*, subd. (d)(2).

[41] *Ibid.*, subd. (c)(3).

[42] CWA § 301(a). In general, "navigable waters" or "waters of the United States," includes all surface waters, such as rivers, lakes, bays and the ocean. (CWA § 502.)

[43] The chief traditional categories of discharges subject to NPDES permits are industrial process wastewater and sanitary sewer effluent. Both of these discharges are typically processed in a treatment plant before they are discharged to surface waters.

[44] *Natural Resources Defense Council v. Costle* (1977) 568 F.2d 1369.

[45] *Id.*, at 1380.

[46] 40 C.F.R. § 122.2 ("Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.").

[47] *Environmental Defense Center, Inc. v. EPA* (9th Cir. 2003) 344 F.3d 832, 840.

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which are then discharged to creeks, rivers, estuaries, and oceans.[48] In addition to stormwater, the MS4 collects non-stormwater runoff from urban activities such as street and vehicle washing, potable water system testing, and discharges from groundwater treatment programs. In addition to urban activities, illicit discharges and connections to MS4 are another source of non-stormwater discharges.[49] These non-stormwater discharges can also contain pollutants that impair the beneficial uses (e.g., recreation, habitat protection, etc.) of the nation's waters. While non-stormwater discharges are most obvious during dry periods and are seen as the water flowing in the gutters, they can and do occur year--round.

Following the *Costle* decision, in 1987, Congress amended the CWA, specifically requiring stormwater permits for industrial and municipal stormwater runoff.[50] The amendments require NPDES permits for a discharge from a MS4 serving a population of 100,000 or more.[51] The CWA contains three provisions specific to permits for MS4s: (1) permits may be issued on a system- or jurisdiction-wide basis; (2) permits must include a requirement to effectively prohibit non-stormwater discharges into storm sewers; and (3) permits must require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and system, design and engineering methods, and such other provisions as the [permitting agency] determines appropriate for the control of such pollutants.[52] The state is required, by federal law, to select the BMPs.[53]

On November 16, 1990, U.S. EPA published regulations addressing discharges of stormwater and non-stormwater from MS4s.[54] The regulations establish minimum requirements for MS4 permits and generally focus on the requirement that MS4s implement programs to reduce the amount of pollutants found in stormwater discharges to the MEP. However, the regulations also require the MS4's program to include an element to detect and remove illicit discharges and improper disposal into the storm sewer.[55] "Illicit discharges" defined in the regulations is the most closely applicable definition of "non-storm water" contained in federal law, and the terms are often used interchangeably. The State Water Board has concluded that "U.S. EPA added the illicit discharge program requirement with the stated intent of implementing the CWA's provision requiring permits to 'effectively prohibit non-storm water discharges.'"[56]

B. Overview of Legal Standards for MS4 Permits

The CWA does not provide a specific set of permit terms that the permitting agency must include in each MS4 permit. Rather, the CWA and U.S. EPA's regulations require a permitting agency to

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[48] *Id.* at pp. 840-841.

[49] *Ibid.*

[50] CWA § 402(p).

[51] *Id.*, subd. (p)(2)(C). U.S. EPA defines MS4s that serve a population over 250,000 as "large" MS4s. U.S. EPA issued regulations in 1999 extending permit requirements to small MS4s (those serving a population of less than 100,000).

[52] *Id.*, subd. (p)(3)(B).

[53] *NRDC v. U.S. EPA* (9th Cir. 1992) 966 F.2d 1292.

[54] 55 Fed. Reg. 47990 *et seq.* (Nov. 16, 1990).

[55] 40 C.F.R. § 122.26(d)(2)(iv)(B).

[56] State Board Order WQ 2009-0008, p. 4 (withdrawn on other grounds); see also State Water Board Order WQ 2015-0075, p. 63 ("the illicit connection and illicit discharge elimination program is a means to implement the non-storm water prohibition and [is] independently implementable and enforceable").

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determine what controls are necessary to meet federal requirements in a particular MS4 permit. The applicable legal standards that permitting authorities must meet when issuing MS4 permits are set forth in CWA section 402(p)(3)(B)(ii) and (iii) and require that MS4 permits:

> (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers, and
>
> (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Federal and state permitting agencies must comply with these legal standards.[57]

To obtain coverage under an NPDES permit, federal regulations specify the information that applicants for MS4 permits must include in their applications that the permitting agency will be considering in issuing the permit.[58] For the large and medium MS4s, the application requirements are extensive. Applications:

> shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable.[59]

Among other things, the federal regulations also require that a proposed management program must address oversight of discharges into the MS4 from the general population, and from industrial and construction activities within its jurisdiction and shall include "[a] description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."[60] Permit applications

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[57] CWA § 402(b). Included in this federal standard is the requirement that MS4 permits "shall . . . includ[e] . . . such other provisions as the Administrator or the State determines appropriate for the control of pollutants." (CWA § 402(p)(3)(B)(iii).) The word "shall" modifies compliance with MEP as well as this latter clause. Thus, in addition to requiring controls to reduce the discharge of pollutants to the MEP, this provision requires the Los Angeles Water Board, when appropriate, to include provisions that go beyond MEP. The provisions contested in this Test Claim, however, concern only the non-stormwater discharge prohibition and the MEP standard.

[58] 40 C.F.R. § 122.26(a)(4). U.S. EPA regulations have varied requirements depending on the size of the population served by the MS4. As stated earlier, a "large" MS4 serves a population of 250,000 or more. (40 C.F.R. § 122.26(b)(4).) Claimants (and collectively the other entities regulated by the Permit) exceeds the minimum population for a large MS4.

[59] *Id.*, subd. (d)(2)(iv).

[60] *Id.,* subd. (d)(2)(iv)(A).

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must also describe programs for education and outreach to the general public, and to certain categories of municipal workers.[61] U.S. EPA has made clear that permit terms must be "clear, specific, and measurable."[62]

The Federal MEP Standard

The maximum extent practicable or "MEP" standard is akin to a technology-based standard and was first established in the CWA in 1987. The fundamental requirement that municipalities reduce pollutants in MS4s to the MEP remains a cornerstone of the mandate imposed on municipalities by the federal CWA and implementing NPDES regulations. Meeting the MEP standard is generally a result of emphasizing robust pollution prevention through various programs and structural measures, with treatment methods serving as additional lines of defense. These pollution prevention methods require municipalities to take actions that will lessen the incidence of pollutants entering the storm drains by regulating the behavior and practices of the municipalities, their residents, and their businesses.

The MEP approach is an ever-evolving, flexible and advancing concept, which considers technical and economic feasibility. As knowledge and technology regarding controlling stormwater runoff continues to evolve, so too must the actions that are taken to comply with the standard. In addition to regulations, U.S. EPA has issued guidance documents that discuss the type of BMPs that should be included in MS4 permits in order to reduce the discharge of pollutants in stormwater to the MEP.[63] Successive permits issued to MS4 dischargers thus require greater levels of specificity over time in defining what constitutes MEP. This is consistent with Congress' intent that state management programs evolve based on changing conditions from program development and implementation and corresponding improvements in water quality.[64] This is also consistent with the U.S. EPA's guidance that successive permits for the same MS4 must become more refined and detailed. The MEP standard, which the San Diego Water Board found the permit provisions necessary to meet in this case, is discussed in more detail below as relevant to challenged permit provisions.

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[61] *Id.*, subds. (v)(A)(6), (B)(6), (C)(4); see also, 40 C.F.R. § 122.34(b)(1), establishing public education and outreach as a minimum control measure for small MS4s. The initial requirements for small MS4s were considered to be less stringent than those for Phase I MS4s, such as Permittees. (64 Fed. Reg. 68722 (Dec. 8, 1999).)

[62] See generally 81 Fed. Reg. 89320 (Dec. 9, 2016).

[63] See, e.g., MS4 Permit Improvement Guide (Apr. 2010). Prior to issuance of the MS4 Permit Improvement Guide, U.S. EPA provided BMP "menus" for the required elements of a MS4 permittee's stormwater management program as required by 40 C.F.R. § 122.26(d)(2)(iv).

[64] Federal regulations and companion U.S. EPA guidance convey the expectation that the level of specificity in a permit reconsidered and reissued every five years will increase over time whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit. E.g., 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999) ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.").)

The Federal Prohibition on Non-Stormwater Discharges

Wholly independent from the MEP standard is the CWA requirement that MS4 permittees effectively prohibit non-stormwater discharges to their MS4s.[65] Under CWA section 402(p)(3)(B)(ii), permitting agencies must ensure that permits for MS4 discharges include requirements necessary to "effectively prohibit non-stormwater discharges into the storm sewers." U.S. EPA has defined "storm water" to mean "stormwater runoff, snow melt runoff and surface runoff and drainage."[66] While "non-stormwater" is not defined in the CWA or federal regulations, the federal regulations define "illicit discharge" as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer and discharges resulting from firefighting activities)."[67] This definition is the most closely applicable definition of "non-stormwater" contained in federal law. Non-stormwater discharges are generally considered dry weather discharges. In general, the requirement to "effectively prohibit" non-stormwater discharges requires MS4 owners and operators to prohibit flows to the MS4s by implementing a program to detect and remove illicit discharges, or by requiring a discharger to obtain a separate NPDES permit for the non-stormwater discharge into the storm sewer.[68]

The Federal Requirement That Permits Include Other Provisions the Permitting Agency Determines Appropriate for the Control of Pollutants

In addition to requiring controls to reduce the discharge of pollutants to the MEP, CWA section 402(p)(3)(B)(iii) requires that MS4 permits "shall . . . includ[e] . . . such other provisions as the Administrator or the State determines appropriate for the control of pollutants." U.S. EPA interprets this provision to mandate ". . . controls to reduce the discharge of pollutants to the maximum extent practicable, *and where necessary water quality-based controls* . . . ."[69] The permitting agency, be it the San Diego Water Board or U.S. EPA, must therefore include provisions that go beyond MEP when it is appropriate to do so and to exercise its discretion in determining permit requirements. Thus, the state does not exceed federal law in using its discretion to impose permit provisions that are necessary to control pollutants. If the Board failed to determine appropriate provisions to control pollutants, it would violate the Clean Water Act's specific mandate to do so.

The Federal TMDL Requirements

The CWA requires states to adopt TMDLs for surface waters in which federal water quality standards are not being attained. A TMDL, which must be approved by U.S. EPA, establishes the amount of certain pollutants a water body may receive and still achieve federal water quality

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[65] State Water Board Order WQ 2015-0075 (2012 LA County MS4 Permit), pp. 62-63, confirming that non-stormwater discharges through the MS4s under the Clean Water Act are not subject to the MEP standard applicable to stormwater discharges.

[66] 40 C.F.R. § 122.26(b)(13).

[67] *Id.*, subd. (b)(2).

[68] *Id.*, subd. (d)(2)(iv)(B). See also 55 Fed. Reg. 47990, 47995 ["Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit."].

[69] 55 Fed. Reg. 47990, 47994 (Nov. 16, 1990); see also *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-887.

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standards.[70] For point source dischargers, including MS4 dischargers, an adopted TMDL will determine wasteload allocations (WLAs) to limit pollutant discharges to the impaired receiving water. Federal law specifically requires the permit writers such as the San Diego Water Board to incorporate in NPDES permits of all types, including MS4 permits or other non-municipal NPDES permits, effluent limitations that are "consistent with the assumptions and requirements of any available wasteload allocations."[71] Where a TMDL is necessary, it is developed and adopted by a regional water board as the first step in the approval process. The requirement to adopt TMDLs for impaired waters is another independent ground upon which certain provisions of the Regional Permit are based.[72]

Federal Monitoring and Reporting Requirements

The Clean Water Act and its implementing regulations require monitoring and reporting as a major component of *all* NPDES permits, not just MS4 permits. As a condition of receiving a NPDES permit, a permittee agrees to monitor its discharges to ensure compliance with the permit's terms.[73] Section 308(a) of the Clean Water Act[74] and sections 122.41 (h), (j)-(l), 122.44(i), and 122.48 of Title 40 of the Code of Federal Regulations establish substantive monitoring and reporting requirements for all NPDES permits. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements.[75] The regulations specific to monitoring requirements for MS4 discharges are prescriptive and require the permitting agency to include requirements for both stormwater and non-stormwater effluent sampling at representative outfalls, representative receiving water monitoring, sampling of specific pollutants, monitoring at specified intervals (e.g., at least three storm events per year), use of analytical methods specified in 40 C.F.R. Part 136, use of field collection methods (e.g., grab vs. composite samples), among other requirements.[76]

As the Ninth Circuit Court of Appeals recently stated in a case concerning the 2001 Los Angeles County MS4 Permit: "First and foremost, the Clean Water Act *requires* every NPDES permittee to monitor its discharges into the navigable waters of the United States in a manner sufficient to determine whether it is in compliance with the relevant NPDES permit . . . . That is, an NPDES

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[70] See CWA, § 303(d) and 307.

[71] 40 CFR § 122.44(d)(1)(vii)(B).

[72] Claimants do not specifically challenge any incorporated TMDL but do assert that the State has shifted costs of developing TMDLs by including provisions to develop and implement Water Quality Improvement Plans. The Water Boards' refute this argument, *infra,* and include the above explanation about federal legal basis for establishing and complying with TMDLs for informational purposes.

[73] CWA § 402(a)(1) ("the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination or pollutants, notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable requirements under sections 1311, 1312, 1316, 1317, 1318, and 1343 of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.")

[74] CWA § 308(a) mandates, in part, that "the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require . . . ."

[75] See, e.g., 40 C.F.R. §§ 122.26, subds. (d)(2)(i)(F) & (d)(2)(iii)(D), 122.42(c).

[76] *Id.,* § 122.26(d)(2).

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permit is unlawful if a permittee is not required to effectively monitor its permit compliance."[77] The Court also stated:

> But while otherwise more flexible than the traditional NPDES permitting system, nothing in the ms4 permitting scheme relieves permittees of the obligation to monitor their compliance with their NPDES permit in some fashion . . . . Rather, EPA regulations make clear that while ms4 NPDES permits need not require monitoring of each stormwater source at the precise point of discharge, they may instead establish a monitoring scheme "sufficient to yield data which are *representative of the monitored activity* . . . ."[78]

The federal authority described herein mandates that the San Diego Water Board impose a monitoring and reporting program on MS4 permittees, as with all NPDES permittees. As such, these are further independent grounds upon which certain provisions of the Regional Permit are based.[79]

C. Overview of Riverside County MS4 Permit Development

Pursuant to the CWA amendments of 1987 that obligated many municipalities for the first time to obtain MS4 permits for discharges of stormwater from their MS4s, the San Diego Water Board issued the first MS4 permit to the County of Riverside and other Copermittees in Riverside County in the San Diego Region in July 1990. In May 1998 (as later modified), and again in 2004 and 2010, the San Diego Water Board renewed the MS4 permit for Riverside County. In part because of persistent exceedance of federal water quality objectives in most watersheds, the 2010 Permit increased emphasis on storm water discharge management on a watershed basis as compared to prior permits. At that time, the San Diego Water Board noted that "[a]ddressing storm water on a watershed scale focuses on water quality results by emphasizing receiving waters within the watershed."[80] As a general matter, the 2010 Permit carried over and built on the prior permit programs and implemented independent federal requirements, all with a focus on water quality outcomes. The MS4 Permit that is the subject of this test claim is the fifth such permit and likewise builds on the prior permit to facilitate Copermittee compliance with the established Clean Water Act standards.

Many of the Claimants' challenges center around the argument that the Regional Permit imposes upon them either new "programs" or "higher levels of service" than those required in the past. But

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[77] *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194, 1207, cert. den. *Los Angeles County Flood Control Dist, v, Natural Resources Defense Council* 2014) 134 S.Ct. 2135 (citations omitted; emphasis in original) (citing CWA § 402(a)(2) and 40 C.F.R. §§ 122.44(i)(1) and 122.62(d)(2)(i)(F) (emphasis in original).)

[78] *Id.* at p. 1209 (citations omitted; emphasis in original) (citing CWA § 402(a)(2) and 40 C.F.R. §§ 122.41(i)(1) and 122.48(b).)

[79] There are numerous examples of MS4 permits issued within the past decade by U.S. EPA, solely pursuant to federal law, that contain extensive monitoring requirements. See, e.g., General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts, Authorization to Discharge Under the [NPDES], issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR0430000 (Apr. 4, 2016); MS4 Permit for Joint Base Lewis-McChord (2013) Permit No. WAS-026638; Boise/Garden City Area MS4 Permit, Permit No. IDS-027561 (December 12, 2012); MS4 Permit No. AKS-052558, Anchorage and Alaska Department of Transportation and Public Facilities (October 29, 2010)

[80] Order No. R9-2010-0016, Fact Sheet, p. 10.

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prior to the effective date of the Regional Permit as to them, Claimants were bound by provisions that were very similar or equivalent to those in earlier permits. Accordingly, it is necessary to include an overview of the general development of the Regional Permit as well as prior, relevant permit provisions applicable to Claimants.[81]

First and Second Term Permits

The First Term Permits were issued prior to November 1990, before the promulgation of the final federal NPDES storm water regulations. By issuing these First Term Permits before the federal regulations took effect, the San Diego Water Board was able to provide the Copermittees with flexibility in addressing and managing stormwater discharges. But while the First Term Permits contained the essentials of the 1990 regulations and required the Copermittees to develop and implement runoff management programs, they provided little specificity about what was required to be included in or actually achieved by those programs.[82] The flexibility and lack of specificity was generally continued through the Second Term Permits.[83]

The combination of the lack of specificity generally in the First and Second Term MS4 Permits, a general lack of meaningful action by the Copermittees and a general lack of corresponding reaction (i.e. enforcement) by the San Diego Water Board during the first ten years of the storm water program, resulted in few substantive steps towards achieving improvements in the quality of receiving waters or storm water discharges from the MS4s. This changed in the Third Term Permits.[84]

Third Term Permit

The Third Term Permit for the Riverside County Copermittees (including Claimants in this case) was issued in 2004 ("2004 Permit").[85] Where the prior permit included broad, nonspecific requirements in order to provide maximum flexibility to copermittees to design their programs, the Third Term Permit for Riverside County coincided with U.S. EPA's issuance of final federal regulations and used detailed, specific requirements which outlined the minimum level of implementation required for the Copermittees' programs to meet the MEP standard for storm water discharges. For example, the Third Term Permit prohibited "[d]ischarges from MS4s containing pollutants which have not been reduced to the [MEP]" and "[d]ischarges from the MS4s which cause or contribute to exceedences of receiving water quality objectives for surface water or groundwater," in Discharge Prohibitions A.2 and A.3.[86] They also included more detail to emphasize and enhance the jurisdictional runoff management programs developed by Copermittees and introduced requirements for developing and implementing watershed-based programs.[87]

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[81] Prior to issuance of the Regional Permit, the San Diego Water Board issued separate permits for all Copermittees and other permittees within its jurisdiction in Riverside and Orange Counties. As noted above, Riverside County Copermittees-including Claimants here-became covered by the Regional Permit on January 7, 2016.

[82] Regional Permit Fact Sheet, p. F-8.

[83] Regional Permit Fact Sheet, p. F-8.

[84] Regional Permit Fact Sheet, pp. F-8-F-9.

[85] San Diego Water Board, Order No. R9-2004-001 (July 14, 2004) (2004 Permit).

[86] 2004 Permit, pp. 7, §§ A.2, A.3.

[87] Regional Permit Fact Sheet, p. F-9

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The Third Term Permit[88] also maintained from 1999 modifications to the Second Term Permit, the requirements of two precedential decisions by the State Water Board: Order WQ 99-05, concerning water quality standards in receiving waters, and Order WQ 2000-11, concerning design standards for structural post-construction BMPs for new development and significant redevelopment. These Orders are discussed briefly below.

a. State Board Order WQ 99-05

First, in Order WQ 99-05, the State Water Board established precedential receiving water limitation language to be included in all MS4 permits, making it clear that municipal storm water permits must include provisions requiring discharges to be controlled to attain water quality standards in receiving waters. Order WQ 99-05 specifically requires language in MS4 permits to comply with water quality standards-based discharge prohibitions and receiving water limitations through timely implementation of BMPs, control measures and other actions to reduce pollutants in discharges.[89] Order WQ 99-05 reflects U.S. EPA's requirement that California include receiving water limits in MS4 Permits.[90] It was a change from the First and Second Term Permits, which stated instead that (a) "*violations of water quality standards are not violations of the municipal storm water permit under certain conditions*," and (b) the "*implementation of best management practices is the 'functional equivalent' of meeting water quality standards.*"[91]

b. State Board Order WQ 2000-11

Second, in Order WQ 2000-11, the State Water Board found that numeric design standards used to develop BMPs to meet receiving water quality standards, and which require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the federal MEP standard. The State Water Board also found that the post-construction BMP provisions, or Standard Storm Water Mitigation Plan (SSMP) provisions, constitute MEP for addressing storm water pollutant discharges resulting from specific development categories.[92]

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[88] U.S. EPA objected to and assumed responsibility for the second term permit for Riverside County in September 1998. In 1999, U.S. EPA reissued the permit with modifications to the receiving water limitations language necessary to comply with the Clean Water Act. See discussion of State Board Order WQ 99-05. U.S. EPA returned the permit as revised to the San Diego Water Board for implementation and the Board subsequently modified the originally adopted permit to incorporate the U.S. EPA-required changes in 2000. The Third Term and subsequent permits for Riverside retained these changes in large part.

[89] Regional Permit Fact Sheet, p. F-9.

[90] State Water Board Order WQ 99-05.

[91] Unlike the second term permits for San Diego and Orange Counties, the 1998 Riverside permit was modified following U.S. EPA objection to incorporate receiving water limitations language specified in State Water Board Order WQ 99-05. The language was retained in the Third Term permit. See Addendum No. 1 to Order No. 98-02, an Addendum Modifying Order No. 98-02 to incorporate language developed by the United States Environmental Protection Agency. The Addendum was adopted by the San Diego Water Board on November 8, 2000 and modified Riverside's Second Term Permit.

[92] Regional Permit Fact Sheet, p. F-9.

c. State Board Order WQ 2001-15 And Legal Challenges Thereto

Finally, State Water Board Order WQ 2001-15 was the result of two challenges to the San Diego County MS4 owners and operators' Third Term Permit, R9-2001-001, brought by third parties Building Industry Association of San Diego County (BIA) and Western States Petroleum Association (WSPA).[93] In Order WQ 2001-15, the State Water Board made certain modifications to San Diego MS4 Copermittees' Third Term Permit. Specifically, the State Water Board removed the prohibition of storm water discharges *into* the MS4 that cause or contribute to exceedances of water quality standards. The revision allows for treatment of pollutants in storm water runoff after the pollutants have entered the MS4, and allows room for the iterative process in Discharge Prohibition A.2 to include source control.[94] State Water Board Order WQ 2001-15 otherwise upheld all the other requirements of San Diego County's Third Term Permit.[95] The modifications directed by the State Water Board were incorporated into Riverside County MS4 Copermittees' Third Term permit in 2004.[96]

In addition to the modification to the discharge prohibition, Order WQ 2001-0015 further refined Order WQ 99-05 by making clear that the Copermittees may use an iterative approach to achieving compliance with water quality standards that involves ongoing assessments and revisions. Thus, the language for the discharge prohibitions and receiving water limitations was revised to explicitly require the Copermittees to implement an iterative process of assessments and revisions to comply with the discharge prohibitions and receiving water limitations. The San Diego Water Board retained the authority to enforce receiving water limitations and discharge prohibitions even if the Copermittee is engaged in the iterative process.[97] The iterative process is a federal standard for MS4 programs that acknowledges the ever-evolving nature of BMPs to provide for the attainment of water quality standards.[98]

Following the State Water Board's ruling in WQ 2001-15 and its clarification of WQ 99-05, BIA challenged the San Diego County Copermittees' Third Term Permit in court, alleging that the permit violated federal law because they allowed the Water Boards to "impose municipal storm sewer control measures more stringent than a federal standard known as 'maximum extent possible [or MEP].'"[99] BIA also challenged the prohibition against "discharging pollutants 'which cause or contribute to exceedances of receiving water quality objectives,' and/or that 'cause or

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[93] State of California, State Water Resources Control Board Order WQ 2001-15, consolidating WSPA and BIA challenges.

[94] WQ 2001-15, at p. 10.

[95] Regional Permit Fact Sheet p. F-9.

[96] 2004 Permit, p. 7, § A.2.

[97] Regional Permit Fact Sheet pp. F-9-10.

[98] See, e.g., Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21 (AR, pp. A003789-91), citing 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.").

[99] *Building Industry Ass'n of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 871 (modified on denial of reh'g, Jan. 4, 2005), rev. denied, 2005.

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contribute to the violation of water quality standards...' This second category of restrictions ... essentially provide that a [m]unicipality may not discharge pollutants if those pollutants would cause the receiving water body to exceed the applicable water quality standard."[100] The Court of Appeal rejected both challenges, concluding that the "Permit's Water Quality Standards provisions are proper under federal law;" and upholding the approach of the Third Term San Diego County Permit to regulating discharges into the MS4. The California Supreme Court subsequently denied review.[101] The water quality standards and receiving water limitations provisions in the Third Term Permits, including Riverside County's, were upheld. Thus, by 2004 with adoption of the Third Term Permit, Claimants already had to comply with critical components still present in the Regional Permit, including water quality standards, receiving water limitations and development of BMPs for specific development categories (e.g., post construction, new development).

Fourth Term Permits

The Fourth Term Permits began with the adoption of Order No. R9-2007-0001 ("San Diego 2007 Permit") issued to San Diego County MS4 owners and operators, followed by Orders No. R9-2009-0002 and R9-2010-0016 issued to the Copermittees of Orange County and Riverside County, respectively. The Fourth Term Permits continued to include more detailed requirements to be implemented by each Copermittee through jurisdictional runoff management programs.[102] The permits included requirements to further emphasize a watershed management approach and more coordination among programs. Effectiveness assessments were also required as part of the iterative process to complying with federal requirements. The requirements of the Fourth Term Permits issued to the Copermittees (here, the Claimants) in each county within the San Diego Region share substantively the same core requirements such as discharge prohibitions, receiving water limitations, jurisdictional runoff management program components, and monitoring and assessment program requirements.

Fifth Term Permit - The Regional Permit

In November 2010, the San Diego Water Board notified the public of its intent to develop and issue a regionwide fifth term permit for San Diego, Riverside and Orange Counties within the San Diego Region. The first milestone in the regional permitting process was adoption of Order No. R9-2013-0001 issued at first only to San Diego County copermittees, in May 2013.[103] While the provisions initially applied only to San Diego County, its provisions, and those added through amendment in Order No. R9-2015-0001, became effective as to Riverside County MS4 owners and operators in January 2016 with adoption of Order No. R9-2015-0100 (Regional Permit).[104]

Claimants have challenged more than 15 specific parts of the Regional Permit, including:

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[100] *Id.* at 876.

[101] *Id.* at 880.

[102] Regional Permit Fact Sheet, at p. F-10.

[103] The first iteration of the Regional Permit was issued to San Diego County MS4 owners and operators in May 2013 as Order No. R9-2013-0001.

[104] Order No. R9-2015-0100, amended Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, on November 18, 2015.

- Development, Implementation and Update of Water Quality Improvement Plans (WQIPs) (Permit Provisions B.2., B.3., B.4., B.5., B.6., F.1.a., F.1.b., F.2.c., F.2.e., F.3.b.(3), F.3.c., A.4.);
- Jurisdictional Runoff Management Programs (JRMP), Critical Sediment and Hydromodification (Permit Provision E.3.c.(2))
- BMP Design Manual Update (Permit Provision E.3.d.) and Corresponding Reporting (Permit Provision F.2.b.);
- Residential Inventory and Inspections (Permit Provisions E.5.a; E.5.c.(1)(a); E.5.c.(2)(a); and E.5.(c).(3));
- Requirement to Retrofit and Rehabilitate Streams (Permit Provision E.5.e.);
- Enforcement Response Plans (Permit Provision E.6.)
- Requirement to Update JRMP to Incorporate New Permit Provisions in (Permit Provision F.2.a.);
- Transitional Dry Weather Field Screening Requirements (Permit Provision D.2.a.(2))
- Dry Weather Receiving Water Hydromodification Monitoring (Permit Provision D.1.c.(6))
- Special Studies Requirements (Permit Provision D.3.)
- Assessment Requirements (Permit Provision (D.4.)
- Alternative Compliance Program for Onsite Structural BMP Implementation (Permit Provision B.3.b.(4) and E.3.c.(3))

The Fifth Term Permit, or Regional Permit, represents an important paradigm shift in the approach for MS4 permits issued within the San Diego Region.[105] Many of the actual substantive programs or Permit requirements themselves, however, are continued from previous permits. These facts are important, not least of all because, the Commission has stated that "[t]o determine whether the permit [provision] is a new program or higher level of service, the permit is compared to the legal requirements in effect immediately before its adoption . . . ."[106] In this case, as to Claimants, the most recent prior permit was issued in 2010.[107] A more detailed description of the challenged sections of the current Permit, together with any historical permitting requirements that required the same or similar performance from Claimants prior to the issuance of the Fifth Term Permit, is set forth in the Argument sections (Sections VI and V), together with the specific arguments that are relevant to each part of the challenged Permit.

III. OVERVIEW OF MANDATES LAW

California mandates law has its origins in the late 1970s, when Proposition 13 and Proposition 4 added articles XIII A and XIII B to the California Constitution, limiting state and local government's taxing and spending powers.[108]

In construing what constitutes a "new program or higher level of service," courts have found that reimbursement to local agencies is required only for costs involved in carrying out functions

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[105] Regional Permit Fact Sheet, at pp. F-11-F-12.

[106] *In re Test Claim on San Diego Regional Water Quality Control Board Order No. R9-2007-001,* Case No. 07-TC-09, Statement of Decision at p. 37 (March 26, 2010).

[107] Claimants ask to incorporate prior by reference their prior joint test claim in 11-TC-03. The Water Boards opposed the prior test claim in comments filed September 22, 2017. These comments are limited to the specific provisions challenged in the Test Claim filed in 16-TC-05.

[108] *Department of Finance v. Commission on State Mandates* (Kern High School District) (2003) 30 Cal.4th 727,735.

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peculiar to government, not for expenses incurred by local agencies as an incidental impact of laws that apply generally to all state residents and entities. Laws of general application are not entitled to subvention.[109] The fact that a requirement may single out local governments is not dispositive; where local agencies are required to perform the same functions as private industry, no subvention is required.[110]

There are also several limitations and exceptions to the subvention requirements that provide grounds for the Commission to determine that the Test Claims are not subject to subvention. Implementing statutes clarify that no subvention of funds is required if: (1) the mandate imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation;[111] (2) the local agency proposed the mandate;[112] or (3) the local agency has the authority to levy service charges, fees, or assessments sufficient to pay.[113] Subvention is only required if expenditure of tax monies is required, and not if the costs can be reallocated or paid for with fees.[114]

IV. ARGUMENT: THE CHALLENGED PERMIT PROVISIONS DO NOT IMPOSE NEW PROGRAMS OR REQUIRE HIGHER LEVELS OF SERVICE AND APPLICABLE MANDATES EXCEPTIONS PRECLUDE SUBVENTION—GENERAL RESPONSES

Claimants contend that the Regional Permit imposes numerous new programs or requires Claimants to provide higher levels of service than previously required and that all of the activities for which they seek reimbursement exceed what federal law requires. They also assert that the provisions are uniquely imposed on local government and Claimants are unable to impose or otherwise assess a fee to recover the costs of the mandated activities. As explained below, Claimants are wrong.

As a threshold matter, all of the challenged programs fail to constitute either a new program or a higher level of service within the context of mandates law.[115] Compliance with NPDES permits, and specifically permits regulating stormwater discharges, is required of private industry as well as state and federal government agencies. Local government is not singled out.

Even if the Commission finds that some of the challenged provisions do impose a new program or higher level of service, the challenged provisions are nonreimbursable because of applicable mandates exceptions. For example:

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[109] *County of Los Angeles, supra,* 43 Cal.3d 46.

[110] *City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190.

[111] Govt. Code, § 17556, subd. (c).

[112] *Id.*, subd. (a).

[113] *Id.*, subd. (d).

[114] *County of Los Angeles v. Commission on State Mandates* (2003) 110 Cal.App.4th 1176; *Redevelopment Agency v. Commission on State Mandates* (1997) 55 Cal.App.4th 976.

[115] No appellate court has addressed what constitutes a new program or higher level of service in the context of MS4 permits. The issue was raised in the State Water Board, San Diego Regional Water Quality Control Board, and Department of Finance's Petition for Writ of Mandate regarding the Commission's Statement of Decision in Test Claim No. 07-TC-09 (re: San Diego Regional Water Quality Control Board Order No. R9-2007-0001). Following the Court of Appeal, Third Appellate District decision in December 2017 (*San Diego DOF Decision)* the matters will be considered by the trial court.

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- All of the programs are federal mandates. The San Diego Water Board found that all of the challenged provisions were adopted entirely under federal law and are necessary for the Claimants to meet the standards and requirements of the Clean Water Act and its implementing regulations. Therefore, none of the costs are for activities exceeding federal requirements.
- Claimants, as well as other permittees, are not *required* to use taxes to pay for the costs for the programs. The provisions can be paid for by levying fees enacted for storm water programs.[116] The local agencies have not established that tax monies are required.[117] But even if the Commission determines that a portion of the MS4 operators' activities exceed federal law requirements and would otherwise qualify for subvention, the costs are *de minimis* and therefore not reimbursable.
- Claimants, as well as other permittees, proposed concepts on which many of the challenged permit requirements are based in their permit application, report of waste discharge or in the permitting process for their requested permit.

Because many of the Water Boards' responses concerning applicable mandates law apply to all of the challenged provisions, the San Diego Water Board has endeavored to avoid repetition by responding generally to Claimants' assertions below. These general responses alone support denial of each of Claimants' challenges. Where appropriate, the Water Boards provide additional support for the conclusion that exceptions apply to specific challenged provisions, in Argument Section V, *infra*.

A. The Regional Permit Is Not a Program and The Contested Provisions Do Not Impose New Programs or Higher Levels of Service

In order to obtain reimbursement, the Claimants must show as a threshold matter that the San Diego Water Board has imposed a "program" on them and, if so, that it established a "new program" or created a "higher level of service" over the previously required level of service.[118] Claimants have not satisfied, and cannot satisfy, this threshold. Thus, article XIII B, section 6, of the California Constitution is inapplicable.

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[116] The Claimants generally state that they are unaware of authority to raise fees or impose surcharges to fund the modifications to their Permit. Claimants refer to limitations on assessing fees and surcharges under California law. The referenced law concerns only the percent of voters who must approve the assessment. The Cities of Palo Alto, San Clemente, San Jose, Alameda and Santa Cruz have storm water fee funded programs. Claimants' contention also ignores the clear authority granted to them to actually raise such fees in Proposition 218 and their enabling acts. Thus, Claimants have not shown they is *required* to rely on using tax money to fund challenged activities.

[117] As mentioned in the Introduction, what constitutes fee authority in the context of municipal storm water permits, particularly with consideration of Proposition 218, remains unresolved. In their petition for writ of mandate in *State of California, Department of Finance, et al., v. Commission on State Mandates,* Sacramento County Superior Court, Case No. 34-2010-80000604, the Water Boards and Department of Finance challenged the Commission's conclusion in the underlying Statement of Decision in 07-TC-09 that the requirement for voter approval as a prerequisite to raising fees precluded finding that a local agency has fee authority to pay for some permit-related activities. Likewise, Claimants there in a cross-petition for writ in the same matter challenged the sufficiency of the evidence supporting the Commission's underlying determination that local agencies have authority to fund hydromodification and low impact development programs through their land development programs. These issues have not yet been considered by the trial court.

[118] Cal.Const., art. XIII B, § 6, subd. (a); *San Diego Unified School Dist., supra,* 33 Cal.4th at p. 878; *Lucia Mar Unified School Dist., supra,* 44 Cal.3d at pp. 835-836.

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1. The Regional Permit Does Not Impose a "Program"

Under mandates law, a program is defined as "a program which carries out the 'governmental function of providing services to the public, or laws which, to implement a state policy, impose unique requirements on local governments and do not apply generally to all residents and entities in the state.'"[119] A program is "new" if the local government had not previously been required to institute it.[120] Claimants are unable to show that the Regional Permit satisfies either test.

First, the Regional Permit as applicable to Claimants does not impose a program that carries out a governmental function of providing services to the public. The Clean Water Act forbids everyone – individuals, businesses, state governments, tribal governments and local governments – from discharging pollutants from point sources to waters of the United States without a NPDES permit.[121] That includes municipal and industrial stormwater dischargers.[122] All government entities that operate MS4s, including state and federal facilities, are required to obtain an NPDES permit; local governments are not singled out. Whether pollutants originate from a local government or a private industrial point source, the Water Boards must assure their NPDES permits protect water quality consistent with state and federal law. Thus, Claimants were not issued a NPDES permit to facilitate the provision of a local governmental service of pollution prevention. Claimants were issued a NPDES permit because they are one of many point source dischargers of pollutants and required, like other dischargers, to obtain a NPDES permit under the Clean Water Act.

The approach previously taken by the Commission fails to appropriately focus on whether the permit mandates functions that are peculiar to government and obscures the Clean Water Act's focus on, and regulation of, pollutant discharges – something that is decidedly not unique to local governments. Governments, let alone *local* governments, are not uniquely responsible for reducing or abating pollution to waters of the United States. MS4 permits, as with all NPDES permits, are intended to support the objective of the federal Clean Water Act "to restore and maintain the chemical, physical and biological integrity of the Nation's waters."[123] Within the San Diego Region, the Water Boards have issued hundreds of NPDES permits to both public and private entities. All of those NPDES permits share the same objective – to protect the beneficial uses of receiving waters within the San Diego Region. While regulating water quality is a general service to the public, actions by persons, including local governments, that discharge pollutants and waste to prevent or abate discharges of pollutants from point sources to waters of the United States is not a governmental function of providing services to the public.

Second, the Regional Permit does not impose unique requirements on local governments and the CWA's NPDES permitting requirements apply generally to all residents and entities in the state. Courts have found that reimbursement to local agencies is required only for the costs involved in carrying out functions peculiar to government, not for expenses incurred by local

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[119] *County of Los Angeles v. Comm'n on State Mandates* (2003) 110 Cal.App.4th 1176, 1189, citing *County of Los Angeles v. State of California* (1987) 43 Cal. 3d 46, 56.

[120] *Ibid.*

[121] CWA §§ 301(a), 402, 502(5); see also 40 C.F.R. §§ 122.21, 122.22, 123.25.

[122] See CWA § 402(p).

[123] CWA § 101(a).

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agencies as an incidental impact of laws that apply generally to all state residents and entities.[124] Laws of general applicability are not entitled to subvention because they do not "force" programs on localities.[125] The fact that a requirement may single out local governments is not dispositive; where local agencies are required to perform the same functions as private industry, no subvention is required.[126]

The relevant "state policy" implemented by the Regional Permit is the Clean Water Act and Chapter 5.5 of the Porter-Cologne Water Quality Control Act requiring that NPDES permits be consistent with the Clean Water Act. This policy applies generally to all residents and entities in the state and does not apply uniquely to local governments. The Clean Water Act prohibits both public and private entities from discharging pollutants from point sources to waters of the United States without an NPDES permit. Both municipal and non-municipal stormwater discharges must be controlled; MS4s owned or operated by local governments are not singled out.[127] The NPDES permitting requirements implemented by the Regional Permit thus effectuate laws of general application that prohibit both public and private entities from discharging to waters of the United States except as specified in a NPDES permit. The Regional Permit is the means by which the Water Boards ensure that public entities abide by the same requirements against polluted discharges to waters of the United States that the law imposes on private entities. The Regional Permit, as is required by federal law, merely places the Claimants and other permittees on the same, or in some cases, lesser, footing as most other private entities and non-local governments.

Numerous provisions of the Regional Permit are requirements of general applicability. Like the Regional Permit, NPDES permits governing private entities contain similar provisions requiring that those entities manage stormwater and non-stormwater to prevent or reduce discharges of pollutants, including the requirement to implement specific control measures or BMPs. Likewise, NPDES permits issued to private entities implement wasteload allocations established in federally required TMDLs, which are assigned to identified sources of pollutants, whether MS4 operators, private industry, or government agencies. And all NPDES permittees are required to self-monitor their discharges so that compliance can be determined.

While Claimants' obligations under the Regional Permit are similar to the obligations of the non-municipal dischargers who are issued NPDES permits for stormwater and non-stormwater discharges, in many respects, Claimants are subject to less stringent requirements. MS4 discharges are not managed as stringently as industrial and construction stormwater discharges.[128] The requirements for industrial entities are more stringent than for local

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[124] *City of Richmond, supra,* 64 Cal.App.4th at p. 1197.

[125] *Ibid.; County of Los Angeles, supra,* 43 Cal.3d at pp. 56-58 (finding comprehensive workers compensation scheme did not create a cost for local agencies that was subject to state subvention).

[126] *Ibid.*

[127] See e.g., 40 C.F.R. § 122.26(a)(vi)(6). See also e.g., State Water Board, Order 2014-0057-DWQ, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities; State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation; State Water Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated with Construction And Land Disturbance Activities.

[128] Compare CWA § 402(p)(3)(A), which requires that industrial stormwater dischargers strictly comply with water quality standards pursuant to CWA § 301(b)(1)(C). The provisions of the Regional Permit regulate the discharge of pollutants in municipal stormwater under the CWA's MEP standard, not the BAT/BCT standard that applies to other types of discharges. See also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1164-1165 (distinguishing

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government dischargers because industrial entities are required to strictly (i.e., immediately) comply with water quality standards. The Regional Permit does not require strict compliance with water quality standards. Therefore, the Regional Permit regulates the discharge of pollutants in MS4 discharges more leniently than the discharge of pollutants from private non-governmental sources.

In the proceeding on the test claim concerning the trash receptacle and inspection requirements of the 2001 LA Permit, the Water Boards made similar arguments to those made here. In its Statement of Decision, the Commission rejected the Water Boards arguments. Having apparently found the first test satisfied, the Commission did not consider whether the second test had also been satisfied. Rather, the Commission relied on an erroneous assumption that it had to consider the permit in isolation, concluding that the "permit activities are limited to local governmental entities" and that "the issue is not whether NPDES permits generally constitute a 'program' within the meaning of article XIII B, section 6. The only issue before the Commission is whether the permit in this test claim . . . constitutes a program because this permit is the only one over which the Commission has jurisdiction."[129] But the Water Boards contend whether NPDES permits generally constitute a "program" within the meaning of article XIII B, section 6, is precisely a threshold issue the Commission needs to determine.

In *City of Sacramento,* the Court held that a law extending mandatory unemployment insurance coverage to local governments did not constitute a new program or higher level of service.[130] The Court reasoned that the law "merely makes the local agencies indistinguishable . . . from private employers."[131] It rejected the local government's argument that because the program was new to local governments, it triggered reimbursement under article XIII B, section 6.[132] Accepting that argument, the Court explained, would create an anomalous situation in which the State could be required to pay local governments if it deferred their compliance with the law, but could avoid the reimbursement requirements if it imposed the same obligations on the public and private sectors at the same time.[133]

Similarly, in *City of Richmond,* a state law exempted public safety employers from Labor Code provisions governing death benefits payable to a deceased employee's survivors.[134] After the State repealed the exemption, a city sought reimbursement for payment of death benefits.[135] The Court of Appeal recognized that just because a law "affects only local governments does not

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"strict compliance" required of industrial storm water dischargers to MEP standard applicable to municipal storm water dischargers).

[129] *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009), p. 49. The Commission reached a similarly erroneous conclusion in its Statement of Decision on the 2007 San Diego County MS4 Permit *(In re Test Claim on: San Diego Regional Water Quality Control Board Order No. R9-2007-0001, Case No. 07-TC-09* (March 26, 2010), p. 36 (e.g., "whether the law regarding NPDES permits generally constitute a "program" within the meaning of Article XIII B, section 6 is not relevant. The only issue before the Commission is whether the permit in this test claim constitutes a program.".)

[130] *City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 57.

[131] *Id.,* at p. 67.

[132] *Id.,* at p. 68 (explaining that the law "may have imposed a requirement 'new' to local agencies, but that requirement was not 'unique'").

[133] *Id.,* at p. 69.

[134] *City of Richmond, supra,* 64 Cal.App.4th at p. 1193.

[135] *Ibid.*

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compel the conclusion that that [the law] imposes a unique requirement on local government."[136] The new law made "the workers' compensation death benefit requirements as applicable to local governments as they are to private employers," and therefore did not impose a new program or higher level of service.[137]

These cases show the error in the Commission's prior reasoning. Both the Supreme Court in *City of Sacramento* and the Court of Appeal in *City of Richmond* considered that the laws at issue put local government on an equal footing with private entities, rather than place a burden exclusively on local government. In its prior decision on the 2001 LA Permit, the Commission declined to recognize that permitting rules apply equally to public and private dischargers, and instead focused narrowly on specific provisions in the 2001 LA Permit. Under *City of Richmond,* the Commission should recognize that because the permitting requirement does not rest exclusively on local governments, whatever its expression in specific permit provisions, and whether or not those specific provisions are imposed on private emitters, it cannot be a reimbursable mandate so long as local governments are held the same, or lesser, standard than private entities.[138] Under the Commission's prior reasoning, even if the San Diego Water Board had issued identical NPDES permits to industrial dischargers – that is, permits that required the public and private permittees to do exactly the same thing – the permit issued to the local government would trigger a subvention of funds. That would be an impermissible "state subsidy of the public sector" to offset "expenses imposed *in common* on the private and public sectors by . . . a general law."[139] Therefore, the mere fact that one particular NPDES permit, out of hundreds of NPDES permits issued by the Water Boards, only names local governments is not the correct standard as to whether the Regional Permit constitutes a "program" under article XIII B, section 6 of the California Constitution.

Treating individual permit terms that implement BMPs or other control measures as state mandates, when other dischargers, including other stormwater dischargers, are subject to more stringent standards, is the sort of anomalous result the Supreme Court cautioned against in *City of Sacramento.* If updating a law to require local governments to adhere to the same standard as private parties does not create a mandate, as the courts in *City of Sacramento* and *City of Richmond* held, then imposing a lesser standard in lieu of a more stringent standard cannot create a mandate. Among other things, it would encourage the state and regional water boards to issue permits imposing the same standards on MS4 operators as on other stormwater dischargers, potentially at greater cost to local governments.[140]

Further, on remand from the California Supreme Court, the Los Angeles County Superior Court recently agreed with the Water Boards that the receptacle and inspection requirements in the 2001 LA Permit are not a state mandate program subject to subvention as the costs incurred by local governments are "an incidental impact of laws [and policies] that apply generally to all state

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[136] *Id.,* at p. 1197.

[137] *Id.,* at p. 1199.

[138] See *City of Richmond, supra,* 43 Cal.App.4th at p. 1193.

[139] *City of Sacramento, supra,* 50 Cal.3d at p. 69, discussing *County of Los Angeles, supra,* 43 Cal.3d at pp. 56-58.

[140] See *Defenders of Wildlife, supra,* 191 F.3d at pp. 1163, 1166-1167 (noting state can impose effluent limitations on MS4 permittees); *Building Industry, supra*, 124 Cal.App.4th at pp. 886-887 (discussing *Defenders of Wildlife*).

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residents and entities" rather than the result of a state mandate shifting the costs of a state initiated program to the local governments.[141] Notably, the Court also found the following:

> Moreover, just because the requirements are "unique" to the local governments and cause them to incur costs does not mean the local entities are necessarily entitled to reimbursement from the state. Whereas a private industrial discharger has considerable power to control its operations and employees to prevent contaminated discharges, municipalities cannot prevent contaminated discharges without inducing or policing the public to refrain from harmful conduct. It is therefore inevitable that the Operators' NPDES permit includes measures "unique" to local governments such as the receptacle and inspection requirements at issue here. Indeed, because the anti-pollution laws, the permit and the policies behind them implement a ban on unlawful discharges that applies to both public and private entities, the state must, as a practical matter, impose "unique" requirements on local governments to ensure that their required compliance is "indistinguishable . . . from private employers."[142]

Thus, while the provisions in the Regional Permit apply only to the local agencies named in the permit, the substantive actions required by the permit's provisions are by no means unique to this class of permittee. That other NPDES permits impose similar requirements on non-local government agencies demonstrates that the provisions in the Permit are not unique to local government. The Water Boards urge the Commission to reconsider its prior approach in this respect and to view the Regional Permit within the larger context.

2. The Regional Permit Provisions Do Not Impose a New Program

Assuming the Commission finds that the Regional Permit is a "program," there is no evidence that the challenged requirements at issue impose a "new program." A program is "new" if the local government had not previously been required to institute it.[143] Here, even if each of the challenged provisions could be considered a "program" none meets the definition of "new."

Claimants have been permitted under the NPDES program for their MS4 discharges since 1990. The Regional Permit is the fifth such permit issued for the Riverside County MS4s and many of the requirements at issue in the Test Claim are not new. The overarching requirement to impose controls to reduce or prevent pollutants in MS4 discharges is dictated by the Clean Water Act and is not new to this permit cycle. The inclusion of new and advanced measures as the MS4 programs evolve and mature over time is anticipated under the Clean Water Act and these new and advanced measures do not constitute a "new program."[144] Prior permits, like the Regional Permit, included management program requirements, monitoring programs, annual reporting

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[141] *State of California Department of Finance v. Commission on State Mandates*, Los Angeles County Superior Court Case No. BS130730, Order Granting Petition for Writ of Mandate (Post-Remand) and Denying Cross-Petitions as Moot, Feb. 9, 2018, p. 14 (citing *County of Los Angeles, supra,* 43 Cal.3d at p. 57).

[142] *State of California Department of Finance v. Commission on State Mandates*, Los Angeles County Superior Court Case No. BS130730, Order Granting Petition for Writ of Mandate (Post-Remand) and Denying Cross-Petitions as Moot, Feb. 9, 2018, p. 14 (citing *County of Los Angeles, supra,* 43 Cal.3d at p. 57).

[143] *Id.,* at p. 13 (citing *County of Los Angeles, supra,* 43 Cal.3d at p. 57).

[144] 55 Fed. Reg. 47990, 48052 (Nov. 16, 1990).

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requirements, land development requirements, enforcement obligations, discharge prohibitions, and the requirement to comply with receiving water limitations through an iterative process.

3. The Regional Permit Provisions Do Not Require Higher Levels of Service

Assuming the Commission finds that the Regional Permit is a "program," there is no evidence that many of the requirements at issue constitute a "higher level of service." The term "higher level of service" "must be read in conjunction with the predecessor phrase 'new program' to give it meaning. Thus read, it is apparent that the subvention requirement for increased or higher level[s] of service is directed to state mandated increases in the services provided by local agencies in existing 'programs.' "[145] A "higher level of service" occurs when the new "requirements were intended to provide an enhanced service to the public."[146]

As an initial matter, any new requirements in the Regional Permit are not intended "to provide an enhanced service to the public."[147] The service to the public of affording better water quality, which is required by both public and private entities, has remained the same. This service is not enhanced in the Regional Permit. Just because Claimants or other permittees have not met the requirements of prior permits (e.g., achieving compliance with water quality standards), it does not mean that more detailed requirements in *this* permit designed to ensure the water quality protection required by prior permits and the CWA is achieved as soon as possible somehow provides an "enhanced" service to the public. Claimants, as with all other permittees, are still required to effectively prohibit their non-stormwater discharges, comply with water quality standards, implement minimum control measures, monitor their discharges, etc., in order to achieve the CWA standards that were established decades ago.

The changes to the requirements of prior permits (e.g., increased detail or specificity) also do not amount to a higher level of service, both because equivalent changes are applicable to non-municipal NPDES permittees, discussed in Section V below, and because they are merely refinements of existing requirements, most of which are a result of the iterative process expressly contemplated by federal law.[148] A higher level of service is not simply any increase in costs. "If the Legislature had intended to continue to equate 'increased level of service' with 'additional costs,' then the provision would be circular: 'costs mandate by the state' are defined as 'increased costs' due to an increased level of service, which, in turn would be defined as 'additional costs.'"[149]

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[145] *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 56 (emphasis added).

[146] *San Diego Unified School Dist., supra,* 33 Cal.4th at p. 878.

[147] *Ibid.*

[148] See *County of Los Angeles v. Comm'n on State Mandates, supra,* 110 Cal.App.4th at pp. 1189-1190; see, also, e.g., Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21 (AR, pp. A003789-91), citing 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.").

[149] *County of Los Angeles, supra,* 110 Cal.App.4th at p. 1191.

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Costs for purposes of Article XIII B, section 6, of the California Constitution do "not equal every increase in a locality's budget resulting from compliance with a new state directive."[150]

Nor does every increase in specificity about where to direct costs amount to a higher level of service.[151] That the level of specificity in a permit reconsidered and reissued every five years may have changed over time is consistent with U.S. EPA's guidance that MS4 permitting follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit.[152]

Rather, the costs incurred must involve programs previously funded exclusively by the state.[153] The "state must be attempting to divest itself of its responsibility to provide fiscal support for a program, or forcing a new program on a locality for which it is ill equipped to allocate funding."[154] In certain instances, Claimants contend that the state has shifted costs to local government and that they have been saddled with entirely new obligations to control pollution in stormwater. As explained below, these claims are simply not true. In other cases, though, Claimants do not contend that the state has shifted any costs to them, or saddled them with entirely new obligations to control pollution in stormwater. Without any burden shifting from the state to municipalities, mere direction from the San Diego Water Board that the municipalities reallocate some of their resources in a particular way does not amount to a higher level of service.[155] "Loss of flexibility does not, in and of itself, require the [local agencies] to expend funds that previously had been expended by the State."[156]

In this case, any costs arising from the Regional Permit's requirements do not result from a "new" program. Nor do they result from a "higher level of service," because the state has not shifted its own responsibilities to local agencies and the Claimants are not "ill-equipped" to allocate funding to control MS4 discharges. And, as explained below, Claimants have been subject to the same federal standards (the requirement to effectively prohibit non-stormwater discharges into the MS4, to implement controls to reduce the discharge of pollutants in stormwater to the MEP, to monitor their discharges, and other controls determined appropriate by the permitting agency) for

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[150] *Ibid.,* at p. 1194; accord *San Diego Unified School Dist. v. Comm'n on State Mandates* (2004) 33 Cal.4th 859, 876-877.

[151] See *Id.,* at p. 1194 [requiring local law enforcement agencies devote some of their training budgets to domestic violence training was not a higher level of service].

[152] See, e.g., 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.").

[153] See *City of San Jose v. State of California* (1996) 45 Cal. App.4th 1802, 1812 [citing *Lucia Mar Unified School Dist. v. Honig* (1988) 44 Cal.3d 830, 836]; see also *County of Sonoma v. Comm'n on State Mandates* (2000) 84 Cal. App.4th 1264, 1288 [state law requiring reallocation of school funds from one local government entity to another, where local government generally had always had a substantial role in funding schools, did not impose a higher level of service].

[154] See *County of Los Angeles v. Comm'n on State Mandates, supra,* 110 Cal.App.4th at p. 1194; accord *Dept. of Finance v. Comm'n on State Mandates, supra,* 1 Cal.5th at p. 771 [agreeing that state had shifted responsibility for some industrial inspections to local government agency].

[155] See *County of Los Angeles v. Comm'n on State Mandates, supra,* 110 Cal.App.4th at p. 1194.

[156] *Ibid.;* accord *Dept. of Finance v. Comm'n on State Mandates* (2003) 30 Cal.App.4th 727, 748 [requirement that school districts allocate some of their grant funds in a particular way did not transform those costs into a reimbursable state mandate].

decades. Whether Claimants must implement different approaches in an effort to achieve the long-required federal standards does not mean the state has imposed a new program or required performance of a higher level of service.

B. Mandates Exceptions Preclude Finding Subvention is Required

Assuming *arguendo* that the Commission concludes that the challenged provisions of the Regional Permit require new programs or impose higher levels of service, the following mandates exceptions apply to the contested provisions such that subvention is not required.

1. The Regional Permit Provisions Are Required by Federal Law

a. The San Diego Water Board Determined That the Regional Permit Provisions Are Required to Comply with CWA Requirements - And Such Findings Are Entitled to Deference Under *Department of Finance*

One of the exceptions to the subvention requirements is if the mandate imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation. Federal law specifically requires that permits be issued to the local governments that operate MS4s and that permits effectively prohibit non-stormwater discharges to the MS4, include controls to reduce the discharge of pollutants in stormwater to the maximum extent practicable, include other provisions the permitting agency determines appropriate for the control of such pollutants, including monitoring and reporting requirements. If the Water Boards had not been authorized to issue the permit in lieu of U.S. EPA, the MS4 discharges would be prohibited unless U.S. EPA itself issued a similar permit directly to the entities. Therefore, in issuing the permit provisions necessary to comply with federal law, the San Diego Water Board exercised its duty under federal law. As the Ninth Circuit Court of Appeals held in *Natural Resources Defense Council v. U.S. EPA*, "Congress did not mandate a minimum standards approach."[157] Rather, Congress mandated that the permitting entity, here the San Diego Water Board, determine appropriate provisions designed to control pollutants.[158]

The Court of Appeal in *City of Rancho Cucamonga v. Regional Water Quality Control Board, Santa Ana Region,* succinctly addressed the federal mandate on the regional water boards to prescribe requirements that meet the federal MEP standard:[159]

> In creating a permit system for dischargers from municipal storm sewers, Congress intended to implement actual programs. (*Natural Resources Defense Council, Inc. v. Costle* (D.C.Cir.1977) 568 F.2d 1369, 1375.) The Clean Water Act authorizes the imposition of permit conditions, including: "management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." (33 U.S.C. § 1342, subd. (p)(3)(B)(iii).) The Act authorizes states to issue permits with conditions necessary to carry out its provisions. (33

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[157] (9th Cir. 1992) 996 F.2d 1292, 1308.

[158] *Id.*

[159] *City of Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region* (2002) 135 Cal.App.4th 1377.

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> U.S.C. § 1342, subd. (a)(1).) The permitting agency has discretion to decide what practices, techniques, methods and other provisions are appropriate and necessary to control the discharge of pollutants. (*NRDC v. EPA* (9th Cir.1992) 966 F.2d 1292, 1308.) That is what the Regional Board has created in the 2002 permit.[160]

As in *Rancho Cucamonga*, the Regional Permit includes requirements to implement BMPs to meet the MEP standard for storm water discharges. Similarly, the San Diego Water Board exercised its duty under federal law and adopted the Permit with provisions requiring compliance with the non-stormwater discharge prohibition and monitoring and reporting requirements, each of which is an independent federal law mandate.

The fact that the San Diego Water Board exercised its discretion, as required by federal law, to impose requirements that it determined were necessary to implement federal law and meet the CWA standards in this Permit supports the conclusion that the permit provisions are federal, not state mandates. Under the factual circumstances here, *Department of Finance* does not require a different result.

An essential underpinning of *Department of Finance* is the Supreme Court's determination that the 2001 LA Permit had as its roots both federal and State law. In that case, the Los Angeles Water Board made no finding that the permit requirements were necessary to implement the MEP standard.[161] Instead, the Los Angeles Water Board found only that the permit was consistent with or within the federal standard. The Supreme Court explained that, "[h]ad the Regional Board found when imposing the disputed permit conditions, that those conditions were the only means by which the maximum extent practicable standard could be implemented, deference to the board's expertise in reaching that finding would be appropriate."[162]

By contrast, the San Diego Water Board here made specific findings that the Permit was based on federal law in every section of the Permit and the Fact Sheet under the factual circumstances presented.[163] Examples of this include, but are not limited to:

- "This Order implements federally mandated requirements under CWA section 402 (33 USC section 1342(p)(3)(B))."[164]

- The requirements of this Order, taken as a whole rather than individually, are necessary to reduce the discharge of pollutants to the MEP and to protect water quality. . . . These findings are the expert conclusions of the principal state agency charged with implementing the NPDES program in California.[165]

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[160] *Rancho Cucamonga, supra,* at 1389.

[161] *Department of Finance v. Comm'n on State Mandates, supra,* 1 Cal.5th at p. 768.

[162] *Department of Finance v. Comm'n on State Mandates, supra,* 1 Cal.5th at p. 768.

[163] The finding that the permit terms are necessary to satisfy the federal MEP standard under the factual circumstances presented means the San Diego Water Board did not impose more stringent terms under the Porter-Cologne Water Quality Control Act, which it is authorized to do. (See *City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613, 626-629.)

[164] Regional Permit, Finding 31.a.

[165] Regional Permit Fact Sheet, p. F-30.

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- This Order prescribes conditions to assure compliance with the CWA requirements for owners and operators of MS4s to effectively prohibit non-storm water discharges into the MS4s, and require controls to reduce the discharge of pollutants in storm water from the MS4s to the MEP.[166]

- The authority exercised under this Order is not reserved state authority under the CWA's savings clause (cf. Burbank v. State Water Resources Control Bd. (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements which are not 'less stringent' than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, *it is entirely federal authority that forms the legal basis to establish the permit provisions.* (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)[167]

Collectively, these findings set forth the San Diego Water Board's regulatory basis for issuing the Regional Permit and make it clear that the Board intended to and did rely solely on federal law in issuing the Permit.[168]

The Water Boards understand the Supreme Court to mean that, to be entitled to deference, the regional water boards must make an express finding that the particular set of permit conditions finally embodied in a given permit is required to meet that federal standard, and must support that finding with evidence. The opinion is consistent with the Boards' reading of the CWA: where a regional water board has devised a set of conditions necessary to ensure local governments' compliance with federal law (that is, a set of conditions that is federally mandated), the regional water board does not have a choice to impose some other, less rigorous, set of conditions.

For the "maximum extent practicable" standard applicable to MS4 stormwater discharges, determining whether this standard has been exceeded necessarily rests on whether the Permit includes requirements which are impracticable. Practicability is a matter squarely within the San Diego Water Board's jurisdiction and expertise. The San Diego Water Board determined that the

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[166] Regional Permit, Finding 3. "The MEP standard is a flexible standard that balances a number of considerations, including technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness. (*Building Ind. Ass'n., supra,* 124 Cal.App.4th at pp. 873-874, 889.) Such considerations change over time with advances in technology and with experience gained in storm water management (55 FR 47990, 48052 (Nov. 16, 1990)). Accordingly, a determination of whether the conditions contained in this Order exceed the requirements of federal law cannot be based on a point by point comparison of the permit conditions and the minimum control measures that are required "at a minimum" to reduce pollutants to the maximum extent practicable and to protect water quality (40 CFR 122.34). Rather, the appropriate focus is whether the permit conditions, as a whole, exceed the MEP standard." Regional Permit, at pp. F-29 – F-30.

[167] Regional Permit Fact Sheet, p. F-29 (emphasis added).

[168] The finding that the permit terms are necessary to satisfy the federal MEP standard under the factual circumstances presented means the San Diego Water Board did not impose more stringent terms under the Porter-Cologne Water Quality Control Act, which it is authorized to do. (See *Burbank, supra,* 35 Cal.4th at pp. 626-629.

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requirements in the Regional Permit are practicable.[169] In the Test Claim, Claimants present no evidence that any of the challenged provisions applicable to stormwater are impracticable. Accordingly, absent any evidence that any of the challenged provisions are impracticable, the Commission cannot find these provisions exceed MEP and therefore are entitled to subvention. The Commission must defer to the Board's findings.[170]

Department of Finance addressed the narrow question of whether the federal MEP standard and certain implementing regulations[171] mandated both the trash can and inspection requirements contained in the 2001 LA Permit. In reaching its decision, the Supreme Court's analysis necessarily turned on whether, and to what extent, the MEP standard and the specific implementing regulations compelled the Los Angeles Regional Board to impose the challenged permit conditions.[172] Non-stormwater discharge provisions and monitoring and reporting requirements required by independent federal mandates were not analyzed by the Supreme Court in *Department of Finance.* Consequently, the Supreme Court decision has limited application when the federal standard compelling a challenged permit provision is wholly separate from the MEP standard and those specific implementing regulations.

Likewise, the recent California Court of Appeal, Third Appellate District, decision concerning the 2007 San Diego County MS4 Permit[173] was also narrowly focused on the federal mandate exception related to the MEP standard only. Notably, like *Department of Finance*, the *San Diego DOF Decision* also did not address critical questions here, including but not limited to: (a) whether requirements implementing the Clean Water Act's effective prohibition of non-stormwater discharges through the MS4 to receiving waters is federally mandated and (b) whether permit provisions implementing TMDLs required by section 303(d) of the Clean Water Act are federally mandated; and (c) whether permit provisions establishing monitoring and reporting requirements is federally mandated. Importantly, however, the California Court of Appeal did not, and could not, disturb the California Supreme Court's determinations concerning the deference owed to the permitting agency.

The Regional Permit, like its predecessors, implements the wholly separate CWA requirement that MS4 operators effectively prohibit non-stormwater discharges through their storm sewers to waters of the United States and monitor their discharges. These are separate, independent federal requirements that neither the Supreme Court in the *Department of Finance* decision nor the California Court of Appeal, Third Appellate District, in the *San Diego DOF Decision,* analyzed.

b. U.S. EPA Has Required Similar Provisions in Permits It Has Issued

The Supreme Court in *Department of Finance* observed that U.S. EPA-issued permits did not contain requirements to place trash receptacles at transit stops (a requirement of the 2001 LA

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[169] Regional Permit, Fact Sheet, p. F-35.

[170] *Department of Finance, supra,* 1 Cal.5th at pp. 768-769.

[171] The Supreme Court considered Title 40 of the Code of Federal Regulations, parts 122.26(d)(2)(iv)(A)(3), (B)(1), (C)(1), and (D)(3) in reaching its decision. (*Department of Finance v. Comm'n on State Mandates*, *supra*, 1 Cal.5th at p. 749.)

[172] *Id.* at p. 767 ("The federal CWA broadly directed the board to issue permits...designed to reduce the pollutant discharges to the maximum extent practicable").

[173] *Department of Finance v. Commission on State Mandates* (2017) 18 Cal.App.5th 661 (*San Diego DOF Decision*).

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Permit), and found that the absence of such conditions in EPA-issued permits "undermines the argument that the requirement was federally mandated."[174] The Court's modifications to its original opinion underscore that determining what constitutes MEP is a case-specific, factual determination and the absence of similar conditions in U.S. EPA-issued permits is not fatal to the argument that a particular requirement is necessary to meet the federal standard.[175] U.S. EPA has, however, issued permits requiring either equivalent or substantially similar provisions to the contested provisions of this Permit.[176] If the State had not issued the Permit, the U.S. EPA would have done so. If the State had issued a permit that failed to meet federal standards, U.S. EPA could have objected to the permit, which effectively vetoes the permit and triggers U.S. EPA's obligation to issue the permit itself.[177] The inclusion of equivalent or substantially similar provisions by U.S. EPA in other permits demonstrates that the San Diego Water Board effectively administered federal requirements concerning permit requirements.

To the extent the provisions are more detailed or provide more specificity than past iterations of Riverside County MS4 Permits, this is consistent with U.S. EPA's guidance that successive permits for the same MS4 must become more refined and detailed:

> The EPA also expects stormwater permits to follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit. See, 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 67722, 68754 (Dec. 8, 1999 ("EPA envisions application of the MEP as an iterative process.") Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round stormwater permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")[178]

The permit provisions are, as the San Diego Water Board concluded, federal mandates.

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[174] *Department of Finance v. Comm'n on State Mandates, supra,* 1 Cal.5th at p. 772.

[175] The Court stated:

> The opinion in this matter filed on August 29, 2016, and appearing in the California Official Reports at 1 Cal.5th 749, is modified as follows: On page 768 of the published opinion, a footnote is inserted at the end of the sentence that reads: "The board's legal authority to administer the CWA and its technical experience in water quality control would call on sister agencies as well as courts to defer to that finding." The new footnote, which is numbered as footnote 15, reads: "Of course, this finding would be case specific, based among other things on local factual circumstances." On page 771 of the published opinion, current footnote 15 is renumbered as footnote 16. On page 772 of the published opinion, the word "fatally" is deleted from the sentence that reads: "The fact the EPA itself had issued permits in other cities, but did not include the trash receptacle condition, fatally undermines the argument that the requirement was federally mandate."

[176] *See,* State Water Board Order WQ 2015-0075, citing to Modified NPDES Permit No. DC0000221 for the MS4 for the District of Columbia, p. 14. See, also, DC0000221, modified October 25, 2012, p. 5 ("[The permittee must] [e]ffectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the Ms4 as necessary to comply with existing District of Columbia Water Quality Standards (DCWQS).")

[177] 33 U.S.C.A. § 1342(d)(2), (4); 40 C.F.R. 123.44.

[178] Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21.

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Even if the Commission concludes that some aspect of a challenged provision imposes requirements that exceed a federal mandate, any increased costs to implement those activities are *de minimis* and therefore not entitled to subvention.

2. Claimants Have Authority to Raise Fees for the Contested Provisions

Under California mandates law, Claimants must establish that they are required to use tax monies to pay for implementation of the contested provisions.[179] Subvention is not required if the costs can be reallocated or funded through service charges, fees, assessments, or other means.[180] Claimants have not demonstrated that they are precluded from establishing or raising fees or lack another revenue source to pay for implementation of the contested provisions.[181]

In the Commission's Statement of Decision concerning certain provisions of the 2001 LA Permit that were considered in *Department of Finance*, the Commission found that all but one of the challenged provisions issued by the Los Angeles Water Board did not qualify as unfunded state mandates as they did "not impose costs mandated by the state within the meaning of Article XIII B, Section 6 of the California Constitution because the Claimants have fee authority (under Cal. Const. article XI, § 7) within the meaning of Government Code section 17556, subdivision (d), sufficient to pay for the activities in those parts of the permit."[182] Although the Supreme Court acknowledged the Commission's finding, it did not address the fee issue but remanded for further proceedings. *Department of Finance* is thus inapplicable on this issue.

Claimants are not *required* to use taxes to pay for the costs of the programs and can levy fees. Like the Department of Finance, the Water Boards believe that Claimants possess fee authority within the meaning of Government Code section 17556, subdivision (d), such that no reimbursement by the state is required. Such authority is undiminished by Propositions 218 or 26. Notably, Proposition 26 specifically excludes assessments and property-related fees imposed in accordance with Proposition 218 from the definition of taxes.[183]

As an initial matter, Claimants have the ability to increase sewer fees or charges without voter approval to cover increased costs of implementing the Regional Permit. Article XIII B, section 6, subdivision (c) of the California Constitution provides an exception to the voter approval requirements of Proposition 218 for "fees or charges for sewer, water, and refuse collection

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[179] Gov. Code, § 17553, subd. (b)(1)(F) [test claim must identify funding sources, including general purpose funds available for this purpose, special funds and fee authority]; *Id.* § 17556, subd. (d).

[180] See Gov. Code, § 17556, subd. (d) [costs not mandated by the state when the local agency has "authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service"]; *County of Los Angeles v. Comm'n on State Mandates*, *supra*, 110 Cal.App.4th at p. 1189 ["in order for a state mandate to be found, the local governmental entity must be required to expend the proceeds of its tax revenues"]; *Redevelopment Agency v. Comm'n on State Mandates* (1997) 55 Cal.App.4th 976, 987 ["No state duty of subvention is triggered where the local agency is not required to expend its proceeds of taxes"].

[181] Claimants must also demonstrate that the fees are more than *de minimis*. (*San Diego Unified School Dist., supra,* 33 Cal.4th at p. 889 ["incidental procedural requirements, producing at most de minimis added cost, should be viewed as part and parcel of the underlying federal mandate, and hence nonreimbursable under Government Code, section 16556, subdivision (c)"].) *Department of Finance* did not consider when a particular cost is *de minimis*. Except to the extent the Supreme Court affirmed prior holdings that *de minimis* costs do not create reimbursable mandates, *Department of Finance* does not apply to the Commission's determination on that issue.

[182] Statement of Decision on Test Claim Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21, p. 2.

[183] Art. XIIIC, § 1, subd. (e)(7).

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services." The Legislature has recently enacted two important pieces of legislation confirming that Claimants have fee authority without the need for voter approval.

First, through Assembly Bill 2043 (2014), effective January 1, 2015, the Legislature amended the definition of "water" for purposes of Articles XIII C and XIII D to mean "water from any source."[184] In doing so, the Legislature stated that its act "is declaratory of existing law."[185]

Second, through Senate Bill 231 (2017), effective January 1, 2018, the Legislature "reaffirm[ed] and reiterate[d]" that the definition of "sewer" for purposes of article XIII D includes:

> systems, all real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate sewage collection, treatment, or disposition for sanitary *or drainage* purposes, including lateral and connecting sewers, interceptors, trunk and outfall lines, sanitary sewage treatment or disposal plants or works, drains, conduits, outlets for *surface or storm waters,* and any and all other works, property, or structures necessary or convenient for the collection or disposal of sewage, industrial waste, *or surface or storm waters.*[186]

These legislative actions confirm that the Claimants have authority to raise fees, without voter approval, for costs related to their storm sewer systems. To the extent Claimants rely on *Howard Jarvis Taxpayers Ass'n v. City of Salinas* (2002) 98 Cal.App.4th 1351 as precluding the ability of a municipality to raise fees related to stormwater, that decision is no longer controlling. The Legislature has subsequently clarified the extent of sewers covered by the exception to voter approval requirements contained in Proposition 218.[187] The Legislature thus clarified that Claimants have, and have always had, the ability to raise fees related to stormwater. The California Constitution requires the Commission to abide by these later-enacted statutory requirements unless and until a Court of Appeal finds them unconstitutional.[188]

Applying the vote-exception for fees confirmed by Assembly Bill 2043 and Senate Bill 231, a majority of property owners can protest and defeat a stormwater fee, but not with the result of creating a state mandate.

Health and Safety Code section 5471 and Public Resources Code, section 40059, subdivision (a)(1), also provide additional authority to charge fees for the costs associated with the contested provisions. Health and Safety Code section 5471, subdivision (a), gives Claimants fee authority

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[184] Gov. Code, § 53750, subd. (n), amended by Assembly Bill 2043 (Stats. 2014, ch. 78, § 2).

[185] Stats. 2014, ch. 78, § 1(c).

[186] Gov. Code § 53750, subd. (f), and § 53751, subd. (i), added by Senate Bill 231, Stats. 2017, ch. 536, § 2 (emphasis added). The Legislature noted the numerous authorities predating Proposition 2018 that use this same definition, including: (1) Section 230.5 of the Public Utilities Code, added by Chapter 1109 of the Statutes of 1970; (2) Section 23010.3, added by Chapter 1193 of the Statutes of 1963; (3) The Street Improvement Act of 1913; (4) *L.A. County Flood Control Dist. v. Southern Cal. Edison Co.* (1958) 51 Cal.2d 331 ("no distinction has been made between sanitary sewers and storm drains or sewers"); (5) Many other cases where the term "sewer" has been used interchangeably to both sanitary and storm sewers including, but not limited to, *County of Riverside v. Whitlock* (1972) 22 Cal.App.3d 863, *Ramseier v. Oakley Sanitary Dist.* (1961) 197 Cal.App.2d 722, and *Torson v. Fleming* (1928) 91 Cal.App. 168; and (6) Dictionary definitions of sewer, which courts have found to be an objective source for determining common or ordinary meaning, including Webster's (1976), American Heritage (1969); and Oxford English Dictionary (1971).

[187] Gov. Code, § 53751, subd. (f).

[188] Cal. Const., art. III, § 3.5; *Lockyer v. City and County of San Francisco* (2004) 33 Cal.4th 1055, 1094.

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for "services and facilities furnished . . . in connection with its water, sanitation, *storm drainage*, or sewerage system."[189] Similarly, Public Resources Code section 40059, subdivision (a)(1), also confers fee authority on counties, cities, districts, or other local governmental agencies for "[a]spects of solid waste handling which are of local concern, including, but not limited to, frequency of collection, means of collection and transportation, level of services, charges and fees, and nature, location, and extent of providing solid waste handling services."[190]

Claimants argue that certain Permit provisions are intended to improve overall water quality and benefit all persons within the jurisdiction and, therefore, it is impossible to develop a fee structure based on the benefits received or burdens imposed by prospective payors. But the Fact Sheet for the Regional Permit amply demonstrates that numerous activities contribute to the pollutant loading from MS4s. Claimants have the ability to levy charges, fees or assessments on these activities, independent of real property ownership.[191] For example, inspection fees have been held not to be subject to Proposition 218.[192] The California Supreme Court has also validated the adoption of regulatory fees, providing they are not levied for unrelated revenue purposes.[193] It is reasonable to collect fees from developers for the costs associated with implementing certain permit provisions. Asking these entities to bear the costs directly related to their activities "is comparable in character to similar police power measures imposing fees to defray the actual or anticipated adverse effects of various business operations."[194]

The question before the Commission is whether Claimants have the authority to impose fees or assessments, not whether the actions to impose a fee or assessment will be successful. Claimants have authority to impose property-related fees or assessments under their police power to pay for the costs of complying with the Regional Permit, whether or not it is politically feasible to impose such fees via voter approval as may be required by Proposition 218. Permittees' police power is "broad enough to include mandatory remedial measures to mitigate the *past, present or future* adverse impact of the fee payer's operations" in situations, like those present here, where there is a causal connection or nexus between the adverse effects and the fee payer's activities.[195] Local governments can choose not to submit a fee to the voters or voters can reject a proposed fee. Claimants provides no evidence whatsoever that it attempted to raise fees, but was prevented from doing so. The authority of a local agency to defray the cost of a program without raising

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[189] Health & Safety Code, § 5471, subd. (a) (emphasis added).

[190] Pub. Resources Code, § 40059, subd. (a)(1).

[191] For a general overview of funding mechanisms that have been employed by municipalities, see Black and Veatch 2005 Stormwater Utility Survey, p. 2 (72% cited stormwater user fees as major [at least 90% of total income] revenue sources and the majority of utilities resported funding was adequate to meet all or most needs).

[192] See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842, 844-845 (upholding inspection fees associated with renting property). A fee for residential inspections to ensure compliance with MS4 Permit directives (e.g. compliance with laws related to conducting business) would be similar.

[193] See, *Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866, 876-77. See also *Cal. Farm Bur. Federation v. State Water Resources Control Bd.* (2011) 51 Cal. 4th 421, 437-438; *California Association of Professional Scientists v. Dept. of Fish and Game* (2000) 79 Cal.App.4th 935, 945 (distinguishing regulatory fees from taxes); *Schmeer v. County of Los Angeles* (2013) 213 Cal.App.4th 1319, 1326 (finding plastic bag charge retained by businesses not to be a tax).

[194] *Sinclair Paint Co., supra,* 15 Cal.4th at p. 877.

[195] *Id.,* at p. 877-878. Examples of non-tax fees within the police power of municipalities to impose include: single use carryout bag ordinances charging fee for use of plastic or paper bags; fines for violations of prohibitions on use of foam/polystyrene food containers; hazardous waste disposal fees for businesses; and vehicle registration fees used to fund combined road safety/green infrastructure projects.

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taxes indicates that a program does not entail a cost subject to subvention. A municipality's failure even to attempt the 218 process does not turn permit costs into state reimbursable mandates.[196] "Claimants can choose not to require" or even not to pursue "these fees, but not at the State's expense."[197]

Moreover, Claimants' arguments fundamentally ignore the fact that municipalities can and do impose fees on their residents and businesses to fund aspects of their stormwater programs. For example, the cities of Culver City, Alameda, Palo Alto, San Clemente, San Jose, and Santa Cruz have all either adopted new fees for implementation of their programs, raised existing stormwater fees, or adopted fee assessments.[198] As recently as July 2018, the County of Los Angeles voted to place on the November 2018 ballot a proposed property tax to capture and clean storm water.[199] Whether circumstances make it impractical to assess fees is not relevant to the inquiry (nor is the contention even factually correct).[200]

Furthermore, the California Watershed improvement Act of 2009 authorizes MS4 permittees statewide to develop and implement voluntary watershed improvement plans.[201] State Water Board Order No. WQ 2015-0175, which upheld, with some modifications, a 2012 Los Angeles Water Board MS4 Permit issued to 85 permittees in the Los Angeles Region, clarifies that "[t]he California Watershed Improvement Act of 2009 grants authority to local government permittees regulated by an MS4 permit to develop and implement watershed improvement plans, but does not limit the authority of a regional water board to impose terms related to watershed management in an MS4 permit. Further, the terms of the WMPs/EWMPs are largely consistent with the watershed improvement plans authorized by the Act, so a permittee can comply with the Los Angeles MS4 Order while also using the authority provided by the California Watershed Improvement Act of 2009 if it so chooses."[202] Similar to the WMPs/EWMPS in the 2012 Los Angeles Permit, Water Quality Improvement Plans in the Regional Permit are "largely consistent"

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[196] *Connell v. Sup. Ct.* (1997) 59 Cal.App.4th 382, 398 [where statute on its face authorized water districts to levy fees sufficient to pay the costs associated with a regulatory change, there was no right to reimbursement]; *Clovis Unified School Dist. v. Chiang* (2010) 188 Cal.App.4th 794, 812 ["to the extent a local agency... 'has the authority' to charge for the mandated program or increased level of service, that charge cannot be recovered as a state mandated cost"].

[197] *Clovis Unified Sch. Dist. v. Chiang* (2010) 188 Cal.App.4th 794, 812.

[198] See documentation of City of Alameda Storm Water Fee Ordinance, City of Palo Alto Storm Drainage Fee Ordinance, and storm water fees authorized in Cities of Culver City, San Clemente, San Jose and Santa Cruz, included as attachments to this response.

[199] See Los Angeles Times, July 17, 2018 "LA County votes to put new property tax before voters to clean storm water."

[200] *Connell v. Sup. Ct.* (1997) 59 Cal.App.4th 382, 398 [where statute on its face authorized water districts to levy fees sufficient to pay the costs associated with a regulatory change, there was no right to reimbursement]; *Clovis Unified School Dist. v. Chiang* (2010) 188 Cal.App.4th 794, 812 ["to the extent a local agency... 'has the authority' to charge for the mandated program or increased level of service, that charge cannot be recovered as a state mandated cost"].) Moreover, Claimants has not demonstrated that properly designed engineering report or study could not comply with Proposition 218's requirements to impose upon a person or property the particular fee at issue, which does not exceed the proportional cost of the service attributable to the parcel in question. (Cal. Const. art. XIII D, § 6(b)(3).) The nature of the fee at issue is what must be examined. So, by way of example, Claimants complains about Residential Inspections And Inventory Programs (Test Claim, at pp. 35-36.) But residential inspections fees levied for business (versus property-related) reasons generally have been held not to violate Proposition 218. *Apartment Ass'n. of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 844-45. A fee for residential inspections to ensure compliance with MS4 Permit directives (e.g., compliance with laws related to conducting business) would be similar.

[201] Wat. Code, §§ 16100 to 16104.

[202] State Water Board Order WQ 2015-0075, p. 8, footnote 30.

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with the watershed improvement plans authorized by the Act. Therefore, costs to develop and update a Water Quality Improvement Plan (see section V.1. below) are not subject to subvention.

V. ARGUMENT: SPECIFIC RESPONSES TO CHALLENGED PROVISIONS

While the general discussion above in Section IV explains why it is appropriate for the Commission to reject the Test Claim in its entirety, the following elaboration on challenges to specific provisions establishes additional justification to reject the Test Claim. For ease of reference, the specific responses below generally follow the organization format of the Test Claim.

A. Development, Implementation and Update of Water Quality Improvement Plans (WQIPs), Permit Provisions B (B.2., B.3., B.4., B.5., B.6.), F (F.1.a., F.1.b., F.2.c., F.2.e., F.3.b.(3), F.3.c.), and A.4.

The purpose of Provision B, titled "Water Quality Improvement Plans" (WQIPs) is to guide the Copermittees' jurisdictional runoff management programs towards achieving the outcome of improved water quality in MS4 discharges and receiving waters. The goal of the WQIPs is to further the CWA's objective to protect, preserve, enhance, and restore the water quality and designated beneficial uses of waters of the state. This goal will be accomplished through an adaptive planning and management process that identifies the highest priority water quality conditions within a watershed and implements strategies through the jurisdictional runoff management programs to achieve improvements in the quality of discharges from the MS4s and receiving waters.[203]

Provision F, titled, "Reporting," is designed "to determine and document compliance with the requirements set forth in this Order," including WQIPs.[204] Each Copermittee must develop and submit a WQIP for the different Watershed Management Areas in accordance with the requirements set forth in Provision F. Claimants are required to develop only one WQIP for the Santa Margarita Watershed within the Riverside County portion of the San Diego Region.

Provision A.4, an essential component of the MEP standard to be achieved through compliance with Receiving Water Limitations, requires Copermittees to update and modify an approved WQIP if exceedances of water quality standards persist in receiving waters. Claimants object that the permit requires "WQIPs to be designed to ultimately achieve compliance with the Permit's receiving water limitations and in particular the prohibition against discharges causing or contributing to exceedances of WQS."[205] Claimants contend these provisions are state, not federal mandates and represent new programs or requirements for higher levels of service. Both of these challenges must be rejected.

There Is No New Program or Higher Level of Service

For the reasons discussed in the general responses, above, these challenged provisions do not impose a new program or higher level of service on Claimants.

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[203] Regional Permit at p. 17, B.

[204] Regional Permit at p. 111.

[205] Test Claim at p. 26.

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It is true that the term "WQIP" does not appear in previous permits. But the concept of a WQIP, its substance, and its accompanying reporting provisions are not new to the Regional Permit Permit. Indeed, "the Copermittees have been developing and implementing programs and BMPs intended to effectively prohibit non-storm water discharges to the MS4s and control pollutants in storm water discharges from the MS4s to receiving waters" since 1990.[206] The 2010 Permit precursor to the WQIP was a document called the Watershed Water Quality Work Plan (Watershed Work Plan). The 2010 Permit imposed similar requirements[207] and was designed to do exactly what the WQIP provision does: engage dischargers in the iterative process to achieve compliance with water quality standards over time. In short, prior permits have required all San Diego Region Copermittees, including Claimants, to implement comparable programs central to the iterative process for ensuring water quality. Development and implementation of the WQIPs reflects engagement in the iterative process of achieving compliance with water quality standards over time. This is not a new program, nor does it impose higher levels of service on Claimants.

To circumvent this conclusion, Claimants attempt to focus their challenge on particular components of the WQIP, including the requirement to develop and implement the WQIP;[208] the requirement to update the WQIP and the requirement to report on the WQIP.[209] Specifically, Claimants argue that these provisions are not required by federal law or are far more robust than was required by the 2010 Permit.[210] With respect to whether the provisions are required under federal law, the Water Boards refer the Commission to Section IV.B.1., *supra*. With respect to whether analogous requirements existed in the 2010 Permit, they did. Examination of a sampling of the provisions about which Claimants protest reveals this to be true:

Regional Permit Provision At Issue	**Analogous 2010 Permit Provision**
Permit Provision B.2.a. (Test Claim, p. 18)	2010 Permit, Provisions G.1.a., G.1.b
Permit Provision B.2.b. (Test Claim, p. 18)	2010 Permit, Provision G.1.c.
Permit Provision B.2.c.(1) and B.2.c.(2) (Test Claim pp. 18-19)	2010 Permit Provision G.1.d.
Permit Provision F.1.a. (Test Claim, p. 20)	2010 Permit Provision G.4.

Indeed, careful consideration of Claimants' complaints in this regard reveals not only that analogous provisions existed in the prior 2010 Permit, but also the true nature of their complaints: Claimants are not really questioning whether the 2010 and Regional Permits have the same requirements, but instead, are challenging any further specificity or refinement of 2010 requirements in the successor Regional Permit. In other words, they are not challenging any new requirements, because there are none. This is not a new "program" or even a higher level of

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[206] Regional Permit at p. F-42.

[207] 2010 Permit, Order No. R9-2010-0016, at pp. 74-75.

[208] See particular provisions at Test Claim, pp. 18-24 and Attachment 1 to Narrative Statement.

[209] See particular provisions at Test Claim Narrative Statement pp. 18-25.

[210] Test Claim, pp. 28-29.

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service as those terms have been defined in mandates law.[211] Furthermore, at worst, the new specificity in the Regional Permit is included as part of the iterative process – which is expressly contemplated under federal law.[212] These requirements are not an unfunded state mandate.

The Provisions are Necessary to Implement Federal Law

Even if the Commission finds that the provisions establish a new program or higher level of service, no subvention is required because the WQIPs are based entirely on federal law and the San Diego Water Board determined they are necessary to meet the MEP standard. As discussed above in the General Responses (Section IV), the San Diego Water Board's findings concerning the basis for these provisions are entitled to deference under *Department of Finance.* For these reasons, the provisions are a federal, not a state, mandate.

Claimants assert that these permit provisions are state, not federal mandates, because: (1) federal regulations do not require the scope and detail of the permit requirements;[213] (2) the objective of the WQIP is to achieve water quality standards, an objective they claim is not required by federal law;[214] (3) federal law does not require MS4 discharges comply with water quality standards – it only requires permits to contain controls that reduce pollutants to the MEP;[215] and (4) the purpose of the provisions is to "shift to Claimants the RWQCB's responsibility to develop TMDL programs" and finally, some of the components in the development of the WQIP require Claimants "to go beyond the four corners of the Permit" to evaluate other contributions of pollutants to the watershed.[216]

As the Water Boards explained in Section IV above, the Regional Permit does not require strict compliance with water quality standards, as alleged by Claimants. Instead, the Water Boards anticipate Copermittees will achieve compliance with water quality standards through implementation of the iterative process of successively improving BMPs. Implementation of the WQIP embodies the iterative process determined to satisfy the MEP standard in this case.[217] The Board recognized that, in adopting the WQIP provisions, "[t]he purpose ... is to develop Water Quality Improvement Plans that guide the Copermittees' jurisdictional runoff management programs towards achieving the outcome of improved water quality in MS4 discharges and

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[211] *See, e.g., City of Richmond v. Comm. on State Mandates* (1998) 64 Cal.App.4th 1190, 1195-96 (finding that technical changes, clarifications, and additions to a statute, which imposed no new substantive requirements on appellants but excluded certain persons from benefits, did not impose a new program or higher level of service on city).

[212] *E.g.,* 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")

[213] Test Claim, pp. 24-25.

[214] Test Claim, p. 26; Claimants also rely on the Commission's earlier determination on the issue of a federal mandate regarding provisions in its Statement of Decision in 07-TC-09 to argue that the WQIP provisions in the Regional Permit establish new programs or higher levels of service. As noted elsewhere, and as the Commission is aware, numerous challenges to the 2010 Statement of Decision have not been resolved by the courts.

[215] Test Claim, pp. 26-27.

[216] Test Claim, pp. 27-28.

[217] Regional Permit, Provision A.4.

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receiving waters."[218] As discussed in the Permit Fact Sheet, "federal NPDES regulations require the Copermittees to develop a proposed management program (40 CFR 122.26(d)(2)(iv)). A proposed management program must include *'a comprehensive planning process'* and *'where necessary intergovernmental coordination'* for the *'duration of the permit.*"[219] The WQIP serves as the Copermittees' comprehensive planning process document for the proposed management program that will be implemented as a WQIP within a Watershed Management Area. Development of WQIPs based upon watersheds is consistent with federal regulations that support the development of permit conditions, as well as implementation of storm water management programs, at a watershed scale.[220]

The factual findings here support the conclusions that WQIPs are necessary to meet the MEP standard under federal law and are entitled to deference under *Department of Finance.* For example, the Board found:

> [t]he Water Quality Improvement Plan is the backbone of the Regional Permit requirements. Provision B provides the guidance, criteria, and minimum expectations and requirements for the elements of the Water Quality Improvement Plan to be developed and implemented by the Copermittees [and] incorporates a program to monitor and assess the progress of the Copermittes' jurisdictional runoff management programs toward improving the quality of discharges from MS4s, as well as tracking improvements to the quality of the receiving waters.[221]

Provision F includes the process for adapting and improving the effectiveness of the WQIPs to implement the iterative approach to achieve compliance with receiving water limitations. Other regulatory requirements pertaining to certain aspects of the WQIP are discussed more fully in the Fact Sheet for Provisions B and F.

In addition to being necessary to achieve the MEP standard, successful implementation of WQIPs is likewise crucial to permittee compliance with the independent federal prohibition on non-storm water discharges into MS4s through achievement of discharge prohibitions and receiving water limitations as specified in Regional Permit provisions A.2 and A.4. Moreover, the monitoring and assessment elements of the WQIP are necessary to implement and ensure compliance with the Regional Permit. As explained above, monitoring, reporting and assessment components of the WQIP are based on the federal requirements of the Clean Water Act in section 308(a) and implementing regulations.[222]

Finally, unlike the LA MS4 Permit provisions considered in *Department of Finance,* the requirements to implement similar programs also exist in U.S. EPA issued MS4 permits. In the most recent MS4 permit for the District of Columbia MS4, U.S. EPA required development, implementation, assessment and upgrading of the Stormwater Management Program (SWMP)

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[218] Regional Permit, Provision B, p. 17.

[219] Regional Permit, at p. F-43; 40 CFR § 122.26(d)(2)(iv).

[220] Regional Permit at p. F-43; 40 CFR § 122.26(a)(3)(ii), (v) and 122.26(d)(2)(iv); U.S. EPA Watershed-Based NPDES Permitting Policy Statement, https://www3.epa.gov/npdes/pubs/watershedpermitting_finalguidance.pdf.

[221] Regional Permit, at p. F-42.

[222] See 40 C.F.R. § 122.26(d) and Regional Permit Fact Sheet, pp. F-48-49.

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Plan.[223] While the program titles differ, the elements (development, implementation, updating and reporting) are comparable and serve the same functions. This relevant comparison demonstrates that the Board effectively crafted provisions necessary to both the MEP standard and other independent federal requirements.

There is No Shifting of State Responsibility.

Claimants make a related but separate argument within their challenge to Provision F that the state is shifting responsibility and costs for state programs to Claimants when, as part of the WQIP requirements, the Permit requires Claimants to participate in assessing waterbodies, determining pollutant loads allocable to different dischargers and developing implementation plans.[224] Claimants assert that the implementation of WQIPs in cases of watersheds with "waterbodies already affected by pollutants may allow the Board to re-evaluate the status of such waterbodies and, potentially, move the waterbodies from the 303(d) list (which require TMDL implementation) to a less stringent categorization."[225] Claimants therefore allege that "[t]he issue is whether the RWQCB has shifted its federally imposed TMDL responsibility to the Permittees, thus creating a state mandate."[226]

Claimants mischaracterize the scope of the San Diego Water Board's responsibilities in developing TMDLs for impaired receiving waters affected by MS4 discharges. No responsibility has been shifted. Claimants simply are not required to "develop TMDLs" when developing their WQIPs.

MS4 dischargers such as Claimants are required to control pollutants in their discharges to address impairments and to achieve compliance with water quality standards using the iterative approach outlined in the Permit. Likewise, Claimants must take steps to effectively prohibit non-storm water discharges. If, as a result of WQIP implementation, Claimants' monitoring demonstrates reductions in impairing pollutants have been achieved such that the receiving water body meets water quality standards, Claimants are correct that it may be unnecessary for the San Diego Water Board to expand resources to develop a TMDL to address the impairment. However, in this event, the San Diego Water Board has not shifted responsibility to the Claimants to develop a TMDL. Rather, a TMDL to address impairments need never be developed – by anybody. TMDLs are developed based on monitoring data from various sources, including particularly, dischargers such as permittees. The Clean Water Act does not impose a requirement on the state to conduct any monitoring of the receiving water to gauge permittee compliance. It does, however, impose the obligation to monitor on Copermittees.[227] If the same monitoring by Claimants that would have supported development of a TMDL by the Water Boards or U.S. EPA in fact demonstrates that no impairment exists, there is no shifting of responsibilities.

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[223] "The permittee shall continue to implement, assess and upgrade all of the controls, procedures and management practices, described in this permit, and in the [Storm Water Management Plan] dated February 19, 2009, and any subsequent updates. This Program has been determined to reduce the discharge of pollutants to the maximum extent practicable. The Stormwater Management Program is comprised of all requirements in this permit. All existing and new strategies, elements, initiatives, schedules or programs required by this permit must be documented in the SWMP Plan, which shall be the consolidated document of all stormwater program elements." (U.S. EPA, MS4 Permit for the District of Columbia, DC0000221, modified October 25, 2012, pp. 7-8.)

[224] Test Claim, pp. 28-29.

[225] Test Claim, p. 29, citing Regional Permit, Fact Sheet at F-63-F-65.

[226] Test Claim, p. 29, citing *Hayes,* 11 Cal.App.4th at 1593-94.

[227] See discussion of federal monitoring requirements, *supra,* § IV.B.1.

Other Mandates Exceptions Apply

If Claimants are successful in persuading the Commission that the WQIP and related challenged provisions mandate either a new program or higher level of service and the Commission likewise concludes that the challenged provisions are not required by federal law, subvention is not required due to other mandates exceptions. As discussed above, WQIPs are comparable to the watershed improvement plans in the 2009 Watershed Improvement Act and considered by the State Water Board in Order No. WQ 2015-0075. Claimants have not demonstrated that they must use tax monies to pay for implementation of these provisions. And any costs found to be beyond what federal law requires are *de minimis.*

B. Challenge to Portions of Jurisdictional Runoff Management Program (JRMP): Provisions E.3.c.(2), E.3.d and F.2.b, Which Concern Hydromodification Management BMP Requirements and BMP Design Manual Updates

1. Hydromodification Management Requirements (E.3.c.(2)) (Critical Sediment Yield)

Challenged aspects of Provision E.3.c.(2) specify that Copermittees must require Priority Development Projects[228] (PDPs) to implement onsite BMPs to manage hydromodification effects that may be caused by storm water runoff discharged from a project, including BMPs to avoid known critical sediment yield areas, or "to implement measures that allow critical coarse sediment to be discharged to receiving waters, such that there is no net impact to the receiving waters."[229] Claimants contend these requirements are new programs because "[p]revious permits did not include a requirement that PDPs avoid critical sediment yield areas or to design BMPs that will allow coarse sediment to be discharged to receiving waters."[230]

There Is No New Program or Higher Level of Service

The premise of the hydromodification management BMP requirements, which are to control storm water runoff conditions (flow rates and durations) for Copermittee-defined range of flows, is unchanged from all Fourth Term Permits in the San Diego Region."[231] As explained generally above, a minor modification, particularly in this context, cannot convert a Permit requirement into a new program, nor does it constitute a higher level of service.

As an initial matter, hydromodification plans for discharges from priority development projects were required in the 2010 Permit.[232] Moreover the 2004 Riverside County MS4 Permit likewise contained requirements to address the water quality effects of hydromodification, although

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[228] Priority Development Projects (or PDPs) are defined in the Regional Permit at Provision E.3.b.(1). In general, PDPs are "land development projects that fall under the planning and building authority of the Copermittee for which the Copermittee must impose specific requirements. . . including the implementation of structural BMPs to meet the performance requirements . . ."

[229] Regional Permit Provision E.3.c.2(b).

[230] Test Claim, p. 32.

[231] Regional Permit, at p. F-92; see, also, responses to comments received on tentative Order No. R9-2013-0001, p. 25 of 258 and p. 190 of 258.

[232] Order No. R9-2010-0016, Provision F.1.h.

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referred to more descriptively there as provisions to address increases in volume, velocity and pollutant load over pre-development runoff as a result of urbanization.[233] While the specific provisions concerning critical sediment yield areas are new to the Regional Permit, their inclusion in hydromodification requirements to be performed by project proponents does not result in imposition of a new program or require that Claimants provide a higher level of service. The purpose of these provisions, as in prior permits, is to protect receiving waters from erosion and sediment loss due to land development.[234]

As explained in Permit findings, an objective in including such provisions is to "maintain or restore more natural hydrologic flow regimes to prevent accelerated, unnatural erosion in downstream receiving waters, also to the MEP standard. Provision E.3.c.(2) describes hydromodification management BMP requirements that must be implemented by all Priority Development Projects."[235]

As challenged by Claimants, the critical sediment yield provision is a refinement of the requirement to develop and implement a hydromodification management plan in Riverside County Copermitteees' 2010 Permit. And because these particular provisions result in informing developers what criteria they must follow, they pertain directly to Claimants only when the Priority Development Project is undertaken by the municipality itself. In the latter circumstance, no mandate exists because municipalities voluntarily choose to undertake a Priority Development Project.

The challenged requirements do not impose a new program or require a higher level of service. Even if the Commission accepts Claimants' argument that the requirements are a new program or impose a higher level of service, exceptions in mandates law apply to preclude subvention.

The Provisions Are Necessary to Implement Federal Law

Claimants also contend that the provision is a state mandate because no specific regulatory provision in the federal regulations requires local agencies to manage PDPs to avoid critical sediment yield areas.[236] As discussed in General Responses, above, the San Diego Water Board determined that the permit provisions are based entirely on federal law and are necessary to implement the MEP standard. More specifically, federal storm water regulations mandate that MS4 permittees propose a program to develop, implement and enforce controls to reduce the discharge of pollutants from municipal storm sewers "which receive discharges from areas of new development and significant redevelopment."[237] The San Diego Water Board considered the permittees' proposals and explained the basis for development of the permit provision as follows:

> Hydrograph modification (hydromodification) management requirements also are included to mitigate the potential for increased erosion in receiving waters due to

[233] See Order No. R9-2004-001, Fact Sheet, Finding 9.

[234] See generally, Order No. R9-2010-0016, Dir. F.1.h, pp. 42-47.

[235] Regional Permit, Fact Sheet, Provision E.3., p. F-100.

[236] Test Claim, p. 31.

[237] 40 C.F.R. § 122.26(d)(2)(iv)(A)(2).

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> increased runoff rates and durations often caused by development and increased impervious surfaces.[238]

And, the Board found that "[p]lacement of impervious services encapsulates 'good' sediment (such as sand, gravel, rocks and cobbles) that would normally replenish creek beds and banks to help stabilize them."[239] The incorporation of coarse sediment yield requirements was thus determined to be a necessary component of the hydromodification requirements to implement the MEP standard under the factual circumstances here. As explained above, the Board's findings that these provisions are necessary to meet the MEP standard are entitled to deference.

The incorporation of coarse sediment yield requirements was thus determined to be a necessary component of the hydromodification requirements to implement the MEP standard under the factual circumstances here. In considering the coarse sediment yield provision in the development planning section, the San Diego Water Board reiterated in response to comments that the "requirements are necessary to protect receiving waters from erosive flows caused by land development."[240] The San Diego Water Board also clarified that "strict avoidance of critical sediment yield is not mandated and that compliance may be achieved by other methods, provided that the stream experiences 'no net impact.'"[241] As explained above, the Board's findings that these provisions are necessary to meet the MEP standard are entitled to deference under *Department of Finance.*

In addition, U.S. EPA has also included similar development planning related requirements in MS4 permits that it has issued. For example, the Massachusetts General MS4 Permit issued by U.S. EPA requires permittees there to implement recommended changes to minimize impervious cover, support green infrastructure techniques and take other steps to address hydromodification through use of low impact development planning and design and storm water controls. [242] Hydromodification or similar development related requirements are also included in other U.S. EPA issued permits. [243]

Other Mandates Exceptions Apply

As discussed above in General Responses (Section IV), as well, to the extent the Commission finds that the challenged requirement was imposed in excess if federal law authority, any incremental costs for activities to implement the requirement in the hydromodification management plan beyond previously existing requirements are *de minimis* and therefore not subject to subvention. The *de minimis* determination is further supported because Claimants must

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[238] Regional Permit Fact Sheet, at p. F-10.

[239] Regional Permit Fact Sheet, at p. F-86.

[240] Response to Comments Table (Nov. 4, 2015), p. 52.

[241] *Id.,* at p. 53.

[242] U.S. EPA, General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts, Authorization to Discharge Under the National Pollutant Discharge Elimination System issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR043000 (Apr. 4, 2016).

[243] See, e.g., U.S. EPA Boise/Garden City Area MS4 Permit, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to MS4 Permittees, Section II.B.2 (Dec. 12, 2012).

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require developers of PDPs to adhere to the requirements, not undertake the requirements themselves (unless voluntarily doing so as a municipal developer).[244]

Finally, Claimants have fee authority to fund the hydromodification requirements and cannot establish that they must raise tax monies to carry out implementation of the coarse sediment yield requirements.[245] Claimants may recover the costs of implementing these requirements through development or other fees. Claimants are not subject to the substantive coarse sediment/critical sediment avoidance provisions unless they are also undertaking a Priority Development Project, which they are not mandated by the Permit to do.[246] In this latter case, the costs to comply with the provisions themselves are voluntary and not subject to subvention. For all these reasons, Claimants are not entitled to subvention for this provision.

2. BMP Design Manual Update (Provisions E.3.d and F.2.b)

Provisions E.3.d and F.2.b require Copermittees to update the BMP Design Manual to include a variety of updates. Claimants contend that requirements to update the BMP Design Manual are new to the Regional Permit and that neither the CWA nor federal regulations require such updates.[247]

There Is No New Program or Higher Level of Service

Claimants' prior permits contained a plan comparable to the BMP Design Manual which, likewise, required updates.[248] Claimants contend that unlike the prior permit, the Regional Permit requires updates with "specific procedures and criteria" not previously required. As discussed above in Section IV, the modified requirements do not rise to the level of imposing a new program or higher level of service where the objectives of the applicable federal requirements governing implementation of post-construction controls to limit pollutant discharges from areas of land development are the same.[249]

Even if the Commission accepts Claimants' argument that the requirements to update their BMP Design Manual are a new program or impose a higher level of service, exceptions in mandates law apply to preclude subvention.

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[244]It is also noteworthy that the hydromodification plan requirements in the prior permit were based on the HMP developed by Copermittees and based on the Copermittees' recognition of "the need to improve management of hydromodification."[244]

[245] Indeed, the Commission agreed in its decision in Case 07-TC-09. However, the Water Boards note that these issues raised in challenges to the Decision remain unresolved by the courts.

[246] If a Claimant is also developing a project, it subjects itself to the hydromodification requirements voluntarily.

[247] As discussed above, to the extent Claimants rely on the Commission's prior Statement of Decision in Case 07-TC-09 as support for their arguments, the Water Boards remind the Commission that the Water Boards and Department of Finance challenged numerous aspects of that Decision and these issues remain unresolved by the courts.

[248] "The BMP Design Manual is formerly known as the Standard Storm Water Mitigation Plan, or SSMP, and was renamed so that the title has a more accurate description of the document content. The contents of the BMP Design Manual are largely unchanged from the prior Standard Storm Water Mitigation Plans required under the Fourth Term Permits." (Permit Fact Sheet, p. F-95.) In the 2010 Permit, the SSMP was called the Standard Urban Storm Water Mitigation Plan, or SUSMP. R9-2010-0016 at p. 7, Finding D.1.d, pp. 31-40, F.1.d, and Dir. K.2., p. 80. See also comparable provisions in Order No. R9-2004-0001, e.g., Provision F.2.b., p. 12.; compare, Regional Permit, Provisions E.3.d and F.2.b

[249]*See* 40 C.F.R. § 122.26(d)(2)(iv)(A)(2).

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The Provisions Are Necessary to Implement Federal Law

The San Diego Water Board determined that the requirements are necessary to address pollutant discharges from areas of new development and significant redevelopment. In the Regional Permit, the San Diego Water Board found that the BMP Design Manual is necessary to implement the federal requirement that the Copermittees' development planning program included "'*a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal storm sewers which receive discharges from areas of new development and significant redevelopment.*"'[250] As previously explained, the San Diego Water Board's determination that these provisions satisfy the MEP standard and are entirely based on federal law are entitled to deference under *Department of Finance.* Further, the San Diego Water Board's findings that the provisions are necessary to satisfy the federal MEP standard are underscored by the inclusion of similar update requirements in implementation of land development storm water provisions in at least one U.S. EPA-issued permit.[251]

Other Mandates Exceptions Apply

First, to the extent the Commission finds the provisions exceed federal requirements, any associated incremental costs of considering specific types of updates are *de minimis.* Second, as discussed above, the Claimants has fee authority to implement these requirements and have not shown that they are required to raise taxes to fund them. Moreover, Claimants may recover the costs of implementing these requirements through development or other fees. For these reasons, the Commission should find that no subvention is required to fund these updates.

C. Residential Inventory and Inspections and (Provision E.5.a, E.5.c.(1)(a), E.5.c.(2)(a), and E.5.c(3))

Claimants challenge as "new programs" long-standing requirements to develop and implement a residential inventory and inspection program, and to compile an inventory of existing development. Claimants assert that while the 2010 Permit required Copermittees to establish a residential program to prioritize residential areas based on threat to water quality and to enforce ordinances for residential areas and activities, among other things, the permit did not dictate residential inspections as part of these requirements.[252] Additionally, Claimants argue that the text of the federal regulations does not support these requirements and that the inventory and inspection requirements constitute new programs. These arguments are not persuasive.

There Is No New Program or Higher Level of Service

For the general reasons discussed above in General Responses (Section IV), the Commission should reject Claimants' arguments that requirements to develop and implement an inventory and inspection program amounts to a new program or require any higher level of service by Claimants. At most, the requirements under Provision E.5 build upon existing program elements being

[250] Regional Permit Fact Sheet, p. F-95, quoting 40 C.F.R. § 122.26(d)(2)(iv)(A)(2).

[251] U.S. EPA MS4 Permit DC0000221 for the District of Columbia, as modified October 25, 2012, sec. 4.1.

[252] Test Claim, p. 39.

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implemented by Claimants.[253] Claimants have long been required to develop and implement a procedure for pollutants of concern for residential units in order to reduce discharges of pollutants from MS4s and into receiving waters from residential development to the MEP.[254] In the 2010 Riverside County MS4 Permit, the San Diego Water Board found:

> Identification of sources of pollutants in runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and *residential* areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants from its MS4 in storm water are reduced to the MEP and that non-storm water discharges are not occurring. *Inspections* and other compliance verification methods are needed to ensure minimum BMPs are implemented. *Inspections* are especially important at areas that are at high risk for pollutant discharges.[255]

The prior permit also specified that annual reporting requirements must include updated minimum BMPs for residential areas and activities, quantification and summary of applicable runoff and storm water enforcement actions within residential areas and activities; and a description of efforts to manage runoff and storm water pollution in common interest areas and mobile home parks.[256] An inventory and reporting provision is comparable to these requirements and, as discussed in the General Responses above, the type of added specificity in the Regional Permit determined to be necessary to streamline these objectives as compared to the prior permit does not rise to the level of imposing a new program or requiring that agencies perform a higher level of service. The permit language has been modified to provide more flexibility to implement the programs so resources can be better focused toward addressing the highest priority water quality conditions identified in the Water Quality Improvement Plans.[257]

Even if the Commission should find that there is a new program or higher level of service, there are additional reasons why the Provisions here are not unfunded state mandates.

The Provisions Are Necessary to Implement Federal Law

The Provisions here are required to meet the MEP standard -- the requirements flow from federal storm water regulations that require each municipality to implement a "management program…to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and other such

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[253] Regional Permit Fact Sheet, p. F-99.

[254] 2010 Permit at pp. 64-66, Provisions F.3.c.D.1.d, D.1.d.(2), (3).

[255] 2010 Permit, D.3.b, p. 11 (emphasis added). See also R9-2004-0001, pp. 27-28, "Each Permittee shall identify high priority residential activities that may contribute a significant pollutant load to the MS4." Permittees were also required to "designate a set of minimum BMP requirements for all high priority residential activities to reduce the discharge of pollutants to the MEP," and require implementation of the BMPs. *Id.*

[256] 2010 Permit, Dir. K, p. 85.

[257] Regional Permit Fact Sheet, p. F-100;

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provisions where applicable."[258] Within this section, subprovisions (iv)(A) and (C) require the management program to reduce impacts on receiving waters and reduce pollutants in storm water discharges to the MEP from commercial and *residential areas*, industrial facilities, and municipal facilities. Copermittees are also required to describe "structural and source control measures to reduce pollutants" in stormwater runoff from existing development.[259] The San Diego Water Board found that in order for a Copermittee to "properly manage areas of existing development, having knowledge of what development exists within its jurisdiction is essential."[260] Therefore, the challenged provision "requires each Copermittee to maintain a watershed-based inventory of all the existing development within its jurisdiction."[261] The San Diego Water Board also found that using a watershed-based inventory of all land use types would enable copermittees within a watershed management area to more effectively address pollutant flows from existing development.[262] The provisions also are designed to help Copermittees achieve the independent federal law requirement to effectively prohibit non-storm water discharges to the MS4.

As previously explained, the San Diego Water Board's determined that these provisions are necessary to satisfy the MEP standard and are based entirely on federal law. Under the factual circumstances here, these findings are entitled to deference under *Department of Finance.*

Other Mandates Exceptions Apply

If the Commission finds that some aspects of these provisions exceed federal requirements, any associated incremental costs of completing the inventory and inspection requirements would be *de minimis.* Finally, as discussed above, Claimants have fee authority to implement these requirements and have not shown that they are required to raise taxes to fund them. This is particularly true for residential inspections – such fees can be considered a fee for doing business and not a fee imposed as an incident of property ownership subject to Proposition 218.[263] But even if the fees are somehow subject to Proposition 218, the fact remains that Claimants has the *authority to charge them.* For these reasons, the Commission should find that no subvention is required for the residential inventory and inspection requirements.

D. Retrofit and Rehabilitation of Existing Development and Streams (Provisions E.5.e.)

Provision E.5.e in the Regional Permit requires that Copermittees include in their jurisdictional runoff management program document a description of a program element concerning retrofitting areas of existing development within their respective jurisdictions to address identified sources of pollutants and/or stressors that contribute to the highest priority water quality conditions (Provision E.5.e.(1)), and a description of a program to "rehabilitate streams, channels, and/or habitats in areas of existing development within its jurisdiction to address the highest priority water quality conditions . . ."[264]

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[258] 40 C.F.R. § 122.26(d)(2)(iv).

[259] 40 C.F.R. § 122.26(d)(2)(iv)(A).

[260] Regional Permit Fact Sheet, p. F-100. Indeed, the San Diego Water Board found that this "requirement is necessary for each Copermittee to implement the requirements of Provision E.5.b-e."

[261] Regional Permit Fact Sheet, p. F-100.

[262] *Ibid.*

[263] *Apartment Ass'n. of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 844-45.

[264] Regional Permit, Prov. E.5.e.(2)

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There Is No New Program or Higher Level of Service

In asserting that the requirements impose a state mandate, Claimants argue in part that nothing in the Clean Water Act, its implementing regulations or case law requires permittees "to develop, fund, and implement a retrofitting and rehabilitation program."[265] This is not a new program as that term is understood in caselaw. In fact, the Board determined that the challenged provisions "do not require the implementation of retrofitting and rehabilitation projects, but do require the Copermittee to develop a program of strategies to facilitate the implementation of these types of projects in areas of existing development."[266] For the general reasons discussed above in Section IV, the Commission should reject Claimants' arguments that requirements to facilitate water quality improvements by making available retrofit and rehabilitation opportunities amounts to a new program or requires a higher level of service by Claimants.

Even if the Commission accepts Claimants' argument that the requirements regarding retrofitting and rehabilitation opportunities are a new program or impose a higher level of service on local agencies, exceptions in mandates law apply to preclude subvention.

The Provisions Are Necessary to Implement Federal Law

While the storm water regulations do not explicitly require these provisions be included in the permit, the provisions require development of potential strategies that can result in significant water quality improvements as the Copermittees implement their WQIPs. The provisions flow from the CWA requirements to control pollutants in discharges to the MEP standard and to effectively prohibit non-storm water discharges to the MS4s.[267] They also implement the regulatory requirement to address land development controls.[268] As discussed above, the iterative process of implementing WQIPs is designed to allow Claimants to achieve compliance with water quality standards over time. In developing these requirements, the San Diego Water Board determined:

> [e]xisting development can generate substantial pollutant loads which are discharged in runoff to receiving waters. Retrofitting areas of existing development with storm water pollutant control and hydromodification management BMPs is *necessary* to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards.[269]

These provisions are integral to the iterative process embodied in the WQIP. As previously explained, the San Diego Water Board's findings that these provisions are necessary to satisfy the MEP standard and are based entirely on federal law. These findings are entitled to deference under *Department of Finance.*

Moreover, the Water Boards also observe that U.S. EPA required similar – and in some instances more detailed – requirements to address storm water control opportunities in existing

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[265] Test Claim Narrative Statement, p. 5-54.

[266] 2013 MS4 Permit Fact Sheet, p. F-119.

[267] CWA, § 402(p)(3)(B)(iii) and (ii).

[268] See 40 C.F.R. § 122.26(d)(2)(iv)(A)(2).

[269] Regional Permit, Finding 17 (emphasis added).

development areas in its most recent MS4 permit issued to the District of Columbia. This federal MS4 Permit requires, among other things, that the District establish a "Retrofit Program" and "implement retrofits for stormwater discharges from a minimum of 18,000,000 square feet of impervious surfaces during the permit term. A minimum of 1,500,000 square feet of this objective must be in transportation rights-of-way," and the District "shall achieve a minimum net annual tree planting rate of 4,150 plantings annually within the District MS4 area, with the objective of a District-wide urban tree canopy coverage of 40[percent] by 2035. . . . The permittee shall ensure that trees are planted and maintained, including requirements for adequately designed and sized tree boxes, to achieve optimal stormwater retention and tree survival rates."[270]

The fact that this U.S. EPA-issued permit includes such prescriptive requirements that are likewise absent when compared directly to the text of the implementing storm water regulations is strong evidence supporting the San Diego Water Board's findings that the permit provisions, under the factual circumstances of the Regional Permit, are necessary to meet the MEP standard and based entirely on federal law.

Other Mandates Exceptions Apply

Even if the Commission determines that some aspect of these provisions exceeds federal law, the costs to make these programs available as opportunities for developers would be *de miminis*, and do not entitle Claimants to reimbursement. Finally, as discussed above, Claimants have fee authority to implement these requirements and have not shown that they are required to raise taxes to fund them. For these reasons, the Commission should find that no subvention of funds is required.

E. Enforcement Response Plans (Provision E.6.)

Claimants assert that the Regional Permit's requirements to develop and implement an Enforcement Response Plan as part of the jurisdictional runoff management program document is a state mandate. In support of their argument, Claimants primarily rely upon prior Commission determinations in MS4 matters. As noted above, the Commission's prior determinations concerning, for example, what constitutes a new program or higher level of service, or what fee authority municipalities possess, remain unresolved by the courts. In any event, the requirement to develop and implement an enforcement response plan does not amount to a new program or require a higher level of service.

There Is No New Program or Higher Level of Service

The Commission should reject Claimants' argument that the Enforcement Response Plan provision imposes a new program or requires a higher level of service. The San Diego Water Board previously determined in the prior 2010 Riverside County permit:

> Enforcement of local runoff related ordinances, permits, and plans is an essential component of every runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually

[270] U.S. EPA MS4 Permit DC0000221, issued to District of Columbia, modified October 25, 2012, e.g., section 4.1.5 (Retrofit Program for Existing Discharges) and section 4.1.6 (Tree Canopy). See also, U.S. EPA MS4 Permit issued to Joint Base Lewis-McChord, Authorization to Discharge Under the National Pollutant Discharge Elimination System Permit (Permit WAS-026638), Section II.C, pp. 24-25 (Aug. 22, 2013).

> responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.[271]

Supported by this finding, the prior permit directed implementation of enforcement authorities.[272] As with residential inventory and inspection requirements, the Enforcement Plan streamlines enforcement aspects present in the prior permit but does not impose a new program or require a higher level of service be performed.

Even if the Commission accepts Claimants' argument that the requirement to develop and implement an Enforcement Response Plan imposes a new program or higher level of service, exceptions in mandates law apply to preclude subvention.

The Provisions Are Necessary to Implement Federal Law

Claimants also assert that the requirements are not mandated by federal law because nothing in the Clean Water Act, its implementing regulations or case law specifically requires local agencies to create and implement the challenged plan. The Water Boards disagree that under *Department of Finance*, absence of the specific requirements in the federal regulations precludes finding a federal mandate. First, while the regulations do not explicitly require development of an "enforcement response plan," the Regional Permit nonetheless implements applicable storm water regulations that require permittees to demonstrate they have adequate legal authorities to carry out their programs. The San Diego Water Board found:

> Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system*" and be able to demonstrate that it can "*operate pursuant to legal authority established by statute, ordinance or series of contracts*" *to control* the discharge of non-storm water and pollutants in storm water to and from its MS4. Pursuant to 40 CFR 122.26(d)(2)(i)(E) each Copermittee is specifically required to have the legal authority to "*[r]equire compliance with conditions in ordinances, permits, contracts or orders.*"[273]

The San Diego Water Board identified development of the Enforcement Response Plan as an essential tool for transparency and for evaluating implementation of the permit:

> The Copermittees are allowed to utilize and implement their existing procedures if they meet the requirements of Provision E.6. Provision E.6, however, requires each Copermittee to develop and Enforcement Response Plan, included as part

[271] Order No. R9-2010-0016, Finding D.3.f., p. 11. While a consolidated enforcement response plan was not required in Claimants' 2004 MS4 Permit, each permittee was required to enforce its storm water ordinances for different categories of pollutant sources (see, e.g., provision G.7 (construction sites), provision H.1.g, existing municipal development, provision H.2.e, commercial facilities, provision H.3.d, residential activities, and provision I.6, illicit discharge detection and elimination).

[272] See Order No. R9-2010-0016, Directives C.2.b., C.2.d., F.1.g, F.2.f.(1), F.3.a(9), F.3.b.(5), F.3.c.(3) and F.4.f.

[273] Regional Permit Fact Sheet, p. F-119.

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> of its jurisdictional runoff management program document, which the San Diego Water Board and the public may utilize to determine if the Copermittee is indeed implementing its enforcement program according to its procedures. The Enforcement Response Plan is expected to be a tool the Copermittees can refer to when issuing enforcement actions to compel compliance with its statutes, ordinances, permits, contracts, order, or similar means, and the requirements of the Order. The Enforcement Response Plan is also expected to result in more consistent enforcement and enforcement actions by the Copermittee within its jurisdiction.[274]

Further, to the extent elements of an enforcement response plan address enforcement against dry-weather, unpermitted (non-storm water) discharge flows into the Copermittees' MS4, the enforcement response plan provision is also designed to help Copermittees achieve compliance with the independent Clean Water Act provision that permittees must "effectively prohibit non-stormwater discharges to the MS4." As discussed above, this non-storm water prohibition is wholly based on federal law and was not considered in *Department of Finance* or the *San Diego DOF Decision.*

After considering the legal authorities and purposes of the federal requirements, the San Diego Water Board found that the provisions in the Regional Permit, inclusive of the enforcement related provisions, are based entirely on federal law and necessary to achieve the MEP standard. As previously explained, the San Diego Water Board's findings are entitled to deference under *Department of Finance.*

Other Mandates Exceptions Also Apply

Also as discussed above, the Claimants have fee authority to implement these requirements and have not shown that they are required to raise taxes to fund them. Potentially, monies received from enforcement efforts could be applied to fund these requirements. Finally, if the Commission finds that any portion of the requirement to consolidate enforcement information in an Enforcement Plan exceeds federal law, associated incremental costs of these activities would be *de minimis.* For these reasons, the Commission should find that no subvention is required for this challenged provision.

F. Jurisdictional Runoff Management Plan Update (Provision F.2.a.)

Claimants argue that the requirement in Provision F.2.a. to update the Jurisdictional Urban Runoff Management Plan (JRMP) is a state mandate. Claimants rely on prior Commission determinations in municipal storm water test claims which are pending in the courts to support their contention.[275] They also argue that nothing in federal law or the implementing regulations requires that permittees "create, review and update a JRMP where that update consists of at least eight elements."[276]

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[274] Response to Comments, March 27, 2013, Comment E6-4, p. 216.

[275] As noted above, the Commission's prior determinations in its Statement of Decision in 07-TC-09 (San Diego County MS4) are still not fully resolved by the courts.

[276] Test Claim, p. 49.

Close examination of the challenged provision shows that (a) it is not a new program or a higher level of service differing from the 2010 Permit; and (b) it is necessary to meet federal MEP standards. Claimants' arguments are unfounded.

There Is No New Program or Higher Level of Service

The Water Boards disagree that the provision to update the JRMP imposes a new program or requires a higher level of service by Claimants. As an initial matter, the prior Riverside County Permit also required preparation of updated JRMPs.[277] Moreover, the 2010 Permit also required preparation of updated JRMPs:

> Updated [JRMPs] . . . which describe the Copermittees' runoff management programs in their entirety, are needed to guide the Copermittees' runoff management efforts and aid the Copermittees in tracking runoff management program implementation.[278]

While the prior permit did not include the listing of five specific elements, it directed Copermittes to "revise and update its existing JRMP so that it describes all activities the Copermittees will undertake to implement each component of [its JURMP in] section D of this Order."[279] This is exactly what the Permit does here – the only difference is that it reflects the separately required elements of the Regional Permit to the extent they differ from the prior permit. Additional specificity alone cannot convert a requirement into an "unfunded mandate."[280] The requirement is not a new program, nor does it impose a higher level of service on Claimants.

Even if the Commission accepts Claimants' argument that the requirement to update the JRMP imposes a new program or requires a higher level of service, exceptions in mandates law apply to preclude subvention for this challenged provision

The Provisions Are Necessary to Implement Federal Law

It is relevant to evaluate the underlying federal purposes of JRMPs when considering whether the requirement to make updates is likewise necessary to meet the MEP standard. A JRMP is a "program to control the contribution of pollutants to and the discharges from the MS4 within [a] jurisdiction. The goal of the jurisdictional runoff management programs is to implement strategies that effectively prohibit non-storm water discharges to the MS4 and reduce the discharge of pollutants in storm water to the MEP."[281] The JRMP is thus an integral part of the "comprehensive planning process" required pursuant to 40 CFR 122.26(d)(2)(iv).[282] Because JRMPs have been developed under prior permits, the requirement to make appropriate updates is essential to the

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[277] 2010 Permit at Finding D.1.c, Provision F. and Directive K.

[278] 2010 Permit, Finding D.1.c, p. 7 and Provision D., p. 15.

[279] 2010 Permit, Provision K.1.a.(1)., p. 79.

[280] *City of Richmond, supra,* 64 Cal.App.4th at 1195-96.

[281] Regional Permit, Provision E., at p. 72; see, also, Fact Sheet at F-75.

[282] Regional Permit, Fact Sheet at p. F-75.

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success of a JRMP at achieving federal water quality standards through the iterative process – a federal requirement as well.[283]

Unlike in the LA Permit case considered in *Department of Finance*, the San Diego Water Board found that the provisions in the Regional Permit are exclusively based on federal law and necessary to achieve the MEP standard. As previously explained, the San Diego Water Board's findings are entitled to deference under *Department of Finance*. Moreover, that the requirement is a federal, not a state mandate, is supported by the inclusion of similar requirements in the most recent U.S. EPA-issued MS4 Permit for the District of Columbia. In that permit, U.S. EPA requires the District to "continue to implement, assess and upgrade all of the controls, procedures and management practices described in this permit, and in the SWMP dated February 19, 2009, and any subsequent updates. . . ," and "[n]o later than 3 years from the issuance date of this permit the permittee shall notice a fully updated Plan including all of the elements required in this permit."[284] U.S. EPA's Annual Report requirements imposed in the same permit also include extensive requirements for proposed revisions, assessments and analyses.[285] The fact that U.S. EPA has issued at least one permit that includes similar requirements demonstrates that the San Diego Water Board's effectively determined what provisions were necessary to meet the MEP standard in this case.

Finally, to the extent elements of the JRMP updates are directed to helping Copermittees reduce or eliminate dry-weather, unpermitted non-storm water discharges to achieve compliance with the independent Clean Water Act's effective non-storm water prohibition, the requirements are necessary to implement federal law. As discussed above, the federal mandate created by the effective non-storm water prohibition was not considered in *Department of Finance* or in the *San Diego DOF Decision.*

Other Mandates Exceptions Apply

First, if the Commission finds that some aspect of the JRMP update provisions exceed federal law, any associated incremental costs would be *de minimis.* Indeed, these are only updates to long-existing programs. Second, as discussed above, the Claimants have fee authority to implement these requirements and have not shown that they are required to raise taxes to fund them. For these reasons, the Commission should find that no subvention is required for implementation of this provision.

G. Transitional Dry Weather Field Screening Requirements (Permit Provision D.2.a.(2))

Claimants challenge Provision D.2.a.(2) which establishes transitional dry weather field screening requirements designed to achieve compliance with the Clean Water Act requirement that permittees effectively prohibit non-storm water discharges[286] to their MS4s. Claimants contend

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[283] *E.g.,* 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")

[284] U.S. EPA MS4 Permit DC0000221, (modified October 25, 2012) sec. 3.

[285] *Id., a*t sec. 6.2.1

[286] As discussed in General Responses, above, "illicit discharge" is equivalent to non-storm water discharge under the Clean Water Act. U.S. EPA's Phase I Final Rule clarified that non-storm water discharges through an MS4 are not

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the requirements are new programs or higher levels of service because the 2010 permit did not contain the same provisions; they also contend that because federal storm water regulations do not specify the "'scope and detail'" of the Provisions, they are state mandates. Claimants cite *San Diego DOF Decision, slip op. 23* for this conclusion.[287] As explained below, Claimants are incorrect.

As described in the Regional Permit Fact Sheet,

> Dry weather transitional MS4 outfall discharge monitoring requires each Copermittee to field screen (inspect) its major MS4 outfalls to classify the MS4 outfall locations as having persistent dry weather flows, transient dry weather flows, or no dry weather flows. To account for the variance in size of the 39 jurisdictions covered under this Order, the Copermittees recommended a tiered approach to the number of major MS4 outfalls that must be inspected. Provision D.2.a.(2)(a) provides a tiered approach to the number of major MS4 outfalls that must be visually inspected per jurisdiction as well as a minimum frequency each Copermittee must inspect each major MS4 outfall per year. This tiered approach is based on the total number of major MS4 outfalls within a Copermittee jurisdiction within each Watershed Management Area.
>
> Based on the field screening, each Copermittee is required to make a determination whether any observed flowing, pooled, or ponded waters are transient or persistent flows. Based on this field screening information, other jurisdictional program information, and third party information, each Copermittee is required to prioritize the MS4 outfalls within its jurisdiction for follow up investigation and elimination of the non-storm water discharge, as part of its illicit discharge detection and elimination program required pursuant to Provision E.2.
>
> This approach allows a Copermittee to use all of its resources, as well as leverage resources and information provided by third parties, to effectively eliminate non-storm water discharges from its MS4 outfalls. . . . In accordance with the adaptive management approach deployed throughout this Order, Provision D.2.a.(2)(c) requires each Copermittee to update its MS4 outfall discharge monitoring station inventory compiled pursuant to Provisions D.2.a.(1), with any new information on the classification of whether the MS4 outfall produces persistent flow, transient flow, or no dry weather flow. The requirement of Provisions D.2.a.(2)(c) assures that each Copermittee is collecting data that can be used to demonstrate compliance with the CWA requirement that each Copermittee must implement a program to "*effectively prohibit non-storm water discharges into the [MS4] . . . .*"[288]

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authorized under the CWA: "Today's rule defines the term "illicit discharge" to describe any discharge through a [MS4] that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the Clean Water Act. Section 402(p)(3)(B) requires that permits for discharges from [MS4s] require the municipality to 'effectively prohibit' non-storm water discharges from the [MS4] . . . Ultimately, such non-storm water discharges through a [MS4] must either be removed from the system or become subject to an NPDES permit." (55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).)

[287] Test Claim, p. 50.

[288] Regional Permit Fact Sheet, pp. F-79-F-80.

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Claimants challenge the entire provision (D.2.a.(2)) but appear to focus on those activities they specifically identify as "mandated": (1) visual inspection of 80 percent of the MS4 outfalls in their inventory at least twice annually; (2) perform visual observations required by the Permit; (3) further inspect at least three times after storm events to determine whether waters were transient or persistent and (4) with that information, update the MS4 outfall inventory.[289] As explained below, none of the requirements in Provision D.2.a.(2) is a state mandate subject to subvention.

There Is No New Program or Higher Level of Service

Claimants' contend that because the 2010 Riverside Permit did not contain the precise provisions addressing dry weather transitional field screening, the Regional Permit imposes new programs and/or a requirement for a higher level of service through Provision D.2.a.(2). Claimants are incorrect. As discussed in General Provisions, above, just because a provision in its current form did not appear in a prior permit does not mean that the provision imposes a new program or even a higher level of service. In fact, the dry weather field screening monitoring provisions are designed to ensure that Copermittees achieve compliance with a federal law standard that has existed in the Clean Water Act and in Riverside County Copermittees' permits for decades. The Clean Water Act requires that MS4 permittees must "effectively prohibit non-storm water discharges into the [MS4]."[290] In order to comply with the effective prohibition on non-storm water discharges, MS4 owners and operators generally must prohibit flows to the MS4s by implementing a program to detect and remove illicit discharges, or by requiring a discharger to obtain a separate NPDES permit for non-storm water discharge to the storm sewer.

Riverside County's prior permits have contained comparable provisions designed to require Copermittees' compliance with the federal law requirement. In the most recent prior permit issued in 2010, Claimants were required to meet the same Clean Water Act standard. In an effort designed to assist Copermittee compliance with the Clean Water Act, the 2010 Permit established Non-Storm Water Dry Weather Action Levels or "NALs", which upon detected exceedance, required Copermittees to "investigate and seek to identify the source of exceedance [in non-storm water discharges] in a timely manner."[291] Depending on the source of the pollutant exceedance, the Copermittee was required to take certain steps. The 2010 permit noted that NALs would be valuable in helping provide "an assessment of the effectiveness of the prohibition of non-storm water discharges . . . " Similar to the Regional Permit, the 2010 Permit also required, with regard to dry weather, unpermitted, non-storm water discharges, that "Copermittees must develop their monitoring plans to sample a representative percentage of major outfalls and identified stations within each hydrologic subarea. At a minimum, outfalls that exceed any NALs once during any year must be monitored in the subsequent year."[292]

Associated monitoring requirements for non-storm water action levels and illicit discharge and detection and elimination provisions were likewise included in Attachment E of the 2010 MS4 Permit. The 2010 Permit, Attachment E, required Copermittees to "collaborate with the other Copermittees to conduct, and report on, a year-round watershed based Dry Weather Non-storm Water MS4 Discharge Monitoring Program."[293] This portion of the 2010 MS4 Permit also set forth

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[289] Test Claim, pp. 50-51.

[290] CWA, § 402(p)(3)(B)(ii).

[291] 2010 MS4 Permit, Prov. C.2., pp. 19-20.

[292] 2010 MS4 Permit, Prov. C.4, p. 22.

[293] 2010 MS4 Permit, Attachment E, p. 13.

an extensive MS4 Outfall framework for monitoring and assessing dry weather discharges, including provisions for identifying dry weather monitoring stations on its MS4 map, requirements for developing analytical monitoring procedures, including procedures for field observations, monitoring and analyses, and development and implementation of a collaborative program to implement a source identification monitoring program. Among other things, copermittees were required under the 2010 Permit to "[d]evelop and/or update Illicit Discharge Detection and Elimination response procedures for source identification follow up investigations and elimination in the event of exceedance of dry weather non-storm water effluent analytical monitoring response criteria. . . ."[294] Until the new MS4 Outfall and Source Identification Monitoring approach was implemented per the terms of the 2010 Permit, Copermittees were required to "continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2004-001."[295]

While in slightly different form in prior permits,[296] requirements to address non-storm water discharges to meet the federal requirement have been extensive. The federal standard has not changed – that Claimants are required in the Regional Permit to take different or varied steps designed so the Copermittees will actually achieve compliance with the federal requirement does not equate to imposition of a new program or higher level of service. The Regional Permit is a successive effort to help Copermittees achieve compliance with the Clean Water Act's decades-old effective prohibition on non-storm water discharges to the MS4s.

The Provisions Are Necessary to Implement Federal Law

As discussed immediately above, the statutory and regulatory foundation for the transitional dry weather field screening requirements rests in the Clean Water Act's mandate that permittees effectively prohibit non-storm water discharges[297] and the companion federal storm water regulations addressing illicit discharge detection and elimination and requiring effective monitoring to assure compliance with the permit and applicable federal law. The San Diego Water Board found that the provisions are necessary to implement federal law.

Claimants acknowledge federal storm water regulations relating to field screening requirements, inspection procedures for illegal discharges and a schedule to remove illicit discharges to the MS4, but contend that because the specific provisions contained in Provision D.2.a.(2) are not set forth in the regulatory language, they are not required by federal law.[298]

The San Diego Water Board found that the dry weather MS4 outfall discharge monitoring in Provision D.2.a.(2) is based on the requirements under 40 C.F.R. 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B), which include the requirements for a monitoring program to identify, detect and eliminate illicit connections and illegal discharges to the MS4. These federal regulations at 122.26(d)(1)(iv)(D) require the monitoring program to include "a field screening analysis of illicit connections and illegal dumping [that] . . .[a]t a minimum, include[s] a narrative description, for either *each field screening point or major outfall*, of visual observations made during dry weather

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[294] 2010 MS4 Permit, Attachment E, pp. 14-15.

[295] *Id.*, p. 15.

[296] See R9-2004-0001, e.g., Prov. B.4.

[297] CWA § 402(p)(3)(B)(ii).

[298] Test Claim, p. 50.

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periods." The regulations also suggest this occur at "each screening point or major outfall."[299] The challenged provision implements these federal requirements.

The federal authority described herein mandates that the San Diego Water Board impose a monitoring and reporting program on MS4 permittees that is sufficient to determine compliance with permit terms, as with all NPDES permittees. In part, federal regulation requires MS4 Permittees, specifically, to "[c]arry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer," including a "monitoring program for representative data collection for the term of the permit that describes the location of the outfalls or field screening points to be sampled (or the location of instream stations) . . ."[300]

The transitional dry weather field screening requirements are within the Regional Permit's Monitoring and Assessment Program requirements and are intended to and do implement the federal non-storm water effective prohibition in the Clean Water Act and the associated monitoring and reporting regulations in the Code of Federal Regulations. As indicated above, the San Diego Water Board determined this provision was necessary to implement federal law. It is a federal, not a state mandate. And, as is the case with other provisions grounded in the legal obligation to comply with the Clean Water Act's effective prohibition on non-storm water discharges and/or monitoring and reporting requirements, whether these are federal mandates was not considered in *Department of Finance* or the *San Diego DOF Decision.*

Other Mandates Exceptions Apply

If the Commission finds that this provision is a new program or higher level of service and that all or a portion of the provision exceeds federal law, any costs to implement the provision would be *de minimis.* Moreover, Claimants have not established they must use tax monies to pay for the dry weather field screening activities. Finally, the Clean Water Act and its implementing regulations require monitoring and reporting as a major component of all NPDES permits, not just MS4 permits. These types of provisions are not unique to local government.

H. Special Studies Requirements (Permit Provision D.3.)

As described in the Fact Sheet, the Regional Permit requires Copermittees

> to develop special studies that will be conducted for each Watershed Management Area[301] and the entire San Diego Region. Data collected pursuant to Provision D.3. is to be used by the Copermittees to improve the effectiveness of the strategies implemented by the jurisdictional runoff management programs toward achieving the numeric goals identified in the Water Quality Improvement Plans and ultimately achieve compliance with the discharge prohibitions and receiving water limitations of Provisions A.1.a, A.1.c., and A.2.a, which is consistent with the requirements of Provision A.4.[302]

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[299] Regional Permit, Fact Sheet pp. F-78 – F-79.

[300] 40 C.F.R. § 122.26, subds. (d)(2)(i)(F) and (d)(2)(iii)(D).

[301] Riverside County Copermittees have only one Watershed Management Area.

[302] Regional Permit Fact Sheet, p. F-82.

A fundamental goal of these special studies, like special studies included in other permits for these and other permittees (including non-local government entities) is to address directed needs or to answer specific questions that are not anticipated to be addressed in core monitoring requirements. More specifically, the Regional Permit's special studies are intended to "address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and /or stressors that cause or contribute to the highest priority water quality conditions identified in the [WQIP]."[303] As Claimants note, monitoring plans for the special studies must be included in their WQIP.[304]

There Is No New Program or Higher Level of Service

The Special Studies provisions do not represent new programs or require Copermittees to perform higher levels of service than under prior permits. Instead, the Special Studies provision are targeted at areas of copermittee program deficiencies and were designed to help ensure Copermittees achieve the required federal standard of controlling pollutants in storm water discharges to the MEP and/or the separate federal requirement to effectively prohibit non-storm water discharges to the MS4. They primarily are intended to supplement the data necessary to successfully develop and implement the WQIP for, in the case of Riverside County, the Santa Margarita River Watershed Management Area. Although the challenged Special Studies provisions are tailored to this Regional Permit and thus have a different focus than special studies required in the prior permits, this does not amount to establishment of a new program or a higher level of service.

Like the Regional Permit, the Riverside County Copermittees' 2004 Permit included receiving water monitoring provisions consisting of core monitoring, regional monitoring and *special studies.*[305] Similarly, their 2010 permit also included requirements for core monitoring, regional monitoring and *special studies.*[306] As in the Regional Permit, the prior special studies were intended to address specific research or management issues not addressed by core monitoring requirements as part of the monitoring and reporting program.[307] That the focus of the studies in the 2004 and 2010 Permits was directed at different monitoring priorities does not transform the studies into new programs or higher levels of service mandated on Claimants. Indeed, it is logical that because of the nature of special studies – often addressing specific data gaps or specific research issues – a particular special study might not be continued in successive permits once the information is collected and assessed.

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[303] Regional Permit, Prov. D.3. p. 72.

[304] Test Claim, p. 51.

[305] Order No. R9-2004-0001, MRP, p. 8; Fact Sheet, pp. 77-78.

[306] Order No. R9-2010-0016, Attachment E.1.

[307] Order No. R9-2004-001, MRP, Section A.III, p. 8; Order No. R9-2010-0016, Attachment E.

The Provisions Are Necessary to Implement Federal Law

The special studies represent "prescribed conditions . . . on data and information collection"[308] to meet the federal requirements of controlling discharges of pollutants in storm water to the MEP and the independent federal requirement to effectively prohibit non-storm water discharges to the MS4. As components of monitoring programs, the requirements are entirely consistent with both of these mandates. Claimants are required by federal law to report on the identification of water quality improvements or degradation.[309]

In the Regional Permit, the San Diego Water Board found:

> Special studies are often necessary to fill data gaps or provide more refined information that allow the Copermittee to better manage the generation or elimination of pollutants and discharges to and from the MS4. In the Fourth Term Permits, the Copermittees have been required to implement special studies as directed by the San Diego Water Board. The special studies required by this Order provide the Copermittees more flexibility to identify and implement special studies that will be most useful to improving the effectiveness of their jurisdictional runoff management programs. [310]

The San Diego Water Board also explained that "[t]he Watershed Management Area special studies are expected to provide data that can be utilized by the Copermittees to improve the Water Quality Improvement Plan or implementation of the Copermittees' jurisdictional runoff management programs to address the highest priority water quality conditions."[311]

Thus, the special studies required in the Regional Permit are intended to be integral components of the Copermittees' broader, federally required, monitoring program efforts to support successful implementation of their watershed management programs to comply with the Clean Water Act's MEP standard as well as the requirement to effectively prohibit non-storm water discharges. The overarching federal basis for the Monitoring and Assessment Program (of which the special studies provision is a part) is to enable copermittees "to demonstrate that the requirements of the CWA to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP are being achieved."[312] Therefore, the provisions are necessary not only to implement the federal MEP standard, but also the independent non-storm water discharge prohibition in the Clean Water Act and are necessary to implement the monitoring and reporting provisions in the Clean Water Act and implementing federal regulations.[313]

As is the case with other challenged provisions grounded in the legal obligation to comply with the Clean Water Act's effective prohibition on non-storm water discharges and/or monitoring and reporting requirements, whether these are federal mandates was not considered in *Department of Finance* or the *San Diego DOF Decision.*

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[308] 40 C.F.R. § 122.26(d)(2).

[309] See 40 C.F.R. §§ 122.26(d)(2)(iii) and 122.26(d)(2)(iv).

[310] Regional Permit, Fact Sheet, pp. 82-83.

[311] *Id.*, p. 83.

[312] Regional Permit, Fact Sheet, p. 72.

[313] See CWA, § 402(p)(3)(B)(ii) and discussion of federal monitoring and reporting requirements, above.

Other Mandates Exceptions Apply

Even if the Commission finds that the Special Studies provision is a new program or requires a higher level of service and is a state and not federal mandate, subvention is not required because other mandates exceptions apply. To the extent the Commission finds the provision exceeds federal law, any associated costs to implement the provision would be *de minimis*. Moreover, Claimants have not established they must use tax monies to pay for the special studies. And to the extent the special studies are designed to inform the required Water Quality Improvement Plans, as discussed above, the Plans are comparable to the Watershed Improvement Plans discussed in the 2009 Watershed Improvement Act. Finally, the Clean Water Act and its implementing regulations require monitoring and reporting as a major component of all NPDES permits, not just MS4 permits. For example, a recent NPDES permit issued to the U.S. International Boundary and Water commission requires a special study to evaluate compliance with bacteriological standards.[314] Special Studies requirements are not unique to local government.

I. Assessment Requirements (Permit Provision D.4.)

Provision D.4 requires evaluation of data collected in monitoring efforts and information collected through implementation of management programs to enable Copermittees to assess the progress of development and implementation of receiving waters assessments as well as MS4 Outfall discharge assessments in achieving both non-storm water discharge reduction and storm water pollutant discharge reduction. Specifically, Provision D.4 requires Copermittees to perform Receiving Waters Assessments (D.4.a), MS4 Outfall Discharges Assessments (non-storm water and storm water pollutant discharge reduction assessments) (D.4.b.(1) and D.4.b.(2)), Special Studies Assessments (D.4.c.) and an Integrated Assessment of Water Quality Improvement Plan (D.4.d.). The latter provision (D.4.d) essentially requires that Copermittees consider the results of other data collected pursuant to Provisions D.1-D.3 and the findings of assessments in D.4.a. through D.4.c. "assess the effectiveness of, and identify necessary modifications to, the Water Quality Improvement Plan."[315] In Claimants' view, the specific assessments were not required in the 2010 Permit and therefore they are a new program and/or higher level of service.[316]

There Is No New Program or Higher Level of Service

The Water Boards disagree that simply because the particular assessments were not included in the prior permit, their implementing provisions become a new program or require a higher level of service. The assessment provisions in Provision D.4. are designed to help Copermittees achieve compliance with the receiving water limitations and discharge prohibition provisions.[317] In turn, these provisions, referred to as "receiving water limitations language" implement the federal standards of reducing pollutants in discharges from the MS4 to the MEP and the requirement to effectively prohibit non-storm water discharges to the MS4[318] through the iterative approach outlined in Provision A.4. As discussed in the federal law backdrop for the Regional Permit in

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[314] San Diego Water Board Order No. R9-2014-0009, as amended by Order No. R9-2014-0094 and Order No. R9-2017-0024 (NPDES No. CA0108928), p. E-30.

[315] Regional Permit, Prov. D.4, pp. 74-81.

[316] Test Claim, p. 56.

[317] Regional Permit Provisions A.1.(a), A.1.(b), A.1.(c), A.2.

[318] CWA §§ 402(p)(3)(B)(iii) and 402(p)(3)(B)(ii).

Section II, above, the receiving water limitations language and the iterative process approach have existed in the three prior permits issued to Riverside County Copermittees. Provisions designed to assist the Copermittees to meet these longstanding federal requirements are not new nor do they require a higher level of service.

The Provisions Are Necessary to Implement Federal Law

Claimants contend that the assessment provisions set forth in Provision D.4 are not required by federal statute or regulation. Claimants note that the San Diego Water Board's findings identify Title 40, Code of Federal Regulations, section 122.42(c), as support for the detailed provisions but contend that the regulations are bare-bones – requiring only "'the status of implementing the components of the storm water management program that are established as permit conditions' and the '[i]dentification of water quality improvements or degradation."[319] Claimants therefore contend that because the regulations "give[s] the state discretion to impose a particular implementing requirement" and the state does so, the requirement is a state, not federal mandate.[320]

The San Diego Water Board disagrees with Claimants' characterization. In issuing the Regional Permit, the San Diego Water Board determined that these provisions, collectively designed to "assess the effectiveness of each Copermittee's jurisdictional runoff management program and Water Quality Improvement Plan" are consistent with the monitoring and reporting authorities in the NPDES regulations as cited in the Fact Sheet.[321] For example, the assessment provisions implement federal regulations "which require 'procedures . . . to investigate portions of the separate storm sewer system that, based on the results of the field screen or other appropriate information [emphasis added] indicate a reasonable potential to contain illicit discharges or other sources of non-storm water' as part of a 'program . . . to detect and remove . . illicit discharges and improper disposal into the storm sewer.'"[322] The San Diego Water Board also found that the "assessment requirements of Provision D.4.a.(1) are consistent with the federal regulatory provision that requires the Copermittees to annually report the 'status of implementing the components of the storm water management program that are established as permit conditions.'"[323]

More fundamentally, as explained above, the assessments are designed to help Copermittees achieve compliance with the requirements to implement the federal standards of reducing pollutants in discharges from the MS4 to the MEP and the separate requirement to effectively prohibit non-storm water discharges to the MS4.[324] The San Diego Water Board also found "the assessment requirements in Provision D.4.d are part of the iterative approach and adaptive management process required by Provision A.4.[receiving water limitations language]."[325] The San Diego Water Board also found that the "results of the assessment required pursuant to Provisions D.4.a-c, will be used to determine whether the Water Quality Improvement Plan and

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[319] Test Claim, pp. 54-55, quoting 40 C.F.R. §§ 122.42(c)(1) and 122.42(c)(7).

[320] Test Claim, p. 55, citing *Dept. of Finance,* 1 Cal.5th at 765.

[321] Regional Permit Fact Sheet, pp. F-84-F-86. F.85.

[322] Fact Sheet, p. F-85 quoting 40 C.F.R. §§ 122.26(d)(2)(iv)(B) and 122(d)(2)(iv)(B)(3).

[323] Fact Sheet, p. 85; see 40 C.F.R. § 122.42(c)(1).

[324] CWA §§ 402(p)(3)(B)(iii) and 402(p)(3)(B)(ii). See Regional Permit Fact Sheet Discussion, pp. F-83—F-86.

[325] Fact Sheet, p. F-86.

(footnote continued on next page)

each Copermittee's jurisdictional runoff management program are effective, or require modifications or improvements to become more effective to achieve the requirements of the CWA."[326]

Not only are the Assessment Requirements a vehicle for evaluating compliance with permit provisions and the federal MEP standard, they also focus on encouraging Copermittee compliance with the Clean Water Act requirement to effectively prohibit non-storm water discharges to the MS4. And as with other provisions, the Water Boards note that these separate federal bases for the Regional Permit provisions were not considered in *Department of Finance* or the *San Diego DOF Decision.*

Other Mandates Exceptions Apply

Even if the Commission finds that Provision D.4. (Assessment Requirements) is a new program or requires a higher level of service and is a state and not federal mandate, subvention is not required because other mandates exceptions apply. To the extent the Commission finds the provision exceeds federal law, any associated costs to implement the provision would be *de minimis*. Moreover, Claimants have not established they must use tax monies to pay for the Assessment Requirements. Claimants have fee authority to fund these programs. Similarly, to the extent the Assessment Requirements are designed to inform the required Water Quality Improvement Plans and compliance with the iterative process, as discussed above, the Plans are comparable to the Watershed Improvement Plans discussed in the 2009 Watershed Improvement Act. Finally, the Clean Water Act and its implementing regulations require monitoring and reporting as a major component of all NPDES permits, not just MS4 permits.[327] These types of provisions are not unique to local government.

K. Alternative Compliance Program for Onsite Structural BMP Implementation (Permit Provision B.3.b.(4) and E.3.c.(3))

The purpose of the Regional Permit's Jurisdictional Runoff Management Program requirements:

> is for each Copermittee to implement a program to control the contribution of pollutants to and the discharges from the MS4 within its jurisdiction. The goal of the jurisdictional runoff management programs is to implement strategies that effectively prohibit non-storm water discharges to the MS4 and reduce the discharge of pollutants to the MEP.[328]

A component of the Jurisdictional Runoff Management Program addresses development planning to guide Copermittee land use planning authorities to achieve the federal standards as described in the above finding. All development projects within a Copermittee's jurisdiction are subject to various BMP requirements. In addition, however, projects falling within the definition of Priority

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[326] *Id.*

[327] See, e.g., 40 C.F.R. §§ 122.41(j), 122.42(c)(4), 122.44(h(i); and 122.48.

[328] Regional Permit, Provision E., p. 83.

(footnote continued on next page)

Development[329] are subject to additional criteria.[330] Provision E.3.c. of the Regional Permit specifies required structural performance BMP requirements for development that qualifies as a Priority Development Project.[331] More specifically, Provision E.3.c.(1)(a) details required Storm Water Pollution Control BMP Requirements including Low Impact Development (LID) implementation, and Provision E.3.c.(2) specifies Hydromodification Management BMP Requirements applicable to Priority Development Projects.

For Priority Development Projects subject to the structural BMP performance requirements in Provision E.3.c., the Regional Permit provides an alternative approach to compliance with both the LID and Hydromodification Management BMP requirements. Specifically, "[a] Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1)(a)."[332] Likewise, "[a] Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the performance requirements of Provision E.3.c.(2)(a)."[333]

In this Test Claim, Claimants do not directly challenge the LID and Hydromodification Management BMP requirements as state mandates. Instead, they assert the challenged permit provision setting forth *an alternative* to complying with the underlying storm water pollution control BMP requirements, is a state mandate. Provision E.3.c.(3) "allows for alternative compliance in instances where the Copermittee determines that offsite measures will have a greater overall water quality benefit for the Watershed Management Area than if the Priority Development Project were to implement structural BMPs onsite."[334] This alternative approach "is an option for Priority Development Projects where the governing Copermittee has participated in the development of a Watershed Management Area Analysis as part of the Water Quality Improvement Plan as described in provision B.3.b.(4)."[335]

In the same vein, Claimants challenge as a state mandate Provision B.3.b.(4), which establishes the criteria that must be met if a Copermittee elects to pursue the option for alternative compliance. As described in the Fact Sheet, Provision B.3.b.(4):

> provides an innovative pathway for Copermittees to regulate their land development programs by allowing *alternative compliance in lieu* of implementing structural BMPs on each and every Priority Development Project. This approach facilitates the integration of watershed-scale solutions for improving overall water quality and assisting Copermittees to achieve their stated goals of the Water Quality Improvement Plan.[336]

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[329] Regional Permit, Provision E.3.b defines Priority Development Projects as land development projects falling under Copermittee planning and building authority and meeting specified requirements. The definition focuses on projects meeting certain criteria such as size and impervious area created, and/or acres disturbed.

[330] Regional Permit, Provision E.3.d.

[331] Regional Permit, Provision E.3.c.

[332] Regional Permit, Provision E.3.c.(1)(b) (emphasis added).

[333] Regional Permit, Provision E.3.c.(2)(c).

[334] Regional Permit Fact Sheet, p. 105.

[335] Regional Permit Fact Sheet, p. 106.

[336] Regional Permit Fact Sheet, p. F-59 (emphasis added).

(footnote continued on next page)

Claimants' contention that Provisions B.3.b.(4) and E.3.c.(3) are mandates – whether state or federal – must be rejected.

There Is No Mandate Here

The challenged provisions affording an optional approach to compliance with onsite structural storm water BMP requirements are neither a new program nor do they require Claimants provide a higher level of service for the plain and obvious reason that they are optional on the part of Claimants. Claimants argue that the LID and Hydromodification Management BMP provisions – to which the challenged provisions afford an alternative – are not federal mandates, and therefore the challenged provisions must be state rather than federal mandates.[337] Claimants' arguments are misplaced. Likewise their reliance on the Commission's determinations concerning the hydromodification and LID provisions in the 2007 San Diego County MS4 Permit in the Statement of Decision addressed in the *San Diego DOF Decision* are also misplaced.[338] The Commission's determination concerning those provisions is not relevant here, where Claimants challenge an alternative provision. Whether or not the underlying storm water pollution control BMP requirements -- to which the challenged provisions afford an alternative--are federal or state mandates is simply not relevant to Claimants' challenge here.

Claimants also argue the challenged provisions are not really discretionary "because conditions in the WMA often do not permit the use of onsite BMPs or, in infill projects, there is not sufficient land area to accommodate onsite BMPs."[339] This argument also fails to transform what is patently optional into a mandate. Even if watershed conditions may, in some instances, present challenges to implementation of required onsite BMPs, permittees are not forced to pursue the alternative outlined in Provisions E.3.c.(3). If a Copermittee wishes to allow a particular Priority Development Project with challenging site conditions to move forward in compliance with the Permit, these provisions make that option available. But its use is not mandated

Even if somehow the Commission were to conclude that the alternative compliance options are state mandates, the Water Boards contend that Claimants have not shown that they would be required to use tax monies to pay for the option. Claimants would be able to impose a fee on developers for private Priority Development Projects. To the extent Claimants undertake municipal Priority Development Projects reliant on the challenged alternative compliance approach, they do so voluntarily. Nothing in this permit forces them to do so. Therefore, costs incurred by Claimants or other Copermittees that elect to develop and implement an alternative compliance program, including costs for meetings, staff time, work by consultants and submittals to the San Diego Water Board, are not subject to a subvention of funds.

L. Dry Weather Receiving Water Hydromodification Monitoring (Permit Provision D.1.c.(6).)

Dry weather receiving water hydromodification monitoring, like the transitional dry weather field screening requirements challenged above, is a component of the Monitoring and Assessment Program in the Regional Permit. With regard to the Monitoring and Assessment Program in

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[337] Test Claim, p. 58.

[338] *Id.*

[339] Test Claim, p. 61.

(footnote continued on next page)

Provision D, the San Diego Water Board found that "[i]mplementation . . . will allow the Copermittees to demonstrate that the requirements of the CWA to effectively prohibit non-storm water dishcarges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP are being achieved."[340]

Provision D.1 specifies minimum receiving water monitoring that Copermittees must conduct and requires "Copermittees to collect and develop the data and information necessary to determine potential impacts to the beneficial uses in the receiving waters due to discharges from the MS4s. The monitoring required under Provision D.1 will also provide the data that will allow the Copermittees to gauge the effectiveness and progress of its Water Quality Improvement Plan implementation efforts toward improving the quality of receiving waters."[341]

Provision D.1.c.(6), challenged here, is one component within the receiving water monitoring requirements and requires Copermittees to perform "hydromodification monitoring for each long-term receiving water monitoring station [] at least once during the term of this Order."[342] The challenged hydromodification monitoring requirement includes collection of certain observations and measurements to assess channel conditions, location of discharge points, and habitat integrity, photo documentation of existing erosion and habitat impacts with associated locations, measurements or estimates of dimensions of eroded areas and identification of known or suspected causes of existing downstream erosion or habitat impact.[343]

In the Regional Permit, like prior permits issued to Riverside County Copermittees, the San Diego Water Board recognized that land development and urbanization increase pollutant loads and volume while simultaneously increasing impervious areas. These effects accelerate downstream erosion, impair stream habitat in natural drainages and negatively impact beneficial uses in receiving waters. The San Diego Water Board found:

> Hydromodification, which is caused both by altered stream flow and altered sediment flow regimes, is largely responsible for degradation of creeks, streams and associated habitats in the San Diego Region. . . Researchers studying flood frequencies in Riverside County have found that increases in watershed imperviousness of only 9-22 percent can result in increases in peak flow rates for the two-year storm event of up to 100 percent.[fn]. Such changes in runoff have significant impacts on channel morphology.[344]

The San Diego Water Board determined that dry weather receiving water hydromodification monitoring is a necessary supplement to the hydromodification monitoring conducted as part of Copermittee Hydromodification Management Plans. The monitoring is part of the development planning requirements in the permit which, in general, require each copermittee to use land use and planning authorities "implement a development planning program to control and reduce the discharge of pollutants in storm water from new development and significant redevelopment to the MEP." At the same time, the Board found: "[p]roper implementation of the development

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[340] Regional Permit, Fact Sheet, Provision D, p. F-72.

[341] Regional Permit, Fact Sheet, pp. 73-74.

[342] Regional Permit, Provision D.1.c.(6), p. 54.

[343] Regional Permit, Provision D.1.c.(6), pp. 54-55.

[344] Regional Permit, Fact Sheet, p. F-98.

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planning program will also contribute toward effectively prohibiting non-storm water discharges from development projects to the MS4."[345] The challenged provision requiring dry weather hydromodification monitoring, as with other monitoring assessment requirements, is necessary for permittees to assess the impacts of their discharges on receiving waters.

There Is No New Program or Higher Level of Service

In issuing the Regional Permit, the San Diego Water Board found: "[t]he monitoring data collected and assessment information that will be reported to the San Diego Water Board are necessary to determine if the Copermittees are complying with the prohibitions and limitations of Provision A." [346] As discussed above in Section II.B. and IV.A., Claimants have been subject to the prohibitions and receiving water limitations language in Provision A since as early as the Second Term Permit (first issued in 1998). Monitoring provisions designed to ensure compliance with these longstanding provisions do not amount to imposition of a new program nor do they require a higher level of service.

Moreover, Riverside County's two prior permits (2010 and 2004) imposed provisions requiring implementation of development controls and associated monitoring for water quality impacts caused by hydromodification. The 2004 permit contained numerous requirements directed at minimizing the effects of hydromodification through creation of pervious surfaces, avoiding development of areas particularly susceptible to erosion and sediment loss, requiring developers to maximize infiltration, provide retention, slow runoff and control post-development urban runoff discharge velocities, rates and volumes.[347]

The 2010 Permit required Copermittees to conduct monitoring to assess changes to the physical conditions of channel segments. For example, Copermittees' hydromodification management plans contained requirements to assess the "susceptibility and geomorphic stability of channel segments which receive runoff discharges from Priority Development Projects."[348] Copermittees were also required to include in their Hydromodification Management Plan "metrics for assessing impacts to downstream watercourses from Priority Development Projects, as well as assessing improvements to these watercourses."[349] The 2010 permit also specifies that:

> the metrics must be able to assess changes to the channels as Priority Development Projects are developed and constructed in the watershed. Monitoring and evaluating changes to the physical conditions of the channels receiving runoff discharges from Priority Development Projects will provide the Copermittees data that can be used to determine whether or not the HMP is effective at reducing the increased erosive forces caused by development and impervious surfaces over time.[350]

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[345] Regional Permit, Fact Sheet, p. F-97.

[346] Regional Permit Fact Sheet, p. F-72.

[347] Order No. R9-2004-001, dir. F.1.(a), (d) and (f) and Directive F.2.(a).

[348] Order No. R9-2010-0016, Dir. F.1.h.(1).

[349] Order No. R9-2010-0016, Fact Sheet, p. 142 and see discussion generally pp. F-139-F-144.

[350] *Id. at p. 142.*

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Finally, Copermittees were required to "monitor and evaluate the biological conditions (e.g., habitat quality, benthic flora and fauna, IBI scores) of the channels."[351]

These provisions from prior permits, although different in precise form, were designed to address the significant water quality impacts caused by hydromodification and to ensure that Copermittees comply with requirements to assess the impacts of their discharges. Provision D.1.c.(6) does not impose a new program or require any higher level of service.

The Provision Is Necessary to Implement Federal Law

Even if the Commission finds this provision is a new program or requires a higher level of service, it is necessary to implement federal law. The dry weather hydromodification receiving water monitoring provision is consistent with the federal regulatory requirement which specifies that a "monitoring program for representative data collection for the term of the permit" may include "instream locations."[352] Pursuant to Provision D.1.b., Copermittees are required to locate a long term receiving water monitoring station to be representative of receiving water quality in each Watershed Management Area. A requirement to conduct dry weather hydromodification receiving water monitoring at this station is wholly consistent with this federal requirement. The overarching federal basis for the Monitoring and Assessment Program (of which this provision is part) is to enable Copermittees "to demonstrate that the requirements of the CWA to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP are being achieved."[353] Therefore, the provisions are necessary not only to implement the federal MEP standard, but also the independent non-storm water discharge prohibition in the Clean Water Act.

Finally, monitoring provision such as that challenged here are a necessary part of the federal requirements for permittees to monito their discharges to assess permit compliance. The San Diego Water Board found that "[t]he monitoring and assessment provisions are necessary to implement, as well as ensure the Copermittees are in compliance with, the requirements of the Order."[354]

After considering the legal authorities and purposes of the federal requirements, the San Diego Water Board found that the provisions in the Regional Permit, inclusive of the enforcement related provisions, are based entirely on federal law and necessary to achieve the MEP standard. As previously explained, the San Diego Water Board's findings are entitled to deference under *Department of Finance.* In addition, the federal authority described herein mandates that the San Diego Water Board impose a monitoring and reporting program on MS4 permittees, as with all NPDES permittees. [355] Claimants are required by federal law to report on the identification of water quality improvements or degradation.[356] As such, these are further independent grounds upon which certain provisions of the Regional Permit are based.

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[351] *Ibid.*

[352] 40 C.F.R. § 122.26(d)(2)(iii)(D).

[353] Regional Permit, Fact Sheet, p. 72.

[354] Regional Permit, Fact Sheet, p. F-72.

[355] See CWA, § 402(p)(3)(B)(ii) and discussion of federal monitoring and reporting requirements, above.

[356] See 40 C.F.R. §§ 122.26(d)(2)(iii) and 122.26(d)(2)(iv).

As is the case with other challenged provisions grounded in the legal obligations to comply with the Clean Water Act's effective prohibition on non-storm water discharges and/or monitoring and reporting requirements, whether these are federal mandates was not considered in *Department of Finance* or the *San Diego DOF Decision.*

Other Mandates Exceptions Apply

Even if the Commission finds that Provision D.1.c.(6) is a new program or requires a higher level of service and is a state and not federal mandate, subvention is not required because other mandates exceptions apply. To the extent the Commission finds the provision exceeds federal law, any associated costs to implement the provision would be *de minimis.* Moreover, Claimants have not established they must use tax monies to pay for the Assessment Requirements. Claimants have fee authority to fund these programs. Because the hydromodification monitoring is focused on assessing water quality impacts from development, it is also likely that copermittees can fund the required monitoring through fees from developers. They have not demonstrated they are unable to do so. As mentioned previously, Claimants are not entitled to subvention of funds to the extent monitoring is attributable to municipal Priority Development Projects, which Copermittees undertake voluntarily. Finally, the Clean Water Act and its implementing regulations require monitoring and reporting as a major component of all NPDES permits, not just MS4 permits.[357] These types of provisions are not unique to local government.

V. CONCLUSION

The above response establishes that the contested provisions are not state mandates because they do not impose new programs or higher levels of service on Claimants. For any challenged provision that the Commission nonetheless finds to be mandated by the state, the Commission should find that the provisions are instead mandated by federal law and/or that other exceptions apply, precluding a finding that subvention is required for any of the Test Claim provisions.

The focus of consideration of the federal mandate exception in *Department of Finance* was the application of the MEP standard to two 2001 LA County MS4 Permit provisions, where the Los Angeles Water Board had not explicitly found that the provisions met that standard.[358] In reaching the conclusion that those two provisions did *not* meet MEP, the Court suggested that the result might have been different if the agency *had* found that permit conditions were necessary to satisfy the MEP standard, and specifically noted that deference to the agency would be appropriate.[359] Here, the San Diego Water Board *did* find that the conditions of the MS4 Permit were necessary to satisfy the MEP standard and that the Permit was based entirely on federal law. Those findings are entitled to deference.

Even if the Commission does not defer to the San Diego Water Board's findings, analogous provisions in U.S. EPA-issued permits or U.S. EPA permit guidance and model permit language independently demonstrate that the Permit's provisions were federally mandated.[360] In addition, the Permit's provisions implement other federal standards, discussed above, that the Supreme

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[357] See, e.g., 40 C.F.R. §§ 122.41(j), 122.42(c)(4), 122.44(h(i); and 122.48.

[358] *Department of Finance v. Comm'n on State Mandates, supra*, 1 Cal.5th at p. 768.

[359] *Ibid.*

[360] *Id.*, at p. 772.

Court did not evaluate. Furthermore, the Supreme Court's decision did not address a number of the other exceptions to mandates law present here, such as the existence of fee authority, the absence of a new program or higher level of service, the opportunity for Permittees to propose and substitute other programs and/or BMPs for many of the requirements in the 2010 Permit, and the absence of requirements "unique" to local entities or instances where costs are *de minimis*. The Third District Court of Appeal's *San Diego DOF Decision* likewise did not address the other bases that preclude finding subvention is required.

For these reasons, the Commission should find that the Regional Permit does not impose state mandates requiring subvention and the Commission should deny the Test Claim in its entirety. I certify and declare under penalty of perjury under the laws of the State of California that the foregoing facts are true and correct to the best of my personal knowledge or information or belief. I further declare that all documents attached are true and correct copies of such documents as they exist in the San Diego Water Board's files, or were obtained from publicly available sources.

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Attachments

cc: Service List via CSM Dropbox

ATTACHMENTS TO WATER BOARDS' COMMENTS ON TEST CLAIM 16-TC-05

Attachment No.	Document
Section A	*Federal Statutes and Regulations*
A-1	Clean Water Act § 101 (33 U.S.C. § 1251)
A-2	Clean Water Act § 301 (33 U.S.C. § 1311)
A-3	Clean Water Act § 303 (33 U.S.C. § 1313)
A-4	Clean Water Act § 308 (33 U.S.C. § 1318)
A-5	Clean Water Act § 402 (33 U.S.C. § 1342)
A-6	Clean Water Act § 502 (33 U.S.C. § 1362)
A-7	Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. § 136r–1
A-8	40 C.F.R. § 122.2
A-9	40 C.F.R. § 122.6
A-10	40 C.F.R. § 122.21
A-11	40 C.F.R. § 122.22
A-12	40 C.F.R. § 122.26
A-13	40 C.F.R. § 122.34
A-14	40 C.F.R. § 122.41
A-15	40 C.F.R. § 122.42
A-16	40 C.F.R. § 122.44
A-17	40 C.F.R. § 122.48
A-18	40 C.F.R. § 123.25
A-19	40 C.F.R. § 123.44
A-20	40 C.F.R. § 130.2
A-21	40 C.F.R. § 130.6
A-22	40 C.F.R. § 130.7
A-23	55 Fed. Reg. 47990 (Nov. 16, 1990)
A-24	61 Fed. Reg. 41698 (Aug. 9, 1996)
A-25	64 Fed. Reg. 68722 (Dec. 8, 1995)
A-26	81 Fed. Reg. 89320 (Dec. 9, 2016)
Section B	*State Constitutional Provisions, Statutes, and Regulations*
B-1	California Constitution, art III, § 3.5
B-2	California Constitution, art XIII B, § 6
B-3	California Constitution, art XIII C, § 1
B-4	California Constitution, art XIII D, § 6
B-5	Government Code § 17551
B-6	Government Code § 17553
B-7	Government Code § 17556
B-8	Government Code § 53750
B-9	Government Code § 53751
B-10	Water Code § 13263
B-11	Water Code § 13271
B-12	Water Code § 13272
B-13	Water Code § 13350
B-14	Water Code § 13370
B-15	Water Code § 13372
B-16	Water Code § 13374
B-17	Water Code § 13385

B-18	Water Code §§ 16100 - 16104
B-19	Health and Safety Code § 5471
B-20	Public Resources Code § 40059
B-21	Senate Bill 231 (Stats. 2017, ch. 536)
B-22	Assembly Bill 1180 (Stats. 2017, ch. 617)
B-23	Assembly Bill 2043 (Stats. 2014, ch. 78)
B-24	Assembly Bill 2254 (Stats. 2010, ch. 602)
B-25	Cal. Code Regs., tit. 23, § 2235.2
B-26	Cal. Code Regs., tit. 23, § 2235.3
Section C	*Federal Cases*
C-1	*Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369
C-2	*Natural Resources Defense Council v. U.S. EPA* (9th Cir. 1992) 966 F.2d 1292
C-3	*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159
C-4	*Environmental Defense Center, Inc. v. EPA* (9th Cir. 2003) 344 F.3d 832
C-5	*Friends of the Earth, Inc. v. U.S. EPA* (D.C. Cir. 2006) 446 F.3d 140
C-6	*Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194
Section D	*State Cases*
D-1	*Sinclair Paint Co. v. State Bd. Of Equalization* (1997) 15 Cal.4th 866
D-2	*California Association of Professional Scientists v. Department of Fish and Game* (2000) 79 Cal.App.4th 935
D-3	*Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830
D-4	*City of Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region* (2002) 135 Cal.App.4th 1377
D-5	*Lockyer v. City and County of San Francisco* (2004) 33 Cal.4th 1055
D-6	*Building Industry Ass'n of San Diego County v. State Water Resources Control Bd*. (2004) 124 Cal.App.4th 866
D-7	*City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613
D-8	*Clovis Unified School Dist. v. Chiang* (2010) 188 Cal.App.4th 794
D-9	*Cal. Farm Bur. Federation v. State Water Resources Control Bd.* (2011) 51 Cal.4th 421
D-10	*Schmeer v. County. of Los Angeles* (2013) 213 Cal.App.4th 1310
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E-1	State Water Resources Control Board Order WQ 1999-05
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F-2	State Water Resources Control Board, *Water Quality Policy for Addressing Impaired Waters: Regulatory Structure and Options* (June 16, 2005)
F-3	State Water Resources Control Board, Order No. 2014-0057-DWQ, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities
F-4	State Water Resources Control Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities
F-5	State Water Resources Control Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation
Section G	*U.S. EPA-Issued MS4 Permits and Guidance*
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G-2	U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014)
G-3	U.S. EPA, General Permits For Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) In Massachusetts, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR043000 (Apr. 4, 2016)
G-4	U.S. EPA, NPDES Permit No. WAS-026638, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to Joint Base Lewis-McChord MS4 (Aug. 22, 2013)
G-5	U.S. EPA, NPDES Permit No. AKS-052558, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to the Municipality of Anchorage and the Alaska Department of Transportation and Public Facilities (Oct. 29, 2009)
Section H	*San Diego Regional Water Quality Control Board MS4 Permit Materials*
H-1	Addendum to Order No. 98-02 (Second Term Permit) to reflect language in its entirety as developed by United States Environmental Protection Agency in their Authorization to Discharge Under the National Pollutant Discharge Elimination System which became effective May 30, 1999 (Nov. 8, 2000)
H-2	Order No. R9-2004-001 (NPDES No. CAS0108766) Waste Discharge Requirements for Discharges of Urban Runoff From the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of

	Riverside, The City of Murrieta, the City of Temecula And the Riverside County Flood Control and Water Conservation District Within the San Diego Region (issued July 14, 2004)
H-3	Order No. R9-2010-0016, NPDES No. CAS0108766, Waste Discharge Requirements for the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the Incorporated Cities of Riverside County, and the Riverside County Flood Control and Conservation District within the County of Riverside within the San Diego Region (issued Nov. 18, 2010)
H-4	Order No. R9-2013-001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, NPDES No. CAS0109266, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds Within the San Diego Region (issued as amended Nov. 14, 2015)
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I-5	City of San Jose Storm Sewer Charge (web page listing, February 14, 2017 web access date)
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I-7	Culver City Measure CW, The Clean Water, Clean Beach Parcel Tax (October 25, 2017, web access date)
I-8	County of Los Angeles Votes to Put New Property Tax Before Voters to Clean Storm Water (Internet Article, August 15, 2018, web access date)
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J-1	San Diego Water Board NPDES Permit Order No. R9-2014-0009, as amended by Orders No. R9-2014-0094, R9-2017-0024, NPDES No. CAO0108928, issued to United States International Boundary and Water Commission, South Bay International Wastewater Treatment Plant, Discharge to the Pacific Ocean Via the South Bay Ocean Outfall
J-2	Letter from Alexis Strauss, USEPA to State Water Board (April 10, 2008)
J-3	Letter from John Kemmerer, USEPA to BIA (July 31, 2008)

ATTACHMENT A-1

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter I. Research and Related Programs (Refs & Annos)

33 U.S.C.A. § 1251

§ 1251. Congressional declaration of goals and policy

Currentness

(a) Restoration and maintenance of chemical, physical and biological integrity of Nation's waters; national goals for achievement of objective

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter--

(1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;

(2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;

(3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;

(4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;

(5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;

(6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and

(7) it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and nonpoint sources of pollution.

(b) Congressional recognition, preservation, and protection of primary responsibilities and rights of States

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It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. It is the policy of Congress that the States manage the construction grant program under this chapter and implement the permit programs under sections 1342 and 1344 of this title. It is further the policy of the Congress to support and aid research relating to the prevention, reduction, and elimination of pollution and to provide Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.

(c) Congressional policy toward Presidential activities with foreign countries

It is further the policy of Congress that the President, acting through the Secretary of State and such national and international organizations as he determines appropriate, shall take such action as may be necessary to insure that to the fullest extent possible all foreign countries shall take meaningful action for the prevention, reduction, and elimination of pollution in their waters and in international waters and for the achievement of goals regarding the elimination of discharge of pollutants and the improvement of water quality to at least the same extent as the United States does under its laws.

(d) Administrator of Environmental Protection Agency to administer chapter

Except as otherwise expressly provided in this chapter, the Administrator of the Environmental Protection Agency (hereinafter in this chapter called "Administrator") shall administer this chapter.

(e) Public participation in development, revision, and enforcement of any regulation, etc.

Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator, in cooperation with the States, shall develop and publish regulations specifying minimum guidelines for public participation in such processes.

(f) Procedures utilized for implementing chapter

It is the national policy that to the maximum extent possible the procedures utilized for implementing this chapter shall encourage the drastic minimization of paperwork and interagency decision procedures, and the best use of available manpower and funds, so as to prevent needless duplication and unnecessary delays at all levels of government.

(g) Authority of States over water

It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this chapter. It is the further policy of Congress that nothing in this chapter shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.

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CREDIT(S)

(June 30, 1948, c. 758, Title I, § 101, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 816; amended Pub.L. 95-217, §§ 5(a), 26(b), Dec. 27, 1977, 91 Stat. 1567, 1575; Pub.L. 100-4, Title III, § 316(b), Feb. 4, 1987, 101 Stat. 60.)

EXECUTIVE ORDERS

EXECUTIVE ORDER NO. 11548

Ex. Ord. No. 11548, July 20, 1970, 35 F.R. 11677, which related to the delegation of Presidential functions, was superseded by Ex. Ord. No. 11735, Aug. 3, 1973, 38 F.R. 21243, set out as a note under section 1321 of this title.

EXECUTIVE ORDER NO. 11742

<Oct. 23, 1973, 38 F.R. 29457>

Delegation of Functions to Secretary of State Respecting Negotiation of International Agreements Relating to Enhancement of Environment

Under and by virtue of the authority vested in me by section 301 of title 3 of the United States Code and as President of the United States, I hereby authorize and empower the Secretary of State, in coordination with the Council on Environmental Quality, the Environmental Protection Agency, and other appropriate Federal agencies, to perform, without the approval, ratification, or other action of the President, the functions vested in the President by Section 7 of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500; 86 Stat. 898) with respect to international agreements relating to the enhancement of the environment.

RICHARD NIXON.

Notes of Decisions (127)

33 U.S.C.A. § 1251, 33 USCA § 1251
Current through P.L. 115-171.

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ATTACHMENT A-2

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter III. Standards and Enforcement (Refs & Annos)

33 U.S.C.A. § 1311

§ 1311. Effluent limitations

Currentness

(a) Illegality of pollutant discharges except in compliance with law

Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful.

(b) Timetable for achievement of objectives

In order to carry out the objective of this chapter there shall be achieved--

(1)(A) not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, (i) which shall require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 1314(b) of this title, or (ii) in the case of a discharge into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, which shall require compliance with any applicable pretreatment requirements and any requirements under section 1317 of this title; and

(B) for publicly owned treatment works in existence on July 1, 1977, or approved pursuant to section 1283 of this title prior to June 30, 1974 (for which construction must be completed within four years of approval), effluent limitations based upon secondary treatment as defined by the Administrator pursuant to section 1314(d)(1) of this title; or,

(C) not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

(2)(A) for pollutants identified in subparagraphs (C), (D), and (F) of this paragraph, effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him (including information developed pursuant to section 1325 of this title), that such elimination is technologically

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and economically achievable for a category or class of point sources as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(2) of this title, or (ii) in the case of the introduction of a pollutant into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, shall require compliance with any applicable pretreatment requirements and any other requirement under section 1317 of this title;

(B) Repealed. Pub.L. 97-117, § 21(b), Dec. 29, 1981, 95 Stat. 1632.

(C) with respect to all toxic pollutants referred to in table 1 of Committee Print Numbered 95-30 of the Committee on Public Works and Transportation of the House of Representatives compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989;

(D) for all toxic pollutants listed under paragraph (1) of subsection (a) of section 1317 of this title which are not referred to in subparagraph (C) of this paragraph compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable, but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989;

(E) as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989, compliance with effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which in the case of pollutants identified pursuant to section 1314(a)(4) of this title shall require application of the best conventional pollutant control technology as determined in accordance with regulations issued by the Administrator pursuant to section 1314(b)(4) of this title; and

(F) for all pollutants (other than those subject to subparagraphs (C), (D), or (E) of this paragraph) compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than 3 years after the date such limitations are established, and in no case later than March 31, 1989.

(3)(A) for effluent limitations under paragraph (1)(A)(i) of this subsection promulgated after January 1, 1982, and requiring a level of control substantially greater or based on fundamentally different control technology than under permits for an industrial category issued before such date, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under section 1314(b) of this title, and in no case later than March 31, 1989; and

(B) for any effluent limitation in accordance with paragraph (1)(A)(i), (2)(A)(i), or (2)(E) of this subsection established only on the basis of section 1342(a)(1) of this title in a permit issued after February 4, 1987, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are established, and in no case later than March 31, 1989.

(c) Modification of timetable

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The Administrator may modify the requirements of subsection (b)(2)(A) of this section with respect to any point source for which a permit application is filed after July 1, 1977, upon a showing by the owner or operator of such point source satisfactory to the Administrator that such modified requirements (1) will represent the maximum use of technology within the economic capability of the owner or operator; and (2) will result in reasonable further progress toward the elimination of the discharge of pollutants.

(d) Review and revision of effluent limitations

Any effluent limitation required by paragraph (2) of subsection (b) of this section shall be reviewed at least every five years and, if appropriate, revised pursuant to the procedure established under such paragraph.

(e) All point discharge source application of effluent limitations

Effluent limitations established pursuant to this section or section 1312 of this title shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this chapter.

(f) Illegality of discharge of radiological, chemical, or biological warfare agents, high-level radioactive waste, or medical waste

Notwithstanding any other provisions of this chapter it shall be unlawful to discharge any radiological, chemical, or biological warfare agent, any high-level radioactive waste, or any medical waste, into the navigable waters.

(g) Modifications for certain nonconventional pollutants

(1) General authority

The Administrator, with the concurrence of the State, may modify the requirements of subsection (b)(2)(A) of this section with respect to the discharge from any point source of ammonia, chlorine, color, iron, and total phenols (4AAP) (when determined by the Administrator to be a pollutant covered by subsection (b)(2)(F)) and any other pollutant which the Administrator lists under paragraph (4) of this subsection.

(2) Requirements for granting modifications

A modification under this subsection shall be granted only upon a showing by the owner or operator of a point source satisfactory to the Administrator that--

(A) such modified requirements will result at a minimum in compliance with the requirements of subsection (b)(1)(A) or (C) of this section, whichever is applicable;

(B) such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

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(C) such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

(3) Limitation on authority to apply for subsection (c) modification

If an owner or operator of a point source applies for a modification under this subsection with respect to the discharge of any pollutant, such owner or operator shall be eligible to apply for modification under subsection (c) of this section with respect to such pollutant only during the same time period as he is eligible to apply for a modification under this subsection.

(4) Procedures for listing additional pollutants

(A) General authority

Upon petition of any person, the Administrator may add any pollutant to the list of pollutants for which modification under this section is authorized (except for pollutants identified pursuant to section 1314(a)(4) of this title, toxic pollutants subject to section 1317(a) of this title, and the thermal component of discharges) in accordance with the provisions of this paragraph.

(B) Requirements for listing

(i) Sufficient information

The person petitioning for listing of an additional pollutant under this subsection shall submit to the Administrator sufficient information to make the determinations required by this subparagraph.

(ii) Toxic criteria determination

The Administrator shall determine whether or not the pollutant meets the criteria for listing as a toxic pollutant under section 1317(a) of this title.

(iii) Listing as toxic pollutant

If the Administrator determines that the pollutant meets the criteria for listing as a toxic pollutant under section 1317(a) of this title, the Administrator shall list the pollutant as a toxic pollutant under section 1317(a) of this title.

(iv) Nonconventional criteria determination

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If the Administrator determines that the pollutant does not meet the criteria for listing as a toxic pollutant under such section and determines that adequate test methods and sufficient data are available to make the determinations required by paragraph (2) of this subsection with respect to the pollutant, the Administrator shall add the pollutant to the list of pollutants specified in paragraph (1) of this subsection for which modifications are authorized under this subsection.

(C) Requirements for filing of petitions

A petition for listing of a pollutant under this paragraph--

(i) must be filed not later than 270 days after the date of promulgation of an applicable effluent guideline under section 1314 of this title;

(ii) may be filed before promulgation of such guideline; and

(iii) may be filed with an application for a modification under paragraph (1) with respect to the discharge of such pollutant.

(D) Deadline for approval of petition

A decision to add a pollutant to the list of pollutants for which modifications under this subsection are authorized must be made within 270 days after the date of promulgation of an applicable effluent guideline under section 1314 of this title.

(E) Burden of proof

The burden of proof for making the determinations under subparagraph (B) shall be on the petitioner.

(5) Removal of pollutants

The Administrator may remove any pollutant from the list of pollutants for which modifications are authorized under this subsection if the Administrator determines that adequate test methods and sufficient data are no longer available for determining whether or not modifications may be granted with respect to such pollutant under paragraph (2) of this subsection.

(h) Modification of secondary treatment requirements

The Administrator, with the concurrence of the State, may issue a permit under section 1342 of this title which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant from a publicly owned treatment works into marine waters, if the applicant demonstrates to the satisfaction of the Administrator that--

(1) there is an applicable water quality standard specific to the pollutant for which the modification is requested, which has been identified under section 1314(a)(6) of this title;

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(2) the discharge of pollutants in accordance with such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, and allows recreational activities, in and on the water;

(3) the applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable, and the scope of such monitoring is limited to include only those scientific investigations which are necessary to study the effects of the proposed discharge;

(4) such modified requirements will not result in any additional requirements on any other point or nonpoint source;

(5) all applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;

(6) in the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements, and the applicant has in effect a pretreatment program which, in combination with the treatment of discharges from such works, removes the same amount of such pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant;

(7) to the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;

(8) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;

(9) the applicant at the time such modification becomes effective will be discharging effluent which has received at least primary or equivalent treatment and which meets the criteria established under section 1314(a)(1) of this title after initial mixing in the waters surrounding or adjacent to the point at which such effluent is discharged.

For the purposes of this subsection the phrase "the discharge of any pollutant into marine waters" refers to a discharge into deep waters of the territorial sea or the waters of the contiguous zone, or into saline estuarine waters where there is strong tidal movement and other hydrological and geological characteristics which the Administrator determines necessary to allow compliance with paragraph (2) of this subsection, and section 1251(a)(2) of this title. For the purposes of paragraph (9), "primary or equivalent treatment" means treatment by screening, sedimentation, and skimming adequate to remove at least 30 percent of the biological oxygen demanding material and of the suspended solids in the treatment works influent, and disinfection, where appropriate. A municipality which applies secondary treatment shall be eligible to receive a permit pursuant to this subsection which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant from any treatment works owned by such municipality into marine waters. No permit issued under this subsection shall authorize the discharge of sewage sludge into marine waters. In order for a permit to be issued under this subsection for the discharge of a pollutant into marine waters, such

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marine waters must exhibit characteristics assuring that water providing dilution does not contain significant amounts of previously discharged effluent from such treatment works. No permit issued under this subsection shall authorize the discharge of any pollutant into saline estuarine waters which at the time of application do not support a balanced indigenous population of shellfish, fish and wildlife, or allow recreation in and on the waters or which exhibit ambient water quality below applicable water quality standards adopted for the protection of public water supplies, shellfish, fish and wildlife or recreational activities or such other standards necessary to assure support and protection of such uses. The prohibition contained in the preceding sentence shall apply without regard to the presence or absence of a causal relationship between such characteristics and the applicant's current or proposed discharge. Notwithstanding any other provisions of this subsection, no permit may be issued under this subsection for discharge of a pollutant into the New York Bight Apex consisting of the ocean waters of the Atlantic Ocean westward of 73 degrees 30 minutes west longitude and northward of 40 degrees 10 minutes north latitude.

(i) Municipal time extensions

(1) Where construction is required in order for a planned or existing publicly owned treatment works to achieve limitations under subsection (b)(1)(B) or (b)(1)(C) of this section, but (A) construction cannot be completed within the time required in such subsection, or (B) the United States has failed to make financial assistance under this chapter available in time to achieve such limitations by the time specified in such subsection, the owner or operator of such treatment works may request the Administrator (or if appropriate the State) to issue a permit pursuant to section 1342 of this title or to modify a permit issued pursuant to that section to extend such time for compliance. Any such request shall be filed with the Administrator (or if appropriate the State) within 180 days after February 4, 1987. The Administrator (or if appropriate the State) may grant such request and issue or modify such a permit, which shall contain a schedule of compliance for the publicly owned treatment works based on the earliest date by which such financial assistance will be available from the United States and construction can be completed, but in no event later than July 1, 1988, and shall contain such other terms and conditions, including those necessary to carry out subsections (b) through (g) of section 1281 of this title, section 1317 of this title, and such interim effluent limitations applicable to that treatment works as the Administrator determines are necessary to carry out the provisions of this chapter.

(2)(A) Where a point source (other than a publicly owned treatment works) will not achieve the requirements of subsections (b)(1)(A) and (b)(1)(C) of this section and--

(i) if a permit issued prior to July 1, 1977, to such point source is based upon a discharge into a publicly owned treatment works; or

(ii) if such point source (other than a publicly owned treatment works) had before July 1, 1977, a contract (enforceable against such point source) to discharge into a publicly owned treatment works; or

(iii) if either an application made before July 1, 1977, for a construction grant under this chapter for a publicly owned treatment works, or engineering or architectural plans or working drawings made before July 1, 1977, for a publicly owned treatment works, show that such point source was to discharge into such publicly owned treatment works,

and such publicly owned treatment works is presently unable to accept such discharge without construction, and in the case of a discharge to an existing publicly owned treatment works, such treatment works has an extension pursuant to paragraph (1) of this subsection, the owner or operator of such point source may request the Administrator (or if appropriate the State) to issue or modify such a permit pursuant to such section 1342 of this title to extend such time

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for compliance. Any such request shall be filed with the Administrator (or if appropriate the State) within 180 days after December 27, 1977, or the filing of a request by the appropriate publicly owned treatment works under paragraph (1) of this subsection, whichever is later. If the Administrator (or if appropriate the State) finds that the owner or operator of such point source has acted in good faith, he may grant such request and issue or modify such a permit, which shall contain a schedule of compliance for the point source to achieve the requirements of subsections (b)(1)(A) and (C) of this section and shall contain such other terms and conditions, including pretreatment and interim effluent limitations and water conservation requirements applicable to that point source, as the Administrator determines are necessary to carry out the provisions of this chapter.

(B) No time modification granted by the Administrator (or if appropriate the State) pursuant to paragraph (2)(A) of this subsection shall extend beyond the earliest date practicable for compliance or beyond the date of any extension granted to the appropriate publicly owned treatment works pursuant to paragraph (1) of this subsection, but in no event shall it extend beyond July 1, 1988; and no such time modification shall be granted unless (i) the publicly owned treatment works will be in operation and available to the point source before July 1, 1988, and will meet the requirements of subsections (b)(1)(B) and (C) of this section after receiving the discharge from that point source; and (ii) the point source and the publicly owned treatment works have entered into an enforceable contract requiring the point source to discharge into the publicly owned treatment works, the owner or operator of such point source to pay the costs required under section 1284 of this title, and the publicly owned treatment works to accept the discharge from the point source; and (iii) the permit for such point source requires that point source to meet all requirements under section 1317(a) and (b) of this title during the period of such time modification.

(j) Modification procedures

(1) Any application filed under this section for a modification of the provisions of--

(A) subsection (b)(1)(B) under subsection (h) of this section shall be filed not later that [1] the 365th day which begins after December 29, 1981, except that a publicly owned treatment works which prior to December 31, 1982, had a contractual arrangement to use a portion of the capacity of an ocean outfall operated by another publicly owned treatment works which has applied for or received modification under subsection (h), may apply for a modification of subsection (h) in its own right not later than 30 days after February 4, 1987, and except as provided in paragraph (5);

(B) subsection (b)(2)(A) as it applies to pollutants identified in subsection (b)(2)(F) shall be filed not later than 270 days after the date of promulgation of an applicable effluent guideline under section 1314 of this title or not later than 270 days after December 27, 1977, whichever is later.

(2) Subject to paragraph (3) of this section, any application for a modification filed under subsection (g) of this section shall not operate to stay any requirement under this chapter, unless in the judgment of the Administrator such a stay or the modification sought will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity, or teratogenicity), or synergistic propensities, and that there is a substantial likelihood that the applicant will succeed on the merits of such application. In the case of an application filed under subsection (g) of this section, the Administrator may condition any stay granted under this paragraph on requiring the filing of a bond or other appropriate security to assure timely compliance with the requirements from which a modification is sought.

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(3) Compliance requirements under subsection (g)

(A) Effect of filing

An application for a modification under subsection (g) and a petition for listing of a pollutant as a pollutant for which modifications are authorized under such subsection shall not stay the requirement that the person seeking such modification or listing comply with effluent limitations under this chapter for all pollutants not the subject of such application or petition.

(B) Effect of disapproval

Disapproval of an application for a modification under subsection (g) shall not stay the requirement that the person seeking such modification comply with all applicable effluent limitations under this chapter.

(4) Deadline for subsection (g) decision

An application for a modification with respect to a pollutant filed under subsection (g) must be approved or disapproved not later than 365 days after the date of such filing; except that in any case in which a petition for listing such pollutant as a pollutant for which modifications are authorized under such subsection is approved, such application must be approved or disapproved not later than 365 days after the date of approval of such petition.

(5) Extension of application deadline

(A) In general

In the 180-day period beginning on October 31, 1994, the city of San Diego, California, may apply for a modification pursuant to subsection (h) of the requirements of subsection (b)(1)(B) with respect to biological oxygen demand and total suspended solids in the effluent discharged into marine waters.

(B) Application

An application under this paragraph shall include a commitment by the applicant to implement a waste water reclamation program that, at a minimum, will--

(i) achieve a system capacity of 45,000,000 gallons of reclaimed waste water per day by January 1, 2010; and

(ii) result in a reduction in the quantity of suspended solids discharged by the applicant into the marine environment during the period of the modification.

(C) Additional conditions

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The Administrator may not grant a modification pursuant to an application submitted under this paragraph unless the Administrator determines that such modification will result in removal of not less than 58 percent of the biological oxygen demand (on an annual average) and not less than 80 percent of total suspended solids (on a monthly average) in the discharge to which the application applies.

(D) Preliminary decision deadline

The Administrator shall announce a preliminary decision on an application submitted under this paragraph not later than 1 year after the date the application is submitted.

(k) Innovative technology

In the case of any facility subject to a permit under section 1342 of this title which proposes to comply with the requirements of subsection (b)(2)(A) or (b)(2)(E) of this section by replacing existing production capacity with an innovative production process which will result in an effluent reduction significantly greater than that required by the limitation otherwise applicable to such facility and moves toward the national goal of eliminating the discharge of all pollutants, or with the installation of an innovative control technique that has a substantial likelihood for enabling the facility to comply with the applicable effluent limitation by achieving a significantly greater effluent reduction than that required by the applicable effluent limitation and moves toward the national goal of eliminating the discharge of all pollutants, or by achieving the required reduction with an innovative system that has the potential for significantly lower costs than the systems which have been determined by the Administrator to be economically achievable, the Administrator (or the State with an approved program under section 1342 of this title, in consultation with the Administrator) may establish a date for compliance under subsection (b)(2)(A) or (b)(2)(E) of this section no later than two years after the date for compliance with such effluent limitation which would otherwise be applicable under such subsection, if it is also determined that such innovative system has the potential for industrywide application.

(l) Toxic pollutants

Other than as provided in subsection (n) of this section, the Administrator may not modify any requirement of this section as it applies to any specific pollutant which is on the toxic pollutant list under section 1317(a)(1) of this title.

(m) Modification of effluent limitation requirements for point sources

(1) The Administrator, with the concurrence of the State, may issue a permit under section 1342 of this title which modifies the requirements of subsections (b)(1)(A) and (b)(2)(E) of this section, and of section 1343 of this title, with respect to effluent limitations to the extent such limitations relate to biochemical oxygen demand and pH from discharges by an industrial discharger in such State into deep waters of the territorial seas, if the applicant demonstrates and the Administrator finds that--

(A) the facility for which modification is sought is covered at the time of the enactment of this subsection by National Pollutant Discharge Elimination System permit number CA0005894 or CA0005282;

(B) the energy and environmental costs of meeting such requirements of subsections (b)(1)(A) and (b)(2)(E) and section 1343 of this title exceed by an unreasonable amount the benefits to be obtained, including the objectives of this chapter;

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(C) the applicant has established a system for monitoring the impact of such discharges on a representative sample of aquatic biota;

(D) such modified requirements will not result in any additional requirements on any other point or nonpoint source;

(E) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;

(F) the discharge is into waters where there is strong tidal movement and other hydrological and geological characteristics which are necessary to allow compliance with this subsection and section 1251(a)(2) of this title;

(G) the applicant accepts as a condition to the permit a contractural[2] obligation to use funds in the amount required (but not less than $250,000 per year for ten years) for research and development of water pollution control technology, including but not limited to closed cycle technology;

(H) the facts and circumstances present a unique situation which, if relief is granted, will not establish a precedent or the relaxation of the requirements of this chapter applicable to similarly situated discharges; and

(I) no owner or operator of a facility comparable to that of the applicant situated in the United States has demonstrated that it would be put at a competitive disadvantage to the applicant (or the parent company or any subsidiary thereof) as a result of the issuance of a permit under this subsection.

(2) The effluent limitations established under a permit issued under paragraph (1) shall be sufficient to implement the applicable State water quality standards, to assure the protection of public water supplies and protection and propagation of a balanced, indigenous population of shellfish, fish, fauna, wildlife, and other aquatic organisms, and to allow recreational activities in and on the water. In setting such limitations, the Administrator shall take into account any seasonal variations and the need for an adequate margin of safety, considering the lack of essential knowledge concerning the relationship between effluent limitations and water quality and the lack of essential knowledge of the effects of discharges on beneficial uses of the receiving waters.

(3) A permit under this subsection may be issued for a period not to exceed five years, and such a permit may be renewed for one additional period not to exceed five years upon a demonstration by the applicant and a finding by the Administrator at the time of application for any such renewal that the provisions of this subsection are met.

(4) The Administrator may terminate a permit issued under this subsection if the Administrator determines that there has been a decline in ambient water quality of the receiving waters during the period of the permit even if a direct cause and effect relationship cannot be shown: *Provided*, That if the effluent from a source with a permit issued under this subsection is contributing to a decline in ambient water quality of the receiving waters, the Administrator shall terminate such permit.

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(n) Fundamentally different factors

(1) General rule

The Administrator, with the concurrence of the State, may establish an alternative requirement under subsection (b)(2) or section 1317(b) of this title for a facility that modifies the requirements of national effluent limitation guidelines or categorical pretreatment standards that would otherwise be applicable to such facility, if the owner or operator of such facility demonstrates to the satisfaction of the Administrator that--

(A) the facility is fundamentally different with respect to the factors (other than cost) specified in section 1314(b) or 1314(g) of this title and considered by the Administrator in establishing such national effluent limitation guidelines or categorical pretreatment standards;

(B) the application--

(i) is based solely on information and supporting data submitted to the Administrator during the rulemaking for establishment of the applicable national effluent limitation guidelines or categorical pretreatment standard specifically raising the factors that are fundamentally different for such facility; or

(ii) is based on information and supporting data referred to in clause (i) and information and supporting data the applicant did not have a reasonable opportunity to submit during such rulemaking;

(C) the alternative requirement is no less stringent than justified by the fundamental difference; and

(D) the alternative requirement will not result in a non-water quality environmental impact which is markedly more adverse than the impact considered by the Administrator in establishing such national effluent limitation guideline or categorical pretreatment standard.

(2) Time limit for applications

An application for an alternative requirement which modifies the requirements of an effluent limitation or pretreatment standard under this subsection must be submitted to the Administrator within 180 days after the date on which such limitation or standard is established or revised, as the case may be.

(3) Time limit for decision

The Administrator shall approve or deny by final agency action an application submitted under this subsection within 180 days after the date such application is filed with the Administrator.

(4) Submission of information

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The Administrator may allow an applicant under this subsection to submit information and supporting data until the earlier of the date the application is approved or denied or the last day that the Administrator has to approve or deny such application.

(5) Treatment of pending applications

For the purposes of this subsection, an application for an alternative requirement based on fundamentally different factors which is pending on February 4, 1987, shall be treated as having been submitted to the Administrator on the 180th day following February 4, 1987. The applicant may amend the application to take into account the provisions of this subsection.

(6) Effect of submission of application

An application for an alternative requirement under this subsection shall not stay the applicant's obligation to comply with the effluent limitation guideline or categorical pretreatment standard which is the subject of the application.

(7) Effect of denial

If an application for an alternative requirement which modifies the requirements of an effluent limitation or pretreatment standard under this subsection is denied by the Administrator, the applicant must comply with such limitation or standard as established or revised, as the case may be.

(8) Reports

By January 1, 1997, and January 1 of every odd-numbered year thereafter, the Administrator shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on the status of applications for alternative requirements which modify the requirements of effluent limitations under section 1311 or 1314 of this title or any national categorical pretreatment standard under section 1317(b) of this title filed before, on, or after February 4, 1987.

(o) Application fees

The Administrator shall prescribe and collect from each applicant fees reflecting the reasonable administrative costs incurred in reviewing and processing applications for modifications submitted to the Administrator pursuant to subsections (c), (g), (i), (k), (m), and (n) of this section, section 1314(d)(4) of this title, and section 1326(a) of this title. All amounts collected by the Administrator under this subsection shall be deposited into a special fund of the Treasury entitled "Water Permits and Related Services" which shall thereafter be available for appropriation to carry out activities of the Environmental Protection Agency for which such fees were collected.

(p) Modified permit for coal remining operations

(1) In general

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Subject to paragraphs (2) through (4) of this subsection, the Administrator, or the State in any case which the State has an approved permit program under section 1342(b) of this title, may issue a permit under section 1342 of this title which modifies the requirements of subsection (b)(2)(A) of this section with respect to the pH level of any pre-existing discharge, and with respect to pre-existing discharges of iron and manganese from the remined area of any coal remining operation or with respect to the pH level or level of iron or manganese in any pre-existing discharge affected by the remining operation. Such modified requirements shall apply the best available technology economically achievable on a case-by-case basis, using best professional judgment, to set specific numerical effluent limitations in each permit.

(2) Limitations

The Administrator or the State may only issue a permit pursuant to paragraph (1) if the applicant demonstrates to the satisfaction of the Administrator or the State, as the case may be, that the coal remining operation will result in the potential for improved water quality from the remining operation but in no event shall such a permit allow the pH level of any discharge, and in no event shall such a permit allow the discharges of iron and manganese, to exceed the levels being discharged from the remined area before the coal remining operation begins. No discharge from, or affected by, the remining operation shall exceed State water quality standards established under section 1313 of this title.

(3) Definitions

For purposes of this subsection--

(A) Coal remining operation

The term “coal remining operation” means a coal mining operation which begins after February 4, 1987 at a site on which coal mining was conducted before August 3, 1977.

(B) Remined area

The term “remined area” means only that area of any coal remining operation on which coal mining was conducted before August 3, 1977.

(C) Pre-existing discharge

The term “pre-existing discharge” means any discharge at the time of permit application under this subsection.

(4) Applicability of strip mining laws

Nothing in this subsection shall affect the application of the Surface Mining Control and Reclamation Act of 1977 [30 U.S.C.A. § 1201 et seq.] to any coal remining operation, including the application of such Act to suspended solids.

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(June 30, 1948, c. 758, Title III, § 301, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 844; amended Pub.L. 95-217, §§ 42-47, 53(c), Dec. 27, 1977, 91 Stat. 1582-1586, 1590; Pub.L. 97-117, §§ 21, 22(a)-(d), Dec. 29, 1981, 95 Stat. 1631, 1632; Pub.L. 97-440, Jan. 8, 1983, 96 Stat. 2289; Pub.L. 100-4, Title III, §§ 301(a) to (e), 302(a) to (d), 303(a), (b)(1), (c) to (f), 304(a), 305, 306(a), (b), 307, Feb. 4, 1987, 101 Stat. 29-37; Pub.L. 100-688, Title III, § 3202(b), Nov. 18, 1988, 102 Stat. 4154; Pub.L. 103-431, § 2, Oct. 31, 1994, 108 Stat. 4396; Pub.L. 104-66, Title II, § 2021(b), Dec. 21, 1995, 109 Stat. 727.)

Notes of Decisions (321)

Footnotes

1 So in original. Probably should be “than”.

2 So in original. Probably should be “contractual”.

33 U.S.C.A. § 1311, 33 USCA § 1311

Current through P.L. 115-171.

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ATTACHMENT A-3

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter III. Standards and Enforcement (Refs & Annos)

33 U.S.C.A. § 1313

§ 1313. Water quality standards and implementation plans

Effective: October 10, 2000
Currentness

(a) Existing water quality standards

(1) In order to carry out the purpose of this chapter, any water quality standard applicable to interstate waters which was adopted by any State and submitted to, and approved by, or is a waiting approval by, the Administrator pursuant to this Act as in effect immediately prior to October 18, 1972, shall remain in effect unless the Administrator determined that such standard is not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he shall, within three months after October 18, 1972, notify the State and specify the changes needed to meet such requirements. If such changes are not adopted by the State within ninety days after the date of such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.

(2) Any State which, before October 18, 1972, has adopted, pursuant to its own law, water quality standards applicable to intrastate waters shall submit such standards to the Administrator within thirty days after October 18, 1972. Each such standard shall remain in effect, in the same manner and to the same extent as any other water quality standard established under this chapter unless the Administrator determines that such standard is inconsistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he shall not later than the one hundred and twentieth day after the date of submission of such standards, notify the State and specify the changes needed to meet such requirements. If such changes are not adopted by the State within ninety days after such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.

(3)(A) Any State which prior to October 18, 1972, has not adopted pursuant to its own laws water quality standards applicable to intrastate waters shall, not later than one hundred and eighty days after October 18, 1972, adopt and submit such standards to the Administrator.

(B) If the Administrator determines that any such standards are consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall approve such standards.

(C) If the Administrator determines that any such standards are not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall, not later than the ninetieth day after the date of

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submission of such standards, notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standards pursuant to subsection (b) of this section.

(b) Proposed regulations

(1) The Administrator shall promptly prepare and publish proposed regulations setting forth water quality standards for a State in accordance with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, if--

(A) the State fails to submit water quality standards within the times prescribed in subsection (a) of this section.

(B) a water quality standard submitted by such State under subsection (a) of this section is determined by the Administrator not to be consistent with the applicable requirements of subsection (a) of this section.

(2) The Administrator shall promulgate any water quality standard published in a proposed regulation not later than one hundred and ninety days after the date he publishes any such proposed standard, unless prior to such promulgation, such State has adopted a water quality standard which the Administrator determines to be in accordance with subsection (a) of this section.

(c) Review; revised standards; publication

(1) The Governor of a State or the State water pollution control agency of such State shall from time to time (but at least once each three year period beginning with October 18, 1972) hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards. Results of such review shall be made available to the Administrator.

(2)(A) Whenever the State revises or adopts a new standard, such revised or new standard shall be submitted to the Administrator. Such revised or new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter. Such standards shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.

(B) Whenever a State reviews water quality standards pursuant to paragraph (1) of this subsection, or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria for all toxic pollutants listed pursuant to section 1317(a)(1) of this title for which criteria have been published under section 1314(a) of this title, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants. Where such numerical criteria are not available, whenever a State reviews water quality standards pursuant to paragraph (1), or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to section 1314(a)(8) of this title.

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Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods or previously adopted numerical criteria.

(3) If the Administrator, within sixty days after the date of submission of the revised or new standard, determines that such standard meets the requirements of this chapter, such standard shall thereafter be the water quality standard for the applicable waters of that State. If the Administrator determines that any such revised or new standard is not consistent with the applicable requirements of this chapter, he shall not later than the ninetieth day after the date of submission of such standard notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standard pursuant to paragraph (4) of this subsection.

(4) The Administrator shall promptly prepare and publish proposed regulations setting forth a revised or new water quality standard for the navigable waters involved--

(A) if a revised or new water quality standard submitted by such State under paragraph (3) of this subsection for such waters is determined by the Administrator not to be consistent with the applicable requirements of this chapter, or

(B) in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this chapter.

The Administrator shall promulgate any revised or new standard under this paragraph not later than ninety days after he publishes such proposed standards, unless prior to such promulgation, such State has adopted a revised or new water quality standard which the Administrator determines to be in accordance with this chapter.

(d) Identification of areas with insufficient controls; maximum daily load; certain effluent limitations revision

(1)(A) Each State shall identify those waters within its boundaries for which the effluent limitations required by section 1311(b)(1)(A) and section 1311(b)(1)(B) of this title are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.

(B) Each State shall identify those waters or parts thereof within its boundaries for which controls on thermal discharges under section 1311 of this title are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife.

(C) Each State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under section 1314(a)(2) of this title as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.

(D) Each State shall estimate for the waters identified in paragraph (1)(B) of this subsection the total maximum daily thermal load required to assure protection and propagation of a balanced, indigenous population of shellfish, fish, and

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wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for such protection and propagation in the identified waters or parts thereof.

(2) Each State shall submit to the Administrator from time to time, with the first such submission not later than one hundred and eighty days after the date of publication of the first identification of pollutants under section 1314(a)(2)(D) of this title, for his approval the waters identified and the loads established under paragraphs (1)(A), (1)(B), (1)(C), and (1)(D) of this subsection. The Administrator shall either approve or disapprove such identification and load not later than thirty days after the date of submission. If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section. If the Administrator disapproves such identification and load, he shall not later than thirty days after the date of such disapproval identify such waters in such State and establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan under subsection (e) of this section.

(3) For the specific purpose of developing information, each State shall identify all waters within its boundaries which it has not identified under paragraph (1)(A) and (1)(B) of this subsection and estimate for such waters the total maximum daily load with seasonal variations and margins of safety, for those pollutants which the Administrator identifies under section 1314(a)(2) of this title as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife.

(4) Limitations on revision of certain effluent limitations

(A) Standard not attained

For waters identified under paragraph (1)(A) where the applicable water quality standard has not yet been attained, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section may be revised only if (i) the cumulative effect of all such revised effluent limitations based on such total maximum daily load or waste load allocation will assure the attainment of such water quality standard, or (ii) the designated use which is not being attained is removed in accordance with regulations established under this section.

(B) Standard attained

For waters identified under paragraph (1)(A) where the quality of such waters equals or exceeds levels necessary to protect the designated use for such waters or otherwise required by applicable water quality standards, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section, or any water quality standard established under this section, or any other permitting standard may be revised only if such revision is subject to and consistent with the antidegradation policy established under this section.

(e) Continuing planning process

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(1) Each State shall have a continuing planning process approved under paragraph (2) of this subsection which is consistent with this chapter.

(2) Each State shall submit not later than 120 days after October 18, 1972, to the Administrator for his approval a proposed continuing planning process which is consistent with this chapter. Not later than thirty days after the date of submission of such a process the Administrator shall either approve or disapprove such process. The Administrator shall from time to time review each State's approved planning process for the purpose of insuring that such planning process is at all times consistent with this chapter. The Administrator shall not approve any State permit program under subchapter IV of this chapter for any State which does not have an approved continuing planning process under this section.

(3) The Administrator shall approve any continuing planning process submitted to him under this section which will result in plans for all navigable waters within such State, which include, but are not limited to, the following:

(A) effluent limitations and schedules of compliance at least as stringent as those required by section 1311(b)(1), section 1311(b)(2), section 1316, and section 1317 of this title, and at least as stringent as any requirements contained in any applicable water quality standard in effect under authority of this section;

(B) the incorporation of all elements of any applicable area-wide waste management plans under section 1288 of this title, and applicable basin plans under section 1289 of this title;

(C) total maximum daily load for pollutants in accordance with subsection (d) of this section;

(D) procedures for revision;

(E) adequate authority for intergovernmental cooperation;

(F) adequate implementation, including schedules of compliance, for revised or new water quality standards, under subsection (c) of this section;

(G) controls over the disposition of all residual waste from any water treatment processing;

(H) an inventory and ranking, in order of priority, of needs for construction of waste treatment works required to meet the applicable requirements of sections 1311 and 1312 of this title.

(f) Earlier compliance

Nothing in this section shall be construed to affect any effluent limitation, or schedule of compliance required by any State to be implemented prior to the dates set forth in sections 1311(b)(1) and 1311(b)(2) of this title nor to preclude any State from requiring compliance with any effluent limitation or schedule of compliance at dates earlier than such dates.

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(g) Heat standards

Water quality standards relating to heat shall be consistent with the requirements of section 1326 of this title.

(h) Thermal water quality standards

For the purposes of this chapter the term "water quality standards" includes thermal water quality standards.

(i) Coastal recreation water quality criteria

(1) Adoption by States

(A) Initial criteria and standards

Not later than 42 months after October 10, 2000, each State having coastal recreation waters shall adopt and submit to the Administrator water quality criteria and standards for the coastal recreation waters of the State for those pathogens and pathogen indicators for which the Administrator has published criteria under section 1314(a) of this title.

(B) New or revised criteria and standards

Not later than 36 months after the date of publication by the Administrator of new or revised water quality criteria under section 1314(a)(9) of this title, each State having coastal recreation waters shall adopt and submit to the Administrator new or revised water quality standards for the coastal recreation waters of the State for all pathogens and pathogen indicators to which the new or revised water quality criteria are applicable.

(2) Failure of States to adopt

(A) In general

If a State fails to adopt water quality criteria and standards in accordance with paragraph (1)(A) that are as protective of human health as the criteria for pathogens and pathogen indicators for coastal recreation waters published by the Administrator, the Administrator shall promptly propose regulations for the State setting forth revised or new water quality standards for pathogens and pathogen indicators described in paragraph (1)(A) for coastal recreation waters of the State.

(B) Exception

If the Administrator proposes regulations for a State described in subparagraph (A) under subsection (c)(4)(B), the Administrator shall publish any revised or new standard under this subsection not later than 42 months after October 10, 2000.

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(3) Applicability

Except as expressly provided by this subsection, the requirements and procedures of subsection (c) apply to this subsection, including the requirement in subsection (c)(2)(A) that the criteria protect public health and welfare.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 303, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 846; amended Pub.L. 100-4, Title III, § 308(d), Title IV, § 404(b), Feb. 4, 1987, 101 Stat. 39, 68; Pub.L. 106-284, § 2, Oct. 10, 2000, 114 Stat. 870.)

Notes of Decisions (137)

33 U.S.C.A. § 1313, 33 USCA § 1313
Current through P.L. 115-171.

End of Document

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ATTACHMENT A-4

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter III. Standards and Enforcement (Refs & Annos)

33 U.S.C.A. § 1318

§ 1318. Records and reports; inspections

Currentness

(a) Maintenance; monitoring equipment; entry; access to information

Whenever required to carry out the objective of this chapter, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this chapter; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 1315, 1321, 1342, 1344 (relating to State permit programs), 1345, and 1364 of this title--

(A) the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require; and

(B) the Administrator or his authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of his credentials--

(i) shall have a right of entry to, upon, or through any premises in which an effluent source is located or in which any records required to be maintained under clause (A) of this subsection are located, and

(ii) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under clause (A), and sample any effluents which the owner or operator of such source is required to sample under such clause.

(b) Availability to public; trade secrets exception; penalty for disclosure of confidential information

Any records, reports, or information obtained under this section (1) shall, in the case of effluent data, be related to any applicable effluent limitations, toxic, pretreatment, or new source performance standards, and (2) shall be available to the public, except that upon a showing satisfactory to the Administrator by any person that records, reports, or information, or particular part thereof (other than effluent data), to which the Administrator has access under this section, if made public would divulge methods or processes entitled to protection as trade secrets of such person, the Administrator shall consider such record, report, or information, or particular portion thereof confidential in accordance with the purposes

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of section 1905 of Title 18. Any authorized representative of the Administrator (including an authorized contractor acting as a representative of the Administrator) who knowingly or willfully publishes, divulges, discloses, or makes known in any manner or to any extent not authorized by law any information which is required to be considered confidential under this subsection shall be fined not more than $1,000 or imprisoned not more than 1 year, or both. Nothing in this subsection shall prohibit the Administrator or an authorized representative of the Administrator (including any authorized contractor acting as a representative of the Administrator) from disclosing records, reports, or information to other officers, employees, or authorized representatives of the United States concerned with carrying out this chapter or when relevant in any proceeding under this chapter.

(c) Application of State law

Each State may develop and submit to the Administrator procedures under State law for inspection, monitoring, and entry with respect to point sources located in such State. If the Administrator finds that the procedures and the law of any State relating to inspection, monitoring, and entry are applicable to at least the same extent as those required by this section, such State is authorized to apply and enforce its procedures for inspection, monitoring, and entry with respect to point sources located in such State (except with respect to point sources owned or operated by the United States).

(d) Access by Congress

Notwithstanding any limitation contained in this section or any other provision of law, all information reported to or otherwise obtained by the Administrator (or any representative of the Administrator) under this chapter shall be made available, upon written request of any duly authorized committee of Congress, to such committee.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 308, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 858; amended Pub.L. 95-217, § 67(c)(1), Dec. 27, 1977, 91 Stat. 1606; Pub.L. 100-4, Title III, § 310, Title IV, § 406(d)(1), Feb. 4, 1987, 101 Stat. 41, 73.)

Notes of Decisions (21)

33 U.S.C.A. § 1318, 33 USCA § 1318
Current through P.L. 115-171.

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ATTACHMENT A-5

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter IV. Permits and Licenses (Refs & Annos)

33 U.S.C.A. § 1342

§ 1342. National pollutant discharge elimination system

Effective: February 7, 2014
Currentness

(a) Permits for discharge of pollutants

(1) Except as provided in sections 1328 and 1344 of this title, the Administrator may, after opportunity for public hearing issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable requirements under sections 1311, 1312, 1316, 1317, 1318, and 1343 of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.

(2) The Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.

(3) The permit program of the Administrator under paragraph (1) of this subsection, and permits issued thereunder, shall be subject to the same terms, conditions, and requirements as apply to a State permit program and permits issued thereunder under subsection (b) of this section.

(4) All permits for discharges into the navigable waters issued pursuant to section 407 of this title shall be deemed to be permits issued under this subchapter, and permits issued under this subchapter shall be deemed to be permits issued under section 407 of this title, and shall continue in force and effect for their term unless revoked, modified, or suspended in accordance with the provisions of this chapter.

(5) No permit for a discharge into the navigable waters shall be issued under section 407 of this title after October 18, 1972. Each application for a permit under section 407 of this title, pending on October 18, 1972, shall be deemed to be an application for a permit under this section. The Administrator shall authorize a State, which he determines has the capability of administering a permit program which will carry out the objectives of this chapter to issue permits for discharges into the navigable waters within the jurisdiction of such State. The Administrator may exercise the authority granted him by the preceding sentence only during the period which begins on October 18, 1972, and ends either on the ninetieth day after the date of the first promulgation of guidelines required by section 1314(i)(2) of this title, or the date of approval by the Administrator of a permit program for such State under subsection (b) of this section, whichever date first occurs, and no such authorization to a State shall extend beyond the last day of such period. Each such permit shall

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be subject to such conditions as the Administrator determines are necessary to carry out the provisions of this chapter. No such permit shall issue if the Administrator objects to such issuance.

(b) State permit programs

At any time after the promulgation of the guidelines required by subsection (i)(2) of section 1314 of this title, the Governor of each State desiring to administer its own permit program for discharges into navigable waters within its jurisdiction may submit to the Administrator a full and complete description of the program it proposes to establish and administer under State law or under an interstate compact. In addition, such State shall submit a statement from the attorney general (or the attorney for those State water pollution control agencies which have independent legal counsel), or from the chief legal officer in the case of an interstate agency, that the laws of such State, or the interstate compact, as the case may be, provide adequate authority to carry out the described program. The Administrator shall approve each submitted program unless he determines that adequate authority does not exist:

(1) To issue permits which--

(A) apply, and insure compliance with, any applicable requirements of sections 1311, 1312, 1316, 1317, and 1343 of this title;

(B) are for fixed terms not exceeding five years; and

(C) can be terminated or modified for cause including, but not limited to, the following:

(i) violation of any condition of the permit;

(ii) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts;

(iii) change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(D) control the disposal of pollutants into wells;

(2)(A) To issue permits which apply, and insure compliance with, all applicable requirements of section 1318 of this title; or

(B) To inspect, monitor, enter, and require reports to at least the same extent as required in section 1318 of this title;

(3) To insure that the public, and any other State the waters of which may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application;

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(4) To insure that the Administrator receives notice of each application (including a copy thereof) for a permit;

(5) To insure that any State (other than the permitting State), whose waters may be affected by the issuance of a permit may submit written recommendations to the permitting State (and the Administrator) with respect to any permit application and, if any part of such written recommendations are not accepted by the permitting State, that the permitting State will notify such affected State (and the Administrator) in writing of its failure to so accept such recommendations together with its reasons for so doing;

(6) To insure that no permit will be issued if, in the judgment of the Secretary of the Army acting through the Chief of Engineers, after consultation with the Secretary of the department in which the Coast Guard is operating, anchorage and navigation of any of the navigable waters would be substantially impaired thereby;

(7) To abate violations of the permit or the permit program, including civil and criminal penalties and other ways and means of enforcement;

(8) To insure that any permit for a discharge from a publicly owned treatment works includes conditions to require the identification in terms of character and volume of pollutants of any significant source introducing pollutants subject to pretreatment standards under section 1317(b) of this title into such works and a program to assure compliance with such pretreatment standards by each such source, in addition to adequate notice to the permitting agency of (A) new introductions into such works of pollutants from any source which would be a new source as defined in section 1316 of this title if such source were discharging pollutants, (B) new introductions of pollutants into such works from a source which would be subject to section 1311 of this title if it were discharging such pollutants, or (C) a substantial change in volume or character of pollutants being introduced into such works by a source introducing pollutants into such works at the time of issuance of the permit. Such notice shall include information on the quality and quantity of effluent to be introduced into such treatment works and any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works; and

(9) To insure that any industrial user of any publicly owned treatment works will comply with sections 1284(b), 1317, and 1318 of this title.

(c) Suspension of Federal program upon submission of State program; withdrawal of approval of State program; return of State program to Administrator

(1) Not later than ninety days after the date on which a State has submitted a program (or revision thereof) pursuant to subsection (b) of this section, the Administrator shall suspend the issuance of permits under subsection (a) of this section as to those discharges subject to such program unless he determines that the State permit program does not meet the requirements of subsection (b) of this section or does not conform to the guidelines issued under section 1314(i)(2) of this title. If the Administrator so determines, he shall notify the State of any revisions or modifications necessary to conform to such requirements or guidelines.

(2) Any State permit program under this section shall at all times be in accordance with this section and guidelines promulgated pursuant to section 1314(i)(2) of this title.

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(3) Whenever the Administrator determines after public hearing that a State is not administering a program approved under this section in accordance with requirements of this section, he shall so notify the State and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw approval of such program. The Administrator shall not withdraw approval of any such program unless he shall first have notified the State, and made public, in writing, the reasons for such withdrawal.

(4) Limitations on partial permit program returns and withdrawals

A State may return to the Administrator administration, and the Administrator may withdraw under paragraph (3) of this subsection approval, of--

(A) a State partial permit program approved under subsection (n)(3) only if the entire permit program being administered by the State department or agency at the time is returned or withdrawn; and

(B) a State partial permit program approved under subsection (n)(4) only if an entire phased component of the permit program being administered by the State at the time is returned or withdrawn.

(d) Notification of Administrator

(1) Each State shall transmit to the Administrator a copy of each permit application received by such State and provide notice to the Administrator of every action related to the consideration of such permit application, including each permit proposed to be issued by such State.

(2) No permit shall issue (A) if the Administrator within ninety days of the date of his notification under subsection (b)(5) of this section objects in writing to the issuance of such permit, or (B) if the Administrator within ninety days of the date of transmittal of the proposed permit by the State objects in writing to the issuance of such permit as being outside the guidelines and requirements of this chapter. Whenever the Administrator objects to the issuance of a permit under this paragraph such written objection shall contain a statement of the reasons for such objection and the effluent limitations and conditions which such permit would include if it were issued by the Administrator.

(3) The Administrator may, as to any permit application, waive paragraph (2) of this subsection.

(4) In any case where, after December 27, 1977, the Administrator, pursuant to paragraph (2) of this subsection, objects to the issuance of a permit, on request of the State, a public hearing shall be held by the Administrator on such objection. If the State does not resubmit such permit revised to meet such objection within 30 days after completion of the hearing, or, if no hearing is requested within 90 days after the date of such objection, the Administrator may issue the permit pursuant to subsection (a) of this section for such source in accordance with the guidelines and requirements of this chapter.

(e) Waiver of notification requirement

In accordance with guidelines promulgated pursuant to subsection (i)(2) of section 1314 of this title, the Administrator is authorized to waive the requirements of subsection (d) of this section at the time he approves a program pursuant to

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subsection (b) of this section for any category (including any class, type, or size within such category) of point sources within the State submitting such program.

(f) Point source categories

The Administrator shall promulgate regulations establishing categories of point sources which he determines shall not be subject to the requirements of subsection (d) of this section in any State with a program approved pursuant to subsection (b) of this section. The Administrator may distinguish among classes, types, and sizes within any category of point sources.

(g) Other regulations for safe transportation, handling, carriage, storage, and stowage of pollutants

Any permit issued under this section for the discharge of pollutants into the navigable waters from a vessel or other floating craft shall be subject to any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

(h) Violation of permit conditions; restriction or prohibition upon introduction of pollutant by source not previously utilizing treatment works

In the event any condition of a permit for discharges from a treatment works (as defined in section 1292 of this title) which is publicly owned is violated, a State with a program approved under subsection (b) of this section or the Administrator, where no State program is approved or where the Administrator determines pursuant to section 1319(a) of this title that a State with an approved program has not commenced appropriate enforcement action with respect to such permit, may proceed in a court of competent jurisdiction to restrict or prohibit the introduction of any pollutant into such treatment works by a source not utilizing such treatment works prior to the finding that such condition was violated.

(i) Federal enforcement not limited

Nothing in this section shall be construed to limit the authority of the Administrator to take action pursuant to section 1319 of this title.

(j) Public information

A copy of each permit application and each permit issued under this section shall be available to the public. Such permit application or permit, or portion thereof, shall further be available on request for the purpose of reproduction.

(k) Compliance with permits

Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of sections 1319 and 1365 of this title, with sections 1311, 1312, 1316, 1317, and 1343 of this title, except any standard imposed under section 1317 of this title for a toxic pollutant injurious to human health. Until December 31, 1974, in any case where a permit for discharge has been applied for pursuant to this section, but final administrative disposition of such application has not been made, such discharge shall not be a violation of (1) section 1311, 1316, or 1342 of this title, or (2) section 407 of this title, unless the Administrator or other plaintiff proves that final administrative disposition of such application

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has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application. For the 180-day period beginning on October 18, 1972, in the case of any point source discharging any pollutant or combination of pollutants immediately prior to such date which source is not subject to section 407 of this title, the discharge by such source shall not be a violation of this chapter if such a source applies for a permit for discharge pursuant to this section within such 180-day period.

(l) Limitation on permit requirement

(1) Agricultural return flows

The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit.

(2) Stormwater runoff from oil, gas, and mining operations

The Administrator shall not require a permit under this section, nor shall the Administrator directly or indirectly require any State to require a permit, for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

(3) Silvicultural activities

(A) NPDES permit requirements for silvicultural activities

The Administrator shall not require a permit under this section nor directly or indirectly require any State to require a permit under this section for a discharge from runoff resulting from the conduct of the following silviculture activities conducted in accordance with standard industry practice: nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance.

(B) Other requirements

Nothing in this paragraph exempts a discharge from silvicultural activity from any permitting requirement under section 1344 of this title, existing permitting requirements under section 1342 of this title, or from any other federal law.

(C) The authorization provided in Section [1] 1365(a) of this title does not apply to any non-permitting program established under 1342(p)(6) [2] of this title for the silviculture activities listed in 1342(l)(3)(A) [3] of this title, or to any other limitations that might be deemed to apply to the silviculture activities listed in 1342(l)(3)(A) [3] of this title.

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(m) Additional pretreatment of conventional pollutants not required

To the extent a treatment works (as defined in section 1292 of this title) which is publicly owned is not meeting the requirements of a permit issued under this section for such treatment works as a result of inadequate design or operation of such treatment works, the Administrator, in issuing a permit under this section, shall not require pretreatment by a person introducing conventional pollutants identified pursuant to section 1314(a)(4) of this title into such treatment works other than pretreatment required to assure compliance with pretreatment standards under subsection (b)(8) of this section and section 1317(b)(1) of this title. Nothing in this subsection shall affect the Administrator's authority under sections 1317 and 1319 of this title, affect State and local authority under sections 1317(b)(4) and 1370 of this title, relieve such treatment works of its obligations to meet requirements established under this chapter, or otherwise preclude such works from pursuing whatever feasible options are available to meet its responsibility to comply with its permit under this section.

(n) Partial permit program

(1) State submission

The Governor of a State may submit under subsection (b) of this section a permit program for a portion of the discharges into the navigable waters in such State.

(2) Minimum coverage

A partial permit program under this subsection shall cover, at a minimum, administration of a major category of the discharges into the navigable waters of the State or a major component of the permit program required by subsection (b).

(3) Approval of major category partial permit programs

The Administrator may approve a partial permit program covering administration of a major category of discharges under this subsection if--

(A) such program represents a complete permit program and covers all of the discharges under the jurisdiction of a department or agency of the State; and

(B) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b).

(4) Approval of major component partial permit programs

The Administrator may approve under this subsection a partial and phased permit program covering administration of a major component (including discharge categories) of a State permit program required by subsection (b) if--

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(A) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b); and

(B) the State submits, and the Administrator approves, a plan for the State to assume administration by phases of the remainder of the State program required by subsection (b) by a specified date not more than 5 years after submission of the partial program under this subsection and agrees to make all reasonable efforts to assume such administration by such date.

(o) Anti-backsliding

(1) General prohibition

In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 1314(b) of this title subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit. In the case of effluent limitations established on the basis of section 1311(b)(1)(C) or section 1313(d) or (e) of this title, a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with section 1313(d)(4) of this title.

(2) Exceptions

A permit with respect to which paragraph (1) applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if--

(A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B);

(C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) the permittee has received a permit modification under section 1311(c), 1311(g), 1311(h), 1311(i), 1311(k), 1311(n), or 1326(a) of this title; or

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(E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

Subparagraph (B) shall not apply to any revised waste load allocations or any alternative grounds for translating water quality standards into effluent limitations, except where the cumulative effect of such revised allocations results in a decrease in the amount of pollutants discharged into the concerned waters, and such revised allocations are not the result of a discharger eliminating or substantially reducing its discharge of pollutants due to complying with the requirements of this chapter or for reasons otherwise unrelated to water quality.

(3) Limitations

In no event may a permit with respect to which paragraph (1) applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, reissued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 1313 of this title applicable to such waters.

(p) Municipal and industrial stormwater discharges

(1) General rule

Prior to October 1, 1994, the Administrator or the State (in the case of a permit program approved under this section) shall not require a permit under this section for discharges composed entirely of stormwater.

(2) Exceptions

Paragraph (1) shall not apply with respect to the following stormwater discharges:

(A) A discharge with respect to which a permit has been issued under this section before February 4, 1987.

(B) A discharge associated with industrial activity.

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000.

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(E) A discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) Permit requirements

(A) Industrial discharges

Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 of this title.

(B) Municipal discharge

Permits for discharges from municipal storm sewers--

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

(4) Permit application requirements

(A) Industrial and large municipal discharges

Not later than 2 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after February 4, 1987. Not later than 4 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(B) Other municipal discharges

Not later than 4 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after February 4, 1987. Not later than 6 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

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(5) Studies

The Administrator, in consultation with the States, shall conduct a study for the purposes of--

(A) identifying those stormwater discharges or classes of stormwater discharges for which permits are not required pursuant to paragraphs (1) and (2) of this subsection;

(B) determining, to the maximum extent practicable, the nature and extent of pollutants in such discharges; and

(C) establishing procedures and methods to control stormwater discharges to the extent necessary to mitigate impacts on water quality.

Not later than October 1, 1988, the Administrator shall submit to Congress a report on the results of the study described in subparagraphs (A) and (B). Not later than October 1, 1989, the Administrator shall submit to Congress a report on the results of the study described in subparagraph (C).

(6) Regulations

Not later than October 1, 1993, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

(q) Combined sewer overflows

(1) Requirement for permits, orders, and decrees

Each permit, order, or decree issued pursuant to this chapter after December 21, 2000, for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994 (in this subsection referred to as the "CSO control policy").

(2) Water quality and designated use review guidance

Not later than July 31, 2001, and after providing notice and opportunity for public comment, the Administrator shall issue guidance to facilitate the conduct of water quality and designated use reviews for municipal combined sewer overflow receiving waters.

(3) Report

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Not later than September 1, 2001, the Administrator shall transmit to Congress a report on the progress made by the Environmental Protection Agency, States, and municipalities in implementing and enforcing the CSO control policy.

(r) Discharges incidental to the normal operation of recreational vessels

No permit shall be required under this chapter by the Administrator (or a State, in the case of a permit program approved under subsection (b)) for the discharge of any graywater, bilge water, cooling water, weather deck runoff, oil water separator effluent, or effluent from properly functioning marine engines, or any other discharge that is incidental to the normal operation of a vessel, if the discharge is from a recreational vessel.

CREDIT(S)

(June 30, 1948, c. 758, Title IV, § 402, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 880; amended Pub.L. 95-217, §§ 33(c), 50, 54(c)(1), 65, 66, Dec. 27, 1977, 91 Stat. 1577, 1588, 1591, 1599, 1600; Pub.L. 100-4, Title IV, §§ 401 to 404(a), (c), formerly (d), 405, Feb. 4, 1987, 101 Stat. 65 to 67, 69; Pub.L. 102-580, Title III, § 364, Oct. 31, 1992, 106 Stat. 4862; Pub.L. 104-66, Title II, § 2021(e)(2), Dec. 21, 1995, 109 Stat. 727; Pub.L. 106-554, § 1(a)(4) [Div. B, Title I, § 112(a)], Dec. 21, 2000, 114 Stat. 2763, 2763A-224; Pub.L. 110-288, § 2, July 29, 2008, 122 Stat. 2650; Pub.L. 113-79, Title XII, § 12313, Feb. 7, 2014, 128 Stat. 992.)

Notes of Decisions (244)

Footnotes

1 So in original. Probably should not be capitalized.

2 So in original. Probably should read “section 1342(p)(6)”.

3 So in original. Probably should read “section 1342(l)(3)(A)”.

33 U.S.C.A. § 1342, 33 USCA § 1342
Current through P.L. 115-171.

End of Document

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ATTACHMENT A-6

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter V. General Provisions

33 U.S.C.A. § 1362

§ 1362. Definitions

Effective: October 1, 2014
Currentness

Except as otherwise specifically provided, when used in this chapter:

(1) The term "State water pollution control agency" means the State agency designated by the Governor having responsibility for enforcing State laws relating to the abatement of pollution.

(2) The term "interstate agency" means an agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or any other agency of two or more States, having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator.

(3) The term "State" means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands.

(4) The term "municipality" means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 1288 of this title.

(5) The term "person" means an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body.

(6) The term "pollutant" means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. This term does not mean (A) "sewage from vessels or a discharge incidental to the normal operation of a vessel of the Armed Forces" within the meaning of section 1322 of this title; or (B) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well

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is located, and if such State determines that such injection or disposal will not result in the degradation of ground or surface water resources.

(7) The term "navigable waters" means the waters of the United States, including the territorial seas.

(8) The term "territorial seas" means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles.

(9) The term "contiguous zone" means the entire zone established or to be established by the United States under article 24 of the Convention of the Territorial Sea and the Contiguous Zone.

(10) The term "ocean" means any portion of the high seas beyond the contiguous zone.

(11) The term "effluent limitation" means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.

(12) The term "discharge of a pollutant" and the term "discharge of pollutants" each means (A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.

(13) The term "toxic pollutant" means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

(14) The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

(15) The term "biological monitoring" shall mean the determination of the effects on aquatic life, including accumulation of pollutants in tissue, in receiving waters due to the discharge of pollutants (A) by techniques and procedures, including sampling of organisms representative of appropriate levels of the food chain appropriate to the volume and the physical, chemical, and biological characteristics of the effluent, and (B) at appropriate frequencies and locations.

(16) The term "discharge" when used without qualification includes a discharge of a pollutant, and a discharge of pollutants.

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(17) The term "schedule of compliance" means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.

(18) The term "industrial user" means those industries identified in the Standard Industrial Classification Manual, Bureau of the Budget, 1967, as amended and supplemented, under the category of "Division D--Manufacturing" and such other classes of significant waste producers as, by regulation, the Administrator deems appropriate.

(19) The term "pollution" means the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

(20) The term "medical waste" means isolation wastes; infectious agents; human blood and blood products; pathological wastes; sharps; body parts; contaminated bedding; surgical wastes and potentially contaminated laboratory wastes; dialysis wastes; and such additional medical items as the Administrator shall prescribe by regulation.

(21) Coastal recreation waters

(A) In general

The term "coastal recreation waters" means--

(i) the Great Lakes; and

(ii) marine coastal waters (including coastal estuaries) that are designated under section 1313(c) of this title by a State for use for swimming, bathing, surfing, or similar water contact activities.

(B) Exclusions

The term "coastal recreation waters" does not include--

(i) inland waters; or

(ii) waters upstream of the mouth of a river or stream having an unimpaired natural connection with the open sea.

(22) Floatable material

(A) In general

The term "floatable material" means any foreign matter that may float or remain suspended in the water column.

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(B) Inclusions

The term "floatable material" includes--

(i) plastic;

(ii) aluminum cans;

(iii) wood products;

(iv) bottles; and

(v) paper products.

(23) Pathogen indicator

The term "pathogen indicator" means a substance that indicates the potential for human infectious disease.

(24) Oil and gas exploration and production

The term "oil and gas exploration, production, processing, or treatment operations or transmission facilities" means all field activities or operations associated with exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities.

(25) Recreational vessel

(A) In general

The term "recreational vessel" means any vessel that is--

(i) manufactured or used primarily for pleasure; or

(ii) leased, rented, or chartered to a person for the pleasure of that person.

(B) Exclusion

The term "recreational vessel" does not include a vessel that is subject to Coast Guard inspection and that--

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(i) is engaged in commercial use; or

(ii) carries paying passengers.

(26) Treatment works

The term "treatment works" has the meaning given the term in section 1292 of this title.

CREDIT(S)

(June 30, 1948, c. 758, Title V, § 502, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 886; amended Pub.L. 95-217, § 33(b), Dec. 27, 1977, 91 Stat. 1577; Pub.L. 100-4, Title V, §§ 502(a), 503, Feb. 4, 1987, 101 Stat. 75; Pub.L. 100-688, Title III, § 3202(a), Nov. 18, 1988, 102 Stat. 4154; Pub.L. 104-106, Div. A, Title III, § 325(c)(3), Feb. 10, 1996, 110 Stat. 259; Pub.L. 106-284, § 5, Oct. 10, 2000, 114 Stat. 875; Pub.L. 109-58, Title III, § 323, Aug. 8, 2005, 119 Stat. 694; Pub.L. 110-288, § 3, July 29, 2008, 122 Stat. 2650; Pub.L. 113-121, Title V, § 5012(b), June 10, 2014, 128 Stat. 1328.)

Notes of Decisions (211)

33 U.S.C.A. § 1362, 33 USCA § 1362
Current through P.L. 115-171.

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ATTACHMENT A-7

United States Code Annotated
Title 7. Agriculture (Refs & Annos)
Chapter 6. Insecticides and Environmental Pesticide Control (Refs & Annos)
Subchapter II. Environmental Pesticide Control (Refs & Annos)

7 U.S.C.A. § 136r-1

§ 136r-1. Integrated Pest Management

Effective: August 3, 1996
Currentness

The Secretary of Agriculture, in cooperation with the Administrator, shall implement research, demonstration, and education programs to support adoption of Integrated Pest Management. Integrated Pest Management is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. The Secretary of Agriculture and the Administrator shall make information on Integrated Pest Management widely available to pesticide users, including Federal agencies. Federal agencies shall use Integrated Pest Management techniques in carrying out pest management activities and shall promote Integrated Pest Management through procurement and regulatory policies, and other activities.

CREDIT(S)

(Pub.L. 104-170, Title III, § 303, Aug. 3, 1996, 110 Stat. 1512.)

7 U.S.C.A. § 136r-1, 7 USCA § 136r-1
Current through P.L. 115-173. Title 26 current through 115-174.

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ATTACHMENT A-8

KeyCite Yellow Flag - Negative Treatment
Unconstitutional or PreemptedPrior Version's Validity Called into Doubt by In re E.P.A., 6th Cir., Oct. 09, 2015

KeyCite Yellow Flag - Negative Treatment
Proposed Regulation

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart A. Definitions and General Program Requirements

40 C.F.R. § 122.2

§ 122.2 Definitions.

Effective: February 7, 2018
Currentness

<In re E.P.A., 803 F.3d 804, 2015 WL 5893814 (C.A.6,2015) held: "The Clean Water Rule is hereby STAYED, nationwide, pending further order of the court." See also Exec. Order No. 13778, 82 FR 12497, 2017 WL 819672(Pres.) (Feb. 28, 2017). For text of section 2(a) of Exec. Order No. 13778, see note following this section. For proposed rule proposing to add applicability dates to this section, see 82 FR 55542-01 (Nov. 22, 2017).>

The following definitions apply to parts 122, 123, and 124. Terms not defined in this section have the meaning given by CWA. When a defined term appears in a definition, the defined term is sometimes placed in quotation marks as an aid to readers.

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Animal feeding operation is defined at § 122.23.

Applicable standards and limitations means all State, interstate, and federal standards and limitations to which a "discharge," a "sewage sludge use or disposal practice," or a related activity is subject under the CWA, including "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," pretreatment standards, and "standards for sewage sludge use or disposal" under sections 301, 302, 303, 304, 306, 307, 308, 403 and 405 of CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in "approved States," including any approved modifications or revisions.

Approved program or approved State means a State or interstate program which has been approved or authorized by EPA under part 123.

Aquaculture project is defined at § 122.25.

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Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

BMPs means "best management practices."

Bypass is defined at § 122.41(m).

Class I sludge management facility means any POTW identified under 40 CFR 403.8(a) as being required to have an approved pretreatment program (including such POTWs located in a State that has elected to assume local program responsibilities pursuant to 40 CFR 403.10(e)) and any other treatment works treating domestic sewage classified as a Class I sludge management facility by the Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sludge use or disposal practices to adversely affect public health and the environment.

Combined sewer overflow (CSO) means a discharge from a combined sewer system (CSS) at a point prior to the Publicly Owned Treatment Works (POTW) Treatment Plant (defined at § 403.3(r) of this chapter).

Combined sewer system (CSS) means a wastewater collection system owned by a State or municipality (as defined by section 502(4) of the CWA) which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a Publicly Owned Treatment Works (POTW) Treatment Plant (as defined at § 403.3(r) of this chapter).

Concentrated animal feeding operation is defined at § 122.23.

Concentrated aquatic animal feeding operation is defined at § 122.24.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92–500, as amended by Pub.L. 95–217, Pub.L. 95–576, Pub.L. 96–483 and Pub.L. 97–117, 33 U.S.C. 1251 et seq.

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

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Daily discharge means the "discharge of a pollutant" measured during a calendar day or any 24–hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Direct discharge means the "discharge of a pollutant."

Director means the Regional Administrator or the State Director, as the context requires, or an authorized representative. When there is no "approved State program," and there is an EPA administered program, "Director" means the Regional Administrator. When there is an approved State program, "Director" normally means the State Director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State program. (For example, when EPA has issued an NPDES permit prior to the approval of a State program, EPA may retain jurisdiction over that permit after program approval, see § 123.1.) In such cases, the term "Director" means the Regional Administrator and not the State Director.

Discharge when used without qualification means the "discharge of a pollutant."

Discharge of a pollutant means:

(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or

(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

DMR means "Discharge Monitoring Report."

Draft permit means a document prepared under § 124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in § 124.5, are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in § 124.5, is not a "draft permit." A "proposed permit" is not a "draft permit."

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

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Effluent limitations guidelines means a regulation published by the Administrator under section 304(b) of CWA to adopt or revise "effluent limitations."

Environmental Protection Agency ("EPA") means the United States Environmental Protection Agency.

EPA means the United States "Environmental Protection Agency."

Facility or activity means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

Federal Indian reservation means all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation.

General permit means an NPDES "permit" issued under § 122.28 authorizing a category of discharges under the CWA within a geographical area.

Great Lakes Basin means the waters defined as "Great Lakes" and "Great Lakes System" as those terms are defined in § 132.2 of this chapter.

Hazardous substance means any substance designated under 40 CFR part 116 pursuant to section 311 of CWA.

Indian country means:

(1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;

(2) All dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and

(3) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

Indian Tribe means any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.

Indirect discharger means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."

Individual control strategy is defined at 40 CFR 123.46(c).

Interstate agency means an agency of two or more States established by or under an agreement or compact approved by the Congress, or any other agency of two or more States having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator under the CWA and regulations.

Major facility means any NPDES "facility or activity" classified as such by the Regional Administrator, or, in the case of "approved State programs," the Regional Administrator in conjunction with the State Director.

Maximum daily discharge limitation means the highest allowable "daily discharge."

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Municipal separate storm sewer system is defined at § 122.26 (b)(4) and (b)(7).

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of CWA.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA. The term includes an "approved program."

New discharger means any building, structure, facility, or installation:

(a) From which there is or may be a "discharge of pollutants;"

(b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;

(c) Which is not a "new source;" and

(d) Which has never received a finally effective NDPES permit for discharges at that "site."

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be an area or biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in 40 CFR 125.122(a)(1) through (10).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:

(a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or

(b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System."

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of this part and parts 123 and 124. "Permit" includes an NPDES "general permit" (§ 122.28).

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Permit does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. (See § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

NOTE: Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes. See Train v. Colorado Public Interest Research Group, Inc., 426 U.S. 1 (1976).

POTW is defined at § 403.3 of this chapter.

Primary industry category means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D.D.C. 1979)); also listed in appendix A of part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) not a "POTW."

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Proposed permit means a State NPDES "permit" prepared after the close of the public comment period (and, when applicable, any public hearing and administrative appeals) which is sent to EPA for review before final issuance by the State. A "proposed permit" is not a "draft permit."

Publicly owned treatment works is defined at 40 CFR 403.3.

Recommencing discharger means a source which recommences discharge after terminating operations.

Regional Administrator means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator.

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Schedule of compliance means a schedule of remedial measures included in a "permit", including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the CWA and regulations.

Secondary industry category means any industry category which is not a "primary industry category."

Secretary means the Secretary of the Army, acting through the Chief of Engineers.

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage from vessels means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels and regulated under section 312 of CWA, except that with respect to commercial vessels on the Great Lakes this term includes graywater. For the purposes of this definition, "graywater" means galley, bath, and shower water.

Sewage Sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced waste water treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 CFR part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Silvicultural point source is defined at § 122.27.

Site means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA and is required to obtain a permit under § 122.1(b)(2).

Standards for sewage sludge use or disposal means the regulations promulgated pursuant to section 405(d) of the CWA which govern minimum requirements for sludge quality, management practices, and monitoring and reporting applicable to sewage sludge or the use or disposal of sewage sludge by any person.

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in these regulations which meets the requirements of § 123.31 of this chapter.

State Director means the chief administrative officer of any State or interstate agency operating an "approved program," or the delegated representative of the State Director. If responsibility is divided among two or more State or interstate agencies, "State Director" means the chief administrative officer of the State or interstate agency authorized to perform the particular procedure or function to which reference is made.

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State/EPA Agreement means an agreement between the Regional Administrator and the State which coordinates EPA and State activities, responsibilities and programs including those under the CWA programs.

Storm water is defined at § 122.26(b)(13).

Storm water discharge associated with industrial activity is defined at § 122.26(b)(14).

Total dissolved solids means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR part 136.

Toxic pollutant means any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or waste water treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices. For purposes of this definition, "domestic sewage" includes waste and waste water from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR part 503 as a "treatment works treating domestic sewage," where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR part 503.

TWTDS means "treatment works treating domestic sewage."

Upset is defined at § 122.41(n).

Variance means any mechanism or provision under section 301 or 316 of CWA or under 40 CFR part 125, or in the applicable "effluent limitations guidelines" which allows modification to or waiver of the generally applicable effluent limitation requirements or time deadlines of CWA. This includes provisions which allow the establishment of alternative limitations based on fundamentally different factors or on sections 301(c), 301(g), 301(h), 301(i), or 316(a) of CWA.

Waters of the United States or waters of the U.S. means:

(1) For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (2) of this definition, the term "waters of the United States" means:

(i) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) The territorial seas;

(iv) All impoundments of waters otherwise identified as waters of the United States under this section;

(v) All tributaries, as defined in paragraph (3)(iii) of this section, of waters identified in paragraphs (1)(i) through (iii) of this section;

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(vi) All waters adjacent to a water identified in paragraphs (1)(i) through (v) of this definition, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;

(vii) All waters in paragraphs (1)(vii)(A) through (E) of this definition where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition. The waters identified in each of paragraphs (1)(vii)(A) through (E) of this definition are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(A) Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.

(B) Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.

(C) Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.

(D) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(E) Texas coastal prairie wetlands. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.

(viii) All waters located within the 100–year floodplain of a water identified in paragraphs (1)(i) through (iii) of this definition and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (1)(i) through (v) of this definition. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100–year floodplain of a water identified in (1)(i) through (iii) of this definition or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(2) The following are not “waters of the United States” even where they otherwise meet the terms of paragraphs (1)(iv) through (viii) of this definition.

(i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.]

(ii) Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

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(iii) The following ditches:

(A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

(B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

(C) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (1)(i) through (iii) of this definition.

(iv) The following features:

(A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;

(B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;

(C) Artificial reflecting pools or swimming pools created in dry land;

(D) Small ornamental waters created in dry land;

(E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

(3) In this definition, the following terms apply:

(i) Adjacent. The term adjacent means bordering, contiguous, or neighboring a water identified in paragraphs (1)(i) through (v) of this definition, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. For purposes of adjacency, an open water such as a pond or lake includes any wetlands within or abutting its ordinary high water mark. Adjacency is not limited to waters located laterally to a water identified in paragraphs (1)(i) through (v) of this definition. Adjacent waters also include all waters that connect segments of a water identified in paragraphs (1)(i) through (v) or are located at the head of a water identified in paragraphs (1)(i) through (v) of this definition and are bordering, contiguous, or neighboring such water. Waters being used for established normal farming, ranching, and silviculture activities (33 U.S.C. 1344(f)) are not adjacent.

(ii) Neighboring. The term neighboring means:

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(A) All waters located within 100 feet of the ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition. The entire water is neighboring if a portion is located within 100 feet of the ordinary high water mark;

(B) All waters located within the 100–year floodplain of a water identified in paragraphs (1)(i) through (v) of this definition and not more than 1,500 feet from the ordinary high water mark of such water. The entire water is neighboring if a portion is located within 1,500 feet of the ordinary high water mark and within the 100–year floodplain;

(C) All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (1)(i) or (iii) of this definition, and all waters within 1,500 feet of the ordinary high water mark of the Great Lakes. The entire water is neighboring if a portion is located within 1,500 feet of the high tide line or within 1,500 feet of the ordinary high water mark of the Great Lakes.

(iii) Tributary and tributaries. The terms tributary and tributaries each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (1)(iv) of this definition), to a water identified in paragraphs (1)(i) through (iii) of this definition that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark. These physical indicators demonstrate there is volume, frequency, and duration of flow sufficient to create a bed and banks and an ordinary high water mark, and thus to qualify as a tributary. A tributary can be a natural, man-altered, or man-made water and includes waters such as rivers, streams, canals, and ditches not excluded under paragraph (2) of this definition. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if, for any length, there are one or more constructed breaks (such as bridges, culverts, pipes, or dams), or one or more natural breaks (such as wetlands along the run of a stream, debris piles, boulder fields, or a stream that flows underground) so long as a bed and banks and an ordinary high water mark can be identified upstream of the break. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if it contributes flow through a water of the United States that does not meet the definition of tributary or through a non-jurisdictional water to a water identified in paragraphs (1)(i) through (iii) of this definition.

(iv) Wetlands. The term wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(v) Significant nexus. The term significant nexus means that a water, including wetlands, either alone or in combination with other similarly situated waters in the region, significantly affects the chemical, physical, or biological integrity of a water identified in paragraphs (1)(i) through (iii) of this definition. The term “in the region” means the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. For an effect to be significant, it must be more than speculative or insubstantial. Waters are similarly situated when they function alike and are sufficiently close to function together in affecting downstream waters. For purposes of determining whether or not a water has a significant nexus, the water's effect on downstream (1)(i) through (iii) waters shall be assessed by evaluating the aquatic functions identified in paragraphs (3)(v)(A) through (I) of this definition. A water has a significant nexus when any single function or combination of functions performed by the water, alone or together with similarly situated waters in the region, contributes significantly to the chemical, physical, or biological integrity of the nearest water identified in paragraphs (1)(i) through (iii) of this definition. Functions relevant to the significant nexus evaluation are the following:

(A) Sediment trapping,

(B) Nutrient recycling,

(C) Pollutant trapping, transformation, filtering, and transport,

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(D) Retention and attenuation of flood waters,

(E) Runoff storage,

(F) Contribution of flow,

(G) Export of organic matter,

(H) Export of food resources, and

(I) Provision of life cycle dependent aquatic habitat (such as foraging, feeding, nesting, breeding, spawning, or use as a nursery area) for species located in a water identified in paragraphs (1)(i) through (iii) of this definition.

(vi) Ordinary high water mark. The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(vii) High tide line. The term high tide line means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.] Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act jurisdiction remains with EPA.

Whole effluent toxicity means the aggregate toxic effect of an effluent measured directly by a toxicity test.

Note: At 45 FR 48620, July 21, 1980, the Environmental Protection Agency suspended until further notice in § 122.2, the last sentence, beginning "This exclusion applies ___" in the definition of "Waters of the United States." This revision continues that suspension. [1]

Note: Section 2(a) of Exec. Order No. 13778 provides: "The Administrator of the Environmental Protection Agency (Administrator) and the Assistant Secretary of the Army for Civil Works (Assistant Secretary) shall review the final rule entitled "Clean Water Rule: Definition of 'Waters of the United States,' " 80 Fed. Reg. 37054 (June 29, 2015), for consistency with the policy set forth in section 1 of this order and publish for notice and comment a proposed rule rescinding or revising the rule, as appropriate and consistent with law."

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(Authority: Clean Water Act (33 U.S.C. 1251 et seq.), Safe Drinking Water Act (42 U.S.C. 300f et seq.), Clean Air Act (42 U.S.C. 7401 et seq.), Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.))

Credits

[48 FR 39619, Sept. 1, 1983; 50 FR 6940, 6941, Feb. 19, 1985; 54 FR 254, Jan. 4, 1989; 54 FR 18781, May 2, 1989; 54 FR 23895, June 2, 1989; 58 FR 45037, Aug. 25, 1993; 58 FR 67980, Dec. 22, 1993; 64 FR 42462, Aug. 4, 1999; 64 FR 43426, Aug. 10, 1999; 65 FR 30905, May 15, 2000; 80 FR 37114, June 29, 2015; 83 FR 730, Jan. 8, 2018; 83 FR 5208, Feb. 6, 2018]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (98)

Current through May 24, 2018; 83 FR 24044.

Footnotes

1 Editorial Note: The words “This revision” refer to the document published at 48 FR 14153, Apr. 1, 1983.

End of Document

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ATTACHMENT A-9

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart A. Definitions and General Program Requirements

40 C.F.R. § 122.6

§ 122.6 Continuation of expiring permits.

Currentness

(a) EPA permits. When EPA is the permit-issuing authority, the conditions of an expired permit continue in force under 5 U.S.C. 558(c) until the effective date of a new permit (see § 124.15) if:

(1) The permittee has submitted a timely application under § 122.21 which is a complete (under § 122.21(e)) application for a new permit; and

(2) The Regional Administrator, through no fault of the permittee does not issue a new permit with an effective date under § 124.15 on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resource constraints).

(b) Effect. Permits continued under this section remain fully effective and enforceable.

(c) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit the Regional Administrator may choose to do any or all of the following:

(1) Initiate enforcement action based upon the permit which has been continued;

(2) Issue a notice of intent to deny the new permit under § 124.6. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) Issue a new permit under part 124 with appropriate conditions; or

(4) Take other actions authorized by these regulations.

(d) State continuation. (1) An EPA-issued permit does not continue in force beyond its expiration date under Federal law if at that time a State is the permitting authority. States authorized to administer the NPDES program may continue

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either EPA or State-issued permits until the effective date of the new permits, if State law allows. Otherwise, the facility or activity is operating without a permit from the time of expiration of the old permit to the effective date of the State-issued new permit.

Credits

[50 FR 6940, Feb. 19, 1985]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (15)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-10

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart B. Permit Application and Special NPDES Program Requirements

40 C.F.R. § 122.21

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).

Effective: February 7, 2018
Currentness

(a) Duty to apply.

(1) Any person who discharges or proposes to discharge pollutants or who owns or operates a "sludge-only facility" whose sewage sludge use or disposal practice is regulated by part 503 of this chapter, and who does not have an effective permit, except persons covered by general permits under § 122.28, excluded under § 122.3, or a user of a privately owned treatment works unless the Director requires otherwise under § 122.44(m), must submit a complete application to the Director in accordance with this section and part 124 of this chapter. The requirements for concentrated animal feeding operations are described in § 122.23(d).

(2) Application Forms:

(i) All applicants for EPA–issued permits must submit applications on EPA permit application forms. More than one application form may be required from a facility depending on the number and types of discharges or outfalls found there. Application forms may be obtained by contacting the EPA water resource center at (202) 260–7786 or Water Resource Center, U.S. EPA, Mail Code 4100, 1200 Pennsylvania Ave., NW., Washington, DC 20460 or at the EPA Internet site www.epa.gov/owm/npdes.htm. Applications for EPA–issued permits must be submitted as follows:

(A) All applicants, other than POTWs and TWTDS, must submit Form 1.

(B) Applicants for new and existing POTWs must submit the information contained in paragraph (j) of this section using Form 2A or other form provided by the director.

(C) Applicants for concentrated animal feeding operations or aquatic animal production facilities must submit Form 2B.

(D) Applicants for existing industrial facilities (including manufacturing facilities, commercial facilities, mining activities, and silvicultural activities), must submit Form 2C.

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(E) Applicants for new industrial facilities that discharge process wastewater must submit Form 2D.

(F) Applicants for new and existing industrial facilities that discharge only nonprocess wastewater must submit Form 2E.

(G) Applicants for new and existing facilities whose discharge is composed entirely of storm water associated with industrial activity must submit Form 2F, unless exempted by § 122.26(c)(1)(ii). If the discharge is composed of storm water and non-storm water, the applicant must also submit, Forms 2C, 2D, and/or 2E, as appropriate (in addition to Form 2F).

(H) Applicants for new and existing TWTDS, subject to paragraph (c)(2)(i) of this section must submit the application information required by paragraph (q) of this section, using Form 2S or other form provided by the director.

(ii) The application information required by paragraph (a)(2)(i) of this section may be electronically submitted if such method of submittal is approved by EPA or the Director.

(iii) Applicants can obtain copies of these forms by contacting the Water Management Divisions (or equivalent division which contains the NPDES permitting function) of the EPA Regional Offices. The Regional Offices' addresses can be found at § 1.7 of this chapter.

(iv) Applicants for State-issued permits must use State forms which must require at a minimum the information listed in the appropriate paragraphs of this section.

(b) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.

(c) Time to apply.

(1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity. Facilities described under § 122.26(b)(14)(x) or (b)(15)(i) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and § 122.26(c)(1)(i)(G) and (c)(1)(ii).

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(2) Permits under section 405(f) of CWA. All TWTDS whose sewage sludge use or disposal practices are regulated by part 503 of this chapter must submit permit applications according to the applicable schedule in paragraphs (c)(2)(i) or (ii) of this section.

(i) A TWTDS with a currently effective NPDES permit must submit a permit application at the time of its next NPDES permit renewal application. Such information must be submitted in accordance with paragraph (d) of this section.

(ii) Any other TWTDS not addressed under paragraph (c)(2)(i) of this section must submit the information listed in paragraphs (c)(2)(ii)(A) through (E) of this section to the Director within 1 year after publication of a standard applicable to its sewage sludge use or disposal practice(s), using Form 2S or another form provided by the Director. The Director will determine when such TWTDS must submit a full permit application.

(A) The TWTDS's name, mailing address, location, and status as federal, State, private, public or other entity;

(B) The applicant's name, address, telephone number, and ownership status;

(C) A description of the sewage sludge use or disposal practices. Unless the sewage sludge meets the requirements of paragraph (q)(8)(iv) of this section, the description must include the name and address of any facility where sewage sludge is sent for treatment or disposal, and the location of any land application sites;

(D) Annual amount of sewage sludge generated, treated, used or disposed (estimated dry weight basis); and

(E) The most recent data the TWTDS may have on the quality of the sewage sludge.

(iii) Notwithstanding paragraphs (c)(2)(i) or (ii) of this section, the Director may require permit applications from any TWTDS at any time if the Director determines that a permit is necessary to protect public health and the environment from any potential adverse effects that may occur from toxic pollutants in sewage sludge.

(iv) Any TWTDS that commences operations after promulgation of an applicable “standard for sewage sludge use or disposal” must submit an application to the Director at least 180 days prior to the date proposed for commencing operations.

(d) Duty to reapply.

(1) Any POTW with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

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(2) All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires, except that:

(i) The Regional Administrator may grant permission to submit an application later than the deadline for submission otherwise applicable, but no later than the permit expiration date; and

(3) [Reserved]

(e) Completeness.

(1) The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity. For EPA administered NPDES programs, an application which is reviewed under § 124.3 of this chapter is complete when the Director receives either a complete application or the information listed in a notice of deficiency.

(2) A permit application shall not be considered complete if a permitting authority has waived application requirements under paragraphs (j) or (q) of this section and EPA has disapproved the waiver application. If a waiver request has been submitted to EPA more than 210 days prior to permit expiration and EPA has not disapproved the waiver application 181 days prior to permit expiration, the permit application lacking the information subject to the waiver application shall be considered complete.

(3) Except as specified in 122.21(e)(3)(ii), a permit application shall not be considered complete unless all required quantitative data are collected in accordance with sufficiently sensitive analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O.

(i) For the purposes of this requirement, a method approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O is “sufficiently sensitive” when:

(A) The method minimum level (ML) is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter; or

(B) The method ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

(C) The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

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Note to paragraph (e)(3)(i): Consistent with 40 CFR part 136, applicants have the option of providing matrix or sample specific minimum levels rather than the published levels. Further, where an applicant can demonstrate that, despite a good faith effort to use a method that would otherwise meet the definition of "sufficiently sensitive", the analytical results are not consistent with the QA/QC specifications for that method, then the Director may determine that the method is not performing adequately and the applicant should select a different method from the remaining EPA–approved methods that is sufficiently sensitive consistent with 40 CFR 122.21(e)(3)(i). Where no other EPA–approved methods exist, the applicant should select a method consistent with 40 CFR 122.21(e)(3)(ii).

(ii) When there is no analytical method that has been approved under 40 CFR part 136, required under 40 CFR chapter I, subchapter N or O, and is not otherwise required by the Director, the applicant may use any suitable method but shall provide a description of the method. When selecting a suitable method, other factors such as a method's precision, accuracy, or resolution, may be considered when assessing the performance of the method.

(f) Information requirements. All applicants for NPDES permits, other than POTWs and other TWTDS, must provide the following information to the Director, using the application form provided by the Director. Additional information required of applicants is set forth in paragraphs (g) through (k) of this section.

(1) The activities conducted by the applicant which require it to obtain an NPDES permit.

(2) Name, mailing address, and location of the facility for which the application is submitted.

(3) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(5) Whether the facility is located on Indian lands.

(6) A listing of all permits or construction approvals received or applied for under any of the following programs:

(i) Hazardous Waste Management program under RCRA.

(ii) UIC program under SDWA.

(iii) NPDES program under CWA.

(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(v) Nonattainment program under the Clean Air Act.

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(vi) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(vii) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

(viii) Dredge or fill permits under section 404 of CWA.

(ix) Other relevant environmental permits, including State permits.

(7) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.

(8) A brief description of the nature of the business.

(g) Application requirements for existing manufacturing, commercial, mining, and silvicultural dischargers. Existing manufacturing, commercial mining, and silvicultural dischargers applying for NPDES permits, except for those facilities subject to the requirements of § 122.21(h), shall provide the following information to the Director, using application forms provided by the Director.

(1) Outfall location. The latitude and longitude to the nearest 15 seconds and the name of the receiving water.

(2) Line drawing. A line drawing of the water flow through the facility with a water balance, showing operations contributing wastewater to the effluent and treatment units. Similar processes, operations, or production areas may be indicated as a single unit, labeled to correspond to the more detailed identification under paragraph (g)(3) of this section. The water balance must show approximate average flows at intake and discharge points and between units, including treatment units. If a water balance cannot be determined (for example, for certain mining activities), the applicant may provide instead a pictorial description of the nature and amount of any sources of water and any collection and treatment measures.

(3) Average flows and treatment. A narrative identification of each type of process, operation, or production area which contributes wastewater to the effluent for each outfall, including process wastewater, cooling water, and stormwater runoff; the average flow which each process contributes; and a description of the treatment the wastewater receives, including the ultimate disposal of any solid or fluid wastes other than by discharge. Processes, operations, or production areas may be described in general terms (for example, “dye-making reactor”, “distillation tower”). For a privately owned treatment works, this information shall include the identity of each user of the treatment works. The average flow of point sources composed of storm water may be estimated. The basis for the rainfall event and the method of estimation must be indicated.

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(4) Intermittent flows. If any of the discharges described in paragraph (g)(3) of this section are intermittent or seasonal, a description of the frequency, duration and flow rate of each discharge occurrence (except for stormwater runoff, spillage or leaks).

(5) Maximum production. If an effluent guideline promulgated under section 304 of CWA applies to the applicant and is expressed in terms of production (or other measure of operation), a reasonable measure of the applicant's actual production reported in the units used in the applicable effluent guideline. The reported measure must reflect the actual production of the facility as required by § 122.45(b)(2).

(6) Improvements. If the applicant is subject to any present requirements or compliance schedules for construction, upgrading or operation of waste treatment equipment, an identification of the abatement requirement, a description of the abatement project, and a listing of the required and projected final compliance dates.

(7) Effluent characteristics.

(i) Information on the discharge of pollutants specified in this paragraph (g)(7) (except information on storm water discharges which is to be provided as specified in § 122.26). When "quantitative data" for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under Part 136 of this chapter unless use of another method is required for the pollutant under 40 CFR subchapters N or O. When no analytical method is approved under Part 136 or required under subchapters N or O, the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that quantitative data as applying to the substantially identical outfall. The requirements in paragraphs (g)(7)(vi) and (vii) of this section state that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. When paragraph (g)(7) of this section requires analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including E. coli), and Enterococci (previously known as fecal streptococcus at § 122.26 (d)(2)(iii)(A)(3)), or volatile organics, grab samples must be collected for those pollutants. For all other pollutants, a 24–hour composite sample, using a minimum of four (4) grab samples, must be used unless specified otherwise at 40 CFR Part 136. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. Results of analyses of individual grab samples for any parameter may be averaged to obtain the daily average. Grab samples that are not required to be analyzed immediately (see Table II at 40 CFR 136.3 (e)) may be composited in the laboratory, provided that container, preservation, and holding time requirements are met (see Table II at 40 CFR 136.3 (e)) and that sample integrity is not compromised by compositing.

(ii) Storm water discharges. For storm water discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area. For all applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge.

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The flow-weighted composite sample for a storm water discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes (applicants submitting permit applications for storm water discharges under § 122.26(d) may collect flow-weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director). However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first thirty minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in § 122.26(c)(1). For all storm water permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in § 122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under part 136 of this chapter, and additional time for submitting data on a case-by-case basis. An applicant is expected to "know or have reason to believe" that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

(iii) Reporting requirements. Every applicant must report quantitative data for every outfall for the following pollutants:

Biochemical Oxygen Demand (BOD5)

Chemical Oxygen Demand

Total Organic Carbon

Total Suspended Solids

Ammonia (as N)

Temperature (both winter and summer)

pH

(iv) The Director may waive the reporting requirements for individual point sources or for a particular industry category for one or more of the pollutants listed in paragraph (g)(7)(iii) of this section if the applicant has demonstrated that such a waiver is appropriate because information adequate to support issuance of a permit can be obtained with less stringent requirements.

(v) Each applicant with processes in one or more primary industry category (see appendix A of this part) contributing to a discharge must report quantitative data for the following pollutants in each outfall containing process wastewater:

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(A) The organic toxic pollutants in the fractions designated in table I of appendix D of this part for the applicant's industrial category or categories unless the applicant qualifies as a small business under paragraph (g)(8) of this section. Table II of appendix D of this part lists the organic toxic pollutants in each fraction. The fractions result from the sample preparation required by the analytical procedure which uses gas chromatography/mass spectrometry. A determination that an applicant falls within a particular industrial category for the purposes of selecting fractions for testing is not conclusive as to the applicant's inclusion in that category for any other purposes. See Notes 2, 3, and 4 of this section.

(B) The pollutants listed in table III of appendix D of this part (the toxic metals, cyanide, and total phenols).

(vi)(A) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table IV of appendix D of this part (certain conventional and nonconventional pollutants) is discharged from each outfall. If an applicable effluent limitations guideline either directly limits the pollutant or, by its express terms, indirectly limits the pollutant through limitations on an indicator, the applicant must report quantitative data. For every pollutant discharged which is not so limited in an effluent limitations guideline, the applicant must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

(B) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants listed in table II or table III of appendix D of this part (the toxic pollutants and total phenols) for which quantitative data are not otherwise required under paragraph (g)(7)(v) of this section are discharged from each outfall. For every pollutant expected to be discharged in concentrations of 10 ppb or greater the applicant must report quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2–methyl–4, 6 dinitrophenol, where any of these four pollutants are expected to be discharged in concentrations of 100 ppb or greater the applicant must report quantitative data. For every pollutant expected to be discharged in concentrations less than 10 ppb, or in the case of acrolein, acrylonitrile, 2,4 dinitrophenol, and 2–methyl–4, 6 dinitrophenol, in concentrations less than 100 ppb, the applicant must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged. An applicant qualifying as a small business under paragraph (g)(8) of this section is not required to analyze for pollutants listed in table II of appendix D of this part (the organic toxic pollutants).

(vii) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table V of appendix D of this part (certain hazardous substances and asbestos) are discharged from each outfall. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any quantitative data it has for any pollutant.

(viii) Each applicant must report qualitative data, generated using a screening procedure not calibrated with analytical standards, for 2,3,7,8–tetrachlorodibenzo–p–dioxin (TCDD) if it:

(A) Uses or manufactures 2,4,5–trichlorophenoxy acetic acid (2,4,5,–T); 2–(2,4,5–trichlorophenoxy) propanoic acid (Silvex, 2,4,5,–TP); 2–(2,4,5–trichlorophenoxy) ethyl, 2,2–dichloropropionate (Erbon); O,O–dimethyl O–(2,4,5–trichlorophenyl) phosphorothioate (Ronnel); 2,4,5–trichlorophenol (TCP); or hexachlorophene (HCP); or

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(B) Knows or has reason to believe that TCDD is or may be present in an effluent.

(8) Small business exemption. An application which qualifies as a small business under one of the following criteria is exempt from the requirements in paragraph (g)(7)(v)(A) or (g)(7)(vi)(A) of this section to submit quantitative data for the pollutants listed in table II of appendix D of this part (the organic toxic pollutants):

(i) For coal mines, a probable total annual production of less than 100,000 tons per year.

(ii) For all other applicants, gross total annual sales averaging less than $100,000 per year (in second quarter 1980 dollars).

(9) Used or manufactured toxics. A listing of any toxic pollutant which the applicant currently uses or manufactures as an intermediate or final product or byproduct. The Director may waive or modify this requirement for any applicant if the applicant demonstrates that it would be unduly burdensome to identify each toxic pollutant and the Director has adequate information to issue the permit.

(10) [Reserved]

(11) Biological toxicity tests. An identification of any biological toxicity tests which the applicant knows or has reason to believe have been made within the last 3 years on any of the applicant's discharges or on a receiving water in relation to a discharge.

(12) Contract analyses. If a contract laboratory or consulting firm performed any of the analyses required by paragraph (g)(7) of this section, the identity of each laboratory or firm and the analyses performed.

(13) Additional information. In addition to the information reported on the application form, applicants shall provide to the Director, at his or her request, such other information as the Director may reasonably require to assess the discharges of the facility and to determine whether to issue an NPDES permit. The additional information may include additional quantitative data and bioassays to assess the relative toxicity of discharges to aquatic life and requirements to determine the cause of the toxicity.

(h) Application requirements for manufacturing, commercial, mining and silvicultural facilities which discharge only non-process wastewater. Except for stormwater discharges, all manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits which discharge only non-process wastewater not regulated by an effluent limitations guideline or new source performance standard shall provide the following information to the Director, using application forms provided by the Director:

(1) Outfall location. Outfall number, latitude and longitude to the nearest 15 seconds, and the name of the receiving water.

(2) Discharge date (for new dischargers). Date of expected commencement of discharge.

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(3) Type of waste. An identification of the general type of waste discharged, or expected to be discharged upon commencement of operations, including sanitary wastes, restaurant or cafeteria wastes, or noncontact cooling water. An identification of cooling water additives (if any) that are used or expected to be used upon commencement of operations, along with their composition if existing composition is available.

(4) Effluent characteristics.

(i) Quantitative data for the pollutants or parameters listed below, unless testing is waived by the Director. The quantitative data may be data collected over the past 365 days, if they remain representative of current operations, and must include maximum daily value, average daily value, and number of measurements taken. The applicant must collect and analyze samples in accordance with 40 CFR Part 136. When analysis of pH, temperature, residual chlorine, oil and grease, or fecal coliform (including E. coli), and Enterococci (previously known as fecal streptococcus) and volatile organics is required in paragraphs (h)(4)(i)(A) through (K) of this section, grab samples must be collected for those pollutants. For all other pollutants, a 24–hour composite sample, using a minimum of four (4) grab samples, must be used unless specified otherwise at 40 CFR Part 136. For a composite sample, only one analysis of the composite of aliquots is required. New dischargers must include estimates for the pollutants or parameters listed below instead of actual sampling data, along with the source of each estimate. All levels must be reported or estimated as concentration and as total mass, except for flow, pH, and temperature.

(A) Biochemical Oxygen Demand (BOD_5).

(B) Total Suspended Solids (TSS).

(C) Fecal Coliform (if believed present or if sanitary waste is or will be discharged).

(D) Total Residual Chlorine (if chlorine is used).

(E) Oil and Grease.

(F) Chemical Oxygen Demand (COD) (if non-contact cooling water is or will be discharged).

(G) Total Organic Carbon (TOC) (if non-contact cooling water is or will be discharged).

(H) Ammonia (as N).

(I) Discharge Flow.

(J) pH.

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(K) Temperature (Winter and Summer).

(ii) The Director may waive the testing and reporting requirements for any of the pollutants or flow listed in paragraph (h)(4)(i) of this section if the applicant submits a request for such a waiver before or with his application which demonstrates that information adequate to support issuance of a permit can be obtained through less stringent requirements.

(iii) If the applicant is a new discharger, he must complete and submit Item IV of Form 2e (see § 122.21(h)(4)) by providing quantitative data in accordance with that section no later than two years after commencement of discharge. However, the applicant need not complete those portions of Item IV requiring tests which he has already performed and reported under the discharge monitoring requirements of his NPDES permit.

(iv) The requirements of parts i and iii of this section that an applicant must provide quantitative data or estimates of certain pollutants do not apply to pollutants present in a discharge solely as a result of their presence in intake water. However, an applicant must report such pollutants as present. Net credit may be provided for the presence of pollutants in intake water if the requirements of § 122.45(g) are met.

(5) Flow. A description of the frequency of flow and duration of any seasonal or intermittent discharge (except for stormwater runoff, leaks, or spills).

(6) Treatment system. A brief description of any system used or to be used.

(7) Optional information. Any additional information the applicant wishes to be considered, such as influent data for the purpose of obtaining "net" credits pursuant to § 122.45(g).

(8) Certification. Signature of certifying official under § 122.22.

(i) Application requirements for new and existing concentrated animal feeding operations and aquatic animal production facilities. New and existing concentrated animal feeding operations (defined in § 122.23) and concentrated aquatic animal production facilities (defined in § 122.24) shall provide the following information to the Director, using the application form provided by the Director:

(1) For concentrated animal feeding operations:

(i) The name of the owner or operator;

(ii) The facility location and mailing addresses;

(iii) Latitude and longitude of the production area (entrance to production area);

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(iv) A topographic map of the geographic area in which the CAFO is located showing the specific location of the production area, in lieu of the requirements of paragraph (f)(7) of this section;

(v) Specific information about the number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

(vi) The type of containment and storage (anaerobic lagoon, roofed storage shed, storage ponds, underfloor pits, above ground storage tanks, below ground storage tanks, concrete pad, impervious soil pad, other) and total capacity for manure, litter, and process wastewater storage (tons/gallons);

(vii) The total number of acres under control of the applicant available for land application of manure, litter, or process wastewater;

(viii) Estimated amounts of manure, litter, and process wastewater generated per year (tons/gallons);

(ix) Estimated amounts of manure, litter and process wastewater transferred to other persons per year (tons/gallons); and

(x) A nutrient management plan that at a minimum satisfies the requirements specified in § 122.42(e), including, for all CAFOs subject to 40 CFR part 412, subpart C or subpart D, the requirements of 40 CFR 412.4(c), as applicable.

(2) For concentrated aquatic animal production facilities:

(i) The maximum daily and average monthly flow from each outfall.

(ii) The number of ponds, raceways, and similar structures.

(iii) The name of the receiving water and the source of intake water.

(iv) For each species of aquatic animals, the total yearly and maximum harvestable weight.

(v) The calendar month of maximum feeding and the total mass of food fed during that month.

(j) Application requirements for new and existing POTWs. Unless otherwise indicated, all POTWs and other dischargers designated by the Director must provide, at a minimum, the information in this paragraph to the Director, using Form 2A or another application form provided by the Director. Permit applicants must submit all information available at the time of permit application. The information may be provided by referencing information previously submitted to the Director. The Director may waive any requirement of this paragraph if he or she has access to substantially identical

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information. The Director may also waive any requirement of this paragraph that is not of material concern for a specific permit, if approved by the Regional Administrator. The waiver request to the Regional Administrator must include the State's justification for the waiver. A Regional Administrator's disapproval of a State's proposed waiver does not constitute final Agency action, but does provide notice to the State and permit applicant(s) that EPA may object to any State-issued permit issued in the absence of the required information.

(1) Basic application information. All applicants must provide the following information:

(i) Facility information. Name, mailing address, and location of the facility for which the application is submitted;

(ii) Applicant information. Name, mailing address, and telephone number of the applicant, and indication as to whether the applicant is the facility's owner, operator, or both;

(iii) Existing environmental permits. Identification of all environmental permits or construction approvals received or applied for (including dates) under any of the following programs:

(A) Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA), Subpart C;

(B) Underground Injection Control program under the Safe Drinking Water Act (SDWA);

(C) NPDES program under Clean Water Act (CWA);

(D) Prevention of Significant Deterioration (PSD) program under the Clean Air Act;

(E) Nonattainment program under the Clean Air Act;

(F) National Emission Standards for Hazardous Air Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;

(G) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act;

(H) Dredge or fill permits under section 404 of the CWA; and

(I) Other relevant environmental permits, including State permits;

(iv) Population. The name and population of each municipal entity served by the facility, including unincorporated connector districts. Indicate whether each municipal entity owns or maintains the collection system and whether the collection system is separate sanitary or combined storm and sanitary, if known;

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(v) Indian country. Information concerning whether the facility is located in Indian country and whether the facility discharges to a receiving stream that flows through Indian country;

(vi) Flow rate. The facility's design flow rate (the wastewater flow rate the plant was built to handle), annual average daily flow rate, and maximum daily flow rate for each of the previous 3 years;

(vii) Collection system. Identification of type(s) of collection system(s) used by the treatment works (i.e., separate sanitary sewers or combined storm and sanitary sewers) and an estimate of the percent of sewer line that each type comprises; and

(viii) Outfalls and other discharge or disposal methods. The following information for outfalls to waters of the United States and other discharge or disposal methods:

(A) For effluent discharges to waters of the United States, the total number and types of outfalls (e.g, treated effluent, combined sewer overflows, bypasses, constructed emergency overflows);

(B) For wastewater discharged to surface impoundments:

(1) The location of each surface impoundment;

(2) The average daily volume discharged to each surface impoundment; and

(3) Whether the discharge is continuous or intermittent;

(C) For wastewater applied to the land:

(1) The location of each land application site;

(2) The size of each land application site, in acres;

(3) The average daily volume applied to each land application site, in gallons per day; and

(4) Whether land application is continuous or intermittent;

(D) For effluent sent to another facility for treatment prior to discharge:

(1) The means by which the effluent is transported;

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(2) The name, mailing address, contact person, and phone number of the organization transporting the discharge, if the transport is provided by a party other than the applicant;

(3) The name, mailing address, contact person, phone number, and NPDES permit number (if any) of the receiving facility; and

(4) The average daily flow rate from this facility into the receiving facility, in millions of gallons per day; and

(E) For wastewater disposed of in a manner not included in paragraphs (j)(1)(viii)(A) through (D) of this section (e.g., underground percolation, underground injection):

(1) A description of the disposal method, including the location and size of each disposal site, if applicable;

(2) The annual average daily volume disposed of by this method, in gallons per day; and

(3) Whether disposal through this method is continuous or intermittent;

(2) Additional Information. All applicants with a design flow greater than or equal to 0.1 mgd must provide the following information:

(i) Inflow and infiltration. The current average daily volume of inflow and infiltration, in gallons per day, and steps the facility is taking to minimize inflow and infiltration;

(ii) Topographic map. A topographic map (or other map if a topographic map is unavailable) extending at least one mile beyond property boundaries of the treatment plant, including all unit processes, and showing:

(A) Treatment plant area and unit processes;

(B) The major pipes or other structures through which wastewater enters the treatment plant and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable;

(C) Each well where fluids from the treatment plant are injected underground;

(D) Wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within ¼ mile of the treatment works' property boundaries;

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(E) Sewage sludge management facilities (including on-site treatment, storage, and disposal sites); and

(F) Location at which waste classified as hazardous under RCRA enters the treatment plant by truck, rail, or dedicated pipe;

(iii) Process flow diagram or schematic.

(A) A diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. This includes a water balance showing all treatment units, including disinfection, and showing daily average flow rates at influent and discharge points, and approximate daily flow rates between treatment units; and

(B) A narrative description of the diagram; and

(iv) Scheduled improvements, schedules of implementation. The following information regarding scheduled improvements:

(A) The outfall number of each outfall affected;

(B) A narrative description of each required improvement;

(C) Scheduled or actual dates of completion for the following:

(1) Commencement of construction;

(2) Completion of construction;

(3) Commencement of discharge; and

(4) Attainment of operational level;

(D) A description of permits and clearances concerning other Federal and/or State requirements;

(3) Information on effluent discharges. Each applicant must provide the following information for each outfall, including bypass points, through which effluent is discharged, as applicable:

(i) Description of outfall. The following information about each outfall:

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(A) Outfall number;

(B) State, county, and city or town in which outfall is located;

(C) Latitude and longitude, to the nearest second;

(D) Distance from shore and depth below surface;

(E) Average daily flow rate, in million gallons per day;

(F) The following information for each outfall with a seasonal or periodic discharge:

(1) Number of times per year the discharge occurs;

(2) Duration of each discharge;

(3) Flow of each discharge; and

(4) Months in which discharge occurs; and

(G) Whether the outfall is equipped with a diffuser and the type (e.g., high-rate) of diffuser used;

(ii) Description of receiving waters. The following information (if known) for each outfall through which effluent is discharged to waters of the United States:

(A) Name of receiving water;

(B) Name of watershed/river/stream system and United States Soil Conservation Service 14–digit watershed code;

(C) Name of State Management/River Basin and United States Geological Survey 8–digit hydrologic cataloging unit code; and

(D) Critical flow of receiving stream and total hardness of receiving stream at critical low flow (if applicable);

(iii) Description of treatment. The following information describing the treatment provided for discharges from each outfall to waters of the United States:

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(A) The highest level of treatment (e.g., primary, equivalent to secondary, secondary, advanced, other) that is provided for the discharge for each outfall and:

(1) Design biochemical oxygen demand (BOD_5 or $CBOD_5$) removal (percent);

(2) Design suspended solids (SS) removal (percent); and, where applicable,

(3) Design phosphorus (P) removal (percent);

(4) Design nitrogen (N) removal (percent); and

(5) Any other removals that an advanced treatment system is designed to achieve.

(B) A description of the type of disinfection used, and whether the treatment plant dechlorinates (if disinfection is accomplished through chlorination);

(4) Effluent monitoring for specific parameters.

(i) As provided in paragraphs (j)(4)(ii) through (x) of this section, all applicants must submit to the Director effluent monitoring information for samples taken from each outfall through which effluent is discharged to waters of the United States, except for CSOs. The Director may allow applicants to submit sampling data for only one outfall on a case-by-case basis, where the applicant has two or more outfalls with substantially identical effluent. The Director may also allow applicants to composite samples from one or more outfalls that discharge into the same mixing zone;

(ii) All applicants must sample and analyze for the pollutants listed in appendix J, Table 1A of this part;

(iii) All applicants with a design flow greater than or equal to 0.1 mgd must sample and analyze for the pollutants listed in appendix J, Table 1 of this part. Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent may delete chlorine from Table 1;

(iv) The following applicants must sample and analyze for the pollutants listed in appendix J, Table 2 of this part, and for any other pollutants for which the State or EPA have established water quality standards applicable to the receiving waters:

(A) All POTWs with a design flow rate equal to or greater than one million gallons per day;

(B) All POTWs with approved pretreatment programs or POTWs required to develop a pretreatment program;

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(C) Other POTWs, as required by the Director;

(v) The Director should require sampling for additional pollutants, as appropriate, on a case-by-case basis;

(vi) Applicants must provide data from a minimum of three samples taken within four and one-half years prior to the date of the permit application. Samples must be representative of the seasonal variation in the discharge from each outfall. Existing data may be used, if available, in lieu of sampling done solely for the purpose of this application. The Director should require additional samples, as appropriate, on a case-by-case basis.

(vii) All existing data for pollutants specified in paragraphs (j)(4)(ii) through (v) of this section that is collected within four and one-half years of the application must be included in the pollutant data summary submitted by the applicant. If, however, the applicant samples for a specific pollutant on a monthly or more frequent basis, it is only necessary, for such pollutant, to summarize all data collected within one year of the application.

(viii) Applicants must collect samples of effluent and analyze such samples for pollutants in accordance with analytical methods approved under 40 CFR Part 136 unless an alternative is specified in the existing NPDES permit. When analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including E. coli), or volatile organics is required in paragraphs (j)(4)(ii) through (iv) of this section, grab samples must be collected for those pollutants. For all other pollutants, 24–hour composite samples must be used. For a composite sample, only one analysis of the composite of aliquots is required.

(ix) The effluent monitoring data provided must include at least the following information for each parameter:

(A) Maximum daily discharge, expressed as concentration or mass, based upon actual sample values;

(B) Average daily discharge for all samples, expressed as concentration or mass, and the number of samples used to obtain this value;

(C) The analytical method used; and

(D) The threshold level (i.e., method detection limit, minimum level, or other designated method endpoints) for the analytical method used.

(x) Unless otherwise required by the Director, metals must be reported as total recoverable.

(5) Effluent monitoring for whole effluent toxicity.

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(i) All applicants must provide an identification of any whole effluent toxicity tests conducted during the four and one-half years prior to the date of the application on any of the applicant's discharges or on any receiving water near the discharge.

(ii) As provided in paragraphs (j)(5)(iii)–(ix) of this section, the following applicants must submit to the Director the results of valid whole effluent toxicity tests for acute or chronic toxicity for samples taken from each outfall through which effluent is discharged to surface waters, except for combined sewer overflows:

(A) All POTWs with design flow rates greater than or equal to one million gallons per day;

(B) All POTWs with approved pretreatment programs or POTWs required to develop a pretreatment program;

(C) Other POTWs, as required by the Director, based on consideration of the following factors:

(1) The variability of the pollutants or pollutant parameters in the POTW effluent (based on chemical-specific information, the type of treatment plant, and types of industrial contributors);

(2) The ratio of effluent flow to receiving stream flow;

(3) Existing controls on point or non-point sources, including total maximum daily load calculations for the receiving stream segment and the relative contribution of the POTW;

(4) Receiving stream characteristics, including possible or known water quality impairment, and whether the POTW discharges to a coastal water, one of the Great Lakes, or a water designated as an outstanding natural resource water; or

(5) Other considerations (including, but not limited to, the history of toxic impacts and compliance problems at the POTW) that the Director determines could cause or contribute to adverse water quality impacts.

(iii) Where the POTW has two or more outfalls with substantially identical effluent discharging to the same receiving stream segment, the Director may allow applicants to submit whole effluent toxicity data for only one outfall on a case-by-case basis. The Director may also allow applicants to composite samples from one or more outfalls that discharge into the same mixing zone.

(iv) Each applicant required to perform whole effluent toxicity testing pursuant to paragraph (j)(5)(ii) of this section must provide:

(A) Results of a minimum of four quarterly tests for a year, from the year preceding the permit application; or

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(B) Results from four tests performed at least annually in the four and one half year period prior to the application, provided the results show no appreciable toxicity using a safety factor determined by the permitting authority.

(v) Applicants must conduct tests with multiple species (no less than two species; e.g., fish, invertebrate, plant), and test for acute or chronic toxicity, depending on the range of receiving water dilution. EPA recommends that applicants conduct acute or chronic testing based on the following dilutions:

(A) Acute toxicity testing if the dilution of the effluent is greater than 1000:1 at the edge of the mixing zone;

(B) Acute or chronic toxicity testing if the dilution of the effluent is between 100:1 and 1000:1 at the edge of the mixing zone. Acute testing may be more appropriate at the higher end of this range (1000:1), and chronic testing may be more appropriate at the lower end of this range (100:1); and

(C) Chronic testing if the dilution of the effluent is less than 100:1 at the edge of the mixing zone.

(vi) Each applicant required to perform whole effluent toxicity testing pursuant to paragraph (j)(5)(ii) of this section must provide the number of chronic or acute whole effluent toxicity tests that have been conducted since the last permit reissuance.

(vii) Applicants must provide the results using the form provided by the Director, or test summaries if available and comprehensive, for each whole effluent toxicity test conducted pursuant to paragraph (j)(5)(ii) of this section for which such information has not been reported previously to the Director.

(viii) Whole effluent toxicity testing conducted pursuant to paragraph (j)(5)(ii) of this section must be conducted using methods approved under 40 CFR part 136. West coast facilities in Washington, Oregon, California, Alaska, Hawaii, and the Pacific Territories are exempted from 40 CFR part 136 chronic methods and must use alternative guidance as directed by the permitting authority.

(ix) For whole effluent toxicity data submitted to the Director within four and one-half years prior to the date of the application, applicants must provide the dates on which the data were submitted and a summary of the results.

(x) Each POTW required to perform whole effluent toxicity testing pursuant to paragraph (j)(5)(ii) of this section must provide any information on the cause of toxicity and written details of any toxicity reduction evaluation conducted, if any whole effluent toxicity test conducted within the past four and one-half years revealed toxicity.

(6) Industrial discharges. Applicants must submit the following information about industrial discharges to the POTW:

(i) Number of significant industrial users (SIUs) and categorical industrial users (CIUs) discharging to the POTW; and

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(ii) POTWs with one or more SIUs shall provide the following information for each SIU, as defined at 40 CFR 403.3(v), that discharges to the POTW:

(A) Name and mailing address;

(B) Description of all industrial processes that affect or contribute to the SIU's discharge;

(C) Principal products and raw materials of the SIU that affect or contribute to the SIU's discharge;

(D) Average daily volume of wastewater discharged, indicating the amount attributable to process flow and non-process flow;

(E) Whether the SIU is subject to local limits;

(F) Whether the SIU is subject to categorical standards, and if so, under which category(ies) and subcategory(ies); and

(G) Whether any problems at the POTW (e.g., upsets, pass through, interference) have been attributed to the SIU in the past four and one-half years.

(iii) The information required in paragraphs (j)(6)(i) and (ii) of this section may be waived by the Director for POTWs with pretreatment programs if the applicant has submitted either of the following that contain information substantially identical to that required in paragraphs (j)(6)(i) and (ii) of this section.

(A) An annual report submitted within one year of the application; or

(B) A pretreatment program;

(7) Discharges from hazardous waste generators and from waste cleanup or remediation sites. POTWs receiving Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or RCRA Corrective Action wastes or wastes generated at another type of cleanup or remediation site must provide the following information:

(i) If the POTW receives, or has been notified that it will receive, by truck, rail, or dedicated pipe any wastes that are regulated as RCRA hazardous wastes pursuant to 40 CFR part 261, the applicant must report the following:

(A) The method by which the waste is received (i.e., whether by truck, rail, or dedicated pipe); and

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(B) The hazardous waste number and amount received annually of each hazardous waste;

(ii) If the POTW receives, or has been notified that it will receive, wastewaters that originate from remedial activities, including those undertaken pursuant to CERCLA and sections 3004(u) or 3008(h) of RCRA, the applicant must report the following:

(A) The identity and description of the site(s) or facility(ies) at which the wastewater originates;

(B) The identities of the wastewater's hazardous constituents, as listed in appendix VIII of part 261 of this chapter; if known; and

(C) The extent of treatment, if any, the wastewater receives or will receive before entering the POTW;

(iii) Applicants are exempt from the requirements of paragraph (j)(7)(ii) of this section if they receive no more than fifteen kilograms per month of hazardous wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e).

(8) Combined sewer overflows. Each applicant with combined sewer systems must provide the following information:

(i) Combined sewer system information. The following information regarding the combined sewer system:

(A) System map. A map indicating the location of the following:

(1) All CSO discharge points;

(2) Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding national resource waters); and

(3) Waters supporting threatened and endangered species potentially affected by CSOs; and

(B) System diagram. A diagram of the combined sewer collection system that includes the following information:

(1) The location of major sewer trunk lines, both combined and separate sanitary;

(2) The locations of points where separate sanitary sewers feed into the combined sewer system;

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(3) In-line and off-line storage structures;

(4) The locations of flow-regulating devices; and

(5) The locations of pump stations;

(ii) Information on CSO outfalls. The following information for each CSO discharge point covered by the permit application:

(A) Description of outfall. The following information on each outfall:

(1) Outfall number;

(2) State, county, and city or town in which outfall is located;

(3) Latitude and longitude, to the nearest second; and

(4) Distance from shore and depth below surface;

(5) Whether the applicant monitored any of the following in the past year for this CSO:

(i) Rainfall;

(ii) CSO flow volume;

(iii) CSO pollutant concentrations;

(iv) Receiving water quality;

(v) CSO frequency; and

(6) The number of storm events monitored in the past year;

(B) CSO events. The following information about CSO overflows from each outfall:

(1) The number of events in the past year;

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(2) The average duration per event, if available;

(3) The average volume per CSO event, if available; and

(4) The minimum rainfall that caused a CSO event, if available, in the last year;

(C) Description of receiving waters. The following information about receiving waters:

(1) Name of receiving water;

(2) Name of watershed/stream system and the United States Soil Conservation Service watershed (14–digit) code (if known); and

(3) Name of State Management/River Basin and the United States Geological Survey hydrologic cataloging unit (8–digit) code (if known); and

(D) CSO operations. A description of any known water quality impacts on the receiving water caused by the CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shellfish bed closings, fish kills, fish advisories, other recreational loss, or exceedance of any applicable State water quality standard);

(iii) Public notification plan for CSO discharges to the Great Lakes Basin. Each permittee authorized to discharge a combined sewer overflow to the Great Lakes Basin as defined in § 122.2 must submit a public notification plan developed in accordance with § 122.38 as part of its permit application. The public notification plan shall describe any significant updates to the plan that may have occurred since the last plan submission.

(9) Contractors. All applicants must provide the name, mailing address, telephone number, and responsibilities of all contractors responsible for any operational or maintenance aspects of the facility; and

(10) Signature. All applications must be signed by a certifying official in compliance with § 122.22.

(k) Application requirements for new sources and new discharges. New manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits (except for new discharges of facilities subject to the requirements of paragraph (h) of this section or new discharges of storm water associated with industrial activity which are subject to the requirements of § 122.26(c)(1) and this section (except as provided by § 122.26(c)(1)(ii)) shall provide the following information to the Director, using the application forms provided by the Director:

(1) Expected outfall location. The latitude and longitude to the nearest 15 seconds and the name of the receiving water.

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(2) Discharge dates. The expected date of commencement of discharge.

(3) Flows, Sources of Pollution, and Treatment Technologies.—

(i) Expected treatment of wastewater. Description of the treatment that the wastewater will receive, along with all operations contributing wastewater to the effluent, average flow contributed by each operation, and the ultimate disposal of any solid or liquid wastes not discharged.

(ii) Line drawing. A line drawing of the water flow through the facility with a water balance as described in § 122.21(g)(2).

(iii) Intermittent flows. If any of the expected discharges will be intermittent or seasonal, a description of the frequency, duration and maximum daily flow rate of each discharge occurrence (except for stormwater runoff, spillage, or leaks).

(4) Production. If a new source performance standard promulgated under section 306 of CWA or an effluent limitation guideline applies to the applicant and is expressed in terms of production (or other measure of operation), a reasonable measure of the applicant's expected actual production reported in the units used in the applicable effluent guideline or new source performance standard as required by § 122.45(b)(2) for each of the first three years. Alternative estimates may also be submitted if production is likely to vary.

(5) Effluent characteristics. The requirements in paragraphs (h)(4)(i), (ii), and (iii) of this section that an applicant must provide estimates of certain pollutants expected to be present do not apply to pollutants present in a discharge solely as a result of their presence in intake water; however, an applicant must report such pollutants as present. Net credits may be provided for the presence of pollutants in intake water if the requirements of § 122.45(g) are met. All levels (except for discharge flow, temperature, and pH) must be estimated as concentration and as total mass.

(i) Each applicant must report estimated daily maximum, daily average, and source of information for each outfall for the following pollutants or parameters. The Director may waive the reporting requirements for any of these pollutants and parameters if the applicant submits a request for such a waiver before or with his application which demonstrates that information adequate to support issuance of the permit can be obtained through less stringent reporting requirements.

(A) Biochemical Oxygen Demand (BOD).

(B) Chemical Oxygen Demand (COD).

(C) Total Organic Carbon (TOC).

(D) Total Suspended Solids (TSS).

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(E) Flow.

(F) Ammonia (as N).

(G) Temperature (winter and summer).

(H) pH.

(ii) Each applicant must report estimated daily maximum, daily average, and source of information for each outfall for the following pollutants, if the applicant knows or has reason to believe they will be present or if they are limited by an effluent limitation guideline or new source performance standard either directly or indirectly through limitations on an indicator pollutant: all pollutants in table IV of appendix D of part 122 (certain conventional and nonconventional pollutants).

(iii) Each applicant must report estimated daily maximum, daily average and source of information for the following pollutants if he knows or has reason to believe that they will be present in the discharges from any outfall:

(A) The pollutants listed in table III of appendix D (the toxic metals, in the discharge from any outfall: Total cyanide, and total phenols);

(B) The organic toxic pollutants in table II of appendix D (except bis (chloromethyl) ether, dichlorofluoromethane and trichlorofluoromethane). This requirement is waived for applicants with expected gross sales of less than $100,000 per year for the next three years, and for coal mines with expected average production of less than 100,000 tons of coal per year.

(iv) The applicant is required to report that 2,3,7,8 Tetrachlorodibenzo–P–Dioxin (TCDD) may be discharged if he uses or manufactures one of the following compounds, or if he knows or has reason to believe that TCDD will or may be present in an effluent:

(A) 2,4,5–trichlorophenoxy acetic acid (2,4,5–T) (CAS #93–76–5);

(B) 2–(2,4,5–trichlorophenoxy) propanoic acid (Silvex, 2,4,5–TP) (CAS #93–72–1);

(C) 2–(2,4,5–trichlorophenoxy) ethyl 2,2–dichloropropionate (Erbon) (CAS #136–25–4);

(D) 0,0–dimethyl 0–(2,4,5–trichlorophenyl) phosphorothioate (Ronnel) (CAS #299–84–3);

(E) 2,4,5–trichlorophenol (TCP) (CAS #95–95–4); or

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(F) Hexachlorophene (HCP) (CAS #70–30–4);

(v) Each applicant must report any pollutants listed in table V of appendix D (certain hazardous substances) if he believes they will be present in any outfall (no quantitative estimates are required unless they are already available).

(vi) No later than two years after the commencement of discharge from the proposed facility, the applicant is required to complete and submit Items V and VI of NPDES application Form 2c (see § 122.21(g)). However, the applicant need not complete those portions of Item V requiring tests which he has already performed and reported under the discharge monitoring requirements of his NPDES permit.

(6) Engineering Report. Each applicant must report the existence of any technical evaluation concerning his wastewater treatment, along with the name and location of similar plants of which he has knowledge.

(7) Other information. Any optional information the permittee wishes to have considered.

(8) Certification. Signature of certifying official under § 122.22.

(l) Special provisions for applications from new sources.

(1) The owner or operator of any facility which may be a new source (as defined in § 122.2) and which is located in a State without an approved NPDES program must comply with the provisions of this paragraph (l)(1).

(2)(i) Before beginning any on-site construction as defined in § 122.29, the owner or operator of any facility which may be a new source must submit information to the Regional Administrator so that he or she can determine if the facility is a new source. The Regional Administrator may request any additional information needed to determine whether the facility is a new source.

(ii) The Regional Administrator shall make an initial determination whether the facility is a new source within 30 days of receiving all necessary information under paragraph (l)(2)(i) of this section.

(3) The Regional Administrator shall issue a public notice in accordance with § 124.10 of this chapter of the new source determination under paragraph (l)(2) of this section. If the Regional Administrator has determined that the facility is a new source, the notice shall state that the applicant must comply with the environmental review requirements of 40 CFR 6.600 through 6.607.

(4) Any interested party may challenge the Regional Administrator's initial new source determination by requesting review of the determination under § 124.19 of this chapter within 30 days of the public notice of the initial determination. If all interested parties agree, the Environmental Appeals Board may defer review until after a final permit decision is made, and consolidate review of the determination with any review of the permit decision.

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(m) Variance requests by non-POTWs. A discharger which is not a publicly owned treatment works (POTW) may request a variance from otherwise applicable effluent limitations under any of the following statutory or regulatory provisions within the times specified in this paragraph:

(1) Fundamentally different factors.

(i) A request for a variance based on the presence of "fundamentally different factors" from those on which the effluent limitations guideline was based shall be filed as follows:

(A) For a request from best practicable control technology currently available (BPT), by the close of the public comment period under § 124.10.

(B) For a request from best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT), by no later than:

(1) July 3, 1989, for a request based on an effluent limitation guideline promulgated before February 4, 1987, to the extent July 3, 1989 is not later than that provided under previously promulgated regulations; or

(2) 180 days after the date on which an effluent limitation guideline is published in the Federal Register for a request based on an effluent limitation guideline promulgated on or after February 4, 1987.

(ii) The request shall explain how the requirements of the applicable regulatory and/or statutory criteria have been met.

(2) Non-conventional pollutants. A request for a variance from the BAT requirements for CWA section 301(b)(2)(F) pollutants (commonly called "non-conventional" pollutants) pursuant to section 301(c) of CWA because of the economic capability of the owner or operator, or pursuant to section 301(g) of the CWA (provided however that a § 301(g) variance may only be requested for ammonia; chlorine; color; iron; total phenols (4AAP) (when determined by the Administrator to be a pollutant covered by section 301(b)(2)(F)) and any other pollutant which the Administrator lists under section 301(g)(4) of the CWA) must be made as follows:

(i) For those requests for a variance from an effluent limitation based upon an effluent limitation guideline by:

(A) Submitting an initial request to the Regional Administrator, as well as to the State Director if applicable, stating the name of the discharger, the permit number, the outfall number(s), the applicable effluent guideline, and whether the discharger is requesting a section 301(c) or section 301(g) modification or both. This request must have been filed not later than:

(1) September 25, 1978, for a pollutant which is controlled by a BAT effluent limitation guideline promulgated before December 27, 1977; or

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(2) 270 days after promulgation of an applicable effluent limitation guideline for guidelines promulgated after December 27, 1977; and

(B) Submitting a completed request no later than the close of the public comment period under § 124.10 demonstrating that the requirements of § 124.13 and the applicable requirements of part 125 have been met. Notwithstanding this provision, the complete application for a request under section 301(g) shall be filed 180 days before EPA must make a decision (unless the Regional Division Director establishes a shorter or longer period).

(ii) For those requests for a variance from effluent limitations not based on effluent limitation guidelines, the request need only comply with paragraph (m)(2)(i)(B) of this section and need not be preceded by an initial request under paragraph (m)(2)(i)(A) of this section.

(3) [Reserved]

(4) [Reserved]

(5) Water quality related effluent limitations. A modification under section 302(b)(2) of requirements under section 302(a) for achieving water quality related effluent limitations may be requested no later than the close of the public comment period under § 124.10 on the permit from which the modification is sought.

(6) Thermal discharges. A variance under CWA section 316(a) for the thermal component of any discharge must be filed with a timely application for a permit under this section, except that if thermal effluent limitations are established under CWA section 402(a)(1) or are based on water quality standards the request for a variance may be filed by the close of the public comment period under § 124.10. A copy of the request as required under 40 CFR part 125, subpart H, shall be sent simultaneously to the appropriate State or interstate certifying agency as required under 40 CFR part 125. (See § 124.65 for special procedures for section 316(a) thermal variances.)

(n) Variance requests by POTWs. A discharger which is a publicly owned treatment works (POTW) may request a variance from otherwise applicable effluent limitations under any of the following statutory provisions as specified in this paragraph:

(1) Discharges into marine waters. A request for a modification under CWA section 301(h) of requirements of CWA section 301(b)(1)(B) for discharges into marine waters must be filed in accordance with the requirements of 40 CFR part 125, subpart G.

(2) [Reserved]

(3) Water quality based effluent limitation. A modification under CWA section 302(b)(2) of the requirements under section 302(a) for achieving water quality based effluent limitations shall be requested no later than the close of the public comment period under § 124.10 on the permit from which the modification is sought.

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(o) Expedited variance procedures and time extensions.

(1) Notwithstanding the time requirements in paragraphs (m) and (n) of this section, the Director may notify a permit applicant before a draft permit is issued under § 124.6 that the draft permit will likely contain limitations which are eligible for variances. In the notice the Director may require the applicant as a condition of consideration of any potential variance request to submit a request explaining how the requirements of part 125 applicable to the variance have been met and may require its submission within a specified reasonable time after receipt of the notice. The notice may be sent before the permit application has been submitted. The draft or final permit may contain the alternative limitations which may become effective upon final grant of the variance.

(2) A discharger who cannot file a timely complete request required under paragraph (m)(2)(i)(B) or (m)(2)(ii) of this section may request an extension. The extension may be granted or denied at the discretion of the Director. Extensions shall be no more than 6 months in duration.

(p) Recordkeeping. Except for information required by paragraph (d)(3)(ii) of this section, which shall be retained for a period of at least five years from the date the application is signed (or longer as required by 40 CFR part 503), applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under this section for a period of at least 3 years from the date the application is signed.

(q) Sewage sludge management. All TWTDS subject to paragraph (c)(2)(i) of this section must provide the information in this paragraph to the Director, using Form 2S or another application form approved by the Director. New applicants must submit all information available at the time of permit application. The information may be provided by referencing information previously submitted to the Director. The Director may waive any requirement of this paragraph if he or she has access to substantially identical information. The Director may also waive any requirement of this paragraph that is not of material concern for a specific permit, if approved by the Regional Administrator. The waiver request to the Regional Administrator must include the State's justification for the waiver. A Regional Administrator's disapproval of a State's proposed waiver does not constitute final Agency action, but does provide notice to the State and permit applicant(s) that EPA may object to any State–issued permit issued in the absence of the required information.

(1) Facility information. All applicants must submit the following information:

(i) The name, mailing address, and location of the TWTDS for which the application is submitted;

(ii) Whether the facility is a Class I Sludge Management Facility;

(iii) The design flow rate (in million gallons per day);

(iv) The total population served; and

(v) The TWTDS's status as Federal, State, private, public, or other entity;

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(2) Applicant information. All applicants must submit the following information:

(i) The name, mailing address, and telephone number of the applicant; and

(ii) Indication whether the applicant is the owner, operator, or both;

(3) Permit information. All applicants must submit the facility's NPDES permit number, if applicable, and a listing of all other Federal, State, and local permits or construction approvals received or applied for under any of the following programs:

(i) Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA);

(ii) UIC program under the Safe Drinking Water Act (SDWA);

(iii) NPDES program under the Clean Water Act (CWA);

(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act;

(v) Nonattainment program under the Clean Air Act;

(vi) National Emission Standards for Hazardous Air Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;

(vii) Dredge or fill permits under section 404 of CWA;

(viii) Other relevant environmental permits, including State or local permits;

(4) Indian country. All applicants must identify any generation, treatment, storage, land application, or disposal of sewage sludge that occurs in Indian country;

(5) Topographic map. All applicants must submit a topographic map (or other map if a topographic map is unavailable) extending one mile beyond property boundaries of the facility and showing the following information:

(i) All sewage sludge management facilities, including on-site treatment, storage, and disposal sites; and

(ii) Wells, springs, and other surface water bodies that are within ¼ mile of the property boundaries and listed in public records or otherwise known to the applicant;

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(6) Sewage sludge handling. All applicants must submit a line drawing and/or a narrative description that identifies all sewage sludge management practices employed during the term of the permit, including all units used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each such unit, and all processes used for pathogen reduction and vector attraction reduction;

(7) Sewage sludge quality. The applicant must submit sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR part 503 for the applicant's use or disposal practices on the date of permit application.

(i) The Director may require sampling for additional pollutants, as appropriate, on a case-by-case basis;

(ii) Applicants must provide data from a minimum of three samples taken within four and one-half years prior to the date of the permit application. Samples must be representative of the sewage sludge and should be taken at least one month apart. Existing data may be used in lieu of sampling done solely for the purpose of this application;

(iii) Applicants must collect and analyze samples in accordance with analytical methods approved under SW–846 unless an alternative has been specified in an existing sewage sludge permit;

(iv) The monitoring data provided must include at least the following information for each parameter:

(A) Average monthly concentration for all samples (mg/kg dry weight), based upon actual sample values;

(B) The analytical method used; and

(C) The method detection level.

(8) Preparation of sewage sludge. If the applicant is a “person who prepares” sewage sludge, as defined at 40 CFR 503.9(r), the applicant must provide the following information:

(i) If the applicant's facility generates sewage sludge, the total dry metric tons per 365–day period generated at the facility;

(ii) If the applicant's facility receives sewage sludge from another facility, the following information for each facility from which sewage sludge is received:

(A) The name, mailing address, and location of the other facility;

(B) The total dry metric tons per 365–day period received from the other facility; and

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(C) A description of any treatment processes occurring at the other facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics;

(iii) If the applicant's facility changes the quality of sewage sludge through blending, treatment, or other activities, the following information:

(A) Whether the Class A pathogen reduction requirements in 40 CFR 503.32(a) or the Class B pathogen reduction requirements in 40 CFR 503.32(b) are met, and a description of any treatment processes used to reduce pathogens in sewage sludge;

(B) Whether any of the vector attraction reduction options of 40 CFR 503.33(b)(1) through (b)(8) are met, and a description of any treatment processes used to reduce vector attraction properties in sewage sludge; and

(C) A description of any other blending, treatment, or other activities that change the quality of sewage sludge;

(iv) If sewage sludge from the applicant's facility meets the ceiling concentrations in 40 CFR 503.13(b)(1), the pollutant concentrations in § 503.13(b)(3), the Class A pathogen requirements in § 503.32(a), and one of the vector attraction reduction requirements in § 503.33(b)(1) through (b)(8), and if the sewage sludge is applied to the land, the applicant must provide the total dry metric tons per 365–day period of sewage sludge subject to this paragraph that is applied to the land;

(v) If sewage sludge from the applicant's facility is sold or given away in a bag or other container for application to the land, and the sewage sludge is not subject to paragraph (q)(8)(iv) of this section, the applicant must provide the following information:

(A) The total dry metric tons per 365–day period of sewage sludge subject to this paragraph that is sold or given away in a bag or other container for application to the land; and

(B) A copy of all labels or notices that accompany the sewage sludge being sold or given away;

(vi) If sewage sludge from the applicant's facility is provided to another “person who prepares,” as defined at 40 CFR 503.9(r), and the sewage sludge is not subject to paragraph (q)(8)(iv) of this section, the applicant must provide the following information for each facility receiving the sewage sludge:

(A) The name and mailing address of the receiving facility;

(B) The total dry metric tons per 365–day period of sewage sludge subject to this paragraph that the applicant provides to the receiving facility;

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(C) A description of any treatment processes occurring at the receiving facility, including blending activities and treatment to reduce pathogens or vector attraction characteristic;

(D) A copy of the notice and necessary information that the applicant is required to provide the receiving facility under 40 CFR 503.12(g); and

(E) If the receiving facility places sewage sludge in bags or containers for sale or give-away to application to the land, a copy of any labels or notices that accompany the sewage sludge;

(9) Land application of bulk sewage sludge. If sewage sludge from the applicant's facility is applied to the land in bulk form, and is not subject to paragraphs (q)(8)(iv), (v), or (vi) of this section, the applicant must provide the following information:

(i) The total dry metric tons per 365–day period of sewage sludge subject to this paragraph that is applied to the land;

(ii) If any land application sites are located in States other than the State where the sewage sludge is prepared, a description of how the applicant will notify the permitting authority for the State(s) where the land application sites are located;

(iii) The following information for each land application site that has been identified at the time of permit application:

(A) The name (if any), and location for the land application site;

(B) The site's latitude and longitude to the nearest second, and method of determination;

(C) A topographic map (or other map if a topographic map is unavailable) that shows the site's location;

(D) The name, mailing address, and telephone number of the site owner, if different from the applicant;

(E) The name, mailing address, and telephone number of the person who applies sewage sludge to the site, if different from the applicant;

(F) Whether the site is agricultural land, forest, a public contact site, or a reclamation site, as such site types are defined under 40 CFR 503.11;

(G) The type of vegetation grown on the site, if known, and the nitrogen requirement for this vegetation;

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(H) Whether either of the vector attraction reduction options of 40 CFR 503.33(b)(9) or (b)(10) is met at the site, and a description of any procedures employed at the time of use to reduce vector attraction properties in sewage sludge; and

(I) Other information that describes how the site will be managed, as specified by the permitting authority.

(iv) The following information for each land application site that has been identified at the time of permit application, if the applicant intends to apply bulk sewage sludge subject to the cumulative pollutant loading rates in 40 CFR 503.13(b)(2) to the site:

(A) Whether the applicant has contacted the permitting authority in the State where the bulk sewage sludge subject to § 503.13(b)(2) will be applied, to ascertain whether bulk sewage sludge subject to § 503.13(b)(2) has been applied to the site on or since July 20, 1993, and if so, the name of the permitting authority and the name and phone number of a contact person at the permitting authority;

(B) Identification of facilities other than the applicant's facility that have sent, or are sending, sewage sludge subject to the cumulative pollutant loading rates in § 503.13(b)(2) to the site since July 20, 1993, if, based on the inquiry in paragraph (q)(iv)(A), bulk sewage sludge subject to cumulative pollutant loading rates in § 503.13(b)(2) has been applied to the site since July 20, 1993;

(v) If not all land application sites have been identified at the time of permit application, the applicant must submit a land application plan that, at a minimum:

(A) Describes the geographical area covered by the plan;

(B) Identifies the site selection criteria;

(C) Describes how the site(s) will be managed;

(D) Provides for advance notice to the permit authority of specific land application sites and reasonable time for the permit authority to object prior to land application of the sewage sludge; and

(E) Provides for advance public notice of land application sites in the manner prescribed by State and local law. When State or local law does not require advance public notice, it must be provided in a manner reasonably calculated to apprize the general public of the planned land application.

(10) Surface disposal. If sewage sludge from the applicant's facility is placed on a surface disposal site, the applicant must provide the following information:

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(i) The total dry metric tons of sewage sludge from the applicant's facility that is placed on surface disposal sites per 365–day period;

(ii) The following information for each surface disposal site receiving sewage sludge from the applicant's facility that the applicant does not own or operate:

(A) The site name or number, contact person, mailing address, and telephone number for the surface disposal site; and

(B) The total dry metric tons from the applicant's facility per 365–day period placed on the surface disposal site;

(iii) The following information for each active sewage sludge unit at each surface disposal site that the applicant owns or operates:

(A) The name or number and the location of the active sewage sludge unit;

(B) The unit's latitude and longitude to the nearest second, and method of determination;

(C) If not already provided, a topographic map (or other map if a topographic map is unavailable) that shows the unit's location;

(D) The total dry metric tons placed on the active sewage sludge unit per 365–day period;

(E) The total dry metric tons placed on the active sewage sludge unit over the life of the unit;

(F) A description of any liner for the active sewage sludge unit, including whether it has a maximum permeability of 1×10^{-7} cm/sec;

(G) A description of any leachate collection system for the active sewage sludge unit, including the method used for leachate disposal, and any Federal, State, and local permit number(s) for leachate disposal;

(H) If the active sewage sludge unit is less than 150 meters from the property line of the surface disposal site, the actual distance from the unit boundary to the site property line;

(I) The remaining capacity (dry metric tons) for the active sewage sludge unit;

(J) The date on which the active sewage sludge unit is expected to close, if such a date has been identified;

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(K) The following information for any other facility that sends sewage sludge to the active sewage sludge unit:

(1) The name, contact person, and mailing address of the facility; and

(2) Available information regarding the quality of the sewage sludge received from the facility, including any treatment at the facility to reduce pathogens or vector attraction characteristics;

(L) Whether any of the vector attraction reduction options of 40 CFR 503.33(b)(9) through (b)(11) is met at the active sewage sludge unit, and a description of any procedures employed at the time of disposal to reduce vector attraction properties in sewage sludge;

(M) The following information, as applicable to any ground-water monitoring occurring at the active sewage sludge unit:

(1) A description of any ground-water monitoring occurring at the active sewage sludge unit;

(2) Any available ground-water monitoring data, with a description of the well locations and approximate depth to ground water;

(3) A copy of any ground-water monitoring plan that has been prepared for the active sewage sludge unit;

(4) A copy of any certification that has been obtained from a qualified ground-water scientist that the aquifer has not been contaminated; and

(N) If site-specific pollutant limits are being sought for the sewage sludge placed on this active sewage sludge unit, information to support such a request;

(11) Incineration. If sewage sludge from the applicant's facility is fired in a sewage sludge incinerator, the applicant must provide the following information:

(i) The total dry metric tons of sewage sludge from the applicant's facility that is fired in sewage sludge incinerators per 365–day period;

(ii) The following information for each sewage sludge incinerator firing the applicant's sewage sludge that the applicant does not own or operate:

(A) The name and/or number, contact person, mailing address, and telephone number of the sewage sludge incinerator; and

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(B) The total dry metric tons from the applicant's facility per 365–day period fired in the sewage sludge incinerator;

(iii) The following information for each sewage sludge incinerator that the applicant owns or operates:

(A) The name and/or number and the location of the sewage sludge incinerator;

(B) The incinerator's latitude and longitude to the nearest second, and method of determination;

(C) The total dry metric tons per 365–day period fired in the sewage sludge incinerator;

(D) Information, test data, and documentation of ongoing operating parameters indicating that compliance with the National Emission Standard for Beryllium in 40 CFR part 61 will be achieved;

(E) Information, test data, and documentation of ongoing operating parameters indicating that compliance with the National Emission Standard for Mercury in 40 CFR part 61 will be achieved;

(F) The dispersion factor for the sewage sludge incinerator, as well as modeling results and supporting documentation;

(G) The control efficiency for parameters regulated in 40 CFR 503.43, as well as performance test results and supporting documentation;

(H) Information used to calculate the risk specific concentration (RSC) for chromium, including the results of incinerator stack tests for hexavalent and total chromium concentrations, if the applicant is requesting a chromium limit based on a site-specific RSC value;

(I) Whether the applicant monitors total hydrocarbons (THC) or Carbon Monoxide (CO) in the exit gas for the sewage sludge incinerator;

(J) The type of sewage sludge incinerator;

(K) The maximum performance test combustion temperature, as obtained during the performance test of the sewage sludge incinerator to determine pollutant control efficiencies;

(L) The following information on the sewage sludge feed rate used during the performance test:

(1) Sewage sludge feed rate in dry metric tons per day;

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(2) Identification of whether the feed rate submitted is average use or maximum design; and

(3) A description of how the feed rate was calculated;

(M) The incinerator stack height in meters for each stack, including identification of whether actual or creditable stack height was used;

(N) The operating parameters for the sewage sludge incinerator air pollution control device(s), as obtained during the performance test of the sewage sludge incinerator to determine pollutant control efficiencies;

(O) Identification of the monitoring equipment in place, including (but not limited to) equipment to monitor the following:

(1) Total hydrocarbons or Carbon Monoxide;

(2) Percent oxygen;

(3) Percent moisture; and

(4) Combustion temperature; and

(P) A list of all air pollution control equipment used with this sewage sludge incinerator;

(12) Disposal in a municipal solid waste landfill. If sewage sludge from the applicant's facility is sent to a municipal solid waste landfill (MSWLF), the applicant must provide the following information for each MSWLF to which sewage sludge is sent:

(i) The name, contact person, mailing address, location, and all applicable permit numbers of the MSWLF;

(ii) The total dry metric tons per 365–day period sent from this facility to the MSWLF;

(iii) A determination of whether the sewage sludge meets applicable requirements for disposal of sewage sludge in a MSWLF, including the results of the paint filter liquids test and any additional requirements that apply on a site-specific basis; and

(iv) Information, if known, indicating whether the MSWLF complies with criteria set forth in 40 CFR part 258;

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(13) Contractors. All applicants must provide the name, mailing address, telephone number, and responsibilities of all contractors responsible for any operational or maintenance aspects of the facility related to sewage sludge generation, treatment, use, or disposal;

(14) Other information. At the request of the permitting authority, the applicant must provide any other information necessary to determine the appropriate standards for permitting under 40 CFR part 503, and must provide any other information necessary to assess the sewage sludge use and disposal practices, determine whether to issue a permit, or identify appropriate permit requirements; and

(15) Signature. All applications must be signed by a certifying official in compliance with § 122.22.

(r) Applications for facilities with cooling water intake structures—

(1)(i) New facilities with new or modified cooling water intake structures. New facilities (other than offshore oil and gas extraction facilities) with cooling water intake structures as defined in part 125, subpart I of this chapter, must submit to the Director for review the information required under paragraphs (r)(2) (except (r)(2)(iv)), (3), and (4) (except (r)(4)(ix), (x), (xi), and (xii)) of this section and § 125.86 of this chapter as part of the permit application. New offshore oil and gas extraction facilities with cooling water intake structures as defined in part 125, subpart N, of this chapter that are fixed facilities must submit to the Director for review the information required under paragraphs (r)(2) (except (r)(2)(iv)), (3), and (4) (except (r)(4)(ix), (x), (xi), and (xii)) of this section and § 125.136 of this chapter as part of their permit application.

(ii) Existing facilities.

(A) All existing facilities. The owner or operator of an existing facility defined at 40 CFR 125.92(k) must submit to the Director for review the information required under paragraphs (r)(2) and (3) of this section and applicable provisions of paragraphs (r)(4), (5), (6), (7), and (8) of this section.

(B) Existing facilities greater than 125 mgd AIF. In addition, the owner or operator of an existing facility that withdraws greater than 125 mgd actual intake flow (AIF), as defined at 40 CFR 125.92 (a), of water for cooling purposes must also submit to the Director for review the information required under paragraphs (r)(9), (10), (11), (12), and (13) of this section. If the owner or operator of an existing facility intends to comply with the BTA (best technology available) standards for entrainment using a closed-cycle recirculating system as defined at 40 CFR 125.92(c), the Director may reduce or waive some or all of the information required under paragraphs (r)(9) through (13) of this section.

(C) Additional information. The owner or operator of an existing facility must also submit such additional information as the Director determines is necessary pursuant to 40 CFR 125.98(i).

(D) New units at existing facilities. The owner or operator of a new unit at an existing facility, as defined at 40 CFR 125.92(u), must submit or update any information previously provided to the Director by submitting the information required under paragraphs (r)(2), (3), (5), (8), and (14) of this section and applicable provisions of

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paragraphs (r)(4), (6), and (7) of this section. Requests for and approvals of alternative requirements sought under 40 CFR 125.94(e)(2) or 125.98(b)(7) must be submitted with the permit application.

(E) New units at existing facilities not previously subject to Part 125. The owner or operator of a new unit as defined at 40 CFR 125.92(u) at an existing facility not previously subject to part 125 of this chapter that increases the total capacity of the existing facility to more than 2 mgd DIF must submit the information required under paragraphs (r)(2), (3), (5), and (8) of this section and applicable provisions of paragraphs (r)(4), (6), and (7) of this section at the time of the permit application for the new unit. Requests for alternative requirements under 40 CFR 125.94(e)(2) or 125.98(b)(7) must be submitted with the permit application. If the total capacity of the facility will increase to more than 125 mgd AIF, the owner or operator must also submit the information required in paragraphs (r)(9) through (13) of this section. If the owner or operator of an existing facility intends to comply with the BTA (best technology available) standards for entrainment using a closed-cycle recirculating system as defined at 40 CFR 125.92(c), the Director may reduce or waive some or all of the information required under paragraphs (r)(9) through (13) of this section.

(F) If the owner or operator of an existing facility plans to retire the facility before the current permit expires, then the requirements of paragraphs (r)(1)(ii)(A), (B), (C), (D), and (E) of this section do not apply.

(G) If the owner or operator of an existing facility plans to retire the facility after the current permit expires but within one permit cycle, then the Director may waive the requirements of paragraphs (r)(7), (9), (10), (11), (12), and (13) of this section pending a signed certification statement from the owner or operator of the facility specifying the last operating date of the facility.

(H) All facilities. The owner or operator of any existing facility or new unit at any existing facility must also submit with its permit application all information received as a result of any communication with a Field Office of the Fish and Wildlife Service and/or Regional Office of the National Marine Fisheries Service.

(2) Source water physical data. These include:

(i) A narrative description and scaled drawings showing the physical configuration of all source water bodies used by your facility, including areal dimensions, depths, salinity and temperature regimes, and other documentation that supports your determination of the water body type where each cooling water intake structure is located;

(ii) Identification and characterization of the source waterbody's hydrological and geomorphological features, as well as the methods you used to conduct any physical studies to determine your intake's area of influence within the waterbody and the results of such studies;

(iii) Locational maps; and

(iv) For new offshore oil and gas facilities that are not fixed facilities, a narrative description and/or locational maps providing information on predicted locations within the waterbody during the permit term in sufficient detail for the Director to determine the appropriateness of additional impingement requirements under § 125.134(b)(4).

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(3) Cooling water intake structure data. These include:

(i) A narrative description of the configuration of each of your cooling water intake structures and where it is located in the water body and in the water column;

(ii) Latitude and longitude in degrees, minutes, and seconds for each of your cooling water intake structures;

(iii) A narrative description of the operation of each of your cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation and seasonal changes, if applicable;

(iv) A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges; and

(v) Engineering drawings of the cooling water intake structure.

(4) Source water baseline biological characterization data. This information is required to characterize the biological community in the vicinity of the cooling water intake structure and to characterize the operation of the cooling water intake structures. The Director may also use this information in subsequent permit renewal proceedings to determine if your Design and Construction Technology Plan as required in § 125.86(b)(4) or § 125.136(b)(3) of this chapter should be revised. This supporting information must include existing data (if they are available). However, you may supplement the data using newly conducted field studies if you choose to do so. The information you submit must include:

(i) A list of the data in paragraphs (r)(4)(ii) through (vi) of this section that are not available and efforts made to identify sources of the data;

(ii) A list of species (or relevant taxa) for all life stages and their relative abundance in the vicinity of the cooling water intake structure;

(iii) Identification of the species and life stages that would be most susceptible to impingement and entrainment. Species evaluated should include the forage base as well as those most important in terms of significance to commercial and recreational fisheries;

(iv) Identification and evaluation of the primary period of reproduction, larval recruitment, and period of peak abundance for relevant taxa;

(v) Data representative of the seasonal and daily activities (e.g., feeding and water column migration) of biological organisms in the vicinity of the cooling water intake structure;

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(vi) Identification of all threatened, endangered, and other protected species that might be susceptible to impingement and entrainment at your cooling water intake structures;

(vii) Documentation of any public participation or consultation with Federal or State agencies undertaken in development of the plan; and

(viii) If you supplement the information requested in paragraph (r)(4)(i) of this section with data collected using field studies, supporting documentation for the Source Water Baseline Biological Characterization must include a description of all methods and quality assurance procedures for sampling, and data analysis including a description of the study area; taxonomic identification of sampled and evaluated biological assemblages (including all life stages of fish and shellfish); and sampling and data analysis methods. The sampling and/or data analysis methods you use must be appropriate for a quantitative survey and based on consideration of methods used in other biological studies performed within the same source water body. The study area should include, at a minimum, the area of influence of the cooling water intake structure.

(ix) In the case of the owner or operator of an existing facility or new unit at an existing facility, the Source Water Baseline Biological Characterization Data is the information in paragraphs (r)(4)(i) through (xii) of this section.

(x) For the owner or operator of an existing facility, identification of protective measures and stabilization activities that have been implemented, and a description of how these measures and activities affected the baseline water condition in the vicinity of the intake.

(xi) For the owner or operator of an existing facility, a list of fragile species, as defined at 40 CFR 125.92(m), at the facility. The applicant need only identify those species not already identified as fragile at 40 CFR 125.92(m). New units at an existing facility are not required to resubmit this information if the cooling water withdrawals for the operation of the new unit are from an existing intake.

(xii) For the owner or operator of an existing facility that has obtained incidental take exemption or authorization for its cooling water intake structure(s) from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, any information submitted in order to obtain that exemption or authorization may be used to satisfy the permit application information requirement of paragraph 40 CFR 125.95(f) if included in the application.

(5) Cooling Water System Data. The owner or operator of an existing facility must submit the following information for each cooling water intake structure used or intended to be used:

(i) A narrative description of the operation of the cooling water system and its relationship to cooling water intake structures; the proportion of the design intake flow that is used in the system; the number of days of the year the cooling water system is in operation and seasonal changes in the operation of the system, if applicable; the proportion of design intake flow for contact cooling, non-contact cooling, and process uses; a distribution of water reuse to include cooling water reused as process water, process water reused for cooling, and the use of gray water for cooling; a description of reductions in total water withdrawals including cooling water intake flow reductions already achieved through minimized process water withdrawals; a description of any cooling water that is used in

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a manufacturing process either before or after it is used for cooling, including other recycled process water flows; the proportion of the source waterbody withdrawn (on a monthly basis);

(ii) Design and engineering calculations prepared by a qualified professional and supporting data to support the description required by paragraph (r)(5)(i) of this section; and

(iii) Description of existing impingement and entrainment technologies or operational measures and a summary of their performance, including but not limited to reductions in impingement mortality and entrainment due to intake location and reductions in total water withdrawals and usage.

(6) Chosen Method(s) of Compliance with Impingement Mortality Standard. The owner or operator of the facility must identify the chosen compliance method for the entire facility; alternatively, the applicant must identify the chosen compliance method for each cooling water intake structure at its facility. The applicant must identify any intake structure for which a BTA determination for Impingement Mortality under 40 CFR 125.94 (c)(11) or (12) is requested. In addition, the owner or operator that chooses to comply via 40 CFR 125.94 (c)(5) or (6) must also submit an impingement technology performance optimization study as described below:

(i) If the applicant chooses to comply with 40 CFR 125.94(c)(5), subject to the flexibility for timing provided in 40 CFR 125.95(a)(2), the impingement technology performance optimization study must include two years of biological data collection measuring the reduction in impingement mortality achieved by the modified traveling screens as defined at 40 CFR 125.92(s) and demonstrating that the operation has been optimized to minimize impingement mortality. A complete description of the modified traveling screens and associated equipment must be included, including, for example, type of mesh, mesh slot size, pressure sprays and fish return mechanisms. A description of any biological data collection and data collection approach used in measuring impingement mortality must be included:

(A) Collecting data no less frequently than monthly. The Director may establish more frequent data collection;

(B) Biological data collection representative of the impingement and the impingement mortality at the intakes subject to this provision;

(C) A taxonomic identification to the lowest taxon possible of all organisms collected;

(D) The method in which naturally moribund organisms are identified and taken into account;

(E) The method in which mortality due to holding times is taken into account;

(F) If the facility entraps fish or shellfish, a count of entrapment, as defined at 40 CFR 125.92(j), as impingement mortality; and

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(G) The percent impingement mortality reflecting optimized operation of the modified traveling screen and all supporting calculations.

(ii) If the applicant chooses to comply with 40 CFR 125.94(c)(6), the impingement technology performance optimization study must include biological data measuring the reduction in impingement mortality achieved by operation of the system of technologies, operational measures and best management practices, and demonstrating that operation of the system has been optimized to minimize impingement mortality. This system of technologies, operational measures and best management practices may include flow reductions, seasonal operation, unit closure, credit for intake location, and behavioral deterrent systems. The applicant must document how each system element contributes to the system's performance. The applicant must include a minimum of two years of biological data measuring the reduction in impingement mortality achieved by the system. The applicant must also include a description of any sampling or data collection approach used in measuring the rate of impingement, impingement mortality, or flow reductions.

(A) Rate of Impingement. If the demonstration relies in part on a credit for reductions in the rate of impingement in the system, the applicant must provide an estimate of those reductions to be used as credit towards reducing impingement mortality, and any relevant supporting documentation, including previously collected biological data, performance reviews, and previously conducted performance studies not already submitted to the Director. The submission of studies more than 10 years old must include an explanation of why the data are still relevant and representative of conditions at the facility and explain how the data should be interpreted using the definitions of impingement and entrapment at 40 CFR 125.92(n) and (j), respectively. The estimated reductions in rate of impingement must be based on a comparison of the system to a once-through cooling system with a traveling screen whose point of withdrawal from the surface water source is located at the shoreline of the source waterbody. For impoundments that are waters of the United States in whole or in part, the facility's rate of impingement must be measured at a location within the cooling water intake system that the Director deems appropriate. In addition, the applicant must include two years of biological data collection demonstrating the rate of impingement resulting from the system. For this demonstration, the applicant must collect data no less frequently than monthly. The Director may establish more frequent data collection.

(B) Impingement Mortality. If the demonstration relies in part on a credit for reductions in impingement mortality already obtained at the facility, the applicant must include two years of biological data collection demonstrating the level of impingement mortality the system is capable of achieving. The applicant must submit any relevant supporting documentation, including previously collected biological data, performance reviews, and previously conducted performance studies not already submitted to the Director. The applicant must provide a description of any sampling or data collection approach used in measuring impingement mortality. In addition, for this demonstration the applicant must:

(1) Collect data no less frequently than monthly. The Director may establish more frequent data collection;

(2) Conduct biological data collection that is representative of the impingement and the impingement mortality at an intake subject to this provision. In addition, the applicant must describe how the location of the cooling water intake structure in the waterbody and the water column are accounted for in the points of data collection;

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(3) Include a taxonomic identification to the lowest taxon possible of all organisms to be collected;

(4) Describe the method in which naturally moribund organisms are identified and taken into account;

(5) Describe the method in which mortality due to holding times is taken into account; and

(6) If the facility entraps fish or shellfish, a count of the entrapment, as defined at 40 CFR 125.92(j), as impingement mortality.

(C) Flow reduction. If the demonstration relies in part on flow reduction to reduce impingement, the applicant must include two years of intake flows, measured daily, as part of the demonstration, and describe the extent to which flow reductions are seasonal or intermittent. The applicant must document how the flow reduction results in reduced impingement. In addition, the applicant must describe how the reduction in impingement has reduced impingement mortality.

(D) Total system performance. The applicant must document the percent impingement mortality reflecting optimized operation of the total system of technologies, operational measures, and best management practices and all supporting calculations. The total system performance is the combination of the impingement mortality performance reflected in paragraphs (r)(6)(ii)(A), (B), and (C) of this section.

(7) Entrainment Performance Studies. The owner or operator of an existing facility must submit any previously conducted studies or studies obtained from other facilities addressing technology efficacy, through-facility entrainment survival, and other entrainment studies. Any such submittals must include a description of each study, together with underlying data, and a summary of any conclusions or results. Any studies conducted at other locations must include an explanation as to why the data from other locations are relevant and representative of conditions at your facility. In the case of studies more than 10 years old, the applicant must explain why the data are still relevant and representative of conditions at the facility and explain how the data should be interpreted using the definition of entrainment at 40 CFR 125.92(h).

(8) Operational Status. The owner or operator of an existing facility must submit a description of the operational status of each generating, production, or process unit that uses cooling water, including but not limited to:

(i) For power production or steam generation, descriptions of individual unit operating status including age of each unit, capacity utilization rate (or equivalent) for the previous 5 years, including any extended or unusual outages that significantly affect current data for flow, impingement, entrainment, or other factors, including identification of any operating unit with a capacity utilization rate of less than 8 percent averaged over a 24–month block contiguous period, and any major upgrades completed within the last 15 years, including but not limited to boiler replacement, condenser replacement, turbine replacement, or changes to fuel type;

(ii) Descriptions of completed, approved, or scheduled uprates and Nuclear Regulatory Commission relicensing status of each unit at nuclear facilities;

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(iii) For process units at your facility that use cooling water other than for power production or steam generation, if you intend to use reductions in flow or changes in operations to meet the requirements of 40 CFR 125.94(c), descriptions of individual production processes and product lines, operating status including age of each line, seasonal operation, including any extended or unusual outages that significantly affect current data for flow, impingement, entrainment, or other factors, any major upgrades completed within the last 15 years, and plans or schedules for decommissioning or replacement of process units or production processes and product lines;

(iv) For all manufacturing facilities, descriptions of current and future production schedules; and

(v) Descriptions of plans or schedules for any new units planned within the next 5 years.

(9) Entrainment Characterization Study. The owner or operator of an existing facility that withdraws greater than 125 mgd AIF, where the withdrawal of cooling water is measured at a location within the cooling water intake structure that the Director deems appropriate, must develop for submission to the Director an Entrainment Characterization Study that includes a minimum of two years of entrainment data collection. The Entrainment Characterization Study must include the following components:

(i) Entrainment Data Collection Method. The study should identify and document the data collection period and frequency. The study should identify and document organisms collected to the lowest taxon possible of all life stages of fish and shellfish that are in the vicinity of the cooling water intake structure(s) and are susceptible to entrainment, including any organisms identified by the Director, and any species protected under Federal, State, or Tribal law, including threatened or endangered species with a habitat range that includes waters in the vicinity of the cooling water intake structure. Biological data collection must be representative of the entrainment at the intakes subject to this provision. The owner or operator of the facility must identify and document how the location of the cooling water intake structure in the waterbody and the water column are accounted for by the data collection locations;

(ii) Biological Entrainment Characterization. Characterization of all life stages of fish, shellfish, and any species protected under Federal, State, or Tribal law (including threatened or endangered species), including a description of their abundance and their temporal and spatial characteristics in the vicinity of the cooling water intake structure(s), based on sufficient data to characterize annual, seasonal, and diel variations in entrainment, including but not limited to variations related to climate and weather differences, spawning, feeding, and water column migration. This characterization may include historical data that are representative of the current operation of the facility and of biological conditions at the site. Identification of all life stages of fish and shellfish must include identification of any surrogate species used, and identification of data representing both motile and non-motile life-stages of organisms;

(iii) Analysis and Supporting Documentation. Documentation of the current entrainment of all life stages of fish, shellfish, and any species protected under Federal, State, or Tribal law (including threatened or endangered species). The documentation may include historical data that are representative of the current operation of the facility and of biological conditions at the site. Entrainment data to support the facility's calculations must be collected during periods of representative operational flows for the cooling water intake structure, and the flows associated with the data collection must be documented. The method used to determine latent mortality along with data for specific organism mortality or survival that is applied to other life-stages or species must be identified. The owner or operator of the facility must identify and document all assumptions and calculations used to determine the total entrainment

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for that facility together with all methods and quality assurance/quality control procedures for data collection and data analysis. The proposed data collection and data analysis methods must be appropriate for a quantitative survey.

(10) Comprehensive Technical Feasibility and Cost Evaluation Study. The owner or operator of an existing facility that withdraws greater than 125 mgd AIF must develop for submission to the Director an engineering study of the technical feasibility and incremental costs of candidate entrainment control technologies. In addition, the study must include the following:

(i) Technical feasibility. An evaluation of the technical feasibility of closed-cycle recirculating systems as defined at 40 CFR 125.92(c), fine mesh screens with a mesh size of 2 millimeters or smaller, and water reuse or alternate sources of cooling water. In addition, this study must include:

(A) A description of all technologies and operational measures considered (including alternative designs of closed-cycle recirculating systems such as natural draft cooling towers, mechanical draft cooling towers, hybrid designs, and compact or multi-cell arrangements);

(B) A discussion of land availability, including an evaluation of adjacent land and acres potentially available due to generating unit retirements, production unit retirements, other buildings and equipment retirements, and potential for repurposing of areas devoted to ponds, coal piles, rail yards, transmission yards, and parking lots;

(C) A discussion of available sources of process water, grey water, waste water, reclaimed water, or other waters of appropriate quantity and quality for use as some or all of the cooling water needs of the facility; and

(D) Documentation of factors other than cost that may make a candidate technology impractical or infeasible for further evaluation.

(ii) Other entrainment control technologies. An evaluation of additional technologies for reducing entrainment may be required by the Director.

(iii) Cost evaluations. The study must include engineering cost estimates of all technologies considered in paragraphs (r)(10)(i) and (ii) of this section. Facility costs must also be adjusted to estimate social costs. All costs must be presented as the net present value (NPV) and the corresponding annual value. Costs must be clearly labeled as compliance costs or social costs. The applicant must separately discuss facility level compliance costs and social costs, and provide documentation as follows:

(A) Compliance costs are calculated as after-tax, while social costs are calculated as pre-tax. Compliance costs include the facility's administrative costs, including costs of permit application, while the social cost adjustment includes the Director's administrative costs. Any outages, downtime, or other impacts to facility net revenue, are included in compliance costs, while only that portion of lost net revenue that does not accrue to other producers can be included in social costs. Social costs must also be discounted using social discount rates of 3 percent and 7 percent. Assumptions regarding depreciation schedules, tax rates, interest rates, discount rates and related assumptions must be identified;

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(B) Costs and explanation of any additional facility modifications necessary to support construction and operation of technologies considered in paragraphs (r)(10)(i) and (ii) of this section, including but not limited to relocation of existing buildings or equipment, reinforcement or upgrading of existing equipment, and additional construction and operating permits. Assumptions regarding depreciation schedules, interest rates, discount rates, useful life of the technology considered, and any related assumptions must be identified; and

(C) Costs and explanation for addressing any non-water quality environmental and other impacts identified in paragraph (r)(12) of this section. The cost evaluation must include a discussion of all reasonable attempts to mitigate each of these impacts.

(11) Benefits Valuation Study. The owner or operator of an existing facility that withdraws greater than 125 mgd AIF must develop for submission to the Director an evaluation of the benefits of the candidate entrainment reduction technologies and operational measures evaluated in paragraph (r)(10) of this section including using the Entrainment Characterization Study completed in paragraph (r)(9) of this section. Each category of benefits must be described narratively, and when possible, benefits should be quantified in physical or biological units and monetized using appropriate economic valuation methods. The benefits valuation study must include, but is not limited to, the following elements:

(i) Incremental changes in the numbers of individual fish and shellfish lost due to impingement mortality and entrainment as defined in 40 CFR 125.92, for all life stages of each exposed species;

(ii) Description of basis for any estimates of changes in the stock sizes or harvest levels of commercial and recreational fish or shellfish species or forage fish species;

(iii) Description of basis for any monetized values assigned to changes in the stock size or harvest levels of commercial and recreational fish or shellfish species, forage fish, and to any other ecosystem or non use benefits;

(iv) A discussion of mitigation efforts completed prior to October 14, 2014 including how long they have been in effect and how effective they have been;

(v) Discussion, with quantification and monetization, where possible, of any other benefits expected to accrue to the environment and local communities, including but not limited to improvements for mammals, birds, and other organisms and aquatic habitats;

(vi) Discussion, with quantification and monetization, where possible, of any benefits expected to result from any reductions in thermal discharges from entrainment technologies.

(12) Non-water Quality Environmental and Other Impacts Study. The owner or operator of an existing facility that withdraws greater than 125 mgd AIF must develop for submission to the Director a detailed facility-specific discussion of the changes in non-water quality environmental and other impacts attributed to each technology and operational measure considered in paragraph (r)(10) of this section, including both impacts increased and impacts decreased. The study must include the following:

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(i) Estimates of changes to energy consumption, including but not limited to auxiliary power consumption and turbine backpressure energy penalty;

(ii) Estimates of air pollutant emissions and of the human health and environmental impacts associated with such emissions;

(iii) Estimates of changes in noise;

(iv) A discussion of impacts to safety, including documentation of the potential for plumes, icing, and availability of emergency cooling water;

(v) A discussion of facility reliability, including but not limited to facility availability, production of steam, impacts to production based on process unit heating or cooling, and reliability due to cooling water availability;

(vi) Significant changes in consumption of water, including a facility-specific comparison of the evaporative losses of both once-through cooling and closed-cycle recirculating systems, and documentation of impacts attributable to changes in water consumption; and

(vii) A discussion of all reasonable attempts to mitigate each of these factors.

(13) Peer Review. If the applicant is required to submit studies under paragraphs (r)(10) through (12) of this section, the applicant must conduct an external peer review of each report to be submitted with the permit application. The applicant must select peer reviewers and notify the Director in advance of the peer review. The Director may disapprove of a peer reviewer or require additional peer reviewers. The Director may confer with EPA, Federal, State and Tribal fish and wildlife management agencies with responsibility for fish and wildlife potentially affected by the cooling water intake structure, independent system operators, and state public utility regulatory agencies, to determine which peer review comments must be addressed. The applicant must provide an explanation for any significant reviewer comments not accepted. Peer reviewers must have appropriate qualifications and their names and credentials must be included in the peer review report.

(14) New Units. The applicant must identify the chosen compliance method for the new unit. In addition, the owner or operator that selects the BTA standards for new units at 40 CFR 125.94 (e)(2) as its route to compliance must submit information to demonstrate entrainment reductions equivalent to 90 percent or greater of the reduction that could be achieved through compliance with 40 CFR 125.94(e)(1). The demonstration must include the Entrainment Characterization Study at paragraph (r)(9) of this section. In addition, if data specific to your facility indicates that compliance with the requirements of § 125.94 of this chapter for each new unit would result in compliance costs wholly out of proportion to the costs EPA considered in establishing the requirements at issue, or would result in significant adverse impacts on local air quality, significant adverse impacts on local water resources other than impingement or entrainment, or significant adverse impacts on local energy markets, you must submit all supporting data as part of paragraph (r)(14) of this section. The Director may determine that additional data and information, including but not limited to monitoring, must be included as part of paragraph (r)(14) of this section.

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Credits

[49 FR 31842, Aug. 8, 1984; 49 FR 38046, Sept. 26, 1984; 50 FR 4514, Jan. 31, 1985; 50 FR 6940, 6941, Feb. 19, 1985; 50 FR 35203, Aug. 29, 1985; 51 FR 26991, July 28, 1986; 53 FR 4158, Feb. 12, 1988; 53 FR 33007, Aug. 29, 1988; 54 FR 254, Jan. 4, 1989; 54 FR 18782, May 2, 1989; 55 FR 30128, July 24, 1990; 55 FR 48062, Nov. 16, 1990; 58 FR 9413, Feb. 19, 1993; 60 FR 17956, April 7, 1995; 60 FR 33931, June 29, 1995; 60 FR 40235, Aug. 7, 1995; 64 FR 42462, Aug. 4, 1999; 64 FR 43426, Aug. 10, 1999; 64 FR 68838, Dec. 8, 1999; 65 FR 30905, May 15, 2000; 66 FR 65337, Dec. 18, 2001; 68 FR 7265, Feb. 12, 2003; 69 FR 41682, July 9, 2004; 70 FR 60191, Oct. 14, 2005; 71 FR 6983, Feb. 10, 2006; 71 FR 35039, June 16, 2006; 72 FR 11211, March 12, 2007; 72 FR 37109, July 9, 2007; 72 FR 40250, July 24, 2007; 73 FR 70480, Nov. 20, 2008; 79 FR 48424, Aug. 15, 2014; 79 FR 49013, Aug. 19, 2014; 79 FR 56275, Sept. 19, 2014; 83 FR 730, Jan. 8, 2018]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (259)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-11

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart B. Permit Application and Special NPDES Program Requirements

40 C.F.R. § 122.22

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

Effective: December 21, 2015
Currentness

(a) Applications. All permit applications shall be signed as follows:

(1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in § 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under § 122.22(a)(1)(ii) rather than to specific individuals.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

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(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

(3) The written authorization is submitted to the Director.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(e) Electronic reporting. If documents described in paragraph (a) or (b) of this section are submitted electronically by or on behalf of the NPDES–regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR part 3 (including, in all cases, subpart D to part 3) (Cross–Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

(Authority: Clean Water Act (33 U.S.C. 1251 et seq.), Safe Drinking Water Act (42 U.S.C. 300f et seq.), Clean Air Act (42 U.S.C. 7401 et seq.), Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.))

Credits

[48 FR 39619, Sept. 1, 1983; 49 FR 38046, Sept. 26, 1984; 55 FR 48063, Nov. 16, 1990; 65 FR 30907, May 15, 2000; 80 FR 64096, Oct. 22, 2015]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

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Notes of Decisions (1)

Current through May 24, 2018; 83 FR 24044.

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ATTACHMENT A-12

KeyCite Yellow Flag - Negative Treatment
Unconstitutional or PreemptedPrior Version Held Invalid Natural Resources Defense Council v. U.S. E.P.A., 9th Cir., May 23, 2008

40 C.F.R. § 122.26

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

Effective: December 21, 2015
Currentness

<For statute(s) affecting validity, see: The Clean Water Act, 33 USCA § 1251 et seq.>

(a) Permit requirement.

(1) Prior to October 1, 1994, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at § 122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

(A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from the following:

(i) Mining operations composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that have not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations, except in accordance with paragraph (c)(1)(iv) of this section.

(ii) All field activities or operations associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities, except in accordance with paragraph (c)(1)(iii) of this section. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are not subject to the provisions of paragraph (c)(1)(iii)(C) of this section.

Note to paragraph (a)(2)(ii): EPA encourages operators of oil and gas field activities or operations to implement and maintain Best Management Practices (BMPs) to minimize discharges of pollutants, including sediment, in storm water both during and after construction activities to help ensure protection of surface water quality during storm events. Appropriate controls would be those suitable to the site conditions and consistent with generally accepted engineering design criteria and manufacturer specifications. Selection of BMPs could also be affected by seasonal or climate conditions.

(3) Large and medium municipal separate storm sewer systems.

(i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

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(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(1) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

(2) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(3) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4)(i), (ii), and (iii) or (b)(7)(i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(4) Discharges through large and medium municipal separate storm sewer systems. In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the

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location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) Other municipal separate storm sewers. The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) Non-municipal separate storm sewers. For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) Combined sewer systems. Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. See 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(9)(i) On and after October 1, 1994, for discharges composed entirely of storm water, that are not required by paragraph (a)(1) of this section to obtain a permit, operators shall be required to obtain a NPDES permit only if:

(A) The discharge is from a small MS4 required to be regulated pursuant to § 122.32;

(B) The discharge is a storm water discharge associated with small construction activity pursuant to paragraph (b)(15) of this section;

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(C) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that storm water controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern; or

(D) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(ii) Operators of small MS4s designated pursuant to paragraphs (a)(9)(i)(A), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with §§ 122.33 through 122.35. Operators of non-municipal sources designated pursuant to paragraphs (a)(9)(i)(B), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with paragraph (c)(1) of this section.

(iii) Operators of storm water discharges designated pursuant to paragraphs (a)(9)(i)(C) and (a)(9)(i)(D) of this section shall apply to the Director for a permit within 180 days of receipt of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter).

(b) Definitions.

(1) Co-permittee means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) Incorporated place means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) Large municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of this part); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal

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separate storm sewers described under paragraph (b)(4)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4)(i), (ii), (iii) of this section.

(5) Major municipal separate storm sewer outfall (or "major outfall") means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) Major outfall means a major municipal separate storm sewer outfall.

(7) Medium municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census (appendix G of this part); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(7)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal

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separate storm sewers described under paragraph (b)(7)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

(9) Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

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(10) Overburden means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) Runoff coefficient means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in “industrial activity” for purposes of paragraph (b)(14):

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified within Standard Industrial Classification 24, Industry Group 241 that are rock crushing, gravel washing, log sorting, or log storage facilities operated in connection with silvicultural activities defined in 40 CFR 122.27(b)(2)-(3) and Industry Groups 242 through 249; 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373; (not included are all other types of silviculture facilities);

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(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221–25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)–(vii) or (ix)–(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres

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of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221–25;

(15) Storm water discharge associated with small construction activity means the discharge of storm water from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The Director may waive the otherwise applicable requirements in a general permit for a storm water discharge from construction activities that disturb less than five acres where:

(A) The value of the rainfall erosivity factor ("R" in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE), pages 21–64, dated January 1997. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained at EPA's Water Docket, 1200 Pennsylvania Avenue NW, Washington, DC 20460. For information on the availability of this material at National Archives and Records Administration, call 202–741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. An operator must certify to the Director that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five; or

(B) Storm water controls are not needed based on a "total maximum daily load" (TMDL) approved or established by EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. For the purpose of this paragraph, the pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis.

(C) As of December 21, 2020 all certifications submitted in compliance with paragraphs (b)(15)(i)(A) and (B) of this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements

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for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

(ii) Any other construction activity designated by the Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

Exhibit 1 to § 122.26(b)(15).—Summary of Coverage of "Storm Water Discharges Associated with Small Construction Activity" Under the NPDES Storm Water Program

Automatic Designation: Required Nationwide Coverage	· Construction activities that result in a land disturbance of equal to or greater than one acre and less than five acres. · Construction activities disturbing less than one acre if part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and less than five acres. (see § 122.26(b)(15)(i).)
Potential Designation: Optional Evaluation and Designation by the NPDES Permitting Authority or EPA Regional Administrator.	· Construction activities that result in a land disturbance of less than one acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants. (see § 122.26(b)(15)(ii).)
Potential Waiver: Waiver from Requirements as Determined by the NPDES Permitting Authority.	Any automatically designated construction activity where the operator certifies: (1) A rainfall erosivity factor of less than five, or (2) That the activity will occur within an area where controls are not needed based on a TMDL or, for non-impaired waters that do not require a TMDL, an equivalent analysis for the pollutant(s) of concern. (see § 122.26(b)(15)(i).)

(16) Small municipal separate storm sewer system means all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

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(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

(17) Small MS4 means a small municipal separate storm sewer system.

(18) Municipal separate storm sewer system means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to paragraphs (b)(4), (b)(7), and (b)(16) of this section, or designated under paragraph (a)(1)(v) of this section.

(19) MS4 means a municipal separate storm sewer system.

(20) Uncontrolled sanitary landfill means a landfill or open dump, whether in operation or closed, that does not meet the requirements for runon or runoff controls established pursuant to subtitle D of the Solid Waste Disposal Act.

(c) Application requirements for storm water discharges associated with industrial activity and storm water discharges associated with small construction activity—

(1) Individual application. Dischargers of storm water associated with industrial activity and with small construction activity are required to apply for an individual permit or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit or any discharge of storm water which the Director is evaluating for designation (see 124.52(c) of this chapter) under paragraph (a)(1)(v) of this section and is not a municipal storm sewer, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of this paragraph.

(i) Except as provided in § 122.26(c)(1)(ii)–(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored

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or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(1) Any pollutant limited in an effluent guideline to which the facility is subject;

(2) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(3) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(4) Any information on the discharge required under § 122.21(g)(7)(vi) and (vii);

(5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21(g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(iii), (g)(7)(iv), (g)(7)(v), and (g)(7)(viii); and

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(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) An operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section or is associated with small construction activity solely under paragraph (b)(15) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or

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(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under § 122.21(g)(13) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) [Reserved]

(d) Application requirements for large and medium municipal separate storm sewer discharges. The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include;

(1) Part 1. Part 1 of the application shall consist of;

(i) General information. The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) Legal authority. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) Source identification.

(A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

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(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(1) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(2) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;

(3) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(4) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(5) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

(6) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) Discharge characterization.

(A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(1) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

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(2) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(3) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(4) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(5) Areas of concern of the Great Lakes identified by the International Joint Commission;

(6) Designated estuaries under the National Estuary Program under section 320 of the CWA;

(7) Recognized by the applicant as highly valued or sensitive waters;

(8) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and

(9) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) Field screening. Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

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(1) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (1) through (6) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced ¼ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) Characterization plan. Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (see paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) Management programs.

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(A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) Fiscal resources.

(A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) Part 2. Part 2 of the application shall consist of:

(i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

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(ii) Source identification. The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) Characterization data. When "quantitative data" for a pollutant are required under paragraph (d)(2)(iii)(A)(3) of this section, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under part 136 of this chapter. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(3) For samples collected and described under paragraphs (d)(2)(iii)(A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

COD

BOD_5

Oil and grease

Fecal coliform

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Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD_5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the

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maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

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(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

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(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD_5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under § 122.21(g)(7)(vi) and (vii).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) Fiscal analysis. For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer

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identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) Application deadlines. Any operator of a point source required to obtain a permit under this section that does not have an effective NPDES permit authorizing discharges from its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) Storm water discharges associated with industrial activity.

(i) Except as provided in paragraph (e)(1)(ii) of this section, for any storm water discharge associated with industrial activity identified in paragraphs (b)(14)(i) through (xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or that is not authorized by a storm water general permit, a permit application made pursuant to paragraph (c) of this section must be submitted to the Director by October 1, 1992;

(ii) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 that is not authorized by a general or individual permit, other than an airport, powerplant, or uncontrolled sanitary landfill, the permit application must be submitted to the Director by March 10, 2003.

(2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1.

(A) Except as provided in paragraph (e)(2)(i)(B) of this section, part 1 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by September 30, 1991;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 18, 1992.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2.

(A) Except as provided in paragraph (e)(2)(iii)(B) of this section, part 2 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by October 1, 1992;

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(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 17, 1993.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(iv) Rejected facilities.

(A) Except as provided in paragraph (e)(2)(iv)(B) of this section, facilities that are rejected as members of the group shall submit an individual application (or obtain coverage under an applicable general permit) no later than 12 months after the date of receipt of the notice of rejection or October 1, 1992, whichever comes first.

(B) Facilities that are owned or operated by a municipality and that are rejected as members of part 1 group application shall submit an individual application no later than 180 days after the date of receipt of the notice of rejection or October 1, 1992, whichever is later.

(v) A facility listed under paragraph (b)(14) (i)–(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18,1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

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(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 180 days of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter), for:

(i) A storm water discharge that the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraphs (a)(1)(v) and (b)(15)(ii) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. Facilities with permits for storm water discharges associated with industrial activity which expire on or after May 18, 1992 shall submit a new application in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) (Form 1, Form 2F, and other applicable Forms) 180 days before the expiration of such permits.

(7) The Director shall issue or deny permits for discharges composed entirely of storm water under this section in accordance with the following schedule:

(i)(A) Except as provided in paragraph (e)(7)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than October 1, 1993, or, for new sources or existing sources which fail to submit a complete permit application by October 1, 1992, one year after receipt of a complete permit application;

(B) For any municipality with a population of less than 250,000 which submits a timely Part I group application under paragraph (e)(2)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than May 17, 1994, or, for any such municipality which fails to submit a complete Part II group permit application by May 17, 1993, one year after receipt of a complete permit application;

(ii) The Director shall issue or deny permits for large municipal separate storm sewer systems no later than November 16, 1993, or, for new sources or existing sources which fail to submit a complete permit application by November 16, 1992, one year after receipt of a complete permit application;

(iii) The Director shall issue or deny permits for medium municipal separate storm sewer systems no later than May 17, 1994, or, for new sources or existing sources which fail to submit a complete permit application by May 17, 1993, one year after receipt of a complete permit application.

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(8) For any storm water discharge associated with small construction activities identified in paragraph (b)(15)(i) of this section, see § 122.21(c)(1). Discharges from these sources require permit authorization by March 10, 2003, unless designated for coverage before then.

(9) For any discharge from a regulated small MS4, the permit application made under § 122.33 must be submitted to the Director by:

(i) March 10, 2003 if designated under § 122.32(a)(1) unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under § 123.35(d)(3) (see § 122.33(c)(1)); or

(ii) Within 180 days of notice, unless the NPDES permitting authority grants a later date, if designated under § 122.32(a)(2) (see § 122.33(c)(2)).

(f) Petitions.

(1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large, medium, or small municipal separate storm sewer system as defined by paragraph (b)(4)(iv), (b)(7)(iv), or (b)(16) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition with the exception of petitions to designate a small MS4 in which case the Director shall make a final determination on the petition within 180 days after its receipt.

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(g) Conditional exclusion for "no exposure" of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is "no exposure" of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. "No exposure" means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to § 122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years. As of December 21, 2020 all certifications submitted in compliance with this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

(iv) Allow the Director to inspect the facility to determine compliance with the "no exposure" conditions;

(v) Allow the Director to make any "no exposure" inspection reports available to the public upon request; and

(vi) For facilities that discharge through an MS4, upon request, submit a copy of the certification of "no exposure" to the MS4 operator, as well as allow inspection and public reporting by the MS4 operator.

(2) Industrial materials and activities not requiring storm resistant shelter. To qualify for this exclusion, storm resistant shelter is not required for:

(i) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak ("Sealed" means banded or otherwise secured and without operational taps or valves);

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(ii) Adequately maintained vehicles used in material handling; and

(iii) Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt).

(3) Limitations.

(i) Storm water discharges from construction activities identified in paragraphs (b)(14)(x) and (b)(15) are not eligible for this conditional exclusion.

(ii) This conditional exclusion from the requirement for an NPDES permit is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be "no exposure" discharges, individual permit requirements should be adjusted accordingly.

(iii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.

(iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

(4) Certification. The no exposure certification must require the submission of the following information, at a minimum, to aid the NPDES permitting authority in determining if the facility qualifies for the no exposure exclusion:

(i) The legal name, address and phone number of the discharger (see § 122.21(b));

(ii) The facility name and address, the county name and the latitude and longitude where the facility is located;

(iii) The certification must indicate that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation:

(A) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water;

(B) Materials or residuals on the ground or in storm water inlets from spills/leaks;

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(C) Materials or products from past industrial activity;

(D) Material handling equipment (except adequately maintained vehicles);

(E) Materials or products during loading/unloading or transporting activities;

(F) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);

(G) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

(H) Materials or products handled/stored on roads or railways owned or maintained by the discharger;

(I) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);

(J) Application or disposal of process wastewater (unless otherwise permitted); and

(K) Particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow;

(iv) All "no exposure" certifications must include the following certification statement, and be signed in accordance with the signatory requirements of § 122.22: "I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under paragraph (g)(2)) of this section. I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Credits

[54 FR 255, Jan. 4, 1989; 55 FR 48063, Nov. 16, 1990; 56 FR 12100. March 21, 1991; 56 FR 56554, Nov. 5, 1991; 57 FR 11412, April 2, 1992; 57 FR 60447, Dec. 18, 1992; 60 FR 17956, April 7, 1995; 60 FR 40235, Aug. 7, 1995; 64 FR 68838,

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Dec. 8, 1999; 65 FR 30907, May 15, 2000; 68 FR 11329, March 10, 2003; 70 FR 11563, March 9, 2005; 71 FR 33639, June 12, 2006; 77 FR 72974, Dec. 7, 2012; 80 FR 64096, Oct. 22, 2015]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (78)

Current through May 24, 2018; 83 FR 24044.

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ATTACHMENT A-13

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart B. Permit Application and Special NPDES Program Requirements

40 C.F.R. § 122.34

§ 122.34 Permit requirements for regulated small MS4 permits.

Effective: January 9, 2017
Currentness

(a) General requirements. For any permit issued to a regulated small MS4, the NPDES permitting authority must include permit terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions that satisfy the requirements of this section must be expressed in clear, specific, and measurable terms. Such terms and conditions may include narrative, numeric, or other types of requirements (e.g., implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions).

(1) For permits providing coverage to any small MS4s for the first time, the NPDES permitting authority may specify a time period of up to 5 years from the date of permit issuance for the permittee to fully comply with the conditions of the permit and to implement necessary BMPs.

(2) For each successive permit, the NPDES permitting authority must include terms and conditions that meet the requirements of this section based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information.

(b) Minimum control measures. The permit must include requirements that ensure the permittee implements, or continues to implement, the minimum control measures in paragraphs (b)(1) through (6) of this section during the permit term. The permit must also require a written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure.

(1) Public education and outreach on storm water impacts.

(i) The permit must identify the minimum elements and require implementation of a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

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(ii) Guidance for NPDES permitting authorities and regulated small MS4s: The permittee may use storm water educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the permit require the permittee to tailor the public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that the permit require that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permit should encourage the permittee to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(2) Public involvement/participation.

(i) The permit must identify the minimum elements and require implementation of a public involvement/participation program that complies with State, Tribal, and local public notice requirements.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit include provisions addressing the need for the public to be included in developing, implementing, and reviewing the storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

(3) Illicit discharge detection and elimination.

(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to detect and eliminate illicit discharges (as defined at § 122.26(b)(2)) into the small MS4. At a minimum, the permit must require the permittee to:

(A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

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(B) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions;

(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system; and

(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(ii) The permit must also require the permittee to address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if the permittee identifies them as a significant contributor of pollutants to the small MS4: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(b)(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

(iii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit require the plan to detect and address illicit discharges include the following four components: Procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends that the permit require the permittee to visually screen outfalls during dry weather and conduct field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

(4) Construction site storm water runoff control.

(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to reduce pollutants in any storm water runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Director waives requirements for storm water discharges associated with small construction activity in accordance with § 122.26(b)(15)(i), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites. At a minimum, the permit must require the permittee to develop and implement:

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(A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

(B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(E) Procedures for receipt and consideration of information submitted by the public, and

(F) Procedures for site inspection and enforcement of control measures.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that the procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. EPA also recommends that the permit require the permittee to provide appropriate educational and training measures for construction site operators, and require storm water pollution prevention plans for construction sites within the MS4's jurisdiction that discharge into the system. See § 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see § 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the NPDES permitting authority, may be responsible for implementing one or more of the minimum measures on the permittee's behalf).

(5) Post-construction storm water management in new development and redevelopment.

(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the small MS4. The permit must ensure that controls are in place that would prevent or minimize water quality impacts. At a minimum, the permit must require the permittee to:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community;

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(B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the permit ensure that BMPs included in the program: Be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. EPA encourages the permittee to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, EPA recommends that the permit require the permittee to adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing the program, the permit should also require the permittee to assess existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, the permit should require the permittee to provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: Storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that the permit requirements be responsive to these changes, developments or improvements in control technologies.

(6) Pollution prevention/good housekeeping for municipal operations.

(i) The permit must identify the minimum elements and require the development and implementation of an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the State, Tribe, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

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(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit address the following: Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

(c) Other applicable requirements. As appropriate, the permit will include:

(1) More stringent terms and conditions, including permit requirements that modify, or are in addition to, the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis, or where the Director determines such terms and conditions are needed to protect water quality.

(2) Other applicable NPDES permit requirements, standards and conditions established in the individual or general permit, developed consistent with the provisions of §§ 122.41 through 122.49.

(d) Evaluation and assessment requirements—

(1) Evaluation. The permit must require the permittee to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the components of its storm water management program, and the status of achieving the measurable requirements in the permit.

Note to paragraph (d)(1): The NPDES permitting authority may determine monitoring requirements for the permittee in accordance with State/Tribal monitoring plans appropriate to the watershed. Participation in a group monitoring program is encouraged.

(2) Recordkeeping. The permit must require that the permittee keep records required by the NPDES permit for at least 3 years and submit such records to the NPDES permitting authority when specifically asked to do so. The permit must require the permittee to make records, including a written description of the storm water management program, available to the public at reasonable times during regular business hours (see § 122.7 for confidentiality

provision). (The permittee may assess a reasonable charge for copying. The permit may allow the permittee to require a member of the public to provide advance notice.)

(3) Reporting. Unless the permittee is relying on another entity to satisfy its NPDES permit obligations under § 122.35(a), the permittee must submit annual reports to the NPDES permitting authority for its first permit term. For subsequent permit terms, the permittee must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports. As of December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the small MS4 to the NPDES permitting authority or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the owner, operator, or the duly authorized representative of the small MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. The report must include:

(i) The status of compliance with permit terms and conditions;

(ii) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

(iii) A summary of the storm water activities the permittee proposes to undertake to comply with the permit during the next reporting cycle;

(iv) Any changes made during the reporting period to the permittee's storm water management program; and

(v) Notice that the permittee is relying on another governmental entity to satisfy some of the permit obligations (if applicable), consistent with § 122.35(a).

(e) Qualifying local program. If an existing qualifying local program requires the permittee to implement one or more of the minimum control measures of paragraph (b) of this section, the NPDES permitting authority may include conditions in the NPDES permit that direct the permittee to follow that qualifying program's requirements rather than the requirements of paragraph (b). A qualifying local program is a local, State or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b).

Credits

[64 FR 68842, Dec. 8, 1999; 80 FR 64097, Oct. 22, 2015; 81 FR 89349, Dec. 9, 2016]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (4)

Current through May 24, 2018; 83 FR 24044.

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End of Document

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ATTACHMENT A-14

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart C. Permit Conditions

40 C.F.R. § 122.41

§ 122.41 Conditions applicable to all permits (applicable to State programs, see § 123.25).

Effective: December 21, 2015
Currentness

The following conditions apply to all NPDES permits. Additional conditions applicable to NPDES permits are in § 122.42. All conditions applicable to NPDES permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.

(a) Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than

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$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

(b) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(g) Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to provide information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

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(i) Inspection and entry. The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

(j) Monitoring and records.

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

(3) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

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(vi) The results of such analyses.

(4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless another method is required under 40 CFR subchapters N or O.

(5) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

(k) Signatory requirements.

(1) All applications, reports, or information submitted to the Director shall be signed and certified. (See § 122.22)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(l) Reporting requirements.—

(1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in § 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under § 122.42(a)(1).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

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(3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See § 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A report shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times), and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combine sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows,

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or bypass events submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See § 122.41(g).

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See § 122.44(g).)

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraph (l)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6). For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph (l)(6) and the applicable required data in appendix A to 40 CFR part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

(8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

(9) Identification of the initial recipient for NPDES electronic reporting data. The owner, operator, or the duly authorized representative of an NPDES–regulated entity is required to electronically submit the required NPDES information (as specified in appendix A to 40 CFR part 127) to the appropriate initial recipient, as determined by

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EPA, and as defined in § 127.2(b) of this chapter. EPA will identify and publish the list of initial recipients on its Web site and in the Federal Register, by state and by NPDES data group [see § 127.2(c) of this chapter]. EPA will update and maintain this listing.

(m) Bypass—

(1) Definitions.

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also it for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (m)(3) and (m)(4) of this section.

(3) Notice—

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass. As of December 21, 2020 all notices submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (l)(6) of this section (24–hour notice). As of December 21, 2020 all notices submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(4) Prohibition of bypass.

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(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

(n) Upset—

(1) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph (1)(6)(ii)(B) of this section (24 hour notice).

(iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

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(4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(Clean Water Act (33 U.S.C. 1251 et seq.), Safe Drinking Water Act (42 U.S.C. 300f et seq.), Clean Air Act (42 U.S.C. 7401 et seq.), Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.))

Editorial Note: In paragraphs (j)(2), (4) and (l)(4)(ii), there are references to 40 CFR part 503. These references are to a proposed rule which was published at 54 FR 5746, Feb. 6, 1989. There is currently no part 503 in the Code of Federal Regulations.

Credits

[48 FR 39620, Sept. 1, 1983; 49 FR 38049, Sept. 26, 1984; 50 FR 4514, Jan. 31, 1985; 50 FR 6941, Feb. 19, 1985; 54 FR 255, Jan. 4, 1989; 54 FR 18783, May 2, 1989; 58 FR 18016, April 7, 1993; 65 FR 30908, May 15, 2000; 72 FR 11211, March 12, 2007; 80 FR 64097, Oct. 22, 2015]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (528)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-15

KeyCite Yellow Flag - Negative Treatment
Unconstitutional or PreemptedPrior Version Held Invalid Waterkeeper Alliance, Inc. v. U.S. E.P.A., 2nd Cir., Feb. 28, 2005

40 C.F.R. § 122.42

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

Effective: February 7, 2018
Currentness

The following conditions, in addition to those set forth in § 122.41, apply to all NPDES permits within the categories specified below:

(a) Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under § 122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 µg/l);

(ii) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4–dinitrophenol and for 2–methyl–4,6–dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with § 122.21(g)(7); or

(iv) The level established by the Director in accordance with § 122.44(f).

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) Five hundred micrograms per liter (500 µg/l);

(ii) One milligram per liter (1 mg/l) for antimony;

(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with § 122.21(g)(7).

(iv) The level established by the Director in accordance with § 122.44(f).

(b) Publicly owned treatment works. All POTWs must provide adequate notice to the Director of the following:

(1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to sections 301 or 306 of CWA if it were directly discharging those pollutants; and

(2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

(3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(c) Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the permit for such system. As of December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the MS4 to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the owner, operator, or the duly authorized representative of the MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part;

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(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;

(7) Identification of water quality improvements or degradation;

(d) Storm water discharges. The initial permits for discharges composed entirely of storm water issued pursuant to § 122.26(e)(7) of this part shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

(e) Concentrated animal feeding operations (CAFOs). Any permit issued to a CAFO must include the requirements in paragraphs (e)(1) through (e)(6) of this section.

(1) Requirement to implement a nutrient management plan. Any permit issued to a CAFO must include a requirement to implement a nutrient management plan that, at a minimum, contains best management practices necessary to meet the requirements of this paragraph and applicable effluent limitations and standards, including those specified in 40 CFR part 412. The nutrient management plan must, to the extent applicable:

(i) Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities;

(ii) Ensure proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities;

(iii) Ensure that clean water is diverted, as appropriate, from the production area;

(iv) Prevent direct contact of confined animals with waters of the United States;

(v) Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants;

(vi) Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States;

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(vii) Identify protocols for appropriate testing of manure, litter, process wastewater, and soil;

(viii) Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater; and

(ix) Identify specific records that will be maintained to document the implementation and management of the minimum elements described in paragraphs (e)(1)(i) through (e)(1)(viii) of this section.

(2) Recordkeeping requirements.

(i) The permittee must create, maintain for five years, and make available to the Director, upon request, the following records:

(A) All applicable records identified pursuant paragraph (e)(1)(ix) of this section;

(B) In addition, all CAFOs subject to 40 CFR part 412 must comply with record keeping requirements as specified in § 412.37(b) and (c) and § 412.47(b) and (c).

(ii) A copy of the CAFO's site-specific nutrient management plan must be maintained on site and made available to the Director upon request.

(3) Requirements relating to transfer of manure or process wastewater to other persons. Prior to transferring manure, litter or process wastewater to other persons, Large CAFOs must provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis. The analysis provided must be consistent with the requirements of 40 CFR part 412. Large CAFOs must retain for five years records of the date, recipient name and address, and approximate amount of manure, litter or process wastewater transferred to another person.

(4) Annual reporting requirements for CAFOs. The permittee must submit an annual report to the Director. As of December 21, 2020 all annual reports submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the permittee may be required to report electronically if specified by a particular permit or if required to do so by state law. The annual report must include:

(i) The number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

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(ii) Estimated amount of total manure, litter and process wastewater generated by the CAFO in the previous 12 months (tons/gallons);

(iii) Estimated amount of total manure, litter and process wastewater transferred to other person by the CAFO in the previous 12 months (tons/gallons);

(iv) Total number of acres for land application covered by the nutrient management plan developed in accordance with paragraph (e)(1) of this section;

(v) Total number of acres under control of the CAFO that were used for land application of manure, litter and process wastewater in the previous 12 months;

(vi) Summary of all manure, litter and process wastewater discharges from the production area that have occurred in the previous 12 months, including, for each discharge, the date of discovery, duration of discharge, and approximate volume; and

(vii) A statement indicating whether the current version of the CAFO's nutrient management plan was developed or approved by a certified nutrient management planner; and

(viii) The actual crop(s) planted and actual yield(s) for each field, the actual nitrogen and phosphorus content of the manure, litter, and process wastewater, the results of calculations conducted in accordance with paragraphs (e)(5)(i)(B) and (e)(5)(ii)(D) of this section, and the amount of manure, litter, and process wastewater applied to each field during the previous 12 months; and, for any CAFO that implements a nutrient management plan that addresses rates of application in accordance with paragraph (e)(5)(ii) of this section, the results of any soil testing for nitrogen and phosphorus taken during the preceding 12 months, the data used in calculations conducted in accordance with paragraph (e)(5)(ii)(D) of this section, and the amount of any supplemental fertilizer applied during the previous 12 months.

(5) Terms of the nutrient management plan. Any permit issued to a CAFO must require compliance with the terms of the CAFO's site-specific nutrient management plan. The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan determined by the Director to be necessary to meet the requirements of paragraph (e)(1) of this section. The terms of the nutrient management plan, with respect to protocols for land application of manure, litter, or process wastewater required by paragraph (e)(1)(viii) of this section and, as applicable, 40 CFR 412.4(c), must include the fields available for land application; field-specific rates of application properly developed, as specified in paragraphs (e)(5)(i) through (ii) of this section, to ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater; and any timing limitations identified in the nutrient management plan concerning land application on the fields available for land application. The terms must address rates of application using one of the following two approaches, unless the Director specifies that only one of these approaches may be used:

(i) Linear approach. An approach that expresses rates of application as pounds of nitrogen and phosphorus, according to the following specifications:

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(A) The terms include maximum application rates from manure, litter, and process wastewater for each year of permit coverage, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, per year, for each field to be used for land application, and certain factors necessary to determine such rates. At a minimum, the factors that are terms must include: The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses of a field such as pasture or fallow fields; the realistic yield goal for each crop or use identified for each field; the nitrogen and phosphorus recommendations from sources specified by the Director for each crop or use identified for each field; credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; and accounting for all other additions of plant available nitrogen and phosphorus to the field. In addition, the terms include the form and source of manure, litter, and process wastewater to be land-applied; the timing and method of land application; and the methodology by which the nutrient management plan accounts for the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

(B) Large CAFOs that use this approach must calculate the maximum amount of manure, litter, and process wastewater to be land applied at least once each year using the results of the most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application; or

(ii) Narrative rate approach. An approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied, according to the following specifications:

(A) The terms include maximum amounts of nitrogen and phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, for each field, and certain factors necessary to determine such amounts. At a minimum, the factors that are terms must include: the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses such as pasture or fallow fields (including alternative crops identified in accordance with paragraph (e)(5)(ii)(B) of this section); the realistic yield goal for each crop or use identified for each field; and the nitrogen and phosphorus recommendations from sources specified by the Director for each crop or use identified for each field. In addition, the terms include the methodology by which the nutrient management plan accounts for the following factors when calculating the amounts of manure, litter, and process wastewater to be land applied: Results of soil tests conducted in accordance with protocols identified in the nutrient management plan, as required by paragraph (e)(1)(vii) of this section; credits for all nitrogen in the field that will be plant available; the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; the form and source of manure, litter, and process wastewater; the timing and method of land application; and volatilization of nitrogen and mineralization of organic nitrogen.

(B) The terms of the nutrient management plan include alternative crops identified in the CAFO's nutrient management plan that are not in the planned crop rotation. Where a CAFO includes alternative crops in its nutrient management plan, the crops must be listed by field, in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan must include realistic crop yield goals and the nitrogen and phosphorus recommendations from sources specified by the Director for each crop. Maximum amounts of nitrogen and phosphorus from all sources of nutrients and the amounts of manure,

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litter, and process wastewater to be applied must be determined in accordance with the methodology described in paragraph (e)(5)(ii)(A) of this section.

(C) For CAFOs using this approach, the following projections must be included in the nutrient management plan submitted to the Director, but are not terms of the nutrient management plan: The CAFO's planned crop rotations for each field for the period of permit coverage; the projected amount of manure, litter, or process wastewater to be applied; projected credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; and the predicted form, source, and method of application of manure, litter, and process wastewater for each crop. Timing of application for each field, insofar as it concerns the calculation of rates of application, is not a term of the nutrient management plan.

(D) CAFOs that use this approach must calculate maximum amounts of manure, litter, and process wastewater to be land applied at least once each year using the methodology required in paragraph (e)(5)(ii)(A) of this section before land applying manure, litter, and process wastewater and must rely on the following data:

(1) A field-specific determination of soil levels of nitrogen and phosphorus, including, for nitrogen, a concurrent determination of nitrogen that will be plant available consistent with the methodology required by paragraph (e)(5)(ii)(A) of this section, and for phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Director; and

(2) The results of most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

(6) Changes to a nutrient management plan. Any permit issued to a CAFO must require the following procedures to apply when a CAFO owner or operator makes changes to the CAFO's nutrient management plan previously submitted to the Director:

(i) The CAFO owner or operator must provide the Director with the most current version of the CAFO's nutrient management plan and identify changes from the previous version, except that the results of calculations made in accordance with the requirements of paragraphs (e)(5)(i)(B) and (e)(5)(ii)(D) of this section are not subject to the requirements of paragraph (e)(6) of this section.

(ii) The Director must review the revised nutrient management plan to ensure that it meets the requirements of this section and applicable effluent limitations and standards, including those specified in 40 CFR part 412, and must determine whether the changes to the nutrient management plan necessitate revision to the terms of the nutrient management plan incorporated into the permit issued to the CAFO. If revision to the terms of the nutrient management plan is not necessary, the Director must notify the CAFO owner or operator and upon such notification the CAFO may implement the revised nutrient management plan. If revision to the terms of the nutrient management plan is necessary, the Director must determine whether such changes are substantial changes as described in paragraph (e)(6)(iii) of this section.

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(A) If the Director determines that the changes to the terms of the nutrient management plan are not substantial, the Director must make the revised nutrient management plan publicly available and include it in the permit record, revise the terms of the nutrient management plan incorporated into the permit, and notify the owner or operator and inform the public of any changes to the terms of the nutrient management plan that are incorporated into the permit.

(B) If the Director determines that the changes to the terms of the nutrient management plan are substantial, the Director must notify the public and make the proposed changes and the information submitted by the CAFO owner or operator available for public review and comment. The process for public comments, hearing requests, and the hearing process if a hearing is held must follow the procedures applicable to draft permits set forth in 40 CFR 124.11 through 124.13. The Director may establish, either by regulation or in the CAFO's permit, an appropriate period of time for the public to comment and request a hearing on the proposed changes that differs from the time period specified in 40 CFR 124.10. The Director must respond to all significant comments received during the comment period as provided in 40 CFR 124.17, and require the CAFO owner or operator to further revise the nutrient management plan if necessary, in order to approve the revision to the terms of the nutrient management plan incorporated into the CAFO's permit. Once the Director incorporates the revised terms of the nutrient management plan into the permit, the Director must notify the owner or operator and inform the public of the final decision concerning revisions to the terms and conditions of the permit.

(iii) Substantial changes to the terms of a nutrient management plan incorporated as terms and conditions of a permit include, but are not limited to:

(A) Addition of new land application areas not previously included in the CAFO's nutrient management plan. Except that if the land application area that is being added to the nutrient management plan is covered by terms of a nutrient management plan incorporated into an existing NPDES permit in accordance with the requirements of paragraph (e)(5) of this section, and the CAFO owner or operator applies manure, litter, or process wastewater on the newly added land application area in accordance with the existing field-specific permit terms applicable to the newly added land application area, such addition of new land would be a change to the new CAFO owner or operator's nutrient management plan but not a substantial change for purposes of this section;

(B) Any changes to the field-specific maximum annual rates for land application, as set forth in paragraphs (e)(5)(i) of this section, and to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop, as set forth in paragraph (e)(5)(ii) of this section;

(C) Addition of any crop or other uses not included in the terms of the CAFO's nutrient management plan and corresponding field-specific rates of application expressed in accordance with paragraph (e)(5) of this section; and

(D) Changes to site-specific components of the CAFO's nutrient management plan, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the U.S.

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(iv) For EPA–issued permits only. Upon incorporation of the revised terms of the nutrient management plan into the permit, 40 CFR 124.19 specifies procedures for appeal of the permit decision. In addition to the procedures specified at 40 CFR 124.19, a person must have submitted comments or participated in the public hearing in order to appeal the permit decision.

(f) Public notification requirements for CSO discharges to the Great Lakes Basin. Any permit issued authorizing the discharge of a combined sewer overflow (CSO) to the Great Lakes Basin must:

(1) Require implementation of the public notification requirements in § 122.38(a);

(2) Specify the information that must be included on discharge point signage, which, at a minimum, must include those elements in § 122.38(a)(1)(ii);

(3) Specify discharge points and public access areas where signs are required pursuant to § 122.38(a)(1)(i);

(4) Specify the timing and minimum information required for providing initial and supplemental notification to:

(i) Local public health department and other potentially affected entities under § 122.38(a)(2); and

(ii) The public under § 122.38(a)(3).

(5) Specify the location of CSO discharges that must be monitored for volume and discharge duration and the location of CSO discharges where CSO volume and duration may be estimated; and

(6) Require submittal of an annual notice in accordance with § 122.38(b);

(7) Specify protocols for making the annual notice under § 122.38(b) available to the public.

Credits

[49 FR 38049, Sept. 26, 1984; 50 FR 4514, Jan. 31, 1985; 55 FR 48073, Nov. 16, 1990; 57 FR 60448, Dec. 18, 1992; 68 FR 7268, Feb. 12, 2003; 71 FR 6984, Feb. 10, 2006; 72 FR 40250, July 24, 2007; 73 FR 70483, Nov. 20, 2008; 80 FR 64098, Oct. 22, 2015; 83 FR 732, Jan. 8, 2018]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (1)

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ATTACHMENT A-16

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart C. Permit Conditions

40 C.F.R. § 122.44

§ 122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see § 123.25).

Effective: December 21, 2015
Currentness

In addition to the conditions established under § 122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable.

(a)(1) Technology-based effluent limitations and standards based on: effluent limitations and standards promulgated under section 301 of the CWA, or new source performance standards promulgated under section 306 of CWA, on case-by-case effluent limitations determined under section 402(a)(1) of CWA, or a combination of the three, in accordance with § 125.3 of this chapter. For new sources or new dischargers, these technology based limitations and standards are subject to the provisions of § 122.29(d) (protection period).

(2) Monitoring waivers for certain guideline-listed pollutants.

(i) The Director may authorize a discharger subject to technology-based effluent limitations guidelines and standards in an NPDES permit to forego sampling of a pollutant found at 40 CFR Subchapter N of this chapter if the discharger has demonstrated through sampling and other technical factors that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(ii) This waiver is good only for the term of the permit and is not available during the term of the first permit issued to a discharger.

(iii) Any request for this waiver must be submitted when applying for a reissued permit or modification of a reissued permit. The request must demonstrate through sampling or other technical information, including information generated during an earlier permit term that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(iv) Any grant of the monitoring waiver must be included in the permit as an express permit condition and the reasons supporting the grant must be documented in the permit's fact sheet or statement of basis.

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(v) This provision does not supersede certification processes and requirements already established in existing effluent limitations guidelines and standards.

(b)(1) Other effluent limitations and standards under sections 301, 302, 303, 307, 318, and 405 of CWA. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the Director shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. See also § 122.41(a).

(2) Standards for sewage sludge use or disposal under section 405(d) of the CWA unless those standards have been included in a permit issued under the appropriate provisions of subtitle C of the Solid Waste Disposal Act, Part C of Safe Drinking Water Act, the Marine Protection, Research, and Sanctuaries Act of 1972, or the Clean Air Act, or under State permit programs approved by the Administrator. When there are no applicable standards for sewage sludge use or disposal, the permit may include requirements developed on a case-by-case basis to protect public health and the environment from any adverse effects which may occur from toxic pollutants in sewage sludge. If any applicable standard for sewage sludge use or disposal is promulgated under section 405(d) of the CWA and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Director may initiate proceedings under these regulations to modify or revoke and reissue the permit to conform to the standard for sewage sludge use or disposal.

(3) Requirements applicable to cooling water intake structures under section 316(b) of the CWA, in accordance with part 125, subparts I, J, and N of this chapter.

(c) Reopener clause: For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

(d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318, and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.

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(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.

(iv) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the numeric criterion for whole effluent toxicity, the permit must contain effluent limits for whole effluent toxicity.

(v) Except as provided in this subparagraph, when the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the permitting authority demonstrates in the fact sheet or statement of basis of the NPDES permit, using the procedures in paragraph (d)(1)(ii) of this section, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.

(vi) Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or

(C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

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(2) The fact sheet required by § 124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(3) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(4) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

(vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

(A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and

(B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

(2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;

(3) Conform to the conditions to a State certification under section 401 of the CWA that meets the requirements of § 124.53 when EPA is the permitting authority. If a State certification is stayed by a court of competent jurisdiction or an appropriate State board or agency, EPA shall notify the State that the Agency will deem certification waived unless a finally effective State certification is received within sixty days from the date of the notice. If the State does not forward a finally effective certification within the sixty day period, EPA shall include conditions in the permit that may be necessary to meet EPA's obligation under section 301(b)(1)(C) of the CWA;

(4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;

(5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;

(6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under section 208(b) of CWA;

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(7) Incorporate section 403(c) criteria under part 125, subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by "fundamentally different factors," under 40 CFR part 125, subpart D;

(9) Incorporate any other appropriate requirements, conditions, or limitations (other than effluent limitations) into a new source permit to the extent allowed by the National Environmental Policy Act, 42 U.S.C. 4321 et seq. and section 511 of the CWA, when EPA is the permit issuing authority. (See § 122.29(c)).

(e) Technology–based controls for toxic pollutants. Limitations established under paragraphs (a), (b), or (d) of this section, to control pollutants meeting the criteria listed in paragraph (e)(1) of this section. Limitations will be established in accordance with paragraph (e)(2) of this section. An explanation of the development of these limitations shall be included in the fact sheet under § 124.56(b)(1)(i).

(1) Limitations must control all toxic pollutants which the Director determines (based on information reported in a permit application under § 122.21(g)(7) or in a notification under § 122.42(a)(1) or on other information) are or may be discharged at a level greater than the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c) of this chapter; or

(2) The requirement that the limitations control the pollutants meeting the criteria of paragraph (e)(1) of this section will be satisfied by:

(i) Limitations on those pollutants; or

(ii) Limitations on other pollutants which, in the judgment of the Director, will provide treatment of the pollutants under paragraph (e)(1) of this section to the levels required by § 125.3(c).

(f) Notification level. A "notification level" which exceeds the notification level of § 122.42(a)(1)(i), (ii) or (iii), upon a petition from the permittee or on the Director's initiative. This new notification level may not exceed the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c).

(g) Twenty-four hour reporting. Pollutants for which the permittee must report violations of maximum daily discharge limitations under § 122.41(1)(6)(ii)(C) (24–hour reporting) shall be listed in the permit. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

(h) Durations for permits, as set forth in § 122.46.

(i) Monitoring requirements. In addition to § 122.48, the following monitoring requirements:

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(1) To assure compliance with permit limitations, requirements to monitor:

(i) The mass (or other measurement specified in the permit) for each pollutant limited in the permit;

(ii) The volume of effluent discharged from each outfall;

(iii) Other measurements as appropriate including pollutants in internal waste streams under § 122.45(i); pollutants in intake water for net limitations under § 122.45(f); frequency, rate of discharge, etc., for noncontinuous discharges under § 122.45(e); pollutants subject to notification requirements under § 122.42(a); and pollutants in sewage sludge or other monitoring as specified in 40 CFR part 503; or as determined to be necessary on a case-by-case basis pursuant to section 405(d)(4) of the CWA.

(iv) According to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O.

(A) For the purposes of this paragraph, a method is "sufficiently sensitive" when:

(1) The method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or

(2) The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

Note to paragraph (i)(1)(iv)(A): Consistent with 40 CFR part 136, applicants or permittees have the option of providing matrix or sample specific minimum levels rather than the published levels. Further, where an applicant or permittee can demonstrate that, despite a good faith effort to use a method that would otherwise meet the definition of "sufficiently sensitive", the analytical results are not consistent with the QA/QC specifications for that method, then the Director may determine that the method is not performing adequately and the Director should select a different method from the remaining EPA–approved methods that is sufficiently sensitive consistent with 40 CFR 122.44(i)(1)(iv)(A). Where no other EPA–approved methods exist, the Director should select a method consistent with 40 CFR 122.44(i)(1)(iv)(B).

(B) In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters.

(2) Except as provided in paragraphs (i)(4) and (5) of this section, requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year. For sewage sludge use or disposal practices, requirements to monitor and report results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the sewage sludge use or disposal practice; minimally this shall be as specified in 40 CFR part 503 (where applicable), but in no case

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less than once a year. All results must be electronically reported in compliance with 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127.

(3) Requirements to report monitoring results for storm water discharges associated with industrial activity which are subject to an effluent limitation guideline shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year.

(4) Requirements to report monitoring results for storm water discharges associated with industrial activity (other than those addressed in paragraph (i)(3) of this section) shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge. At a minimum, a permit for such a discharge must require:

(i) The discharger to conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity and evaluate whether measures to reduce pollutant loadings identified in a storm water pollution prevention plan are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed;

(ii) The discharger to maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the plan and the permit, and identifying any incidents of non-compliance;

(iii) Such report and certification be signed in accordance with § 122.22; and

(iv) Permits for storm water discharges associated with industrial activity from inactive mining operations may, where annual inspections are impracticable, require certification once every three years by a Registered Professional Engineer that the facility is in compliance with the permit, or alternative requirements.

(5) Permits which do not require the submittal of monitoring result reports at least annually shall require that the permittee report all instances of noncompliance not reported under § 122.41(l) (1), (4), (5), and (6) at least annually.

(j) Pretreatment program for POTWs. Requirements for POTWs to:

(1) Identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR part 403.

(2)(i) Submit a local program when required by and in accordance with 40 CFR part 403 to assure compliance with pretreatment standards to the extent applicable under section 307(b). The local program shall be incorporated into the permit as described in 40 CFR part 403. The program must require all indirect dischargers to the POTW to comply with the reporting requirements of 40 CFR part 403.

(ii) Provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), following permit issuance or reissuance.

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(3) For POTWs which are "sludge-only facilities," a requirement to develop a pretreatment program under 40 CFR part 403 when the Director determines that a pretreatment program is necessary to assure compliance with Section 405(d) of the CWA.

(k) Best management practices (BMPs) to control or abate the discharge of pollutants when:

(1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;

(2) Authorized under section 402(p) of the CWA for the control of storm water discharges;

(3) Numeric effluent limitations are infeasible; or

(4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

Note to paragraph (k)(4): Additional technical information on BMPs and the elements of BMPs is contained in the following documents: Guidance Manual for Developing Best Management Practices (BMPs), October 1993, EPA No. 833/B–93–004, NTIS No. PB 94–178324, ERIC No. W498); Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices, September 1992, EPA No. 832/R–92–005, NTIS No. PB 92–235951, ERIC No. N482); Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA No. 833/R–92–001, NTIS No. PB 93–223550; ERIC No. W139; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices, September 1992; EPA 832/R–92–006, NTIS No. PB 92–235969, ERIC No. N477; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA 833/R–92–002, NTIS No. PB 94–133782; ERIC No. W492. Copies of those documents (or directions on how to obtain them) can be obtained by contacting either the Office of Water Resource Center (using the EPA document number as a reference) at (202) 260–7786; or the Educational Resources Information Center (ERIC) (using the ERIC number as a reference) at (800) 276–0462. Updates of these documents or additional BMP documents may also be available. A list of EPA BMP guidance documents is available on the OWM Home Page at http://www.epa.gov/owm. In addition, States may have BMP guidance documents.

These EPA guidance documents are listed here only for informational purposes; they are not binding and EPA does not intend that these guidance documents have any mandatory, regulatory effect by virtue of their listing in this note.

(l) Reissued permits.

(1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62.)

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(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions—A permit with respect to which paragraph (l)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if—

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (l)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 applicable to such waters.

(m) Privately owned treatment works. For a privately owned treatment works, any conditions expressly applicable to any user, as a limited copermittee, that may be necessary in the permit issued to the treatment works to ensure compliance with applicable requirements under this part. Alternatively, the Director may issue separate permits to the treatment works and to its users, or may require a separate permit application from any user. The Director's decision to issue a permit with no conditions applicable to any user, to impose conditions on one or more users, to issue separate permits,

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or to require separate applications, and the basis for that decision, shall be stated in the fact sheet for the draft permit for the treatment works.

(n) Grants. Any conditions imposed in grants made by the Administrator to POTWs under sections 201 and 204 of CWA which are reasonably necessary for the achievement of effluent limitations under section 301 of CWA.

(o) Sewage sludge. Requirements under section 405 of CWA governing the disposal of sewage sludge from publicly owned treatment works or any other treatment works treating domestic sewage for any use for which regulations have been established, in accordance with any applicable regulations.

(p) Coast Guard. When a permit is issued to a facility that may operate at certain times as a means of transportation over water, a condition that the discharge shall comply with any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, that establish specifications for safe transportation, handling, carriage, and storage of pollutants.

(q) Navigation. Any conditions that the Secretary of the Army considers necessary to ensure that navigation and anchorage will not be substantially impaired, in accordance with § 124.59 of this chapter.

(r) Great Lakes. When a permit is issued to a facility that discharges into the Great Lakes System (as defined in 40 CFR 132.2), conditions promulgated by the State, Tribe, or EPA pursuant to 40 CFR part 132.

(s) Qualifying State, Tribal, or local programs.

(1) For storm water discharges associated with small construction activity identified in § 122.26(b)(15), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. Where a qualifying State, Tribal, or local program does not include one or more of the elements in this paragraph (s)(1), then the Director must include those elements as conditions in the permit. A qualifying State, Tribal, or local erosion and sediment control program is one that includes:

(i) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(ii) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(iii) Requirements for construction site operators to develop and implement a storm water pollution prevention plan. (A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges); and

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(iv) Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

(2) For storm water discharges from construction activity identified in § 122.26(b)(14)(x), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. A qualifying State, Tribal or local erosion and sediment control program is one that includes the elements listed in paragraph (s)(1) of this section and any additional requirements necessary to achieve the applicable technology-based standards of "best available technology" and "best conventional technology" based on the best professional judgment of the permit writer.

Credits

[49 FR 31842, Aug. 8, 1984; 49 FR 38049, Sept. 26, 1984; 50 FR 6940, Feb. 19, 1985; 50 FR 7912, Feb. 27, 1985; 54 FR 256, Jan. 4, 1989; 54 FR 18783, May 2, 1989; 54 FR 23895, 23896, June 2, 1989; 57 FR 11413, April 2, 1992; 57 FR 33049, July 24, 1992; 58 FR 18016, April 7, 1993; 60 FR 15386, March 23, 1995; 64 FR 42469, Aug. 4, 1999; 64 FR 43426, Aug. 10, 1999; 64 FR 68847, Dec. 8, 1999; 65 FR 30908, May 15, 2000; 65 FR 43661, July 13, 2000; 66 FR 53048, Oct. 18, 2001; 66 FR 65337, Dec. 18, 2001; 68 FR 13608, March 19, 2003; 69 FR 41682, July 9, 2004; 70 FR 60191, Oct. 14, 2005; 71 FR 35040, June 16, 2006; 72 FR 11212, March 12, 2007; 79 FR 49013, Aug. 19, 2014; 79 FR 56275, Sept. 19, 2014; 80 FR 64098, Oct. 22, 2015]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (156)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-17

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (Refs & Annos)
Subpart C. Permit Conditions

40 C.F.R. § 122.48

§ 122.48 Requirements for recording and reporting of monitoring results (applicable to State programs, see § 123.25).

Effective: December 21, 2015
Currentness

All permits shall specify:

(a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in 40 CFR part 3 (Cross–Media Electronic Reporting Regulation), § 122.44, and 40 CFR part 127 (NPDES Electronic Reporting). Reporting shall be no less frequent than specified in § 122.44. EPA will maintain the start dates for the electronic reporting of monitoring results for each state on its Web site.

Credits
[50 FR 6940, Feb. 19, 1985; 58 FR 18016, April 7, 1993; 80 FR 64098, Oct. 22, 2015]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (15)

Current through May 24, 2018; 83 FR 24044.

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ATTACHMENT A-18

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 123. State Program Requirements (Refs & Annos)
Subpart B. State Program Submissions

40 C.F.R. § 123.25

§ 123.25 Requirements for permitting.

Effective: February 7, 2018
Currentness

(a) All State Programs under this part must have legal authority to implement each of the following provisions and must be administered in conformance with each, except that States are not precluded from omitting or modifying any provisions to impose more stringent requirements:

(1) § 122.4—(Prohibitions):

(2) § 122.5(a) and (b)—(Effect of permit);

(3) § 122.7(b)and(c)—(Confidential information);

(4) § 122.21 (a)-(b), (c)(2), (e)-(k), (m)-(p), (q), and (r)—(Application for a permit);

(5) § 122.22—(Signatories);

(6) § 122.23—(Concentrated animal feeding operations);

(7) § 122.24—(Concentrated aquatic animal production facilities);

(8) § 122.25—(Aquaculture projects);

(9) § 122.26—(Storm water discharges);

(10) § 122.27—(Silviculture);

(11) § 122.28—(General permits), *Provided* that States which do not seek to implement the general permit program under § 122.28 need not do so.

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(12) Section 122.41(a)(1) and (b) through (n)—(Applicable permit conditions) (Indian Tribes can satisfy enforcement authority requirements under § 123.34);

(13) § 122.42—(Conditions applicable to specified categories of permits);

(14) § 122.43—(Establishing permit conditions);

(15) § 122.44—(Establishing NPDES permit conditions);

(16) § 122.45—(Calculating permit conditions);

(17) § 122.46—(Duration);

(18) § 122.47(a)—(Schedules of compliance);

(19) § 122.48—(Monitoring requirements);

(20) § 122.50—(Disposal into wells);

(21) § 122.61—(Permit transfer);

(22) § 122.62—(Permit modification);

(23) § 122.64—(Permit termination);

(24) § 124.3(a)—(Application for a permit);

(25) § 124.5(a), (c), (d), and (f)—(Modification of permits);

(26) § 124.6(a), (c), (d), and (e)—(Draft permit);

(27) § 124.8—(Fact sheets);

(28) § 124.10(a)(1)(ii), (a)(1)(iii), (a)(1)(v), (b), (c), (d), and (e)—(Public notice);

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(29) § 124.11—(Public comments and requests for hearings);

(30) § 124.12(a)—(Public hearings); and

(31) § 124.17(a) and (c)—(Response to comments);

(32) § 124.56—(Fact sheets);

(33) § 124.57(a)—(Public notice);

(34) § 124.59—(Comments from government agencies);

(35) § 124.62—(Decision on variances);

(36) Subparts A, B, D, H, I, J, and N of part 125 of this chapter;

(37) 40 CFR parts 129, 133, and subchapter N;

(38) For a Great Lakes State or Tribe (as defined in 40 CFR 132.2), 40 CFR part 132 (NPDES permitting implementation procedures only);

(39) § 122.30 (What are the objectives of the storm water regulations for small MS4s?);

(40) § 122.31 (For Indian Tribes only) (As a Tribe, what is my role under the NPDES storm water program?);

(41) § 122.32 (As an operator of a small MS4, am I regulated under the NPDES storm water program?);

(42) § 122.33 (If I am an operator of a regulated small MS4, how do I apply for an NPDES permit? When do I have to apply?);

(43) § 122.34 (As an operator of a regulated small MS4, what will my NPDES MS4 storm water permit require?);

(44) § 122.35 (As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?);

(45) § 122.36 (As an operator of a regulated small MS4, what happens if I don't comply with the application or permit requirements in §§ 122.33 through 122.35?); and

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(46) 40 CFR part 3 (Cross–Media Electronic Reporting Regulation) and 40 CFR part 127 (NPDES Electronic Reporting Requirements).

Note to paragraph (a): Except for paragraph (a)(46) of this section, states need not implement provisions identical to the above listed provisions. Implemented provisions must, however, establish requirements at least as stringent as the corresponding listed provisions. While States may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent; for example, by requiring that public hearings be held prior to issuing any permit while reducing the amount of advance notice of such a hearing.

State programs may, if they have adequate legal authority, implement any of the provisions of parts 122 and 124. See, for example, §§ 122.5(d) (continuation of permits) and 124.4 (consolidation of permit processing) of this chapter.

For example, a State may impose more stringent requirements in an NPDES program by omitting the upset provision of § 122.41 of this chapter or by requiring more prompt notice of an upset.

(47) For a Great Lakes State, § 122.38.

(b) State NPDES programs shall have an approved continuing planning process under 40 CFR 130.5 and shall assure that the approved planning process is at all times consistent with the CWA.

(c) State NPDES programs shall ensure that any board or body which approves all or portions of permits shall not include as a member any person who receives, or has during the previous 2 years received, a significant portion of income directly or indirectly from permit holders or applicants for a permit.

(1) For the purposes of this paragraph:

(i) Board or body includes any individual, including the Director, who has or shares authority to approve all or portions of permits either in the first instance, as modified or reissued, or on appeal.

(ii) Significant portion of income means 10 percent or more of gross personal income for a calendar year, except that it means 50 percent or more of gross personal income for a calendar year if the recipient is over 60 years of age and is receiving that portion under retirement, pension, or similar arrangement.

(iii) Permit holders or applicants for a permit does not include any department or agency of a State government, such as a Department of Parks or a Department of Fish and Wildlife.

(iv) Income includes retirement benefits, consultant fees, and stock dividends.

(2) For the purposes of paragraph (c) of this section, income is not received “directly or indirectly from permit holders or applicants for a permit” when it is derived from mutual fund payments, or from other diversified investments for which the recipient does not know the identity of the primary sources of income.

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Credits

[50 FR 6941, Feb. 19, 1985; 50 FR 7912, Feb. 27, 1985; 54 FR 18784, May 2, 1989; 55 FR 48075, Nov. 16, 1990; 58 FR 9414, Feb. 19, 1993; 58 FR 67981, Dec. 22, 1993; 60 FR 15386, March 23, 1995; 63 FR 45122, Aug. 24, 1998; 64 FR 42470, Aug. 4, 1999; 64 FR 43426, Aug. 10, 1999; 64 FR 68849, Dec. 8, 1999; 65 FR 30909, May 15, 2000; 66 FR 65338, Dec. 18, 2001; 69 FR 41682, July 9, 2004; 70 FR 59888, Oct. 13, 2005; 71 FR 35040, June 16, 2006; 80 FR 64099, Oct. 22, 2015; 83 FR 732, Jan. 8, 2018]

SOURCE: 45 FR 33456, May 19, 1980, as amended at 48 FR 14178, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (17)

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ATTACHMENT A-19

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 123. State Program Requirements (Refs & Annos)
Subpart C. Transfer of Information and Permit Review

40 C.F.R. § 123.44

§ 123.44 EPA review of and objections to State permits.

Currentness

(a)(1) The Memorandum of Agreement shall provide a period of time (up to 90 days from receipt of proposed permits) to which the Regional Administrator may make general comments upon, objections to, or recommendations with respect to proposed permits. EPA reserves the right to take 90 days to supply specific grounds for objection, notwithstanding any shorter period specified in the Memorandum of Agreement, when a general objection is filed within the review period specified in the Memorandum of Agreement. The Regional Administrator shall send a copy of any comment, objection or recommendation to the permit applicant.

(2) In the case of general permits, EPA shall have 90 days from the date of receipt of the proposed general permit to comment upon, object to or make recommendations with respect to the proposed general permit, and is not bound by any shorter time limits set by the Memorandum of Agreement for general comments, objections or recommendations.

(b)(1) Within the period of time provided under the Memorandum of Agreement for making general comments upon, objections to or recommendations with respect to proposed permits, the Regional Administrator shall notify the State Director of any objection to issuance of a proposed permit (except as provided in paragraph (a)(2) of this section for proposed general permits). This notification shall set forth in writing the general nature of the objection.

(2) Within 90 days following receipt of a proposed permit to which he or she has objected under paragraph (b)(1) of this section, or in the case of general permits within 90 days after receipt of the proposed general permit, the Regional Administrator shall set forth in writing and transmit to the State Director:

(i) A statement of the reasons for the objection (including the section of CWA or regulations that support the objection), and

(ii) The actions that must be taken by the State Director to eliminate the objection (including the effluent limitations and conditions which the permit would include if it were issued by the Regional Administrator.)

Note: Paragraphs (a) and (b) of this section, in effect, modify any existing agreement between EPA and the State which provides less than 90 days for EPA to supply the specific grounds for an objection. However, when an agreement provides for an EPA review period of less than 90 days, EPA must file a general objection, in accordance with paragraph (b)(1) of this section within the time specified in the agreement. This general objection must be followed by a specific

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objection within the 90–day period. This modification to MOA's allows EPA to provide detailed information concerning acceptable permit conditions, as required by section 402(d) of CWA. To avoid possible confusion, MOA's should be changed to reflect this arrangement.

(c) The Regional Administrator's objection to the issuance of a proposed permit must be based upon one or more of the following grounds:

(1) The permit fails to apply, or to ensure compliance with, any applicable requirement of this part;

Note: For example, the Regional Administrator may object to a permit not requiring the achievement of required effluent limitations by applicable statutory deadlines.

(2) In the case of a proposed permit for which notification to the Administrator is required under section 402(b)(5) of CWA, the written recommendations of an affected State have not been accepted by the permitting State and the Regional Administrator finds the reasons for rejecting the recommendations are inadequate;

(3) The procedures followed in connection with formulation of the proposed permit failed in a material respect to comply with procedures required by CWA or by regulations thereunder or by the Memorandum of Agreement;

(4) Any finding made by the State Director in connection with the proposed permit misinterprets CWA or any guidelines or regulations under CWA, or misapplies them to the facts;

(5) Any provisions of the proposed permit relating to the maintenance of records, reporting, monitoring, sampling, or the provision of any other information by the permittee are inadequate, in the judgment of the Regional Administrator, to assure compliance with permit conditions, including effluent standards and limitations or standards for sewage sludge use and disposal required by CWA, by the guidelines and regulations issued under CWA, or by the proposed permit;

(6) In the case of any proposed permit with respect to which applicable effluent standards and limitations or standards for sewage sludge use and disposal under sections 301, 302, 306, 307, 318, 403, and 405 of CWA have not yet been promulgated by the Agency, the proposed permit, in the judgment of the Regional Administrator, fails to carry out the provisions of CWA or of any regulations issued under CWA; the provisions of this paragraph apply to determinations made pursuant to § 125.3(c)(2) in the absence of applicable guidelines, to best management practices under section 304(e) of CWA, which must be incorporated into permits as requirements under section 301, 306, 307, 318, 403 or 405, and to sewage sludge use and disposal requirements developed on a case-by-case basis pursuant to section 405(d) of CWA, as the case may be;

(7) Issuance of the proposed permit would in any other respect be outside the requirements of CWA, or regulations issued under CWA.

(8) The effluent limits of a permit fail to satisfy the requirements of 40 CFR 122.44(d).

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(9) For a permit issued by a Great Lakes State or Tribe (as defined in 40 CFR 132.2), the permit does not satisfy the conditions promulgated by the State, Tribe, or EPA pursuant to 40 CFR part 132.

(d) Prior to notifying the State Director of an objection based upon any of the grounds set forth in paragraph (c) of this section, the Regional Administrator:

(1) Will consider all data transmitted pursuant to § 123.43 (or, in the case of a sewage sludge management program, § 501.21 of this chapter);

(2) May, if the information provided is inadequate to determine whether the proposed permit meets the guidelines and requirements of CWA, request the State Director to transmit to the Regional Administrator the complete record of the permit proceedings before the State, or any portions of the record that the Regional Administrator determines are necessary for review. If this request is made within 30 days of receipt of the State submittal under § 123.43 (or, in the case of a sewage sludge management program, § 501.21 of this chapter), it will constitute an interim objection to the issuance of the permit, and the full period of time specified in the Memorandum of Agreement for the Regional Administrator's review will recommence when the Regional Administrator has received such record or portions of the record; and

(3) May, in his or her discretion, and to the extent feasible within the period of time available under the Memorandum of Agreement, afford to interested persons an opportunity to comment on the basis for the objection;

(e) Within 90 days of receipt by the State Director of an objection by the Regional Administrator, the State or interstate agency or any interested person may request that a public hearing be held by the Regional Administrator on the objection. A public hearing in accordance with the procedures of § 124.12(c) and (d) of this chapter (or, in the case of a sewage sludge management program, § 501.15(d)(7) of this chapter) will be held, and public notice provided in accordance with § 124.10 of this chapter, (or, in the case of a sewage sludge management program, § 501.15(d)(5) of this chapter), whenever requested by the State or the interstate agency which proposed the permit or if warranted by significant public interest based on requests received.

(f) A public hearing held under paragraph (e) of this section shall be conducted by the Regional Administrator, and, at the Regional Administrator's discretion, with the assistance of an EPA panel designated by the Regional Administrator, in an orderly and expeditious manner.

(g) Following the public hearing, the Regional Administrator shall reaffirm the original objection, modify the terms of the objection, or withdraw the objection, and shall notify the State of this decision.

(h)(1) If no public hearing is held under paragraph (e) of this section and the State does not resubmit a permit revised to meet the Regional Administrator's objection within 90 days of receipt of the objection, the Regional Administrator may issue the permit in accordance with parts 121, 122, and 124 of this chapter and any other guidelines and requirements of CWA.

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(2) If a public hearing is held under paragraph (e) of this section, the Regional Administrator does not withdraw the objection, and the State does not resubmit a permit revised to meet the Regional Administrator's objection or modified objection within 30 days of the date of the Regional Administrator's notification under paragraph (g) of this section, the Regional Administrator may issue the permit in accordance with parts 121, 122, and 124 of this chapter and any other guidelines and requirements of CWA.

(3) Exclusive authority to issue the permit passes to EPA when the times set out in this paragraph expire.

(i) [Reserved]

(j) The Regional Administrator may agree, in the Memorandum of Agreement under § 123.24 (or, in the case of a sewage sludge management program, § 501.14 of this chapter), to review draft permits rather than proposed permits. In such a case, a proposed permit need not be prepared by the State and transmitted to the Regional Administrator for review in accordance with this section unless the State proposes to issue a permit which differs from the draft permit reviewed by the Regional Administrator, the Regional Administrator has objected to the draft permit, or there is significant public comment.

Credits

[54 FR 18785, May 2, 1989; 54 FR 23896, June 2, 1989; 60 FR 15386, March 23, 1995; 63 FR 45122, Aug. 24, 1998; 65 FR 30910, May 15, 2000; 65 FR 43661, July 13, 2000; 66 FR 53048, Oct. 18, 2001; 68 FR 13608, March 19, 2003]

SOURCE: 45 FR 33456, May 19, 1980, as amended at 48 FR 14178, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (65)

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ATTACHMENT A-20

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 130. Water Quality Planning and Management (Refs & Annos)

40 C.F.R. § 130.2

§ 130.2 Definitions.

Currentness

(a) The Act. The Clean Water Act, as amended, 33 U.S.C. 1251 et seq.

(b) Indian Tribe. Any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.

(c) Pollution. The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

(d) Water quality standards (WQS). Provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.

(e) Load or loading. An amount of matter or thermal energy that is introduced into a receiving water; to introduce matter or thermal energy into a receiving water. Loading may be either man-caused (pollutant loading) or natural (natural background loading).

(f) Loading capacity. The greatest amount of loading that a water can receive without violating water quality standards.

(g) Load allocation (LA). The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished.

(h) Wasteload allocation (WLA). The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.

(i) Total maximum daily load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or

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adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs.

(j) Water quality limited segment. Any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by sections 301(b) and 306 of the Act.

(k) Water quality management (WQM) plan. A State or areawide waste treatment management plan developed and updated in accordance with the provisions of sections 205(j), 208 and 303 of the Act and this regulation.

(l) Areawide agency. An agency designated under section 208 of the Act, which has responsibilities for WQM planning within a specified area of a State.

(m) Best Management Practice (BMP). Methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.

(n) Designated management agency (DMA). An agency identified by a WQM plan and designated by the Governor to implement specific control recommendations.

Credits

[54 FR 14359, April 11, 1989; 65 FR 43662, July 13, 2000; 68 FR 13608, March 19, 2003]

SOURCE: 50 FR 1779, Jan. 11, 1985; 66 FR 53048, Oct. 18, 2001; 68 FR 13608, March 19, 2003, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

Notes of Decisions (5)

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ATTACHMENT A-21

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 130. Water Quality Planning and Management (Refs & Annos)

40 C.F.R. § 130.6

§ 130.6 Water quality management plans.

Currentness

(a) Water quality management (WQM) plans. WQM plans consist of initial plans produced in accordance with sections 208 and 303(e) of the Act and certified and approved updates to those plans. Continuing water quality planning shall be based upon WQM plans and water quality problems identified in the latest 305(b) reports. State water quality planning should focus annually on priority issues and geographic areas and on the development of water quality controls leading to implementation measures. Water quality planning directed at the removal of conditions placed on previously certified and approved WQM plans should focus on removal of conditions which will lead to control decisions.

(b) Use of WQM plans. WQM plans are used to direct implementation. WQM plans draw upon the water quality assessments to identify priority point and nonpoint water quality problems, consider alternative solutions and recommend control measures, including the financial and institutional measures necessary for implementing recommended solutions. State annual work programs shall be based upon the priority issues identified in the State WQM plan.

(c) WQM plan elements. Sections 205(j), 208 and 303 of the Act specify water quality planning requirements. The following plan elements shall be included in the WQM plan or referenced as part of the WQM plan if contained in separate documents when they are needed to address water quality problems.

(1) Total maximum daily loads. TMDLs in accordance with sections 303(d) and (e)(3)(C) of the Act and § 130.7 of this part.

(2) Effluent limitations. Effluent limitations including water quality based effluent limitations and schedules of compliance in accordance with section 303(e)(3)(A) of the Act and § 130.5 of this part.

(3) Municipal and industrial waste treatment. Identification of anticipated municipal and industrial waste treatment works, including facilities for treatment of stormwater-induced combined sewer overflows; programs to provide necessary financial arrangements for such works; establishment of construction priorities and schedules for initiation and completion of such treatment works including an identification of open space and recreation opportunities from improved water quality in accordance with section 208(b)(2) (A) and (B) of the Act.

(4) Nonpoint source management and control.

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(i) The plan shall describe the regulatory and non-regulatory programs, activities and Best Management Practices (BMPs) which the agency has selected as the means to control nonpoint source pollution where necessary to protect or achieve approved water uses. Economic, institutional, and technical factors shall be considered in a continuing process of identifying control needs and evaluating and modifying the BMPs as necessary to achieve water quality goals.

(ii) Regulatory programs shall be identified where they are determined to be necessary by the State to attain or maintain an approved water use or where non-regulatory approaches are inappropriate in accomplishing that objective.

(iii) BMPs shall be identified for the nonpoint sources identified in section 208(b)(2)(F)–(K) of the Act and other nonpoint sources as follows:

(A) Residual waste. Identification of a process to control the disposition of all residual waste in the area which could affect water quality in accordance with section 208(b)(2)(J) of the Act.

(B) Land disposal. Identification of a process to control the disposal of pollutants on land or in subsurface excavations to protect ground and surface water quality in accordance with section 208(b)(2)(K) of the Act.

(C) Agricultural and silvicultural. Identification of procedures to control agricultural and silvicultural sources of pollution in accordance with section 208(b)(2)(F) of the Act.

(D) Mines. Identification of procedures to control mine-related sources of pollution in accordance with section 208(b)(2)(G) of the Act.

(E) Construction. Identification of procedures to control construction related sources of pollution in accordance with section 208(b)(2)(H) of the Act.

(F) Saltwater intrusion. Identification of procedures to control saltwater intrusion in accordance with section 208(b)(2)(I) of the Act.

(G) Urban stormwater. Identification of BMPs for urban stormwater control to achieve water quality goals and fiscal analysis of the necessary capital and operations and maintenance expenditures in accordance with section 208(b)(2)(A) of the Act.

(iv) The nonpoint source plan elements outlined in § 130.6(c) (4)(iii)(A)(G) of this regulation shall be the basis of water quality activities implemented through agreements or memoranda of understanding between EPA and other departments, agencies or instrumentalities of the United States in accordance with section 304(k) of the Act.

(5) Management agencies. Identification of agencies necessary to carry out the plan and provision for adequate authority for intergovernmental cooperation in accordance with sections 208(b)(2)(D) and 303(e)(3)(E) of the Act.

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Management agencies must demonstrate the legal, institutional, managerial and financial capability and specific activities necessary to carry out their responsibilities in accordance with section 208(c)(2)(A) through (I) of the Act.

(6) Implementation measures. Identification of implementation measures necessary to carry out the plan, including financing, the time needed to carry out the plan, and the economic, social and environmental impact of carrying out the plan in accordance with section 208(b)(2)(E).

(7) Dredge or fill program. Identification and development of programs for the control of dredge or fill material in accordance with section 208(b)(4)(B) of the Act.

(8) Basin plans. Identification of any relationship to applicable basin plans developed under section 209 of the Act.

(9) Ground water. Identification and development of programs for control of ground-water pollution including the provisions of section 208(b)(2)(K) of the Act. States are not required to develop ground-water WQM plan elements beyond the requirements of section 208(b)(2)(K) of the Act, but may develop a ground-water plan element if they determine it is necessary to address a ground-water quality problem. If a State chooses to develop a ground-water plan element, it should describe the essentials of a State program and should include, but is not limited to:

(i) Overall goals, policies and legislative authorities for protection of ground-water.

(ii) Monitoring and resource assessment programs in accordance with section 106(e)(1) of the Act.

(iii) Programs to control sources of contamination of ground-water including Federal programs delegated to the State and additional programs authorized in State statutes.

(iv) Procedures for coordination of ground-water protection programs among State agencies and with local and Federal agencies.

(v) Procedures for program management and administration including provision of program financing, training and technical assistance, public participation, and emergency management.

(d) Indian Tribes. An Indian Tribe is eligible for the purposes of this rule and the Clean Water Act assistance programs under 40 CFR part 35, subparts A and H if:

(1) The Indian Tribe has a governing body carrying out substantial governmental duties and powers;

(2) The functions to be exercised by the Indian Tribe pertain to the management and protection of water resources which are held by an Indian Tribe, held by the United States in trust for Indians, held by a member of an Indian Tribe if such property interest is subject to a trust restriction on alienation, or otherwise within the borders of an Indian reservation; and

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(3) The Indian Tribe is reasonably expected to be capable, in the Regional Administrator's judgment, of carrying out the functions to be exercised in a manner consistent with the terms and purposes of the Clean Water Act and applicable regulations.

(e) Update and certification. State and/or areawide agency WQM plans shall be updated as needed to reflect changing water quality conditions, results of implementation actions, new requirements or to remove conditions in prior conditional or partial plan approvals. Regional Administrators may require that State WQM plans be updated as needed. State Continuing Planning Processes (CPPs) shall specify the process and schedule used to revise WQM plans. The State shall ensure that State and areawide WQM plans together include all necessary plan elements and that such plans are consistent with one another. The Governor or the Governor's designee shall certify by letter to the Regional Administrator for EPA approval that WQM plan updates are consistent with all other parts of the plan. The certification may be contained in the annual State work program.

(f) Consistency. Construction grant and permit decisions must be made in accordance with certified and approved WQM plans as described in § 130.12(a) and § 130.12(b).

Credits

[54 FR 14360, April 11, 1989; 59 FR 13818, March 23, 1994; 65 FR 43662, July 13, 2000; 68 FR 13608, March 19, 2003]

SOURCE: 50 FR 1779, Jan. 11, 1985; 66 FR 53048, Oct. 18, 2001; 68 FR 13608, March 19, 2003, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

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ATTACHMENT A-22

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 130. Water Quality Planning and Management (Refs & Annos)

40 C.F.R. § 130.7

§ 130.7 Total maximum daily loads (TMDL) and individual water quality-based effluent limitations.

Currentness

(a) General. The process for identifying water quality limited segments still requiring wasteload allocations, load allocations and total maximum daily loads (WLAs/LAs and TMDLs), setting priorities for developing these loads; establishing these loads for segments identified, including water quality monitoring, modeling, data analysis, calculation methods, and list of pollutants to be regulated; submitting the State's list of segments identified, priority ranking, and loads established (WLAs/LAs/TMDLs) to EPA for approval; incorporating the approved loads into the State's WQM plans and NPDES permits; and involving the public, affected dischargers, designated areawide agencies, and local governments in this process shall be clearly described in the State Continuing Planning Process (CPP).

(b) Identification and priority setting for water quality-limited segments still requiring TMDLs.

(1) Each State shall identify those water quality-limited segments still requiring TMDLs within its boundaries for which:

(i) Technology-based effluent limitations required by sections 301(b), 306, 307, or other sections of the Act;

(ii) More stringent effluent limitations (including prohibitions) required by either State or local authority preserved by section 510 of the Act, or Federal authority (law, regulation, or treaty); and

(iii) Other pollution control requirements (e.g., best management practices) required by local, State, or Federal authority are not stringent enough to implement any water quality standards (WQS) applicable to such waters.

(2) Each State shall also identify on the same list developed under paragraph (b)(1) of this section those water quality-limited segments still requiring TMDLs or parts thereof within its boundaries for which controls on thermal discharges under section 301 or State or local requirements are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish and wildlife.

(3) For the purposes of listing waters under § 130.7(b), the term “water quality standard applicable to such waters” and “applicable water quality standards” refer to those water quality standards established under section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements.

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(4) The list required under §§ 130.7(b)(1) and 130.7(b)(2) of this section shall include a priority ranking for all listed water quality-limited segments still requiring TMDLs, taking into account the severity of the pollution and the uses to be made of such waters and shall identify the pollutants causing or expected to cause violations of the applicable water quality standards. The priority ranking shall specifically include the identification of waters targeted for TMDL development in the next two years.

(5) Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§ 130.7(b)(1) and 130.7(b)(2). At a minimum "all existing and readily available water quality-related data and information" includes but is not limited to all of the existing and readily available data and information about the following categories of waters:

(i) Waters identified by the State in its most recent section 305(b) report as "partially meeting" or "not meeting" designated uses or as "threatened";

(ii) Waters for which dilution calculations or predictive models indicate nonattainment of applicable water quality standards;

(iii) Waters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions. These organizations and groups should be actively solicited for research they may be conducting or reporting. For example, university researchers, the United States Department of Agriculture, the National Oceanic and Atmospheric Administration, the United States Geological Survey, and the United States Fish and Wildlife Service are good sources of field data; and

(iv) Waters identified by the State as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

(6) Each State shall provide documentation to the Regional Administrator to support the State's determination to list or not to list its waters as required by §§ 130.7(b)(1) and 130.7(b)(2). This documentation shall be submitted to the Regional Administrator together with the list required by §§ 130.7(b)(1) and 130.7(b)(2) and shall include at a minimum:

(i) A description of the methodology used to develop the list; and

(ii) A description of the data and information used to identify waters, including a description of the data and information used by the State as required by § 130.7(b)(5); and

(iii) A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in § 130.7(b)(5); and

(iv) Any other reasonable information requested by the Regional Administrator. Upon request by the Regional Administrator, each State must demonstrate good cause for not including a water or waters on the list. Good cause

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includes, but is not limited to, more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in § 130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges.

(c) Development of TMDLs and individual water quality based effluent limitations.

(1) Each State shall establish TMDLs for the water quality limited segments identified in paragraph (b)(1) of this section, and in accordance with the priority ranking. For pollutants other than heat, TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. Determinations of TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters.

(i) TMDLs may be established using a pollutant-by-pollutant or biomonitoring approach. In many cases both techniques may be needed. Site-specific information should be used wherever possible.

(ii) TMDLs shall be established for all pollutants preventing or expected to prevent attainment of water quality standards as identified pursuant to paragraph (b)(1) of this section. Calculations to establish TMDLs shall be subject to public review as defined in the State CPP.

(2) Each State shall estimate for the water quality limited segments still requiring TMDLs identified in paragraph (b)(2) of this section, the total maximum daily thermal load which cannot be exceeded in order to assure protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the identified waters or parts thereof.

(d) Submission and EPA approval.

(1) Each State shall submit biennially to the Regional Administrator beginning in 1992 the list of waters, pollutants causing impairment, and the priority ranking including waters targeted for TMDL development within the next two years as required under paragraph (b) of this section. For the 1992 biennial submission, these lists are due no later than October 22, 1992. Thereafter, each State shall submit to EPA lists required under paragraph (b) of this section on April 1 of every even-numbered year. For the year 2000 submission, a State must submit a list required under paragraph (b) of this section only if a court order or consent decree, or commitment in a settlement agreement dated prior to January 1, 2000, expressly requires EPA to take action related to that State's year 2000 list. For the year 2002 submission, a State must submit a list required under paragraph (b) of this section by October 1, 2002, unless a court order, consent decree or commitment in a settlement agreement expressly requires EPA to take an action related to that State's 2002 list prior to October 1, 2002, in which case, the State must submit a list by April 1, 2002. The list of waters may be submitted as part of the State's biennial water quality report required by § 130.8 of this part and section 305(b) of the CWA or submitted under separate cover. All WLAs/LAs and TMDLs established under

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paragraph (c) for water quality limited segments shall continue to be submitted to EPA for review and approval. Schedules for submission of TMDLs shall be determined by the Regional Administrator and the State.

(2) The Regional Administrator shall either approve or disapprove such listing and loadings not later than 30 days after the date of submission. The Regional Administrator shall approve a list developed under § 130.7(b) that is submitted after the effective date of this rule only if it meets the requirements of § 130.7(b). If the Regional Administrator approves such listing and loadings, the State shall incorporate them into its current WQM plan. If the Regional Administrator disapproves such listing and loadings, he shall, not later than 30 days after the date of such disapproval, identify such waters in such State and establish such loads for such waters as determined necessary to implement applicable WQS. The Regional Administrator shall promptly issue a public notice seeking comment on such listing and loadings. After considering public comment and making any revisions he deems appropriate, the Regional Administrator shall transmit the listing and loads to the State, which shall incorporate them into its current WQM plan.

(e) For the specific purpose of developing information and as resources allow, each State shall identify all segments within its boundaries which it has not identified under paragraph (b) of this section and estimate for such waters the TMDLs with seasonal variations and margins of safety, for those pollutants which the Regional Administrator identifies under section 304(a)(2) as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish and wildlife. However, there is no requirement for such loads to be submitted to EPA for approval, and establishing TMDLs for those waters identified in paragraph (b) of this section shall be given higher priority.

Credits

[57 FR 33049, July 24, 1992; 65 FR 17170, March 31, 2000; 65 FR 43663, July 13, 2000; 66 FR 53048, Oct. 18, 2001; 68 FR 13608, March 19, 2003]

SOURCE: 50 FR 1779, Jan. 11, 1985; 66 FR 53048, Oct. 18, 2001; 68 FR 13608, March 19, 2003, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

Notes of Decisions (13)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-23

55 FR 47990-01, 1990 WL 348331(F.R.)

RULES and REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 122, 123, and 124

[FRL-3834-7]

RIN 2040-AA79

National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges

Friday, November 16, 1990

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today's final rule begins to implement section 402(p) of the Clean Water Act (CWA) (added by section 405 of the Water Quality Act of 1987 (WQA)), which requires the Environmental Protection Agency (EPA) to establish regulations setting forth National Pollutant Discharge Elimination System (NPDES) permit application requirements for: storm water discharges associated with industrial activity; discharges from a municipal separate storm sewer system serving a population of 250,000 or more; and discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000.

Today's rule also clarifies the requirements of section 401 of the WQA, which amended CWA section 402(1)(2) to provide that NPDES permits shall not be required for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations. This rule sets forth NPDES permit application requirements addressing storm water discharges associated with industrial activity and storm water discharges from large and medium municipal separate storm sewer systems.

DATES: This final rule becomes effective December 17, 1990. In accordance with 40 CFR 23.2, this rule shall be considered final for purposes of judicial review on November 30, 1990, at 1 p.m. eastern daylight time. The public record is located at EPA Headquarters, EPA Public Information Reference Unit, room 2402, 401 M Street SW., Washington DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For further information on the rule contact: Thomas J. Seaton, Kevin Weiss, or Michael Mitchell Office of Water Enforcement and Permits (EN-336), United States Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (202) 475-9518.

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SUPPLEMENTARY INFORMATION:

I. Background and Water Quality Concerns

The 1972 amendments to the Federal Water Pollution Control Act (referred to as the Clean Water Act or CWA), prohibit the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by an NPDES permit. Efforts to improve water quality under the NPDES program traditionally and primarily focused on reducing pollutants in discharges of industrial process wastewater and municipal sewage. This program emphasis developed for a number of reasons. At the onset of the program in 1972, many sources of industrial process wastewater and municipal sewage were not adequately controlled and represented pressing environmental problems. In addition, sewage outfalls and industrial process discharges were easily identified as responsible for poor, often drastically degraded, water quality conditions. However, as pollution control measures were initially ***47991** developed for these discharges, it became evident that more diffuse sources (occurring over a wide area) of water pollution, such as agricultural and urban runoff were also major causes of water quality problems. Some diffuse sources of water pollution, such as agricultural storm water discharges and irrigation return flows, are statutorily exempted from the NPDES program.

Since enactment of the 1972 amendments to the CWA, considering the rise of economic activity and population, significant progress in controlling water pollution has been made, particularly with regard to industrial process wastewater and municipal sewage. Expenditures by EPA, the States, and local governments to construct and upgrade sewage treatment facilities have substantially increased the population served by higher levels of treatment. Backlogs of expired permits for industrial process wastewater discharges have been reduced. Continued improvements are expected for these discharges as the NPDES program continues to place increasing emphasis on water quality-based pollution controls, especially for toxic pollutants.

Although assessments of water quality are difficult to perform and verify, several national assessments of water quality are available. For the purpose of these assessments, urban runoff was considered to be a diffuse source or nonpoint source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the CWA. These discharges are subject to the NPDES program. The “National Water Quality Inventory, 1988 Report to Congress” provides a general assessment of water quality based on biennial reports submitted by the States under section 305(b) of the CWA. In preparing the section 305(b) Reports, the States were asked to indicate the fraction of the States' waters that were assessed, as well as the fraction of the States' waters that were fully supporting, partly supporting, or not supporting designated uses.

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The Report indicates that of the rivers, lakes, and estuaries that were assessed by States (approximately one-fifth of stream miles, one-third of lake acres and one-half of estuarine waters), roughly 70% to 75% are supporting the uses for which they are designated. For waters with use impairments, States were asked to determine impacts due to diffuse sources (agricultural and urban runoff and other sources), municipal sewage, industrial process wastewaters, combined sewer overflows, and natural and other sources, then combine impacts to arrive at estimates of the relative percentage of State waters affected by each source. In this manner, the relative importance of the various sources of pollution that are causing use impairments was assessed and weighted national averages were calculated. Based on 37 States that provided information on sources of pollution, industrial process wastewaters were cited as the cause of nonsupport for 7.5% of rivers and streams, 10% of lakes, and 6% of estuaries. Municipal sewage was the cause of nonsupport for 13% of rivers and streams, 5% lakes, 48% estuaries, 41% of the Great Lake shoreline, and 11% of coastal waters. The Assessment concluded that pollution from diffuse sources, such as runoff from agricultural, urban areas, construction sites, land disposal and resource extraction, is cited by the States as the leading cause of water quality impairment. These sources appear to be increasingly important contributors of use impairment as discharges of industrial process wastewaters and municipal sewage plants come under increased control and as intensified data collection efforts provide additional information. Some examples of diffuse sources cited as causing use impairment are: for rivers and streams, 9% from separate storm sewers, 6% from construction and 13% from resource extraction; for lakes, 28% from separate storm sewers and 26% from land disposal; for the Great Lakes shoreline, 10% from separate storm sewers, 34% from resource extraction, and 82% from land disposal; for estuaries, 28% from separate storm sewers and 27% from land disposal; and for coastal areas, 20% from separate storm sewers and 29% from land disposal.

The States conducted a more comprehensive study of diffuse pollution sources under the sponsorship of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) and EPA. The study resulted in the report "America's Clean Water—The States' Nonpoint Source Assessment, 1985" which indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 2*1* States reported construction site runoff as a major cause of use impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP). The NURP included 28 projects across the Nation, conducted separately at the local level but centrally reviewed, coordinated, and guided.

One focus of the NURP was to characterize the water quality of discharges from separate storm sewers which drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for eight conventional pollutants and three metals. Data collected under the NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are around an order of magnitude greater than solids in discharges from municipal secondary sewage treatment plants. In addition, the study indicated that annual loadings of chemical oxygen demand (COD) are comparable in magnitude to effluent from secondary sewage treatment plants. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent, and that the short-term loadings associated with individual events will be high and may have shockloading effects on receiving water, such as low dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousands per 100 ml of runoff during warm weather conditions, although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff. Although NURP did not evaluate oil and grease, other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 15 mg/l. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time and exert adverse impacts on benthic organisms.

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A portion of the NURP study involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table A-1 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

Table A-1.— Priority Pollutants Detected in at Least 10% of NURP Samples

[In percent]

	Frequency of detection
Metals and inorganics:	
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	94
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19
Chlordane	17
Lindane	15
Halogenated aliphatics:	
Methane, dichloro-	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19

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Phenol, 4-nitro	10
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

***47992** The NURP data also showed a significant number of these samples exceeded various EPA freshwater water quality criteria.

The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, industrial site runoff and illegal dumping.

Other studies have shown that many storm sewers contain illicit discharges of non-storm water and that large amounts of wastes, particularly used oils, are improperly disposed in storm sewers. Removal of these discharges present opportunities for dramatic improvements in the quality of storm water discharges. Storm water discharges from industrial facilities may contain toxics and conventional pollutants when material management practices allow exposure to storm water, in addition to wastes from illicit connections and improperly disposed wastes.

In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the NURP study did not emphasize the identification of illicit connections to storm sewers (other than to assure that monitoring sites used in the study were free from sanitary sewage contamination), the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Studies have shown that illicit connections to storm sewers can create severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built.

Intensive construction activities may result in severe localized impacts on water quality because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus and nitrogen from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment loadings rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and typically 1,000 to 2,000 times that of forest lands. Even a small amount of construction may

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have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

II. Water Quality Act of 1987

The WQA contains three provisions which specifically address storm water discharges. The central WQA provision governing storm water discharges is section 405, which adds section 402(p) to the CWA. Section 402(p)(1) provides that EPA or NPDES States cannot require a permit for certain storm water discharges until October 1, 1992, except: for storm water discharges listed under section 402(p)(2). Section 402(p)(2) lists five types of storm water discharges which are required to obtain a permit prior to October 1, 1992:

(A) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(B) A discharge associated with industrial activity;

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more;

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000; or

(E) A discharge for which the Administrator or the State, as the case may be, determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

Section 402(p)(4)(A) requires EPA to promulgate final regulations governing storm water permit application requirements for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems (systems serving a population of 250,000 or more), "no later than two years" after the date of enactment (i.e., no later than February 4, 1989). Section 402(p)(4)(B) also requires EPA to promulgate final regulations governing storm water permit application requirements for discharges from medium municipal separate storm sewer systems (systems serving a population of 100,000 or more but less than 250,000) "no later than four years" after enactment (i.e., no later than February 4, 1991).

In addition, section 402(p)(4) provides that permit applications for storm water discharges associated with industrial activity and discharges from large municipal separate storm sewer systems "shall be filed no later than three years" after the date of enactment of the WQA (i.e., no later than February 4, 1990). Permit applications for discharges from medium municipal systems must be filed "no later than five years" after enactment (i.e., no later than February 4, 1992).

The WQA clarified and amended the requirements for permits for storm water discharges in the new CWA section 402(p)(3). The Act clarified that permits for discharges associated with industrial activity must meet all of the applicable provisions of section 402 and section 301 ***47993** including technology and water quality based standards. However, the new Act makes significant changes to the permit standards for discharges from municipal storm sewers. Section 402(p)(3)(B) provides that permits for such discharges:

(i) May be issued on a system- or jurisdiction-wide basis;

(ii) Shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and

(iii) Shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

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These changes are discussed in more detail later in today's rule.

The EPA, in consultation with the States, is required to conduct two studies on storm water discharges that are in the class of discharges for which EPA and NPDES States cannot require permits prior to October 1, 1992. The first study will identify those storm water discharges or classes of storm water discharges for which permits are not required prior to October 1, 1992, and determine, to the maximum extent practicable, the nature and extent of pollutants in such discharges. The second study is for the purpose of establishing procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality. Based on the two studies the EPA, in consultation with State and local officials, is required to issue regulations no later than October 1, 1992, which designate additional storm water discharges to be regulated to protect water quality and establish a comprehensive program to regulate such designated sources. This program must, at a minimum, (A) Establish priorities, (B) establish requirements for State storm water management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

Section 401 of the WQA amends section 402(1)(2) of the CWA to provide that the EPA shall not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities if the storm water discharge is not contaminated by contact with, or does not come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of such operations.

Section 503 of the WQA amends section 502(14) of the CWA to exclude agricultural storm water discharges from the definition of point source.

III. Remand of 1984 Regulations

On December 4, 1987, the United States Court of Appeals for the District of Columbia Circuit vacated 40 CFR 122.26, (as promulgated on September 26, 1984, 49 FR 37998, September 26, 1984), and remanded the regulations to EPA for further rulemaking (NRDC v. EPA, No. 80-1607). EPA had requested the remand because of significant changes made by the storm water provisions of the WQA. The effect of the decision was to invalidate the storm water discharge regulations then found at § 122.26.

Storm water discharges which had been issued an NPDES permit prior to February 4, 1987, were not affected by the Court remand or the February 12, 1988, rule implementing the court order (53 FR 4157). (See section 402(p)(2)(A) of the CWA.) Similarly, the remand did not affect the authority of EPA or an NPDES State to require a permit for any storm water discharge (except an agricultural storm water discharge) designated under section 402(p)(2)(E) of the CWA. The notice of the remand clarified that such designated discharges meet the regulatory definition of point source found at 40 CFR 122.2 and that EPA or an NPDES State can rely on the statutory authority and require the filing of an application (Form 1 and Form 2C) for an NPDES permit with respect to such discharges on a case-by-case basis.

IV. Codification Rule and Case-by-Case Designations

Codification Rule

On January 4, 1989, (54 FR 255), EPA published a final rule which codified numerous provisions of the WQA into EPA regulations. The codification rule included several provisions dealing with storm water discharges. The codification rule promulgated the language found at section 402(p) (1) and (2) of the amended Clean Water Act at 40 CFR 122.26(a)(1). In addition, the codification rule promulgated the language of Section 503 of the WQA which exempted agricultural storm water discharges from the definition of point source at 40 CFR 122.2, and section 401 of the WQA addressing uncontaminated storm water discharges from mining or oil and gas operations at 40 CFR 122.26(a)(2).

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EPA also codified the statutory authority of section 402(p)(2)(E) of the CWA for the Administrator or the State Director, as the case may be, to designate storm water discharges for a permit on a case-by-case basis at 40 CFR 122.26(a)(1)(v).

Case by Case Designations

Section 402(p)(2)(E) of the CWA authorizes case-by-case designations of storm water discharges for immediate permitting if the Administrator or the State Director determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

In determining that a storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States for the purpose of a designation under section 402(p)(2)(E), the legislative history for the provision provides that "EPA or the State should use any available water quality or sampling data to determine whether the latter two criteria (contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States) are met, and should require additional sampling as necessary to determine whether or not these criteria are met." Conference Report, Cong. Rec. S16443 (daily ed. October 16, 1986). In accordance with this legislative history, today's rule promulgates permit application requirements for certain storm water discharges, including discharges designated on a case-by-case basis. EPA will consider a number of factors when determining whether a storm water discharge is a significant contributor of pollution to the waters of the United States. These factors include: the location of the discharge with respect to waters of the United States; the size of the discharge; the quantity and nature of the pollutants reaching waters of the United States; and any other relevant factors. Today's rule incorporates these factors at 40 CFR 122.26(a)(1)(v).

Under today's rule, case-by-case designations are made under regulatory procedures found at 40 CFR 124.52. The procedures at 40 CFR 124.52 require that whenever the Director decides that an individual permit is required, the Director shall notify the discharger in writing that the discharge requires a permit and the reasons for the decision. In addition, an application form is sent with the notice. Section 124.52 provides a 60 day period from the date of notice for submitting a permit application. Although this 60 day period may be appropriate for many designated storm water discharges, site specific factors may dictate that the Director provide ***47994** additional time for submitting a permit application. For example, due to the complexities associated with designation of a municipal separate storm sewer system for a system- or jurisdiction-wide permit, the Director may provide the applicant with additional time to submit relevant information or may require that information be submitted in several phases.

V. Consent Decree of October 20, 1989

On April 20, 1989, EPA was served notice of intent to sue by Kathy Williams et al, because of the Agency's failure to promulgate final storm regulations on February 4, 1989, pursuant to Section 402(p)(4) of the CWA. A suit was filed by the same party on July 20, 1989, alleging the same cause of action, to wit: the Agency's failure to promulgate regulations under section 402(p)(4) of the CWA. On October 20, 1989, EPA entered into a consent decree with Kathy Williams et al, wherein the Federal District Court, District of Oregon, Southern Division, decreed that the Agency promulgate final regulations for storm water discharges identified in sections 402(p)(2) (B) and (C) of the CWA no later than July 20, 1990. Kathy Williams et al., v. William K. Reilly, Administrator, et al., No. 89-6265-E (D-Ore.) In July 1990, the consent degree was amended to provide for a promulgation date of October 31. Today's rule is promulgated in compliance with the terms of the consent decree as amended.

VI. Today's Final Rule and Response to Comments

A. Overview

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Section 405 of the WQA alters the regulatory approach to control pollutants in storm water discharges by adopting a phased and tiered approach. The new provision phases in permit application requirements, permit issuance deadlines and compliance with permit conditions for different categories of storm water discharges. The approach is tiered in that storm water discharges associated with industrial activity must comply with sections 301 and 402 of the CWA (requiring control of the discharge of pollutants that utilize the Best Available Technology (BAT) and the Best Conventional Pollutant Control Technology (BCT) and where necessary, water quality-based controls), but permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable, and where necessary water quality-based controls, and must include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Furthermore, EPA in consultation with State and local officials must develop a comprehensive program to designate and regulate other storm water discharges to protect water quality.

This final regulation establishes requirements for the storm water permit application process. It also sets forth the required components of municipal storm water quality management plans, as well as a preliminary permitting strategy for industrial activities. In implementing these regulations, EPA and the States will strive to achieve environmental results in a cost effective manner by placing high priority on pollution prevention activities, and by targeting activities based on reducing risk from particularly harmful pollutants and/or from discharges to high value waters. EPA and the States will also work with applicants to avoid cross media transfers of storm water contaminants, especially through injection to shallow wells in the Class V Underground Injection Control Program.

In addition, EPA recognizes that problems associated with storm water, combined sewer overflows (CSOs) and infiltration and inflow (I&I) are all inter-related even though they are treated somewhat differently under the law. EPA believes that it is important to begin linking these programs and activities and, because of the potential cost to local governments, to investigate the use of innovative, non-traditional approaches to reducing or preventing contamination of storm water.

The application process for developing municipal storm water management plans provides an ideal opportunity between steps 1 and 2 for considering the full range of nontraditional, preventive approaches, including municipalities, public awareness/education programs, use of vegetation and/or land conservancy practices, alternative paving materials, creative ways to eliminate I&I and illegal hook-ups, and potentials for water reuse. EPA has already announced its plans to present an award for the best creative, cost effective approaches to storm water and CSOs beginning in 1991.

This rulemaking establishes permit application requirements for classes of storm water discharges that were specifically identified in section 402(p)(2). These priority storm water discharges include storm water discharges associated with industrial activity and discharges from a municipal separate storm sewer serving a population of 100,000 or more.

This rulemaking was developed after careful consideration of 450 sets of comments, comprising over 3200 pages, that were received from a variety of industries, trade associations, municipalities, State and Federal Agencies, environmental groups, and private citizens. These comments were received during a 90-day comment period which extended from December 7, 1988, to March 7, 1989. EPA received several requests for an extension of the comment period from 30-days up to 90-days. Many arguments were advanced for an extension including: the extent and complexity of the proposal, the existence of other concurrent EPA proposals, and the need for technical evaluations of the proposal. EPA considered these comments as they were received, but declined to extend the comment period beyond 90 days. The standard comment period on proposals normally range from 30 to 60 days. In light of the statutory deadline of February 4, 1989, additional time for the comment period beyond what was already a substantially lengthened comment period would have been inappropriate. The number and extent of the comments received on this proposal indicated that interested parties had substantially adequate time to review and comment on the regulation. Furthermore, the public was invited to attend six public meetings in Washington DC, Chicago, Dallas, Oakland, Jacksonville, and Boston to present questions and comments. EPA is convinced that substantial and adequate public participation was sought and received by the Agency.

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Numerous commenters have also requested that the rule be reproposed due to the extent of the proposal and the number of options and issues upon which the Agency requested comments. EPA has decided against a reproposal. The December 7, 1988, notice of proposed rulemaking was extremely detailed and thoroughly identified major issues in such a manner as to allow the public clear opportunities to comment. The comments that were received were extensive, and many provided valuable information and ideas that have been incorporated into the regulation. Accordingly, the Agency is confident it has produced a workable and rational approach to the initial regulation of storm water discharges and a regulation that reflects the experience and knowledge of the public as provided in the comments, and which was developed in accordance with the ***47995** procedural requirements of the Administrative Procedures Act (APA). EPA believes that while the number of issues raised by the proposal was extensive, the number of detailed comments indicates that the public was able to understand the issues in order to comment adequately. Thus, a reproposal is unnecessary.

B. Definition of Storm Water

The December 7, 1988, notice requested comment on defining storm water as storm water runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration (other than infiltration contaminated by seepage from sanitary sewers or by other discharges) and drainage related to storm events or snow melt. This definition is consistent with the regulatory definition of "storm sewer" at 40 CFR 35.2005(b)(47) which is used in the context of grants for construction of treatment works. This definition aids in distinguishing separate storm water sewers from sanitary sewers, combined sewers, process discharge outfalls and non-storm water, non-process discharge outfalls.

The definition of "storm water" has an important bearing on the NPDES permitting scheme under the CWA. The following discusses the interrelationship of NPDES permitting requirements for storm water discharges addressed by this rule and NPDES permitting requirements for other non-storm water discharges which may be discharged via the storm sewer as a storm water discharge. Today's rule addresses permit application requirements for storm water discharges associated with industrial activity and for discharges from municipal separate storm sewer systems serving a population of 100,000 or more. Storm water discharges associated with industrial activity are to be covered by permits which contain technology-based controls based on BAT/BCT considerations or water quality-based controls, if necessary. A permit for storm water discharges from an industrial facility may also cover other non-storm water discharges from the facility. Today's rule establishes individual (Form 1 and Form 2F) and group application requirements for storm water discharges associated with industrial activity. In addition, EPA or authorized NPDES States with authorized general permit programs may issue general permits which establish alternative application or notification requirements for storm water discharges covered by the general permit(s). Where a storm water discharge associated with industrial activity is mixed with a non-storm water discharge, both discharges must be covered by an NPDES permit (this can be in the same permit or with multiple permits). Permit application requirements for these "combination" discharges are discussed later in today's notice.

Today's rule also addresses permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more. Under today's rule, appropriate municipal owners or operators of these systems must obtain NPDES permits for discharges from these systems. These permits are to establish controls to the maximum extent practicable (MEP), effectively prohibit non-storm water discharges to the municipal separate storm sewer system and, where necessary, contain applicable water quality-based controls. Where non-storm water discharges or storm water discharges associated with industrial activity discharge through a municipal separate storm sewer system (including systems serving a population of 100,000 or more as well as other systems), which ultimately discharges to a waters of the United States, such discharges through a municipal storm sewer need to be covered by an NPDES permit that is independent of the permit issued for discharges from the municipal separate storm sewer system. Today's rule defines the term "illicit discharge" to describe any discharge through a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the CWA. Section 402(p)(3)(B) of the CWA requires that permits for discharges from municipal separate storm sewers require the municipality to "effectively prohibit" non-storm water discharges from the municipal separate storm sewer. As discussed

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in more detail below, today's rule begins to implement the “effective prohibition” by requiring municipal operators of municipal separate storm sewer systems serving a population of 100,000 or more to submit a description of a program to detect and control certain non-storm water discharges to their municipal system. Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit (other than the permit for the discharge from the municipal separate storm sewer). For reasons discussed in more detail below, in general, municipalities will not be held responsible for prohibiting some specific components of discharges or flows listed below through their municipal separate storm sewer system, even though such components may be considered non-storm water discharges, unless such discharges are specifically identified on a case-by-case basis as needing to be addressed. However, operators of such non-storm water discharges need to obtain NPDES permits for these discharges under the present framework of the CWA (rather than the municipal operator of the municipal separate storm sewer system). (Note that section 516 of the Water Quality Act of 1987 requires EPA to conduct a study of de minimis discharges of pollutants to waters of the United States and to determine the most effective and appropriate methods of regulating any such discharges.)

EPA received numerous comments on the proposed regulatory definition of storm water, many of which proposed exclusions or additions to the definition. Several commenters suggested that the definition should include or not include detention and retention reservoir releases, water line flushing, fire hydrant flushing, runoff from fire fighting, swimming pool drainage and discharge, landscape irrigation, diverted stream flows, uncontaminated pumped ground water, rising ground waters, discharges from potable water sources, uncontaminated waters from cooling towers, foundation drains, non-contact cooling water (such as HVAC or heating, ventilation and air conditioning condensation water that POTWs require to be discharged to separate storm sewers rather than sanitary sewers), irrigation water, springs, roof drains, water from crawl space pumps, footing drains, lawn watering, individual car washing, flows from riparian habitats and wetlands. Most of these comments were made with regard to the concern that these were commonly occurring discharges which did not pose significant environmental problems. It was also noted that, unless these flows are classified as storm water, permits would be required for these discharges.

In response to the comments which requested EPA to define the term “storm water” broadly to include a number of classes of discharges which are not in any way related to precipitation events, EPA believes that this rulemaking is not an appropriate forum for addressing the appropriate regulation under the NPDES program of such non-storm water discharges, even though some classes of non-storm water discharges may typically contain only minimal amounts of pollutants. Congress did not intend that the term storm water be used to describe any discharge that has a de minimis amount of pollutants, nor did it intend for section 402(p) to be used to ***47996** provide a moratorium from permitting other non-storm water discharges. Consequently, the final definition of storm water has not been expanded from what was proposed. However, as discussed in more detail later in today's notice, municipal operators of municipal separate storm sewer systems will generally not be held responsible for “effectively prohibiting” limited classes of these discharges through their municipal separate storm sewer systems.

The proposed rule included infiltration in the definition of storm water. In this context one commenter suggested that the term infiltration be defined. Infiltration is defined at 40 CFR 35.2005(b)(20) as water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections or manholes. Infiltration does not include, and is distinguished from, inflow. Another commenter urged that ground water infiltration not be classified as storm water because the chemical characteristics and contaminants of ground water will differ from surface storm water because of a longer contact period with materials in the soil and because ground water quality will not reflect current practices at the site. In today's rule, the definition of storm water excludes infiltration since pollutants in these flows will depend on a large number of factors, including interactions with soil and past land use practices at a given site. Further infiltration flows can be contaminated by sources that are not related to precipitation events, such as seepage from sanitary sewers. Accordingly the final regulatory language does not include infiltration in the definition of storm water. Such flows may be subject to

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appropriate permit conditions in industrial permits. As discussed in more detail below, municipal management programs must address infiltration where identified as a source of pollutants to waters of the United States.

One commenter questioned the status of discharges from detention and retention basins used to collect storm water. This regulation covers discharges of storm water associated with industrial activity and discharges from municipal separate storm sewer systems serving a population of 100,000 or more into waters of the United States. Therefore, discharges from basins that are part of a conveyance system for a storm water discharge associated with industrial activity or part of a municipal separate storm sewer system serving a population of 100,000 or more are covered by this regulation. Flows which are channeled into basins and which do not discharge into waters of the United States are not addressed by today's rule.

Several commenters requested that the term illicit connection be replaced with a term that does not connote illegal discharges or activity, because many discharges of non-storm water to municipal separate storm sewer systems occurred prior to the establishment of the NPDES program and in accordance with local or State requirements at the time of the connection. EPA disagrees that there should be a change in this terminology. The fact that these connections were at one time legal does not confer such status now. The CWA prohibits the point source discharge of non-storm water not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal.

A commenter wanted clarification of the terms “other discharges” and “drainage” that are used in the definition of “storm water.” As noted above, today's rule clarifies that infiltration is not considered storm water. Thus the portion of the definition of storm water that refers to “other discharges” has also been removed. However, the term drainage has been retained. “Drainage” does not take on any meaning other than the flow of runoff into a conveyance, as the word is commonly understood.

One commenter stated that irrigation flows combined with storm water discharges should be excluded from consideration in the storm water program. The Agency would note that irrigation return flows are excluded from regulation under the NPDES program. Section 402(l)(1) states that the Administrator or the State shall not require permits for discharges composed entirely of return flows from irrigated agriculture. The legislative history of the 1977 Clean Water Act, which enacted this language, states that the word “entirely” was intended to limit the exception to only those flows which do not contain additional discharges from activities unrelated to crop production. Congressional Record Vol. 123 (1977), pg. 4360, Senate Report No. 95-370. Accordingly, a storm water discharge component, from an industrial facility for example, included in such “joint” discharges may be regulated pursuant to an NPDES permit either at the point at which the storm water flow enters or joins the irrigation flow, or where the combined flow enters waters of the United States or a municipal separate storm sewer.

Some commenters expressed concern about including street wash waters as storm water. One commenter argued including street wash waters in the definition of storm water should not be construed to eliminate the need for management practices relating to construction activities where sediment may simply wash into storm drains. EPA agrees with these points and the concerns that storm sewers may receive material that pose environmental problems if street wash waters are included in the definition. Accordingly, such discharges are no longer in the definition as proposed, and must be addressed by municipal management programs as part of the prohibition on non-storm water discharges through municipal separate storm sewer systems.

Several commenters requested that the terms discharge and point source, in the context of permits for storm water discharge, be clarified. Several commenters stated that the EPA should clarify that storm water discharge does not include “sheet flow” off of an industrial facility. EPA interprets this as request for clarification on the status of the terms “point source” and “discharge” under these regulations. In response, this rulemaking only covers storm water discharges from point sources. A point source is defined at 40 CFR 122.2 as “any discernible, confined, and discrete conveyance, including

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but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff." EPA agrees with one commenter that this definition is adequate for defining what discharges of storm water are covered by this rulemaking. EPA notes that this definition would encompass municipal separate storm sewers. In view of this comprehensive definition of point source, EPA need clarify in this rulemaking only that a storm water discharge subject to NPDES regulation does not include storm water that enters the waters of the United States via means other than a "point source." As further discussed below, storm water from an industrial facility which enters and is subsequently discharged through a municipal separate storm sewer is a "discharge associated with industrial ***47997** activity" which must be covered by an individual or general permit pursuant to today's rule.

EPA would also note that individual facilities have the burden of determining whether a permit application should be submitted to address a point source discharge. Those unsure of the classification of storm water flow from a facility, should file permit applications addressing the flow, or prior to submitting the application consult permitting authorities for clarification.

One commenter stated that "point source" for this rulemaking should be defined, for the purposes of achieving better water quality, as those areas where "discharges leave the municipal [separate storm sewer] system." EPA notes in response that "point source" as currently defined will address such discharges, while keeping the definition of discharge and point source within the framework of the NPDES program, and without adding potentially confusing and ambiguous additional definitions to the regulation. If this comment is asserting that the term point source should not include discharges from sources through the municipal system, EPA disagrees. As discussed in detail below, discharges through municipal separate storm sewer systems which are not connected to an operable treatment works are discharges subject to NPDES permit requirements at (40 CFR 122.3(c)), and may properly be deemed point sources.

One industry argued that the definition of "point source" should be modified for storm water discharges so as to exclude discharges from land that is not artificially graded and which has a propensity to form channels where precipitation runs off. EPA intends to embrace the broadest possible definition of point source consistent with the legislative intent of the CWA and court interpretations to include any identifiable conveyance from which pollutants might enter the waters of the United States. In most court cases interpreting the term "point source", the term has been interpreted broadly. For example, the holding in Sierra Club v. Abston Construction Co., Inc., 620 F.2d 41 (5th Cir. 1980) indicates that changing the surface of land or establishing grading patterns on land will result in a point source where the runoff from the site is ultimately discharged to waters of the United States:

Simple erosion over the material surface, resulting in the discharge of water and other materials into navigable waters, does not constitute a point source discharge, absent some effort to change the surface, to direct the water flow or otherwise impede its progress * * * Gravity flow, resulting in a discharge into a navigable body of water, may be part of a point source discharge if the (discharger) at least initially collected or channeled the water and other materials. A point source of pollution may also be present where (dischargers) design spoil piles from discarded overburden such that, during periods of precipitation, erosion of spoil pile walls results in discharges into a navigable body of water by means of ditches, gullies and similar conveyances, even if the (dischargers) have done nothing beyond the mere collection of rock and other materials * * * Nothing in the Act relieves (dischargers) from liability simply because the operators did not actually construct those conveyances, so long as they are reasonably likely to be the means by which pollutants are ultimately deposited into a navigable body of water. Conveyances of pollution formed either as a result of natural erosion or by material means, and which constitute a component of a * * * drainage system, may fit the statutory definition and thereby subject the operators to liability under the Act." 620 F.2d at 45 (emphasis added).

Under this approach, point source discharges of storm water result from structures which increase the imperviousness of the ground which acts to collect runoff, with runoff being conveyed along the resulting drainage or grading patterns.

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The entire thrust of today's regulation is to control pollutants that enter receiving water from storm water conveyances. It is these conveyances that will carry the largest volume of water and higher levels of pollutants. The storm water permit application process and permit conditions will address circumstances and discharges peculiar to individual facilities.

One industry commented that the definition of waters of the State under some State NPDES programs included municipal storm sewer systems. The commenter was concerned that certain industrial facilities discharging through municipal storm sewers in these states would be required to obtain an NPDES permit, despite EPA's proposal not to require permits from such facilities generally. In response, EPA notes that section 510 of the CWA, approved States are able to have stricter requirements in their NPDES program. In approved NPDES States, the definition of waters of the State controls with regard to what constitutes a discharge to a water body. However, EPA believes that this will have little impact, since, as discussed below, all industrial dischargers, including those discharging through municipal separate storm sewer systems, will be subject to general or individual NPDES permits, regardless of any additional State requirements.

One municipality commented that neither the term “point source” nor “discharge” should be used in conjunction with industrial releases into urban storm water systems because that gives the impression that such systems are navigable waters. EPA disagrees that any confusion should result from the use of these terms in this context. In this rulemaking, EPA always addresses such discharges as “discharges through municipal separate storm sewer systems” as opposed to “discharges to waters of the United States.” Nonetheless, such industrial discharges through municipal storm sewer systems are subject to the requirements of today's rule, as discussed elsewhere.

One commenter desired clarification with regard to what constituted an outfall, and if an outfall could be a pipe that connected two storm water conveyances. This rulemaking defines outfall as a point of discharge into the waters of the United States, and not a conveyance which connects to Sections of municipal separate storm sewer. In response to another comment, this rulemaking only addresses discharges to waters of United States, consequently discharges to ground waters are not covered by this rulemaking (unless there is a hydrological connection between the ground water and a nearby surface water body. See, e.q., Exxon Coro. v. Train, 554 F.2d 1310, 1312 n.1 (5th Cir. 1977); McClellan Ecological Seepage Situation v. Weinberger, 707 F.Supp. 1182, 1195-96 (E.D. Cal. 1988)).

In the WQA and other places, the term “storm water” is presented as a single word. Numerous comments were received by EPA as to the appropriate spelling. Many of these comments recommended that two words for storm water is appropriate. EPA has decided to use an approach consistent with the Government Printing Office's approved form where storm water appears as two words.

C. Responsibility for Storm Water Discharges Associated With Industrial Activity Through Municipal Separate Storm Sewers

The December 7, 1988, notice of proposed rulemaking requested comments on the appropriate permitting scheme for storm water discharges associated with industrial activity through municipal separate storm sewers. EPA proposed a permitting scheme that would define the requirement to obtain coverage under an NPDES permit for a storm water discharge associated with industrial activity through a municipal separate storm sewer in terms of the classification of the municipal separate storm sewer. EPA proposed holding municipal operators of large or medium ***47998** municipal separate storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges (including storm water discharges associated with industrial activity) through the system. Under the proposed approach, operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system would generally not be required to obtain permit coverage for their discharge (unless designated as a significant contributor of pollution pursuant to section 402(p)(2)(E)) provided the municipality was notified of: The name, location and type of facility and a certification that the discharge has been tested (if feasible) for non-storm water (including the results of any testing). The notification

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procedure also required the operator of the storm water discharge associated with industrial activity to determine that: The discharge is composed entirely of storm water; the discharge does not contain hazardous substances in excess of reporting quantities; and the facility is in compliance with applicable provisions of the NPDES permit issued to the municipality for storm water.

In the proposal, EPA also requested comments on whether a decision on regulatory requirements for storm water discharges associated with industrial activity through other municipal separate storm sewer systems (generally those serving a population of less than 100,000) should be postponed until completion of two studies of storm water discharges required under section 402(p)(5) of the CWA.

EPA favored these approaches because they appeared to reduce the potential administrative burden associated with preparing and processing the thousands of permit applications associated with the rulemaking and provide EPA additional flexibility in developing permitting requirements for storm water discharges associated with industrial activity. EPA also expressed its belief, based upon an analysis of ordinances controlling construction site runoff in place in certain cities, that municipalities generally possessed legal authority sufficient to control contributions of industrial storm water pollutants to their separate storm sewers to the degree necessary to implement the proposed rule. EPA commented that municipal controls on industrial sources implemented to comply with an NPDES permit issued to the municipality would likely result in a level of storm water pollution control very similar to that put directly on the industrial source through its own NPDES permit. This was to be accomplished by requiring municipal permitees, to the maximum extent practicable, to require industrial facilities in the municipality to develop and implement storm water controls based on a consideration of the same or similar factors as those used to make BAT/BCT determinations. (See 40 CFR 125.3 (d)(2) and (d)(3)).

The great majority of commenters on the December 7, 1988, notice addressed this aspect of the proposal. Based on consideration of the comments received on the notice, EPA has decided that it is appropriate to revise the approach in its proposed rule to require direct permit coverage for all storm water discharges associated with industrial activity, including those that discharge through municipal separate storm sewers. In response to this decision, EPA has continued to analyze the appropriate manner to respond to the large number of storm water discharges subject to this rulemaking. The development of EPA's policy regarding permitting these discharges is discussed in more detail in the section VI.D of today's preamble.

EPA notes that the status of discharges associated with industrial activity which pass through a municipal separate storm sewer system under section 402(p) raises difficult legal and policy questions. EPA believes that treating these discharges under permits separate from those issued to the municipality will most fully address both the legal and policy concerns raised in public comment.

Certain commenters supported EPA's proposal. Some commenters claimed that EPA lacked any authority to permit industrial discharges which were not discharged immediately to waters of the U.S. Other commenters agreed with EPA's statements in the proposal that its approach would result in a more manageable administrative burden for EPA and the NPDES states. However, numerous comments also were received which provided various arguments in support of revising the proposed approach. These comments addressed several areas including the definition of discharge under the CWA, the requirements and associated statutory time frames of section 402(p), as well as the resource and enforcement constraints of municipalities. EPA is persuaded by these comments and has modified its approach accordingly. The key comments on this issue are discussed below.

EPA disagrees with commenters who suggested that EPA lacks authority to permit separately industrial discharges through municipal sewers. The CWA prohibits the discharge of a pollutant except pursuant to an NPDES permit. Section 502(12)(A) of the CWA defines the “discharge of a pollutant” as “any addition of any pollutant to navigable waters from any point source.” [FN1] There is no qualification in the statutory language regarding the source of the pollutants being

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discharged. Thus, pollutants from a remote location which are discharged through a point source conveyance controlled by a different entity (such as a municipal storm sewer) are nonetheless discharges for which a permit is required.

EPA's regulatory definition of the term “discharge” reflects this broad construction. EPA defines the term to include

additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which does not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

40 CFR § 122.2 (1989) (emphasis added). The only exception to this general rule is the one contemplated by section 307(b) of the CWA, i.e., the introduction of pollutants into publicly-owned treatment works. EPA treats these as “indirect discharges,” subject not to NPDES requirements, but to pretreatment standards under section 307(b).
In light of its construction of the term discharge, EPA has consistently maintained that a person who sends pollutants from a remote location through a point source into a water of the U.S. may be held liable for the unpermitted discharge of that pollutant. Thus, EPA asserts the authority to require a permit either from the operator of the point source conveyance, (such as a municipal storm sewer or a privately-owned treatment works), or from any person causing pollutants to be present in that conveyance and discharged through the point source, or both. See Decision of the General Counsel (of EPA) No. 43 (“In re Friendswood Development Co.”) (June 11, 1976) (operator of privately owned treatment work and dischargers to it are both subject to NPDES permit requirements). See also, 40 CFR 122.3(g), 122.44(m) ***47999** (NPDES permit writer has discretion to permit contributors to a privately owned treatment works as direct dischargers). In other words, where pollutants are added by one person to a conveyance owned/operated by another person, and that conveyance discharges those pollutants through a point source, EPA may permit either person or both to ensure that the discharge is properly controlled. Pollutants from industrial sites discharged through a storm sewer to a point source are appropriately treated in this fashion.

Furthermore, EPA believes that storm water from an industrial plant which is discharged through a municipal storm sewer is a “discharge associated with industrial activity.” Today's rule, as in the proposal, defines discharges associated with industrial activity solely in terms of the origin of the storm water runoff. There is no distinction for how the storm water reaches the waters of the U.S. In other words, pollutants in storm water from an industrial plant which are discharged are “associated with industrial activity,” regardless of whether the industrial facility operates the conveyance discharging the storm water (or whether the storm water is ultimately discharged through a municipal storm sewer). Indeed, there is no distinction in the “industrial” nature of these two types of discharges. The pollutants of concern in an industrial storm water discharge are present when the storm water leaves the facility, either through an industrial or municipal storm water conveyance. EPA has no data to suggest that the pollutants in industrial storm water entering a municipal storm sewer are any different than those in storm water discharged immediately to a water of the U.S. Thus, industrial storm water in a municipal sewer is properly classified as “associated with industrial activity.” Although EPA proposed not to cover these discharges by separate permit, the Agency believes that it is clearly not precluded from doing so.

Many comments also supported the proposed approach, noting that holding municipalities primarily responsible for obtaining a permit which covers industrial storm water discharges through municipal systems would reduce the administrative burden associated with preparing and processing thousands of permit applications—permit applications that would be submitted if each industrial discharger through a large or medium municipal separate storm sewer system had to apply individually (or as part of a group application).

EPA appreciates these concerns. Yet EPA also recognizes that there are also significant problems with putting the burden of controlling these sources on the municipalities (except for designated discharges) which must be balanced with the

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concerns about the permit application burden on industries. The industrial permitting strategy discussed in section VI.D below attempts to achieve this balance.

EPA also does not believe that the administrative burden will be nearly as significant as originally thought, for several reasons. First, as discussed in section VI.F.2 below and in response to significant public comment, EPA has significantly narrowed the scope of the definition of "associated with industrial activity" to focus in on those facilities which are most commonly considered "industrial" and thought to have the potential for the highest levels of pollutants in their storm water discharges. EPA believes this is a more appropriate way to ensure a manageable scope for the industrial storm water program in light of the statutory language of section 402(p), since it does not attempt to arbitrarily distinguish industrial facilities on the basis of the ownership of the conveyance through which a facility discharges its storm water. Second, EPA's industrial permitting strategy discussed in section VI.D is designed around aggressive use of general permits to cover the vast majority of industrial sources. These general permits will require industrial facilities to develop storm water control plans and practices similar to those that would have been required by the municipality. Yet, general permits will eliminate the need for thousands of individual or group permit applications, greatly reducing the burden on both industry EPA/States. Finally, even under the proposal, EPA believes that a large number of industrial dischargers would have been appropriate for designation for individual permitting under section 402(p)(2)(E), with the attendant individual application requirements. Today's approach will actually decrease the overall burden on these facilities; rather than filing an individual permit application upon designation, these facilities will generally be covered by a general permit.

By contrast, several commenters asserted that not only does EPA have the authority to cover these discharges by separate permit, it is required to by the language of section 402(p). As discussed above, storm water from an industrial plant which passes through a municipal storm sewer to a point source and is discharged to waters of the U.S. is a "discharge associated with industrial activity." Therefore, it is subject to the appropriate requirements of section 402(p). The operator of the discharge (or the industrial facility where the storm water originates) must apply for a permit within three years of the 1987 amendments (i.e., Feb. 4, 1990); [FN2] EPA must issue a permit by one year later (Feb. 4, 1991); and the permit must require compliance within three years of permit issuance. That permit must ensure that the discharge is in compliance with all appropriate provisions of sections 301 and 402. Commenters asserted that EPA's proposal would violate these two requirements of the law. First, the statute requires all industrial storm water discharges to obtain a permit in the first round of permitting (i.e., February 4, 1990). However, Congress established a different framework to address discharges from small municipal separate storm sewer systems. Section 402(p) requires EPA to complete two studies of storm water discharges, and based on those studies, promulgate additional regulations, including requirements for state storm water management programs by October 1, 1992. EPA is prohibited from issuing permits for storm water discharges from small municipal systems until October 1, 1992 unless the discharge is designated under section 402(p)(2)(E). Thus, industrial storm water discharges from these systems would not be covered by a permit until later than contemplated by statute. Second, permits for municipal storm sewer systems require controls on storm water discharges "to the maximum extent practicable," as opposed to the BAT/BCT requirements of section 301(b)(2). Yet, all industrial storm water discharges must comply with section 301(b)(2). Thus, covering industrial storm water under a municipal storm water permit will not ensure the legally-required level of control of industrial storm water discharges.

In addition to comments on the requirements of section 402(p), EPA received several comments questioning whether EPA's proposal to cover industrial pollutants in municipal separate storm sewers solely in the permit issued to the municipality would ensure adequate control of these pollutants due to both inadequate ***48000** resources and enforcement. Some municipalities stated that the burdens of this responsibility would be too great with regard to source identification and general administration of the program. These commenters claimed they lacked the necessary technical and regulatory expertise to regulate such sources. Commenters also noted that additional resources to control these sources would be difficult to obtain given the restrictions on local taxation in many states and the fact that EPA will not be providing funding to local governments to implement their storm water programs.

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Municipalities also expressed concerns regarding enforcement of EPA's proposed approach. Some municipalities remarked that they did not have appropriate legal authority to address these discharges. Several commenters also stated that requiring municipalities to be responsible for addressing storm water discharges associated with industrial activity through their municipal system would result in unequal treatment of industries nationwide because of different municipal requirements and enforcement procedures. Several municipal entities expressed concern with regard to their responsibility and liability for pollutants discharged to their municipal storm sewer system, and further asserted that it was unfair to require municipalities to bear the full cost of controlling such pollutants. Other municipalities suggested that overall municipal storm water control would be impaired, since municipalities would spend a disproportionate amount of resources trying to control industrial discharges through their sewers, rather than addressing other storm water problems. In a related vein, certain commenters suggested that, where industrial storm water was a significant problem in a municipal sewer, EPA's proposed approach would hamper enforcement at the federal/state level, since all enforcement measures could be directed only at the municipality, rather than at the most direct source of that problem.

In response to all of these concerns, EPA has decided to require storm water discharges associated with industrial activity which discharge through municipal separate storm sewers to obtain separate individual or general NPDES permits. EPA believes that this change will adequately address all of the key concerns raised by commenters.

The Agency was particularly influenced by concerns that many municipalities lacked the authority under state law to address industrial storm water practices. EPA had assumed that since several cities regulate construction site activities, that they could regulate other industrial operations in a similar manner. Several commenters suggested otherwise. In light of these concerns, EPA agrees with certain commenters that municipal controls on industrial facilities, in lieu of federal control, might not comply with section 402(p)(3)(A) for those facilities.[FN3] This calls into question whether EPA's proposed approach would have reasonably implemented Congressional intent to address industrial storm water early and stringently in the permitting process.

EPA also agrees with those commenters who argued that municipal controls on industrial storm water sources were not directly analogous to the pretreatment program under section 307(b), as EPA suggested in the preamble to the proposal. The authority of cities to control the type and volume of industrial pollutants into a POTW is generally unquestioned under the laws of most states, since sewage and industrial waste treatment is a service provided by the municipality. Thus, EPA has greater confidence that cities can and will adopt effective pretreatment programs. By contrast, many cities are limited in the types of controls they can impose on flows into storm sewers; cities are more often limited to regulations on quantity of industrial flows to prevent flooding the system. So too, the pretreatment program allows for federal enforcement of local pretreatment requirements. Enforcement against direct dischargers (including dischargers through municipal storm sewers) is possible only when the municipal requirements are contained in an NPDES permit.

Although today's rule will require industrial discharges through municipal storm sewers to be covered by separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program. (See section VI.H.7. of today's preamble.) The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal. As with all NPDES permits, responsibility and liability is determined by the discharger's compliance with the terms of the permit. A municipality's responsibility for industrial storm water discharged through their system is governed by the terms of the permit issued. If an industrial source discharges storm water through a municipal separate storm sewer in violation of requirements incorporated into a permit

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for the industrial facility's discharge, that industrial operator of the discharge may be subject to an enforcement action instituted by the Director of the NPDES program.

Today's rule also requires operators of storm water discharges associated with industrial activity through large and medium municipal systems to provide municipal entities of the name, location, and type of facility that is discharging to the municipal system. This information will provide municipalities with a base of information from which management plans can be devised and implemented. This requirement is in addition to any requirements contained in the industrial facility's permit. As in the proposal, the notification process will assist cities in development of their industrial control programs.

EPA intends for the NPDES program, through requirements in permits for storm water discharges associated with industrial activity, to work in concert with municipalities in the industrial component of their storm water management program efforts. EPA believes that permitting of municipal storm sewer systems and the industrial discharges through them will act in a complementary manner to fully control the pollutants in those sewer systems. This will fully implement the intent of ***48001** Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible. This approach will also address the concerns of municipalities that they lack sufficient authority and resources to control all industrial contributions to their storm sewers and will be liable for discharges outside of their control.

The permit application requirements for large and medium municipal separate storm sewer systems, discussed in more detail later in today's preamble, address the responsibilities of the municipal operators of these systems to identify and control pollutants in storm water discharges associated with industrial activity. Permit applications for large and medium municipal separate storm sewer systems are to identify the location of facilities which discharge storm water associated with industrial activity to the municipal system (see section VI.H.7. of the preamble). In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system (see section VI.H.7.c of this preamble). EPA notes that each municipal program will be tailored to the conditions in that city. Differences in regional weather patterns, hydrology, water quality standards, and storm sewer systems themselves dictate that storm water management practices will vary to some degree in each municipality. Accordingly, similar industrial storm water discharges may be treated differently in terms of the requirements imposed by the municipality, depending on the municipal program. Nonetheless, any individual or general permit issued to the industrial facility must comply with section 402(p)(3)(A) of the CWA.

EPA intends to provide assistance and guidance to municipalities and permitting authorities for developing storm water management programs that achieve permit requirements. EPA intends to issue a guidance document addressing municipal permit applications in the near term.

Controls developed in management plans for municipal system permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop measures to reduce pollutants or halt storm water discharges with high levels of pollutants through municipal storm sewer systems. Some local entities have already implemented ordinances or laws that are designed to reduce the discharge of pollutants to municipal separate storm sewers, while other municipalities have developed a variety of techniques to control pollutants in storm water. Alternatively, where appropriate, municipal permittees may develop end-of-pipe controls to control pollutants in these discharges such as regional wet detention ponds or diverting flow to publicly owned treatment works. Finally, municipal applicants may bring individual storm water discharges, which cannot be adequately controlled by the municipal permittees or general permit coverage, to the attention of the permitting authority. Then, at the Director's discretion, appropriate additional controls can be required in the permit for the facility generating the targeted storm water discharge.

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One commenter suggested that municipal operators of municipal separate storm sewers should have control over all storm water discharges from a facility that discharges both through the municipal system and to waters of the United States. In response, under this regulatory and statutory scheme, industries that discharge storm water directly into the waters of the United States, through municipal separate storm sewer systems, or both are required to obtain permit coverage for their discharges. However, municipalities are not precluded from exercising control over such facilities through their own municipal authorities.

It is important to note that EPA has established effluent guideline limitations for storm water discharges for nine subcategories of industrial dischargers (Cement Manufacturing (40 CFR part 411), Feedlots (40 CFR part 412), Fertilizer Manufacturing (40 CFR part 418), Petroleum Refining (40 CFR part 419), Phosphate Manufacturing (40 CFR part 422), Steam Electric (40 CFR part 423), Coal Mining (40 CFR part 434), Ore Mining and Dressing (40 CFR part 440) and Asphalt (40 CFR part 441)). Most of the existing facilities in these subcategories already have individual permits for their storm water discharges. Under today's rule, facilities with existing NPDES permits for storm water discharges through a municipal storm sewer will be required to maintain these permits and apply for an individual permit, under § 122.26(c), when existing permits expire. EPA received numerous comments supporting this decision because requiring facilities that have existing permits to comply with today's requirements immediately would be inefficient and not serve improved water quality.

Sections 402(p) (1) and (2) of the CWA provide that discharges from municipal separate storm sewer systems serving a population of less than 100,000 are not required to obtain a permit prior to October 1, 1992, unless designated on a case-by-case basis under section 402(p)(2)(E). However, as discussed above, storm water discharges associated with industrial activity through such municipal systems are not excluded. Thus, under today's rule, all storm water discharges associated with industrial activity that discharge through municipal separate storm sewer systems are required to obtain NPDES permit coverage, including those which discharge through systems serving populations less than 100,000. EPA believes requiring permits will address the legal concerns raised by commenters regarding these sources. In addition, it will allow for control of these significant sources of pollution while EPA continues to study under section 402(p)(6) whether to require the development of municipal storm water management plans in these municipalities. If these municipalities do ultimately obtain NPDES permits for their municipal separate storm sewer systems, early permitting of the industrial contributions may aid those cities in their storm water management efforts.

In the December 7, 1988, proposal, EPA recognized that storm water discharges associated with industrial activity from Federal facilities through municipal separate storm sewer systems may pose unique legal and administrative situations. EPA received numerous comments on this issue, with most of these comments coming from cities and counties. The comments reflected a general concern with respect to a municipality's ability to control Federal storm water discharges through municipal separate storm sewer systems. Most municipalities stated that they do not have the legal authority to adequately enforce against problem storm water discharges from Federal facilities and that these facilities should be required to obtain separate storm water permits. Some commenters stated that they have no Constitutional authority to regulate Federal facilities or establish regulation for such facilities. Some commenters indicated that Federal facilities could not be inspected, monitored, or subjected to enforcement for national security and other jurisdictional reasons. Some commenters argued that without clearly stated legal authority for the municipality, such dischargers should be required to obtain permits. One ***48002** municipality pointed out that Federal facilities within city limits are exempted from their Erosion and Sediment Control Act and that permits for these facilities should be required.

Under today's rule, Federal facilities which discharge storm water associated with industrial activity through municipal separate storm sewer systems will be required to obtain NPDES permit coverage under Federal or State law. EPA believes this will cure the legal authority problems at the local level raised by the commenters. EPA notes that this requirement is consistent with section 313(a) of the CWA.

D. Preliminary Permitting Strategy for Storm Water Discharges Associated With Industrial Activity

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Many of the comments received on the December 7, 1988, proposal focused on the difficulties that EPA Regions and authorized NPDES States, with their finite resources, will have in implementing an effective permitting program for the large number of storm water discharges associated with industrial activity. Many commenters noted that problems with implementing permit programs are caused not only by the large number of industrial facilities subject to the program, but by the difficulties associated with identifying appropriate technologies for controlling storm water at various sites and the differences in the nature and extent of storm water discharges from different types of industrial facilities.

EPA recognizes these concerns; and based on a consideration of comments from authorized NPDES States, municipalities, industrial facilities and environmental groups on the permitting framework and permit application requirements for storm water discharges associated with industrial activity, EPA is in the process of developing a preliminary strategy for permitting storm water discharges associated with industrial activity. In developing this strategy, EPA recognizes that the CWA provides flexibility in the manner in which NPDES permits are issued.[FN4] EPA intends to use this flexibility in designing a workable and reasonable permitting system. In accordance with these considerations, EPA intends to publish in the near future a discussion of its preliminary permitting strategy for implementing the NPDES storm water program.

The preliminary strategy is intended to establish a framework for developing permitting priorities, and includes a four tier set of priorities for issuing permits to be implemented over time:

- Tier I—baseline permitting: One or more general permits will be developed to initially cover the majority of storm water discharges associated with industrial activity;

- Tier II—watershed permitting: Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for permitting.

- Tier III—industry specific permitting: Specific industry categories will be targeted for individual or industry-specific permits; and

- Tier IV—facility specific permitting: A variety of factors will be used to target specific facilities for individual permits.

Tier I—Baseline Permitting

EPA intends to issue general permits that initially cover the majority of storm water discharges associated with industrial activity in States without authorized NPDES programs. These permits will also serve as models for States with authorized NPDES programs.

The consolidation of many sources under one permit will greatly reduce the otherwise overwhelming administrative burden associated with permitting storm water discharges associated with industrial activity. This approach has a number of additional advantages, including:

- Requirements will be established for discharges covered by the permit;

- Facilities whose discharges are covered by the permit will have an opportunity for substantial compliance with the CWA;

- The public, including municipal operators of municipal separate storm sewers which may receive storm water discharges associated with industrial activity, will have access under section 308(b) of the CWA to monitoring data and certain other information developed by the permittee;

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- EPA will have the opportunity to begin to collect and review data on storm water discharges from priority industries, thereby supporting the development of subsequent permitting activities;

- Applicable requirements of municipal storm water management programs established in permits for discharges from municipal separate storm sewer systems will be enforceable directly against non-complying industrial facilities that generate the discharges;

- The public will be given an opportunity to comment on permitting activities;

- The baseline permits will provide a basis for bringing selected enforcement actions by eliminating many issues which might otherwise arise in an enforcement proceeding; and

- Finally, the baseline permits will provide a focus for public comment on the development of subsequent phases of the permitting strategy for storm water discharges, including the development of priorities for State storm water management programs developed under section 402(p)(6) of the CWA.

Initially, the coverage of the baseline permits will be broad, but the coverage is intended to shrink as other permits are issued for storm water discharges associated with industrial activities pursuant to Tier II through IV activities.

2. Tier II—Watershed Permitting

Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for individual and general permitting. This process can be initiated by identifying receiving waters (or segments of receiving waters) where storm water discharges associated with industrial activity have been identified as a source of use impairment or are suspected to be contributing to use impairment.

3. Tier III—Industry Specific Permitting

Specific industry categories will be targeted for individual or industry-specific general permits. These permits will allow permitting authorities to focus attention and resources on industry categories of particular concern and/or industry categories where tailored requirements are appropriate. EPA will work with the States to coordinate the development of model permits for selected classes of industrial storm water discharges. EPA is also working to identify priority industrial categories in the two reports to Congress required under section 402(p)(5) of the CWA. In addition, group applications that are received can be used to develop model permits for the appropriate industries.

***48003 4. Tier IV—Facility Specific Permitting**

Individual permits will be appropriate for some storm water discharges in addition to those identified under Tier II and III activities. Individual permits should be issued where warranted by: the pollution potential of the discharge; the need for individual control mechanisms; and in cases where reduced administrative burdens exist. For example, individual NPDES permits for facilities with process discharges should be expanded during the normal process of permit reissuance to cover storm water discharges from the facility.

5. Relationship of Strategy to Permit Applications Requirements

The preliminary long-term permitting strategy described above identifies several permit schemes that EPA anticipates will be used in addressing storm water discharges associated with industrial activity. One issue that arises with this strategy is determining the appropriate information needed to develop and issue permits for these discharges. The NPDES regulatory scheme provides three major options for obtaining permit coverage for storm water discharges associated

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with industrial activity: (1) Individual permit applications; (2) group applications; and (3) case-by-case requirements developed for general permit coverage.

a. Individual permit application requirements. Today's notice establishes requirements for individual permit applications for storm water discharges associated with industrial activity. These application requirements are applicable for all storm water discharges associated with industrial activity, except where the operator of the discharge is participating in a group application or a general permit is issued to cover the discharge and the general permit provides alternative means to obtain permit coverage. Information in individual applications is intended to be used in developing the site-specific conditions generally associated with individual permits.

Individual permit applications are expected to play an important role in all tiers of the Strategy, even where general permits are used. Although general permits may provide for notification requirements that operate in lieu of the requirement to submit individual permit applications, the individual permit applications may be needed under several circumstances. Examples include: where a general permit requires the submission of a permit application as the notice of intent to be covered by the permit; where the owner or operator authorized by a general permit requests to be excluded from the coverage of the general permit by applying for a permit (see 40 CFR 122.28(b)(2)(iii) for EPA issued general permits); and where the Director requires an owner or operator authorized by a general permit to apply for an individual permit (see 40 CFR 122.28(b)(2)(ii) for EPA issued general permits).

b. Group applications. Today's rule also promulgates requirements for group applications for storm water discharges associated with industrial activity. These applications provide participants of groups with sufficiently similar storm water discharges an alternative mechanism for applying for permit coverage.

The group application requirements are primarily intended to provide information for developing industry specific general permits. (Group applications can also be used to issue individual permits in authorized NPDES States without general permit authority or where otherwise appropriate). As such, group application requirements correlate well with the Tier III permitting activities identified in the long-term permitting Strategy.

c. Case-by-case requirements. 40 CFR 122.21(a) excludes persons covered by general permits from requirements to submit individual permit applications. Further, the general permit regulations at 40 CFR 122.28 do not address the issue of how a potential permittee is to apply to be covered under a general permit. Rather, conditions for notification of intent (NOI) to be covered by the general permit are established in the permits on a case-by-case basis, and operate in lieu of permit application requirements. Requirements for submitting NOIs to be covered by a general permit can range from full applications (this would be Form 1 and Form 2F for most discharges composed entirely of storm water discharges associated with industrial activity), to no notice. EPA recommends that the NOI requirements established in a general permit for storm water discharges associated with industrial activity be commensurate with the needs of the permit writer in establishing the permit and the permit program. The baseline general permit described in Tier I is intended to support the development of controls for storm water discharges associated with industrial activity that can be supported by the limited resources of the permitting Agency. In this regard, the burdens of receiving and reviewing NOI's from the large number of facilities covered by the permit should also be considered when developing NOI requirements. In addition, NOI requirements should be developed in conjunction with permit conditions establishing reporting requirements during the term of the permit.

NOI requirements in general permits can establish a mechanism which can be used to establish a clear accounting of the number of permittees covered by the general permit, the nature of operations at the facility generating the discharge, their identity and location. The NOI can be used as an initial screening tool to determine discharges where individual permits are appropriate. Also, the NOI can be used to identify classes of discharges appropriate for more specific general permits, as well as provide information needed to notify such dischargers of the issuance of a more specific general permit. In addition, the NOI can provide for the identification of the permittee to provide a basis for enforcement and

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compliance monitoring strategies. EPA will further address this issue in the context of specific general permits it plans to issue in the near future.

Today's rule requires that individual permit applications for storm water discharges associated with industrial activity be submitted within one year from the date of publication of this notice. EPA is considering issuing general permits for the majority of storm water discharges associated with industrial activity in those States and territories that do not have authorized State NPDES programs (MA, ME, NH, FL, LA, TX, OK, NM, SD, AZ, AK, ID, District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands) before that date to enable industrial dischargers of storm water to ascertain whether they are eligible for coverage under a general permit (and subject to any alternative notification requirements established by the general permit in lieu of the individual permit application requirements of today's rule) or whether they must submit an individual permit application (or participate in a group application) before the regulatory deadlines for submitting these applications passes. Storm water application deadlines are discussed in further detail below.

E. Storm Water Discharge Sampling

Storm water discharges are intermittent by their nature, and pollutant concentrations in storm water discharges will be highly variable. Not only will variability arise between given events, but the flow and pollutant ***48004** concentrations of such discharges will vary with time during an event. This variability raises two technical problems: how best to characterize the discharge associated with a single storm event; and how best to characterize the variability between discharges of different events that may be caused by seasonal changes and changes in material management practices, for example.

Prior to today's rulemaking, 40 CFR 122.21(g)(7) required that applicants for NPDES permits submit quantitative data based on one grab sample taken every hour of the discharge for the first four hours of discharge. EPA has modified this requirement such that, instead of collecting and analyzing four grab samples individually, applicants for permits addressing storm water discharges associated with industrial activity will provide data as indicators of two sets of conditions: data collected during the first 30 minutes of discharge and flow-weighted average storm event concentrations. Large and medium municipalities will provide data on flow-weighted average storm event concentrations only.

Data describing pollutants in a grab sample taken during the first few minutes of the discharge can often be used as a screen for non-storm water discharges to separate storm sewers because such pollutants may be flushed out of the system during the initial portion of the discharge. In addition, data from the first few minutes of a discharge are useful because much of the traditional structural technology used to control storm water discharges, including detention and retention devices, may only provide controls for the first portion of the discharge, with relatively little or no control for the remainder of the discharge. Data from the first portion of the discharge will give an indication of the potential usefulness of these techniques to reduce pollutants in storm water discharges. Also, such discharges may be primarily responsible for pollutant shocks to the ecosystem in receiving waters.

Studies such as NURP have shown that flow-weighted average concentrations of storm water discharges are useful for estimating pollutant loads and for evaluating certain concentration-based water quality impacts. The use of flow-weighted composite samples are also consistent with comments raised by various industry representatives during previous Agency rulemakings that continuous monitoring of discharges from storm events is necessary to adequately characterize such discharges.

EPA requested comment on the feasibility of the proposed modification of sampling procedures at § 122.21(g)(7) and the ability to characterize pollutants in storm water discharges with an average concentration from the first portion of the discharge compared to collecting and separately analyzing four grab samples. It was proposed that an event composite sample be collected, as well as a grab sample collected during the first 20 minutes of runoff. Comments were solicited

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as to whether or not this sampling method would provide better definition of the storm load for runoff characterization than would the requirement to collect and separately analyze four grab samples.

Many commenters questioned the ability to obtain a 20 minute sample in the absence of automatic samplers. Some believed that pollutants measured by such a sample can be accounted for in the event composite sample. Others argued that this is an unwarranted sampling effort if municipal storm water management plans are to be geared to achieving annual pollutant load reductions. Many commenters advised that problems accessing sampling stations and mobilizing sampling crews, particularly after working hours, made sampling during the first 20 minutes impractical. These comments were made particularly with respect to municipalities, where the geographical areas could encompass several hundred square miles. Several alternatives were suggested including: the collection of a sample in the first hour, and representative grab sampling in the next three hours, one per hour; or perform time proportioned sampling for up to four hours.

Because of the logistical problems associated with collecting samples during the first few minutes of discharge from municipal systems, EPA will only require such sampling from industrial facilities. Municipal systems will be spread out over many square miles with sampling locations potentially several miles from public works departments or other responsible government agencies. Reaching such locations in order to obtain samples during the first few minutes of a storm event may prove impossible. For essentially the same reasons, the requirement has been modified to encompass the first 30 minutes of the discharge, instead of 20 minutes, for industrial discharges. The rule also clarifies that the sample should be taken during the first 30 minutes or as soon thereafter as practicable. Where appropriate, characterization of this portion of the discharge from selected outfalls or sampling points may be a condition to permits issued to municipalities. With regard to protocols for the collection of sample aliquots for flow-weighted composite samples, § 122.21(g)(7) provides that municipal applicants may collect flow-weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director or Regional Administrator. In other words, the period may be extended from 15 minutes to 20 or 25 minutes between sample aliquots, or decreased from 15 to 10 or 5 minutes.

Other comments raised issues that apply both to the impact of runoff characterization and the first discharge representation. These primarily pertained to regions that have well defined wet and dry seasons. Comments questioned whether or not it is fair to assume that the initial storm or two of a wet season, which will have very high pollutant concentrations, are actually representative of the runoff concentrations for the area.

In response, EPA believes that it is important to represent the first part of the discharge either separately or as a part of the event composite samples. This loading is made up primarily of the mass of unattached fine particulates and readily soluble surface load that accumulates between storms. This load washes off of the basin's directly connected paved surfaces when the runoff velocities reach the level required for entrainment of the particulate load into the surface flow. It should be noted that for very fine particulates and solubles, this can occur very soon after the storm begins and much sooner than the peak flow. The first few minutes of discharge represents a shock load to the receiving water, in terms of concentration of pollutants, because for many constituents the highest concentrations of the event will occur during this initial period. Due to the need to properly quantify this load, it is not necessary to represent the first discharge from the upper reaches of the outfall's tributary area. In runoff characterization basins, the assumption is that the land use in the basin is homogeneous, or nearly so, and that the first discharge from the lower reaches for all intents and purposes is representative of the entire basin. If a sample is taken during the first 30 minutes of the runoff, it will be composed primarily of first discharge. If the sample is taken at the outfall an hour into the event, it may contain ***48005** discharge from the remote portions of the basin. It will not be representative of the discharge because it will also contain later washoff from the lower reaches of the basin, resulting in a low estimation of the first discharge load of most constituents. Conversely, larger suspended particulates that normally are not present in first discharge due to inadequate velocities will appear in this later sampling scenario because of the influence of higher runoff rates in the lower basin. Many commonly used management practices are designed based on their ability to treat a volume of water defined by the first discharge

phenomenon. It is important to characterize the first discharge load because most management practices effectively treat only, or primarily, this load.

It should be noted that first discharge runoff is sometimes contaminated by non-storm water related pollutants. In many urban catchments, contaminants that result from illicit connections and illegal dumping may be stored in the system until "flushed" during the initial storm period. This does not negate the need for information on the characteristic first discharge load, but does indicate that the first phase field screen results for illicit connections should be used to help define those outfalls where this problem might exist.

Several methods can be used to develop an event average concentration. Either automatic or manual sampling techniques can be used that sample the entire hydrograph, or at least the first four hours of it, that will result in several discrete samples and associated flow rates that represent the various flow regimes of an event. These procedures have the potential for providing either an event average concentration, an event mean concentration, or discrete definition of the washoff process. Automatic sampling procedures are also available that collect a single composite sample, either on a time-proportioned or flow proportioned basis.

When discrete samples are collected, an event average composite sample can be produced by the manual composite of the discrete samples in equal volumes. Laboratory analysis of time proportioned composite samples will directly yield the event average concentration. Mathematical averaging of discrete sample analysis results will yield an event average concentration.

When discrete samples are collected, a flow-weighted composite sample can be produced based on the discharge record. This is done by manually flow proportioning the volumes of the individual samples. Laboratory analysis of flow weighted composite samples will directly yield an event mean concentration. Mathematical integration of the change in concentrations and mass flux of the discharge for discrete sample data can produce an event mean concentration. This procedure was used during the NURP program.

EPA wishes to emphasize that the reason for sampling the type of storm event identified in § 122.21(g)(7) is to provide information that represents local conditions that will be used to create sound storm water management plans. Based on the method to be used to generate system-wide estimates of pollutant loads, either method, discrete or event average concentrations, may be preferable to the other. If simulation models will be used to generate loading estimates, analysis of discrete samples will be more valuable so that calibration of water quality and hydrology may be performed. On the other hand, simple estimation methods based on event average or event mean concentrations may not justify the additional cost of discrete sample analysis.

EPA believes that the first discharge loading should be represented in the permit application from industrial facilities and, if appropriate, permitting authorities may require the same in the discharge characterization component of permits issued to municipalities. The first discharge load should also be represented as part of an event composite sample. This requirement will assist industries in the development of effective storm water management plans.

EPA requested comments on the appropriateness of the proposed rules and of proposed amendments to the rules regarding discharge sampling. Comments were received which addressed the appropriateness of imposing uniform national guidelines. Several commenters are concerned that uniform national guidelines may not be appropriate due to the geographic variations in meteorology, topography, and pollutant sources. While some assert that a uniform guideline will provide consistency of the sample results, others prefer a program based on regional or State guidelines that more specifically address their situation.

Several commenters, addressing industrial permit application requirements, preferred that the owner/operator be allowed to set an individual sampling protocol with approval of the permit writer. Some commenters were concerned that

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one event may not be sufficient to characterize runoff from a basin as this may result in gross over-estimation or underestimation of the pollutant loads. Others indicated confusion with regard to sampling procedures, lab analysis procedures, and the purpose of the program.

In response, today's regulations establish certain minimum requirements. Municipalities and industries may vary from these requirements to the extent that their implementation is at least as stringent as outlined in today's rule. EPA views today's rule as a means to provide assurance as to the quality of the data collected; and to this end, it is important that the minimum level of sampling required be well defined.

In response to EPA's proposal that the first discharge be included in "representative" storm sampling, several commenters made their concerns known about the possible equipment necessary to meet this requirement. Several commenters are concerned that in order to get a first discharge sample, automatic sampling equipment will be required. Concerns related to the need for this equipment surfaced in the comments frequently; most advised that the equipment is expensive and that the demand on sampling equipment will be too large for suppliers and manufacturers to meet. Although equipment can be leased, some commenters maintained that not enough rental equipment is available to make this a viable option in many instances.

EPA is not promoting or requiring the use of automated equipment to satisfy the sampling requirements. A community may find that in the long run it would be more convenient to have such equipment since sampling is required not only during preparation of the application, but also may be required during the term of the permit to assure that the program goals are being met. Discharge measurement is necessary in order for the sample data to have any meaning. If unattended automatic sampling is to be performed, then unattended flow measurement will be required too.

EPA realizes that equipment availability is a legitimate concern. However, there is no practical recommendation that can be made relative to the availability of equipment. If automatic sampling equipment is not available, manual sampling is an appropriate alternative.

F. Storm Water Discharges Associated With Industrial Activity

1. Permit Applicability

a. Storm water discharges associated with industrial activity to waters of the United States. Under today's rule dischargers of storm water associated ***48006** with industrial activity are required to apply for an NPDES permit. Permits are to be applied for in one of three ways depending on the type of facility: Through the individual permit application process; through the group application process; or through a notice of intent to be covered by general permit.

Storm water discharges associated with the industrial activities identified under § 122.26(b)(14) of today's rule may avail themselves of general permits that EPA intends to propose and promulgate in the near future. The general permit will be available to be promulgated in each non-NPDES State, following State certification, and as a model for use by NPDES States with general permit authority. It is envisioned that these general permits will provide baseline storm water management practices. For certain categories of industries, specific management practices will be prescribed in addition to the baseline management practices. As information on specific types of industrial activities is developed, other, more industry-specific general permits will be developed.

Today's rule requires facilities with existing NPDES permits for storm water discharges to apply for individual permits under the individual permit application requirements found at 122.26(c) 180 days before their current permit expires. Facilities not eligible for coverage under a general permit are required to file an individual or group permit application in accordance with today's rule. The general permits to be proposed and promulgated will indicate what facilities are eligible for coverage by the general permit.

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b. Storm water discharges through municipal storm sewers. As discussed above, many operators of storm water discharges associated with industrial activity are not required to apply for an individual permit or participate in a group application under § 122.26(c) of today's rule if covered by a general permit. Under the December 7, 1988, proposal, dischargers through large and medium municipal separate storm sewer systems were not required, as a general rule, to apply for an individual permit or as a group applicant. Today's rule is a departure from that proposal. Today's rule requires all dischargers through municipal separate storm sewer systems to apply for an individual permit, apply as part of a group application, or seek coverage under a promulgated general permit for storm water discharges associated with industrial activity.

Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system. It is anticipated that general or individual permits covering industrial storm water dischargers to these municipal separate storm sewer systems will require industries to comply with the terms of the permit issued to the municipality, as well other terms specific to the permittee.

c. Storm water discharges through non-municipal storm sewers. Under today's rulemaking all operators of storm water discharges associated with industrial activity that discharge into a privately or Federally owned storm water conveyance (a storm water conveyance that is not a municipal separate storm sewer) will be required to be covered by an NPDES permit (e.g. an individual permit, general permit, or as a co-permittee to a permit issued to the operator of the portion of the system that directly discharges to waters of the United States). This is a departure from the “either/or” approach that EPA requested comments on in the December 7, 1988, notice. The “either/or” approach would have allowed either the system discharges to be covered by a permit issued to the owner/operator of the system segment that discharged to waters of the United States, or by an individual permit issued to each contributor to the non-municipal conveyance.

EPA requested comments on the advantages and disadvantages of retaining the “either/or” approach for non-municipal storm sewers. An abundance of comment was received by EPA on this particular part of the program. A number of industrial commenters and a smaller number of municipalities favored retaining the “either/or” approach as proposed, while most municipal entities, one industry, and one trade association favored requiring permits for each discharger.

Two commenters stated that private owners of conveyances may not have the legal authority to implement controls on discharges through their system and would not want to be held responsible for such controls. EPA agrees that this is a potential problem. Therefore, today's rule will require permit coverage for each storm water discharge associated with industrial activity.

One commenter supported the concept of requiring all the facilities that discharge to a non-municipal conveyance to be co-permittees. EPA agrees that this type of permitting scheme, along with other permit schemes such as area or general permits, is appropriate for discharges from non-municipal sewers, as long as each storm water discharge through the system is associated with industrial activity and thus currently subject to NPDES permit coverage.

One State agency commented that in the interest of uniformity, all industries that discharge to non-municipal conveyances should be required to conform to the application requirements. One industry stated that the rules must provide a way for the last discharger before the waters of the U.S. to require permits for facilities discharging into the upper portions of the system. EPA agrees with these comments. Today's rule provides that each discharger may be covered under individual permits, as co-permittees to a single permit, or by general permit rather than holding the last discharger to the waters of the United States solely responsible.

In response to one commenter, the term “non-municipal” has been clarified to explain that the term refers to non-publicly owned or Federally-owned storm sewer systems.

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Some commenters supporting the approach as proposed, noted that industrial storm water dischargers into such systems can take advantage of the group application process. EPA agrees that in appropriate circumstances, such as when industrial facilities discharging storm water to the same system are sufficiently similar, group applications can be used for discharges to non-municipal conveyances. However, EPA believes that it would be inappropriate to approve group applications for those facilities whose only similarity is that they discharge storm water into the same private conveyance system. The efficacy of the group application procedures is predicated on the similarity of operations and other factors. The fact that several industries discharge storm water to the same non-municipal sewer system alone may not make these discharges sufficiently similar for group application approval.

One commenter suggested that EPA has not established any deadlines for submission of permit applications for storm water discharges associated with industrial activity through non-municipal separate storm sewer systems. EPA wants to clarify that industrial storm water dischargers into privately owned or Federally owned storm water conveyances are required to apply for permits in the same time frame as individual or group applicants (or as otherwise provided for in a general permit).

***48007** One commenter stated that the operator of the conveyance that accepts discharges into its system has control and police power over those that discharge into the system by virtue of the ability to restrict discharges into the system. This commenter stated that these facilities should be the entity required to obtain the permit in all cases. Assuming that this statement is true in all respects, the larger problem is that one's theoretical ability to restrict discharges is not necessarily tied to the reality of enforcing those restrictions or even detecting problem discharges when they exist. In a similar vein one commenter urged that a private operator will not be in any worse a position than a municipal entity to determine who is the source of pollution up-stream. EPA agrees that from a hydrological standpoint this may be true. However, from the standpoint of detection resources, police powers, enforcement remedies, and other facets of municipal power that may be brought to bear upon problem dischargers, private systems are in a far more precarious position with respect to controlling discharges from other private sources.

In light of the comments received, EPA has decided that the either/or approach as proposed is inappropriate. Operators of non-municipal systems will generally be in a poorer position to gain knowledge of pollutants in storm water discharges and to impose controls on storm water discharges from other facilities than will municipal system operators. In addition, best management practices and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges associated with industrial activity and can often only be effectively addressed in a regulatory scheme that holds each industrial facility operator directly responsible. The either/or approach as proposed is not conducive to establishing these types of practices unless each discharger is discharging under a permit. Also, some non-municipal operators of storm water conveyances, which receive storm water runoff from industrial facilities, may not be generating storm water discharges associated with industrial activity themselves and, therefore, they would otherwise not need to obtain a permit prior to October 1, 1992, unless specifically designated under section 402(p)(2)(E). Accordingly, EPA disagrees with comments that dischargers to non-municipal conveyances should have the flexibility to be covered by their permit or covered by the permit issued to the operator of the outfall to waters to the United States.

2. Scope of "Associated with Industrial Activity"

The September 26, 1984, final regulation divided those discharges that met the regulatory definition of storm water point source into two groups. The term Group I storm water discharges was defined in an attempt to identify those storm water discharges which had a higher potential to contribute significantly to environmental impacts. Group I included those discharges that contained storm water drained from an industrial plant or plant associated areas. Other storm water discharges (such as those from parking lots and administrative buildings) located on lands used for industrial activity were classified as Group II discharges. The regulations defined the term "plant associated areas" by listing several examples of areas that would be associated with industrial activities. However, the resulting definition led to confusion among the regulated community regarding the distinctions between the Group I and Group II classifications.

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In amending the CWA in 1987, Congress did not explicitly adopt EPA's regulatory classification of Group I and Group II discharges. Rather, Congress required EPA to address "storm water discharges associated with industrial activity" in the first round of storm water permitting. In light of the adoption of the term "associated with industrial activity" in the CWA, and the ongoing confusion surrounding the previous regulatory definition, EPA has eliminated the regulatory terms "Group I storm water discharge" and "Group II storm water discharge" pursuant to the December 7, 1987, Court remand and has not revived it. In addition, today's notice promulgates a definition of the term "storm water discharge associated with industrial activity"at § 122.26(b)(14) and clarified the scope of the term.

In describing the scope of the term "associated with industrial activity", several members of Congress explained in the legislative history that the term applied if a discharge was "directly related to manufacturing, processing or raw materials storage areas at an industrial plant." (Vol. 132 Cong. Rec. H10932, HI0936 (daily ed. October 15, 1986); Vol. 133 Cong. Rec. H176 (daily ed. January 8, 1987)). Several commenters cited this language in arguing for a more expansive or less expansive definition of "associated with industrial activity." EPA believes that the legislative history supports the decision to exclude from the definition of industrial activity, at § 122.26(b)(14) of today's rule, those facilities that are generally classified under the Office of Management and Budget Standard Industrial Classifications (SIC) as wholesale, retail, service, or commercial activities.

Two commenters recommended that all commercial enterprises should be required to obtain a permit under this regulation. Another commenter recommended that all the facilities listed in the December 7, 1988, proposal, including those listed in paragraphs (xi) through (xvi) on page 49432 of the December 7, 1988, proposal, should be included. EPA disagrees since the intent of Congress was to establish a phased and tiered approach to storm water permits, and that only those facilities having discharges associated with industrial activity should be included initially. The studies to be conducted pursuant to section 402(p)(5) will examine sources of pollutants associated with commercial, retail, and other light business activity. If appropriate, additional regulations addressing these sources can be developed under section 402(p)(6) of the CWA. As further discussed below, EPA believes that the facilities identified in paragraphs (xi) through (xvi) are more properly characterized as commercial or retail facilities, rather than indutrial facilities.

Today's rule clarifies the regulatory definition of "associated with industrial activity" by adopting the language used in the legislative history and supplementing it with a description of various types of areas that are directly related to an industrial process (e.g., industrial plant yards, immediate access roads and rail lines, drainage ponds, material handling sites, sites used for the application or disposal of process waters, sites used for the storage and maintenance of material handling equipment, and known sites that are presently or have been used in the past for residual treatment, storage or disposal). The agency has also incorporated some of the suggestions offered by the public in comments.

Three commenters suggested that the permit application should focus only on storm water with the potential to come into contact with industrial-related pollutant sources, rather than focusing on how plant areas are utilized. These commenters suggested that facilities that are wholly enclosed or have their operations entirely protected from the elements should not be subject to permit requirements under today's rule. EPA agrees that these comments have merit with regard to certain types of facilities. Today's rule defines the term "storm water discharge associated with ***48008** industrial activity" to include storm water discharges from facilities identified in today's rule at 40 CFR 122.21(b)(I4)(xi) (facilities classified as Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25) only if:

areas where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery at these facilities are exposed to storm water. Such areas include: material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment; storage or disposal; shipping and receiving areas; manufacturing buildings; material storage areas for raw materials,

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and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.
The critical distinction between the facilities identified at 40 CFR 122.26(b)(14)(xi) and the facilities identified at 40 CFR 122.26(b)(14)(i)-(x) is that the former are not classified as having "storm water discharges associated with industrial activity" unless certain materials or activities are exposed to storm water. Storm water discharges from the latter set of facilities are considered to be "associated with industrial activity" regardless of the actual exposure of these same materials or activities to storm water.

EPA believes this distinction is appropriate because, when considered as a class, most of the activity at the facilities in § 122.26(b)(14)(xi) is undertaken in buildings; emissions from stacks will be minimal or non-existent; the use of unhoused manufacturing and heavy industrial equipment will be minimal; outside material storage, disposal or handling generally will not be a part of the manufacturing process; and generating significant dust or particulates would be atypical. As such, these industries are more akin or comparable to businesses, such as retail, commercial, or service industries, which Congress did not contemplate regulating before October 1, 1992, and storm water discharges from these facilities are not "associated with industrial activity." Thus, these industries will be required to obtain a permit under today's rule only when the manufacturing processes undertaken at such facilities would result in storm water contact with industrial materials associated with the facility.

Industrial categories in § 122.26(b)(14)(xi) all tend to engage in production activities in the manner described in the paragraph above. Facilities under SIC 20 process foods including meats, dairy food, fruit, and flour. Facilities classified under SIC 21 make cigarettes, cigars, chewing tobacco and related products. Under SIC 22, facilities produce yarn, etc., and/or dye and finish fabrics. Facilities under SIC 23 are in the business of producing clothing by cutting and sewing purchased woven or knitted textile products. Facilities under SIC 2434 and 25 are establishments engaged in furniture making. SIC 265 and 267 address facilities that manufacture paper board products. Facilities under SIC 27 perform services such as bookbinding, plate making, and printing. Facilities under SIC 283 manufacture pharmaceuticals and facilities under 285 manufacture paints, varnishes, lacquers, enamels, and allied products. Under SIC 30 establishments manufacture products from plastics and rubber. Those facilities under SIC 31 (except 311), 323, 34 (except 3441), 35, 36, and 37 (except 373) manufacture industrial and commercial metal products, machinery, equipment, computers, electrical equipment, and transportation equipment, and glass products made of purchased glass. Facilities under SIC 38 manufacture scientific and electrical instruments and optical equipment. Those under SIC 39 manufacture a variety of items such as jewelry, silverware, musical instruments, dolls, toys, and athletic goods. SIC 4221-25 are warehousing and storage activities.

In contrast, the facilities identified by SIC 24 (except and 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373 when taken as a group, are expected to have one or many of the following activities, processes occurring on-site: storing raw materials, intermediate products, final products, by-products, waste products, or chemicals outside; smelting; refining; producing significant emissions from stacks or air exhaust systems; loading or unloading chemical or hazardous substances; the use of unhoused manufacturing and heavy industrial equipment; and generating significant dust or particulates. Accordingly, these are classes of facilities which can be viewed as generating storm water discharges associated with industrial activity requiring a permit. Establishments identified under SIC 24 (except 2434) are engaged in operating sawmills, planing mills and other mills engaged in producing lumber and wood basic materials. SIC 26 facilities are paper mills. Under SIC 28, facilities produce basic chemical products by predominantly chemical processes. SIC 29 describes facilities that are engaged in the petroleum industry. Under SIC 311, facilities are engaged in tanning, currying, and finishing hides and skins. Such processes use chemicals such as sulfuric acid and sodium dichromate, and detergents, and a variety of raw and intermediate materials. SIC 32 manufacture glass, clay, stone and concrete products form raw materials in the form quarried and mined stone, clay, and sand. SIC 33 identifies facilities that smelt, refine ferrous and nonferrous metals from ore, pig or scrap, and manufacturing related products. SIC 3441 identifies facilities manufacturing fabricated structural metal. Facilities under SIC 373 engage in ship

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building and repairing. The permit application requirements for storm water discharges from facilities in these categories are unchanged from the proposal.

Today's rule clarifies that the requirement to apply for a permit applies to storm water discharges from plant areas that are no longer used for industrial activities (if significant materials remain and are exposed to storm water) as well as areas that are currently being used for industrial activities. EPA would also clarify that all discharges from these areas including those that discharge through municipal separate storm sewers are addressed by this rulemaking.

One commenter questioned the use of the word "or" instead of the word "and" to describe storm water "which is located at an industrial plant 'or' directly related to manufacturing, processing, or raw material storage areas at an industrial plant." The comment expressed the concern that discharges from areas not located at an industrial plant would be subject to permitting by this language and questioned whether this was EPA's intent. EPA agrees that this is a potential source of confusion and has modified this language to reflect the conjunctive instead of the alternative. This change has been made to provide consistency in the rule whereby some areas at industrial plants, such as administrative parking lots which do not have storm water discharges commingled with discharges from manufacturing areas, are not included under this rulemaking.

Two commenters wanted clarification of the term "or process water," in the definition of discharge associated with industrial activity at § 122.26(b)(14). This rulemaking replaces this term with the term "process waste water" which is defined at 40 CFR part 401.

***48009** One commenter took issue with the decision to include drainage ponds, refuse sites, sites for residual treatment, storage, or disposal, as areas associated with industrial activity, because it was the commenter's view that such areas are unconnected with industrial activity. EPA disagrees with this comment. If refuse and other sites are used in conjunction with manufacturing or the by-products of manufacturing they are clearly associated with industrial activity. As noted above, Congress intended to include discharges directly related to manufacturing and processing at industrial plants. EPA is convinced that wastes, refuse, and residuals are the direct result or consequence of manufacturing and processing and, when located or stored at the plant that produces them, are directly related to manufacturing and processing at that plant. Storm water drainage from such areas, especially those areas exposed to the elements (e.g. rainfall) has a high potential for containing pollutants from materials that were used in the manufacturing process at that facility. One commenter supported the inclusion of these areas since many toxins degrade very slowly and the mere passage of time will not eliminate their effects. EPA agrees and finalizes this part of the definition as proposed. One commenter requested clarification of the term "residual" as used in this context. Residual can generally be defined to include material that is remaining subsequent to completion of an industrial process. One commenter noted that the current owner of a facility may not know what areas or sites at a facility were used in this manner in the past. EPA has clarified the definition of discharge associated with industrial activity to include areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. The Agency believes that the current owner will be in a position to establish these facts.

One commenter suggested including material shipping and receiving areas, waste storage and processing areas, manufacturing buildings, storage areas for raw materials, supplies, intermediates, and finished products, and material handling facilities as additional areas "associated with industrial activity." EPA agrees that this would add clarification to the definition, and has incorporated these areas into the definition at § 122.26(b)(14).

One commenter stated that the language "point source located at an industrial plant" would include outfalls located at the facility that are not owned or operated by the facility, but which are municipal storm sewers on easements granted to a municipality for the conveyance of storm water. EPA agrees that if the industry does not operate the point source then that facility is not required to obtain a permit for that discharge. A point source is a conveyance that discharges pollutants into the waters of the United States. If a facility does not operate that point source, then it would be the

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responsibility of the municipality to cover it under a permit issued to them. However, if contaminated storm water associated with industrial activity were introduced into that conveyance by that facility, the facility would be subject to permit application requirements as is all industrial storm water discharged through municipal sewers.

EPA disagrees with several comments that road drainage or railroad drainage within a facility should not be covered by the definition. Access roads and rail lines (even those not used for loading and unloading) are areas that are likely to accumulate extraneous material from raw materials, intermediate products and finished products that are used or transported within, or to and from, the facility. These areas will also be repositories for pollutants such as oil and grease from machinery or vehicles using these areas. As such they are related to the industrial activity at facilities. However, the language describing these areas of industrial activity has been clarified to include those access roads and rail lines that are "used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility." For the same reasons haul roads (roads dedicated to transportation of industrial products at facilities) and similar extensions are required to be addressed in permit applications. Two industries stated that haul roads and similar extensions should be covered by permits by rule. EPA is not considering the use of a permit by rule mechanism under this regulation, however this issue will be addressed in the section 402(p)(5) reports to Congress and in general permits to be proposed and promulgated in the near future. EPA would note however that facilities with similar operations and storm water concerns that desire to limit administrative burdens associated with permit applications and obtaining permits may want to avail themselves of the group application and/or general permits.

In response to comments, EPA would also like to clarify that it intends the language "immediate access roads" (including haul roads) to refer to roads which are exclusively or primarily dedicated for use by the industrial facility. EPA does not expect facilities to submit permit applications for discharges from public access roads such as state, county, or federal roads such as highways or BLM roads which happen to be used by the facility. Also, some access roads are used to transport bulk samples of raw materials or products (such as prospecting samples from potential mines) in small-scale prior to industrial production. EPA does not intend to require permit applications for access roads to operations which are not yet industrial activities.

EPA does agree with comments made by several industries that undeveloped areas, or areas that do not encompass those described above, should generally not be addressed in the permit application, or a storm water permit, as long as the storm water discharge from these areas is segregated from the storm water discharge associated with the industrial activity at the facility.

Numerous commenters stated that maintenance facilities, if covered, should not be included in the definition. EPA disagrees with this comment. Maintenance facilities will invariably have points of access and egress, and frequently will have outside areas where parts are stored or disposed of. Such areas are locations where oil, grease, solvents and other materials associated with maintenance activities will accumulate. In response to one commenter, such areas are only regulated in the context of those facilities enumerated in the definition at § 122.26(b)(14), and not similar areas of retail or commercial facilities.

Another commenter requested that "storage areas" be more clearly defined. EPA disagrees that this term needs further clarification in the context of this section of the rule. However, in response to one comment, tank farms at industrial facilities are included. Tank farms are in existence to store products and materials created or used by the facility. Accordingly they are directly related to manufacturing processes.

Regarding storage areas, one commenter stated that the regulations should emphasize that only facilities that are not totally enclosed are required to submit permit applications. EPA does not agree with this interpretation since use of the generic term storage area indicates no exceptions for certain physical characteristics. Thus discharges from enclosed storage areas are also covered by today's rule (except as discussed above). EPA also disagrees with one ***48010** comment asserting that small outside storage areas of finished products at industrial facilities should be excluded under the

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definition of associated with industrial activity. EPA believes that such areas are areas associated with industrial activity which Congress intended to be regulated under the CWA. As noted above, the legislative history refers to storage areas, without reference to whether they are covered or uncovered, or of a certain size.

The same language, in the legislative history cited above, was careful to state that the term "associated with industrial activity" does not include storm water "discharges associated with parking lots and administrative and employee buildings." To accommodate legislative intent, segregated storm water discharges from these areas will not be required to obtain a permit prior to October 1, 1992. Many commenters stated that this was an appropriate method in which to limit the scope of "associated with industrial activity." However, if a storm water discharge from a parking lot at an industrial facility is mixed with a storm water discharge "associated with industrial activity," the combined discharge is subject to permit application requirements for storm water discharges associated with industrial activity. EPA disagrees with some commenters who urged that office buildings and administrative parking lots should be covered if they are located at the plant site. EPA agrees with one commenter that inclusion of storm water discharge from these areas would be overstepping Congressional intent unless such are commingled with storm water discharges from the plant site. Several commenters requested that language be incorporated into the rule which establishes that storm water discharges from parking lots and administrative areas not be included in the definition of associated with industrial activity. EPA agrees and has retained language used in the proposal which addresses this distinction.

Storm water discharges from parking lots and administrative buildings along with other discharges from industrial lands that do not meet the regulatory definition of "associated with industrial activity" and that are segregated from such discharges may be required to obtain an NPDES permit prior to October 1, 1992, under certain conditions. For example, large parking facilities, due to their impervious nature may generate large amounts of runoff which may contain significant amounts of oil and grease and heavy metals which may have adverse impacts on receiving waters. The Administrator or NPDES State has the authority under section 402(p)(2)(E) of the amended CWA to require a permit prior to October 1, 1992, by designating storm water discharges such as those from parking lots that are significant contributors of pollutants or contribute to a water quality standard violation. EPA will address storm water discharges from lands used for industrial activity which do not meet the regulatory definition of "associated with industrial activity" in the section 402(p)(5) study to determine the appropriate manner to regulate such discharges.

Several commenters requested clarification that the definition does not include sheet flow or discharged storm water from upstream adjacent facilities that enters the land or comingles with discharge from a facility submitting a permit application. EPA wishes to clarify that operators of facilities are generally responsible for its discharge in its entirety regardless of the initial source of discharge. However, where an upstream source can be identified and permitted, the liability of a downstream facility for other storm water entering that facility may be minimized. Facilities in such circumstances may be required to develop management practices or other run-on/run-off controls, which segregates or otherwise prevents outside runoff from comingling with its storm water discharge. Some commenters expressed concern about other pollutants which may arrive on a facility's premises from rainfall. This comment was made in reference to runoff with a high or low pH. If an applicant has reason to believe that pollutants in its storm water discharge are from such sources, then that needs to be addressed in the permit application and brought to the attention of the permitting authority, which can draft appropriate permit conditions to reflect these circumstances.

EPA requested comments on clarifying the types of facilities that involve industrial activities and generate storm water. EPA preferred basing the clarification, in part, on the use of Standard Industrial Classification (SIC) codes, which have been suggested in comments to prior storm water rulemakings because they are commonly used and accepted and would provide definitions of facilities involved in industrial activity. Several commenters supported the use by EPA of Standard Industrial Classifications for the same reasons identified by EPA as a generally used and understood form of classification. It was also noted that using such a classification would allow targeting for special notification and educational mailings. Three municipalities and three State authorities commented that SICs were appropriate and endorsed their use as a sound basis for determining which industries are covered.

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One municipality questioned how SIC classifications will be assigned to particular industries. SICs have descriptions of the type of industrial activity that is engaged in by facilities. Industries will need to assess for themselves whether they are covered by a listed SIC and submit an application accordingly. Another commenter questioned if Federal facilities that do not have an SIC code identification are required to file a permit application. Federal facilities will be required to submit a permit application if they are engaged in an industrial activity that is described under § 122.26(b)(14). The definition of industrial activity incorporates language that requires Federal facilities to submit permit applications in such circumstances. The language has been further clarified to include State and municipal facilities.

EPA requested comments on the scope of the definition (types of facilities addressed) as well as the clarity of regulation. EPA identified the following types of facilities in the proposed regulation as those facilities that would be required to obtain permits for storm water discharges associated with industrial activity:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are also identified under category (xi) of this paragraph). One commenter (a municipality) agreed with EPA that these industries should be addressed in this rulemaking. No other comments were received on this category. EPA agrees with this comment since these facilities are those that Congress has required EPA to examine and regulate under the CWA with respect to process water discharges. The industries in these categories have generally been identified by EPA as the most significant dischargers of process wastewaters in the country. As such, these facilities are likely to have storm water discharges associated with industrial activity for which permit applications should be required.

One commenter stated that because oil and gas producers are subject to effluent guidelines, EPA is disregarding the intent of Congress to exclude ***48011** facilities pursuant to section 402(1). EPA disagrees with this comment. EPA is not prohibited from requiring permit applications from industries with storm water discharge associated with industrial activity. EPA is prohibited only from requiring a permit for oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water that is not contaminated by contact with or has not come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations such discharges. In keeping with this requirement, EPA is requiring permit applications from oil and gas exploration, production, processing, or treatment operations, or transmission facilities that fall into a class of dischargers as described in § 122.26(c)(iii).

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3411, 373 and (xi). Facilities classified as Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25. One large municipality and one industry agreed with EPA that facilities covered by these SICs should be covered by this rulemaking. Many commenters, however, took exception to including all or some of these industries. However as noted elsewhere these facilities are appropriate for permit applications.

One commenter stated that within certain SICs industries, such as textile manufacturers use few chemicals and that there is little chance of pollutants in their storm water discharge. EPA agrees that some industries in this category are less likely than others to have storm water discharges that pose significant risks to receiving water quality. However, there are many other activities that are undertaken at these facilities that may result in polluted storm water. Further, the CWA is clear in its mandate to require permit applications for discharges associated with industrial activity. Excluding any of the facilities under these categories, except where the facility manufacturing plant more closely resembles a commercial or retail outlet would be contrary to Congressional intent.

One State questioned the inclusion of facilities identified in SIC codes 20-39 because of their temporary and transient nature or ownership. Agency disagrees that simply because a facility may transfer ownership that storm water quality

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concerns should be ignored. If constant ownership was a condition precedent to applying for and obtaining a permit, few if any facilities would be subject to this rulemaking.

One State estimated that the proposed definition would lead to permits for 18,000 facilities in its State. Consequently this commenter recommended that the facilities under SIC 20-39 should be limited to those facilities that have to report under section 313 of title III, Superfund Amendments and Reauthorization Act. However, as noted by another commenter, limiting permit requirements to these facilities would be contrary to Congressional intent. While use of chemicals at a facility may be a source of pollution in storm water discharges, other every day activities at an industrial site and associated pollutants such as oil and grease, also contribute to the discharge of pollutants that are to be addressed by the CWA and these regulations. While the number of permit applications may number in the thousands, EPA intends for group applications and general permits to be employed to reduce the administrative burdens as greatly as possible.

Two commenters felt the permit applications should be limited to all entities under SIC 20-39. EPA disagrees that all the industrial activities that need to be addressed fall within these SICs. Discharges from facilities under paragraphs (i) through (xi) such as POTWs, transportation facilities, and hazardous waste facilities, are of an industrial nature and clearly were intended to be addressed before October 1, 1992.

Two commenters stated that SIC 241 should be excluded in that logging is a transitory operation which may occur on a site for only 2-3 weeks once in a 20-30 year period. It was perceived that delays in obtaining permits for such operations could create problems in harvest schedule and mill demand. This commenter stated that runoff from such operations should be controlled by BMPs in effect for such industries and that such a permit would not be practical and would be cost prohibitive.

EPA agrees with the commenter that this provision needs clarification. The existing regulations at 40 CFR 122.27 currently define the scope of the NPDES program with regard to silvicultural activities. 40 CFR 122.27(b)(1) defines the term “silvicultural point source” to mean any discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. Section 122.27(b)(1) also excludes certain sources. The definition of discharge associated with industrial activity does not include activities or facilities that are currently exempt from permitting under NPDES. EPA does not intend to change the scope of 40 CFR 122.27 in this rulemaking. Accordingly, the definition of “storm water discharge associated with industrial activity” does not include sources that may be included under SIC 24, but which are excluded under 40 CFR 122.27. Further, EPA intends to examine the scope of the NPDES silvicultural regulations at 40 CFR 122.27 as it relates to storm water discharges in the course of two studies of storm water discharges required under section 402(p)(5) of the CWA.

In response to one comment, EPA intends that the list of applicable SICs will define and identify what industrial facilities are required to apply. Facilities that warehouse finished products under the same code at a different facility from the site of manufacturing are not required to file a permit application, unless otherwise covered by this rulemaking.

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(l) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990 and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations. Several commenters urged that Congress intended to require permits or permit applications only for the manufacturing sector of the oil and gas industry (or those activities that designated in SIC 20 through 39). EPA disagrees with this argument. The fact that Congress used the language cited above and

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not the appropriate the SIC definition explicitly does not indicate that a broader definition or less exclusive definition was contemplated. According to these comments, all storm water discharges from oil and gas ***48012** exploration and production facilities would be exempt from regulation. However, EPA is convinced that a facility that is engaged in finding and extracting crude oil and natural gas from subsurface formations, separating the oil and gas from formation water, and preparing that crude oil for transportation to a refinery for manufacturing and processing into refined products, will have discharges directly relating to the processing or raw material storage at an industrial plant and are therefore discharges associated with industrial activity.

For further clarification EPA is intending to focus only on those facilities that are in SIC 10-14. Furthermore, in response to several comments, this rulemaking will require permit applications for storm water discharges from currently inactive petroleum related facilities within SIC codes 10-14, if discharges from such facilities meet the requirements as described in section VI.F.7.a. and § 122.26(c)(1)(iii). Inactive facilities will have storm water associated with industrial activity irrespective of whether the activity is ongoing. Congress drew no distinction between active and inactive facilities in the statute or in the legislative history.

(iv) Hazardous waste treatment, storage, or disposal facilities that are operating under interim status or a permit under Subtitle C of the Resource, Conservation and Recovery Act. One commenter believed that all RCRA and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) facilities should be specifically identified using SIC codes for further clarification. EPA considers this to be unnecessarily redundant, since the RCRA/CERCLA identification is sufficient.

Several industries asserted that storm water discharge from landfills, dumps, and land application sites, properly closed or otherwise subject to corrective or remedial actions under RCRA, should not be included in the definition. One commenter noted that the runoff from these areas is like runoff from undeveloped areas. One commenter also concluded that landfills, dumps, and land application sites should also be excluded if they are properly maintained under RCRA.

One commenter also rejected the idea of requiring permits from all active and inactive landfills and open dumps that have received any industrial wastes, and subtitle C facilities. This commenter felt that these facilities were already adequately covered under RCRA.

Two industry commenters felt that it would be redundant to have hazardous waste facilities regulated by RCRA and the NPDES storm water program. One felt this was especially so if there are current pretreatment standards.

The Agency disagrees that all activities that may contribute to storm water discharges at RCRA subtitle C facilities are being fully controlled and that requiring NPDES permits for storm water discharges at RCRA subtitle C facilities is redundant. First, the vast majority of permitted hazardous waste management facilities are industrial facilities involved in the manufacture or processing of products for distribution in commerce. Their hazardous waste management activities are incidental to the production-related activities. While RCRA subtitle C regulations impose controls in storm water runoff from hazardous waste management units and require cleanup of releases of hazardous wastes, they generally do not control non-systematic spills or process. These releases, from the process itself or the storage of raw materials or finished products are a potential source of storm water contamination. In addition, RCRA subtitle C (except via corrective action authority) does not address management of “non hazardous” industrial wastes, which nevertheless could also potentially contaminate storm water runoff.

Second, at commercial hazardous waste management facilities, the RCRA subtitle C permitting requirements and management standards do not control all releases of potentially toxic materials. For example, some permitted commercial treatment facilities may store and use chemicals in the treatment of RCRA hazardous wastes. Releases of these treatment chemicals from storage areas are a potential source of storm water contamination.

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Finally, many RCRA subtitle C facilities have inactive Solid Waste Management Units (SWMU's) on the facility property. These SWMU's may contain areas on the land surface that are contaminated with hazardous constituents. RCRA requires that hazardous waste management facilities must investigate these areas of potential contamination, and then perform corrective action to remediate any SWMU's that are of concern. However, the corrective action process at these facilities will not be completed for a number of years due to the complexity of the cleanup decisions, and due to the fact that many hazardous waste management facilities do not yet have RCRA permits. Until corrective action has been completed at all such subtitle C facilities, SWMU's are a potential source of storm water contamination that should be addressed under the NPDES program. Finally, under section 1004(27) of RCRA, all point source discharges, including those at RCRA regulated facilities, are to be regulated by the NPDES program. Thus, there is no concern of regulatory overlap, and to the extent that the storm water regulations are effectively implemented, it will help address these units in a way that alleviates the need for expensive corrective action in the future.

(v) Landfills, land application sites, and open dumps that receive or have received industrial wastes and that are subject to regulation under subtitle D of RCRA. EPA received numerous comments supporting the regulation of municipal landfills which receive industrial waste and are subject to regulation under subtitle D of RCRA. EPA agrees with these comments. These industries have significant potential for storm water discharges that can adversely affect receiving water.

Two States argued that landfills should be addressed under the non-point source program. EPA disagrees that the non-point source program is sufficient for addressing these facilities. Further, addressing a class of facilities under the non-point source program does not exempt storm water discharges from these facilities from regulation under NPDES. The CWA requires EPA to promulgate regulations for controlling point source discharges of storm water from industrial facilities. Point sources from landfills consisting of storm water are such discharges requiring an NPDES permit. Several commenters argued that these discharges are adequately addressed by RCRA and that regulating them under this storm water rule would be redundant. However, as discussed above, RCRA expressly does not regulate point source discharges subject to NPDES permits. Given the nature of these facilities and of the material stored or disposed, EPA believes storm water permits are necessary. Similarly EPA rejects the comment that storm water discharges from these facilities are already adequately regulated by State authority. Congress has mandated that storm water discharges associated with industrial activity have an NPDES permit.

One commenter wanted EPA to define by size what landfills are covered. In response, it is the intent of these regulations to require permit applications from all landfills that receive industrial waste. Storm water discharges from such facilities are addressed because of the nature of the material with which the storm water comes in contact. The size of facility ***48013** will not dictate what type of waste is exposed to the elements.

One commenter requested that the definition of industrial wastes be clarified. For the purpose of this rule, industrial waste consists of materials delivered to the landfill for disposal and whose origin is any of the facilities described under § 122.26(b)(14) of this regulation.

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093. One commenter suggested that the recycling of materials such as paper, glass, plastics, etc., should not be classified as an industrial activity. EPA disagrees that such facilities should be excluded on that basis. These facilities may be considered industrial, as are facilities that manufacture such products absent recycling.

Other facilities exhibit traits that indicate industrial activity. In junkyards, the condition of materials and junked vehicles and the activities occurring on the yard frequently result in significant losses of fluids, which are sources of toxic metals, oil and grease and polychlorinated aromatic hydrocarbons. Weathering of plated and non-plated metal surfaces may result in contributions of toxic metals to storm water. Clearly such facilities cannot be classified as commercial or retail.

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One municipality felt that "significant recycling" should be defined or clarified. EPA agrees that the proposed language is ambiguous. It has been clarified to require permit applications from facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093. These SIC codes describe facilities engaged in dismantling, breaking up, sorting, and wholesale distribution of motor vehicles and parts and a variety of other materials. The Agency believes these SIC codes clarify the term significant recycling.

One municipality stated that regulation of these facilities under NPDES would be duplicative if they are publicly owned facilities. One State expressed the view that automobile junkyards, salvage yards could not legitimately be considered industrial activity. As noted above, EPA disagrees with these comments. Facilities that are actively engaged in the storage and recycling of products including metals, oil, rubber, and synthetics are in the business of storing and recycling materials associated with or once used in industrial activity. These activities are not commercial or retail because they are engaged in the dismantling of motors for distribution in wholesale or retail, and the assembling, breaking up, sorting, and wholesale distribution of scrap and waste materials, which EPA views as industrial activity. Further, being a publicly owned facility does not confer non-industrial status.

(vii) Steam electric power generating facilities, including coal handling sites, and onsite and offsite ancillary transformer storage areas. Most of the comments were against requiring permit applications for onsite and offsite ancillary transformer facilities. One commenter stated that these transformers did not leak in storage and if there were leakage problems in handling transformers, such leaks were subject to Federal and State spill clean-up procedures. The same commenter suggested that if EPA required applications from such facilities that it exclude those that have regular inspections, management practices in place, or those that store 50 transformers at any one time.

EPA agrees that such facilities should not be covered by today's rule. As one commenter noted, the Toxic Substances Control Act (TSCA) addresses pollutants associated with transformers that may enter receiving water through storm water discharges. EPA has examined regulations under TSCA and agrees that regulation of storm water discharges from these facilities should be the subject of the studies being performed under section 402(p)(5), rather than regulations established by today's rule. Under TSCA, transformers are required to be stored in a manner that prevents rain water from reaching the stored PCBs or PCB items. 40 CFR 761.65(b)(1)(i). EPA considers transformer storage to be more akin to retail or other light commercial activities, where items are inventoried in buildings for prolonged periods for use or sale at some point in the future, and where there is no ongoing manufacturing or other industrial activity within the structure.

One commenter stated that this category of industries should be loosened so that all steam electric facilities are addressed —oil fired and nuclear. EPA believes that the language as proposed broadly defines the type of industrial activity addressed without specifying each mode of steam electric production. One commenter noted that the EPA has no authority under the CWA (Train v. CPIR, Inc., 426 U.S. 1 (1976) to regulate the discharge of source, special nuclear and by-product materials which are regulated under the Atomic Energy Act. EPA agrees permit applications may not address those aspects of such facilities, however the facility in its entirety may not necessarily be exempt. A permit application will be appropriate for discharges from non-exempt categories.

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, material handling facilities, equipment cleaning operations or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or which are identified in another subcategory of facilities under EPA's definition of storm water discharges associated with industrial activity. One commenter requested clarification of the terms "vehicle maintenance." Vehicle maintenance refers to the rehabilitation, mechanical repairing, painting, fueling, and lubricating of instrumentalities of transportation located at the described facilities. EPA is declining to write this definition into the regulation however since "vehicle maintenance" should not cause confusion as a descriptive term. One commenter wanted railroad tracks where rail cars are set aside

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for minor repairs excluded from regulation. In response, if the activity involves any of the above activities then a permit application is required. Train yards where repairs are undertaken are associated with industrial activity. Train yards generally have trains which, in and of themselves, can be classified as heavy industrial equipment. Trains, concentrated in train yards, are diesel fueled, lubricated, and repaired in volumes that connote industrial activity, rather than retail or commercial activity.

One commenter argued that if gasoline stations are not considered for permitting, then all transportation facilities should be exempt. EPA disagrees with the thrust of this comment. Transportation facilities such as bus depots, train yards, taxi stations, and airports are generally larger than individual repair shops, and generally engage in heavier more expansive forms of industrial activity. In keeping with Congressional intent to cover all industrial facilities, permit applications from such facilities are appropriate. In contrast, EPA views gas stations as retail commercial facilities not covered ***48014** by this regulation. It should be noted that SIC classifies gas stations as retail.

(ix) POTW lands used for land application treatment technology/sludge disposal, handling or processing areas, and chemical handling and storage areas. One commenter wanted more clarification of the term POTW lands. Another commenter requested clarification of the terms sludge disposal, sludge handling areas, and sludge processing areas. One State recommended that a broader term than POTW should be used. EPA notes that on May 2, 1989, it promulgated NPDES Sewage Sludge Permit Regulations; State Sludge Management Program Requirements at 40 CFR part 501. This regulation identified those facilities that are subject to section 405(f) of the CWA as "treatment works treating domestic sewage."

In response to the above comments, EPA has decided to use this language to define what facilities are required to apply for a storm water permit. Under this rulemaking "treatment works treating domestic sewage," or any other sewage sludge or wastewater treatment device or system used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge, with a design flow of 1.0 mgd or more, or facilities required to have an approved pretreatment program under 40 CFR part 403, will be required to apply for a storm water permit. However, permit applications will not be required to address land where sludge is beneficially reused such as farm lands and home gardens or lands used for sludge management that are not physically located within the confines (offsite facility) of the facility or where sludge is beneficially reused in compliance with section 405 of the Clean Water Act (proposed rules were published on February 6, 1989, at 54 FR 5746). EPA believes that such activity is not "industrial" since it is agricultural or domestic application (non-industrial) unconnected to the facility generating the material.

EPA received many comments on the necessity and appropriateness of requiring permit applications for storm water discharges from POTW lands. It was anticipated by numerous commenters that the above cited sludge regulations would adequately address storm water discharges from lands where sludge is applied. However, the sewage sludge regulations do not directly address NPDES permit requirements for storm water discharges from POTW lands and related areas to the extent required by today's rulemaking; the regulations cover only permits for use or disposal of sludge. Also, the regulations proposed on February 4, 1989, cover primarily the technical standards for the composition of sewage sludge which is to be used or disposed. They do not include detailed permitting requirements for discharges of storm water from lands where sludge has been applied to the land. To that extent, EPA is not persuaded by these commenters that POTWs and POTW lands should be excluded from these storm water permit application requirements.

Two commenters noted that some States already regulate sludge use or disposal activities substantially and that EPA should refrain from further regulation. EPA disagrees that this is a basis for excluding facilities from Federal requirements. Notwithstanding regulations in existence under State law, EPA is required by the CWA to promulgate regulations for permit application for storm water associated with industrial activity. Under the NPDES program, States are able to promulgate more rigorous requirements. However a minimum level of control is required under Federal law. One commenter also indicated that a State's sludge land application sites must follow a well defined plan to ensure there

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is no sludge related runoff. Notwithstanding that a State may require storm water controls for sludge land applications, as noted above, EPA is required to promulgate regulations requiring permit applications from appropriate facilities. EPA views facilities such as waste treatment plants that engage in on-site sludge composting, storage of chemicals such as ferric chloride, alum, polymers, and chlorine, and which may experience spills and bubbleovers are suitable candidates for storm water permits. Facilities using such materials are not characteristic of commercial or retail activities. Use and storage of chemicals and the production of material such as sludge, with attendant heavy metals and organics, is activity that is industrial in nature. The size and scope of activities at the facility will determine the extent to which such activities are undertaken and such materials used and produced at the facility. Accordingly, EPA believes limiting the facilities covered under this category to those of 1.0 mgd and those covered under the industrial pretreatment program is appropriate.

To the extent that permit applicants are already required to employ certain management practices regarding storm water, these may be incorporated into permits and permit conditions issued by Federal and State permitting authorities. EPA has selected facilities identified under 40 CFR part 501 (i.e. those with a design flow of 1.0 mgd or more or those required to have an approved pretreatment program) since these facilities will have largest contribution of industrial process discharges. Sludge from such facilities will contain higher concentrations of heavy metal and organic pollutants.

One commenter stated that sludge disposal is a public activity that should be addressed in a public facility's storm water management program under a municipal storm water management program. EPA disagrees. Industrial facilities, whether publicly owned or not, are required to apply for and obtain permits when they are designated as industrial activity.

Another comment stated that a permit should not be required for facilities that collect all runoff on site and treat it at the same POTW. EPA believes that a permit application should be required from such facilities. However, the above practice can be incorporated as a permit condition for such a facility. One commenter stated storm water from sludge and chemical handling areas can be routed through the headworks of the POTW. The agency agrees that this may be an appropriate management practice for POTWs as long as other NPDES regulatory requirements are fulfilled with regard to POTWs.

(x) Construction activities, including clearing, grading and excavation activities except operations that result in the disturbance of less than five acre total land area which are not part of a larger common plan of development or sale. EPA addresses whether these facilities should be covered by today's rule in section VI.F.8.

The December 7, 1988, proposal also requested comments on including the following other categories of discharges in the definition of industrial activities: (xii) Automotive repair shops classified as Standard Industrial Classification 751 or 753; (xiii) Gasoline service stations classified as Standard Industrial Code 5541; (xiv) Lands other than POTW lands (offsite facilities) used for sludge management; (xv) Lumber and building materials retail facilities classified as Standard Industrial Classification 5211; (xvi) Landfills, land application sites, and open dumps that do not receive industrial wastes and that are subject to regulation under subtitle D of RCRA; (xvii) Facilities classified as Standard Industrial Classification 46 (pipelines, except natural gas), and 492 (gas production and distribution); (xviii) Major electrical powerline corridors.

***48015** EPA received numerous comments on whether to require permit applications for these particular facilities. The December 7, 1988, proposal reflected EPA's intent not to require permits for these facilities, but rather to address these facilities in the two studies required by CWA sections 402(p) (5) and (6). After reviewing the comments on this issue, EPA believes that these facilities should be addressed under these sections of the CWA. Most of these facilities are classified as light commercial and retail business establishments, agricultural, facilities where residential or domestic waste is received, or land use activities where there is no manufacturing. It should be noted that although EPA is not requiring the facilities identified as categories (xii) to (xviii), in the December 7, 1988, proposal to apply for a permit application under this rulemaking, such facilities may be designated under section 402(p)(2)(E) of the CWA.

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Three commenters recommended that EPA clarify that non-exempt Department of Energy and Department of Defense facilities should be covered by the storm water regulation. The regulation clearly states that Federal Facilities that are engaged in industrial activity (i.e. those activities in § 122.26(b)(14)(i)-(xi)) are required to submit permit applications. Those applying for permits covering Federal facilities should consult the Standard Industrial Classifications for further clarification.

One commenter questioned how EPA intended to regulate municipal facilities engaged in industrial activities. Municipal facilities that are engaged in the type of industrial activity described above and which discharge into waters of the United States or municipal separate storm sewer systems are required to apply for permits. These facilities will be covered in the same manner as other industrial facilities. The fact that they are municipally owned does not in any way exclude them from needing permit applications under this rulemaking.

One commenter suggested exempting those facilities that have total annual sales less than five million dollars or occupy less than five acres of land. Another commenter thought that all minor permittees should be exempt. EPA believes that the quality of storm water and the extent to which discharges impact receiving water is not necessarily related to the size of the facility or the dollar value of its business. What is important in this regard, is the extent to which steps are taken at facilities to curb the quantity and type of material that may pollute storm water discharges from these facilities. Therefore EPA has not excluded facilities from permitting on such a basis. This same commenter stated that the proposed rules should not address facilities with multiple functions (industrial and retail). EPA disagrees. If a facility engages in activity that is defined in paragraphs (i) through (xi) above, it is required to apply for a permit regardless of the fact that it also has a retail element. Such facilities need only submit a permit application for the industrial portion of the facility (as long as storm water from the non-industrial portion is segregated, as discussed above). This commenter also felt that more studies needed to be undertaken to determine the best way to regulate industries. EPA agrees that storm water problems need further study and for that reason EPA has devoted substantial manpower and resources to complete comprehensive studies under section 402(p)(5), while also addressing industrial sources that need immediate attention under this rulemaking.

One commenter requested that EPA give examples of storm water discharges from each of the facilities that have been designated for submitting permit applications. Agency believes that this is unnecessary and impractical since every facility, regardless of the type of industry, will have different terrain, hydrology, weather patterns, management practices and control techniques. However, EPA intends to issue guidance on filing permit applications for storm water discharges from industrial facilities which details how an industry goes about filing an industrial permit and dealing with storm water discharges.

Today's rulemaking for storm water discharges associated with industrial activity at § 122.26(c)(1)(i) includes special conditions for storm water discharges originating from mining operations, oil or gas operations (§ 122.26(c)(1)(iii)), and from the construction operations listed above (§ 122.26(c)(1)(ii)). These requirements are discussed in more detail in section VI.F.7 and section VI.F.9 of today's notice.

3. Individual Application Requirements

Today's rule establishes individual and group permit application requirements for storm water discharges associated with industrial activity. These requirements will address facilities precluded from coverage under the general permits to be proposed and promulgated by EPA in the near future. EPA considers it necessary to obtain the information required in individual permit applications from certain facilities because of the nature of their industrial activity and because of existing institutional mechanisms for issuing and tracking NPDES permits. Furthermore, some States will not have general permitting authority. Facilities located in such States will be required to submit individual applications or participate in a group application. The following response to comments received on these requirements pertains to these facilities.

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Under the September 26, 1984, regulation operators of Group I storm water discharges were required to submit NPDES Form 1 and Form 2C permit applications. In response to post-regulation comments received on that rule, EPA proposed new permit application requirements (March 7, 1985, (50 FR 9362) and August 12, 1985, (50 FR 32548)) which would have decreased the analytical sampling requirements of the Form 2C and provided procedures for group applications. Passage of the WQA in 1987 gave the EPA additional time to consider the appropriate permit application requirements for storm water discharges. On December 7, 1988, application requirements were proposed and numerous comments were received. Based upon these comments, modifications and refinements have been made to the industrial storm water permit application.

Some commenters expressed the view that the permit application requirements are too burdensome, require too much paperwork, are of dubious utility, and focus too greatly on the collection of quantitative data. EPA disagrees. In comparison to prior approaches for permitting storm water discharges and other existing permitting programs, EPA has streamlined the permit application process, limited the quantitative data requirements, and required narrative information that will be used to determine permit conditions that relate to the quality of storm water discharge. To the extent that EPA needs non-quantitative information to develop appropriate permit conditions, EPA disagrees with the view of some commenters that the information required is excessive. In response to comments on earlier rulemakings and a comment received on the December 7, 1988, proposal (stressing that the emphasis should be on site management, rather than monitoring, sampling, and reporting) EPA has shifted the emphasis of the permit application requirements for storm water discharges associated with industrial activity from the existing requirements for collection of ***48016** quantitative data (sampling data) in Form 2C towards collection of less quantitative data supplemented by additional information needed for evaluation of the nature of the storm water discharges.

The permit application requirements proposed for storm water discharges reduce the amount of quantitative data required in the permit application and exempt discharges which contain entirely storm water (i.e. contain no other discharge that, without the storm water component, would require an NPDES permit), from certain reporting requirements of Form 2C. The proposed modifications also would exempt applicants for discharges which contain entirely storm water from several non-quantitative information collection provisions currently required in the Form 2C. The proposed modifications would rely more on descriptive information for assessing impacts of the storm water discharge. One commenter proposed that information that the applicant has submitted for other permits be incorporated by reference into the storm water permit application. EPA disagrees that incorporation by reference is appropriate. The permitting authority will need to have this information readily available for evaluating permit application and permit conditions. Furthermore, EPA feels that the applicant is in the best position to provide the information and verify its accuracy. However, if the applicant has such information and it accurately reflects current circumstances, then the applicant can rely on the information for meeting the information requirements of the application. Another commenter suggested that EPA should only require the information in § 122.26(c)(1)(A) and (B) (i.e., the requirement for a topographic map indicating drainage areas and estimate of impervious areas and material management practices). As explained in greater detail below, EPA is convinced that some quantitative data and the other narrative requirements are necessary for developing appropriate permit conditions.

Form 2F addressing permit applications for storm water discharges associated with industrial activity is included in today's final rule. A complete permit application for discharges composed entirely of storm water, will be comprised of Form 2F and Form 1. Operators of discharges which are composed of both storm water and non-storm water will submit, where required, a Form 1, an entire Form 2C (or Form 2D) and Form 2F when applying. In this case, the applicant will provide quantitative data describing the discharge during a storm event in Form 2F and quantitative data describing the discharge during non-storm events in Form 2C. Non-quantitative information reported in the Form 2C will not have to be reported again in the Form 2F.

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Under today's rule, Form 2F for storm water discharges associated with industrial activity would not require the submittal of all of the quantitative information required in Form 2C, but would require that quantitative data be submitted for:

- Any pollutant limited in an effluent guideline for an industrial applicant's subcategory;

- Any pollutant listed in the facility's NPDES permit for its process wastewater;

- Oil and grease, TSS, COD, pH, BOD5, total phosphorus, total Kjeldahl nitrogen; nitrate plus nitrite nitrogen; and

- Any information on the discharge required under 40 CFR 122.2*I*(g)(7) (iii) and (iv).

In order to characterize the discharge(s) sampled, applicants need to submit information regarding the storm event(s) that generated the sampled discharge, including the date(s) the sample was taken, flow measurements or estimates of the duration of the storm event(s) sampled, rainfall measurements or estimates from the storm event(s) which generated the sampled runoff, and the duration between the storm event sampled and the end of the previous storm event. Information regarding the storm event(s) sampled is necessary to evaluate whether the discharge(s) sampled was generally representative of other discharges expected to occur during storm events and to characterize the amount and nature of runoff discharges from the site.

One commenter stated that the quantitative information should be limited to those pollutants that are expected to be known to the applicant. EPA believes this would be inappropriate since there will be no way of determining initially whether these pollutants are present despite the expectations of the applicant. Once the data is provided, permits can be drafted which address specific pollutants. This rulemaking requires that the applicant test for oil and grease, COD, pH, BOD5, TSS, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen and total phosphorus. Oil and grease and TSS are a common component of storm water and can have serious impacts on receiving waters. Oxygen demand (COD and BOD5) will help the permitting authority evaluate the oxygen depletion potential of the discharge. BOD5 is the most commonly used indicator of potential oxygen demand. COD is considered a more inclusive indicator of oxygen demand, especially where metals interfere with the BOD5 test. The pH will provide the permitting authority with important information on the potential availability of metals to the receiving flora, fauna and sediment. Total Kjeldahl nitrogen, nitrate plus nitrite nitrogen and total phosphorus are measures of nutrients which can impact water quality. Because this data is useful in developing appropriate permit conditions, EPA disagrees with the argument made by one commenter that quantitative data requirements should be a permit condition and not part of the application process.

In the proposed rule, the Agency used total nitrogen as a parameter. This has been changed to total Kjeldahl nitrogen and nitrate plus nitrite nitrogen for clarity.

Today's rule defines sampling at industrial sites in terms of sampling for those parameters that have effluent limits in existing NPDES permits, as well as for any other conventional or nonconventional parameter that might be expected to be found at the outfall. Comments on the appropriateness of the defined parameters were solicited by the proposal. Numerous commenters maintained that either the parameter list be made industry specific, or that pollutant categories not detected in the initial screen be exempted from further testing. Some suggested that only conventional pollutants, inorganics, and metals be sampled unless reason for others is found.

In terms of specific water quality parameters, it was recommended that surfactants not be tested for unless foam is visible. One commenter also suggested that fecal coliform sampling is inappropriate for industrial permits applications. One commenter favored testing for TOC instead of VOC. In response, VOC has been eliminated from the list of parameters because it will not yield specific usable data. VOC is not specifically required in any sampling in today's rule, except where priority pollutant scans are required.

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Some recommended that procedures be modified to facilitate quicker, less expensive lab analyses. Concern was also raised that industry might be required to collect its own rainfall data if there is no nearby observation station. Some commenters stated that EPA should not allow automatic sampling for either biological or oil and grease sampling due to the potential for contamination in sampling equipment.

***48017** In response, EPA believes that the sampling requirements for industry in today's rule are reasonable and not burdensome. These requirements address parameters that have effluent limits in existing NPDES permits, as well as for any other conventional or nonconventional parameter that might be expected to be found at the applicants outfall. Under this procedure both industry-specific and site-specific contaminants are already identified in the existing permit. Whether all these parameters need to be made a part of any discharge characterization plans, under the terms of the permit, will be a case-by-case determination for the permitting authority. EPA maintains that the test for surfactants (if in effluent guidelines or in the facility's NPDES permit for process water) is justifiable even when a foam is not obvious at the outfall. The presence of detergents in storm water may be indicated by foam, but the absence of foam does not indicate that detergents are not present.

EPA requested comments on fecal coliform as a parameter. Fecal coliform was included on the list as an indicator of the presence of sanitary sewage. In large concentrations, fecal coliform may be an effective indicator of sanitary sewage as opposed to other animal wastes. EPA believes that sanitary cross connections will also be found at industrial facilities. Furthermore, the test for fecal coliform is an inexpensive test and its inclusion or exclusion should make little impact financially on the individual application costs. Sampling for volatile organic carbon shall be accomplished when required, as it is an appropriate indicator of industrial solvents and organic wastes.

In response to comments, EPA acknowledges that there are certain pollutants that are capable of leaving residues in automatic sampling devices that will potentially contaminate subsequent samples. In these cases, such as for biological monitoring, if such a problem is perceived to exist and it is expected that the contaminant will render the subsequent samples unusable, manual grab samples may be needed. This would include grab samples for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. EPA is not disallowing the use of automatic sampling because of possible contamination, as this type of sampling may be the best method for obtaining the necessary samples from a selected storm events.

In addition to the conventional pollutants listed above, this final rule requires applicants, when appropriate, to sample other pollutants based on a consideration of site-specific factors. These parameters account for pollutants associated with materials used for production and maintenance, finished products, waste products and non-process materials such as fertilizers and pesticides that may be present at a facility. Applicants must sample for any pollutant limited in an effluent guideline applicable to the facility or limited in the facility's NPDES permit. These pollutants will generally be associated with the facility's manufacturing process or wastes. Other process and non-process related pollutants, will be addressed by complying with the requirements of 40 CFR 122.21(g)(7)(iii) and (iv).

Section 122.21(g)(7)(iii) requires applicants to indicate whether they know or have reason to believe that any pollutant listed in Table IV (conventional and nonconventional pollutants) of appendix D to 40 CFR part 122 is discharged. If such a pollutant is either directly limited or indirectly limited by the terms of the applicant's existing NPDES permit through limitations on an indicator parameter, the applicant must report quantitative data. For pollutants that are not contained in an effluent limitations guideline, the applicant must either report quantitative data or describe the reasons the pollutant is expected to be discharged. With regard to pollutants listed in Table II (organic pollutants) or Table III (metals, cyanide and total phenol) of appendix D, the applicant must indicate whether they know or have reason to believe such pollutants are discharged from each outfall and, if they are discharged in amounts greater than 10 parts per billion (ppb), the applicant must report quantitative data. An applicant qualifying as a small business under 40 CFR 122.21(g)(8), (e.g., coal mines with a probable total annual production of less than 100,000 tons per year or, for all other

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applicants, gross total annual sales averaging less than $100,000 per year (in second quarter 1980 dollars)), is not required to analyze for pollutants listed in Table II of appendix D (the organic toxic pollutants).

Section 122.21(g)(7)(iv) requires applicants to indicate whether they know or have reason to believe that any pollutant in Table V of appendix D to 40 CFR part 122 (certain hazardous substances) is discharged. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged and report any existing quantitative data it has for the pollutant.

When collecting data for permit applications, applicants may make use of 40 CFR 122.2*I*(g)(7), which provides that "when an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also applies to the substantially identical outfalls." Where the facility has availed itself of this provision, an explanation of why the untested outfalls are "substantially identical" to tested outfalls must be provided in the application. Where the amount of flow associated with the outfalls with substantially identical effluent differs, measurements or estimates of the total flow of each of the outfalls must be provided. Several commenters stated that the time and expense associated with sampling and analysis would be saved if the applicant was able to pick substantially identical outfalls without prior approval of the permitting authority. EPA disagrees that this would be an appropriate devolution of authority to the permit applicant. The permitting authority needs to ensure that these outfalls have been grouped according to appropriate criteria (for example do the outfalls serve similar drainage areas at the facility). Furthermore, EPA is not requiring that the permit applicant engage in sampling to demonstrate that the outfalls are indeed substantially identical, because that would of course defeat the purpose of § 122.21(g)(7). The procedure for establishing identical outfalls is not that onerous and provides a means for industry to save substantially on time and resources for sampling.

EPA proposed and requested comment on a requirement that the facility must sample a storm event that is typical for the area in terms of duration and severity. The storm event must be greater than 0.1 inches and must be at least 96 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. In general, variance of the parameters (such as the duration of the event and the total rainfall of the event) should not exceed 50 percent from the parameters of the average rainfall event in that area. EPA also requested comments on addressing snow melt events under this definition.

Commenters stated that: median or average rainfall is not an acceptable approach; the minimum depth and duration of rainfall must be specified; the allowable 50% variation is questionable; the total depth of the storm is irrelevant; and the storm should be viewed based on the average intensity of the storm. One commenter ***48018** suggested that using the median rainfall event would be a better approach than the average rainfall event.

Others insisted that "representative" or typical storms do not exist in semi-arid climates and that representative rainfall must be site-specific (regional) and seasonal. Several commenters contended that the requirement for 96 dry hours between events is not acceptable, with 48 and 72 hours identified as possible alternatives.

One commenter believed that a typical standard design storm, such as the 1-year, 24-hour, or 10-year, 1-hour, would be preferable. Another commenter felt that the storm event should be based on the rainfall required to generate a minimum discharge level. One commenter questioned whether the storm is to be sampled at all sites simultaneously.

To clarify its decision on what storm event should be sampled, EPA notes that its selection of the storm event considers both regional and seasonal variation of precipitation. This is evidenced in the rule with regard to sites in the municipal application (three events sampled), and in the requirements for industrial group applications (a minimum of two applicants, or one applicant in groups of less than 10, to be represented in each precipitation zone (see section VI.F.4 below).

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The definition of a 0.1 inch minimum was determined by NURP and other studies to be the minimum rainfall depth capable of producing the rainfall/runoff characteristics necessary to generate a sufficient volume of runoff for meaningful sample analysis. EPA believes by requiring the average storm to be used as the basis for sampling that depth, duration, and therefore average rainfall intensity are being regionally defined. The Agency has also added the option of using the median rainfall event instead of the average. The potential for monitoring events that may not meet this specification should be minimized by allowing the proposed 50 percent variation in rainfall depth and/or duration from event statistics. However, the 50 percent variation need only be met when possible. Further, there is flexibility in the rule where the Director may allow or establish site specific requirements such as the minimum duration between the previous measurable storm event and the storm event sampled, the amount of precipitation from the storm event to be sampled, and the form of precipitation sampled (snowmelt or rainfall). If data is obtained from a rain event that does not meet the criteria above, the Director has the discretion to accept the data as valid.

The December 7, 1988, proposal called for a 96-hour period between events of measurable rainfall, here defined as 0.1 inch, which provided a four day minimum for the accumulation of pollutants on the surface of the outfalls' tributary areas. The key word in the definition is “measurable”, which means that the 96-hour period did not necessarily have to be dry, only that no cleansing rainfall (i.e. 0.1 inch rain event) has occurred. However, after reviewing comments on this issue EPA has decided to change the period to 72 hours. Many commenters indicated that 96 hours is too restrictive and that securing a sample under such circumstances would be unnecessarily difficult. EPA agrees that the quality or representativeness of the sample would not be adversely affected by this change.

EPA does not agree with comments that the requirement of a particular “design” storm would be appropriate. Many commenters have expressed concern that they might sample an event not meeting the requirements for industrial group applications as defined. Because there is no way to know with sufficient certainty beforehand that an upcoming event will approximate a one-year, twenty-four hour storm, many events would be unnecessarily sampled before this event is realized.

EPA does not intend that a municipality or industry be required to sample all required outfalls for a single storm. This would represent a unmanageable investment in equipment and manpower. In some areas, it may be necessary to sample multiple sites for a single event due to the irregularity of rainfall, but not all sites.

EPA described parameters for selecting storm events for sampling of municipal and industrial outfalls in the December 7, 1988, proposal. EPA has received several comments regarding the problems that rainfall measurement in general presents. A recurring comment relative to reporting rainfall, and in verifying that the storm itself is representative, deals with the spatial distribution of rainfall. The rainfall measured at an airport does not always represent rainfall at the site, particularly in summer months when thunderstorms are prevalent. One commenter stated that it would be easier to base the selected storm on either a minimum discharge, or on a discharge duration other than on the total precipitation, because these parameters are easily measured at the site and are not dependent on the airport gauges receiving the same rainfall as the site. A few commenters questioned how to determine typical storm characteristics. One commenter advised that NOAA rainfall reporting stations provide data that represent only daily rainfall totals, not storm event data. One commenter pointed out that the time frame of the sampling requirement does not consider that a particular region may be in the midst of a multi-year drought cycle, and that what little rainfall occurs may have uncharacteristically high levels of pollutants.

The type of rain event sampled is an important parameter in any attempt to characterize system-wide loads based on the sampling results. Rainfall gauges that report only event total depth will provide the information necessary to characterize most events, provided that a reasonable estimate of the event duration can be made. If simulation models are to be used in estimating system-wide loads, rainfall measurement based on time and depth of rainfall will be needed. If the recording stations are not believed to accurately reflect this distribution, then the data will need to be collected by the applicant at a location central to the tributary area of the outfall.

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The rainfall data collected by NOAA are in most cases available in the form of hourly rainfall depths. This information can be analyzed to develop characteristic storm depths and durations. In some cases, this information has already been analyzed for many long term reporting stations by various municipalities, states, and universities. The results of these investigations should be available to the applicants.

EPA realizes that prolonged rainless periods occur for both semi-arid areas and areas experiencing droughts and that the first storm after a prolonged dry period may well not be representative of "normal" runoff conditions. In order for the appropriate system-wide characterization of loads to be made, data must be collected. With regard to the municipal permit application, today's rule states that runoff characterization data will be collected during three events at from five to ten sites. The rule gives the Director the flexibility of modifying these requirements.

EPA has defined the parameters for selecting the storm event to be sampled such that at the discretion of the Director, seasonal, including winter, sampling might be required. EPA has received several comments regarding the problems that snowmelt sampling may present. Several commenters are ***48019** opposed to monitoring of snowmelt events. The reasons cited include equipment problems and the unreasonableness of expecting this sampling, because of temperatures and the time required for personnel to be waiting for events. A few comments addressed the issues of snow pack depth, ambient temperature, and solar radiation levels, and that the snow pack may filter suspended solids or refreeze such that final melting is uncharacteristically over-polluted relative to normal conditions. Another commenter contended that it is impossible to manage the melting process and therefore unreasonable to expect controls to be implemented relative to snowmelt. In essence, it is contended that there is no first discharge unless the snow pack depth is low and melts quickly.

A few commenters favor monitoring snowmelt, for precisely the same reason that most oppose it: that the runoff from snowmelt is the most polluted runoff generated in some areas on an annual basis. Where this is the case, sampling snowmelt should be undertaken in order to accurately assess impacts to receiving streams. EPA is confident that in areas where automated sampling cannot be relied upon, grab sampling can probably be performed because the nature of the snowmelt process tends to make the timing of samples less of a problem when compared to typical rainfall events. EPA disagrees that management practices, either at industrial facilities or with regard to municipalities, cannot address snowmelt. Some areas may need to reassess their salt application procedures. In addition retention and detention devices may address snowmelt, as well as erosion controls at construction sites. Thus, obtaining samples of snowmelt is appropriate to allow development of such permit conditions.

Today's rule also modifies the Form 2C requirements by exempting applicants from the requirements at § 122.21(g)(2) (line drawings), (g)(4) (intermittent flows), (g)(7) (i), (ii), and (v) (various sampling requirements to characterize discharges) if the discharge covered by the application is composed entirely of storm water. Permit applications for discharges containing storm water associated with industrial activity would require applicants to provide other non-quantitative information which will aid permit writers to identify which storm water discharges are associated with industrial activity and to characterize the nature of the discharge.

Numerous comments were received regarding the requirement to submit a topographic map and site drainage map. Many of these comments offered alternatives to EPA's proposal. Two commenters suggested that a simple sketch of the site would be sufficient. Two commenters stated that one or the other should be adequate. One commenter believed that the drainage map was a good idea, but that the topographic map should be optional. Several commenters submitted that a topographic map was sufficient and that only SPCC plans or SARA submittals should supplement that. Another commenter argued that information relating to the location of the nearest surface water or drinking wells would be sufficient. Other commenters believed that a drainage map alone would indicate all relevant site specific information. Numerous commenters expressed concern that the drainage area map would be too detailed and that one which depicts the general direction of flow should be sufficient. Clarification was requested on whether the final rule would require

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the location of any drinking water wells. One commenter stated that a U.S.G.S. 7.5 quadrangle map will not illustrate drainage systems in all cases, and that therefore the requirement should be optional.

Several commenters agreed with EPA's proposal. One commenter maintained that drainage maps should be required from developments greater than three acres and from all individual applicants. Several commenters agreed with EPA's proposal that both maps should be provided, with arrows indicating site drainage and entering and leaving points. It was advised that drainage maps are useful in locating sources of storm water contamination, and it is useful to identify areas and activities which require source controls or remedial action. One commenter recommended that the map should extend far enough offsite to demonstrate how the privately owned system connects to the publicly owned system.

After considering the merits of all the comments and the reasons supporting EPA's proposal, EPA is convinced that a topographic map and a site drainage map are necessary components of the industrial application. Existing permit application regulations at 40 CFR 122.21(f)(7) require all permit applicants to submit as part of Form 1 a topographic map extending one mile beyond the property boundaries of the source depicting: the facility and each intake and discharge structure; each hazardous waste treatment, storage, or disposal facility; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in the map area in public records or otherwise known to the applicant within one-quarter mile of the facility property boundary. (See 47 FR 15304, April 8, 1982.) However, as indicated by the comments the information provided under § 122.21(f)(7) is generally not sufficient by itself for evaluating the nature of storm water discharges associated with industrial activity.

As stated in comments, a drainage map can provide more important site specific information for evaluating the nature of the storm water discharge in comparison to existing requirements, which require a larger map with only general information. The volume of a storm water discharge and the pollutants associated with it will depend on the configuration and activities occurring at the industrial site. One commenter suggested that it would be appropriate to submit an aerial photograph of the site with all the topographic and drainage information superimposed on the photograph. EPA agrees that this may be an appropriate method of providing this information. EPA is not requiring a specific format for submitting this information.

EPA is also requiring that a narrative description be submitted to accompany the drainage map. The narrative will provide a description of on-site features including: existing structures (buildings which cover materials and other material covers; dikes; diversion ditches, etc.) and non-structural controls (employee training, visual inspections, preventive maintenance, and housekeeping measures) that are used to prevent or minimize the potential for release of toxic and hazardous pollutants; a description of significant materials that are currently or in the past have been treated, stored or disposed outside; and the method of treatment, storage or disposal used. The narrative will also include: a description of activities at materials loading and unloading areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; a description of the soil; and a description of the areas which are predominately responsible for first flush runoff. This requirement is unchanged from the proposal.

Some commenters believed that information on pesticides, herbicides, and fertilizers and similar products is irrelevant, incidental to the facility's production activities, and should not be ***48020** addressed by this rulemaking. EPA disagrees. As these materials are applied outside and hence subject to storm events, they are significant sources of pollutants in storm water discharges whether applied in residential or industrial settings. By providing this information in the permit application the permit writer will be able to determine whether such activity is associated with industrial activity and the subject of appropriate permit conditions. Nominal or incidental application of these materials at industrial facilities and non-detects in sampling of storm water discharges for the permit application will result, in most cases, in these materials not being addressed specifically in storm water permits.

Today's rule also requires that permit applicants for storm water discharges associated with industrial activity certify that all of the outfalls covered in the permit application have been tested or evaluated for non-storm water discharges

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which are not covered by an NPDES permit. (The applicant need not test for nonstorm water if the certification of the plant storm water discharges can be evaluated through the use of schematics or other adequate method). Section 405 of the WQA added section 402(p)(3)(B)(ii) to the CWA to require that permits for municipal separate storm sewers effectively prohibit non-storm water discharges to the storm sewer system. As discussed in part VI.F.7.b of today's preamble, untreated non-storm water discharges to storm sewers can create severe, wide-spread contamination problems and removing such discharges presents opportunities for dramatic improvements in the quality of such discharges. Although section 402(p)(3)(B)(ii) specifically addresses municipal separate storm sewers, EPA believes that illicit non-storm water discharges are as likely to be mixed with storm water at a facility that discharges directly to the waters of the United States as it is at a facility that discharges to a municipal storm sewer. Accordingly, EPA feels that it is appropriate to consider potential non-storm water discharges in permit applications for storm water discharges associated with industrial activity. The certification requirement would not apply to outfalls where storm water is intentionally mixed with process waste water streams which are already identified in and covered by a permit.

This rulemaking requires applicants for individual permits to submit known information regarding the history of significant spills at the facility. Several commenters indicated that the extent to which this information is required should be modified. One commenter stated that the requirement should be limited to those spills that resulted in a complaint or enforcement action. EPA disagrees. EPA believes that significant spills at a facility should generally include releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see 40 CFR 110.10 and 40 CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4). Such a requirement is consistent with these regulations and the perception that such spills are significant enough to mandate the reporting of their occurrence. Some commenters stated that industries have already submitted this information in other contexts and should not be required to have to do it again. For the same reason another commenter felt that submittal of this information represents a waste of manpower and resources. EPA disagrees that requiring this information is unduly burdensome. If this information has already been provided for another purpose it follows that it is readily available to the industrial applicant. Thus, the burden of providing this information cannot be considered undue. Furthermore, the permit authority will need to have this available in order to determine which drainage areas are likely to generate storm water discharges associated with industrial activity, evaluate pollutants of concern, and develop appropriate permit conditions. However, to keep this information requirement within reasonable limits and limited to information already available to individual facilities, EPA has declined to expand the reporting requirements to spills of other materials, such as food as one commenter has suggested. However, EPA has decided to add raw materials used in food processing or production to the list of significant materials. Materials such as these may find their way into storm water discharges in such quantities that serious water quality impacts occur. These materials may find there way into storm water from transportation vehicles carrying materials into the facility, loading docks, processing areas, storage areas, and disposal sites.

One commenter urged that any information requested should be limited to a period of three years, which is the general NPDES records retention requirement under 40 CFR 122.21(p) and 40 CFR 112.7(d)(8). EPA agrees with this comment and has limited historical information requirements to the 3 years prior to the date the application is submitted. In this manner this regulation will be consistent with records keeping practices under the NPDES and Oil Spill Prevention programs, except sludge programs.

The December 7, 1988, proposal required the applicant to submit a description of each past or present area used for outdoor storage or disposal of significant materials. One commenter felt that the definition of significant material was too imprecise. EPA disagrees that the language should be made more precise by delineating every conceivable material that may add pollutants to storm water. Rather the definition is broad, to encourage permit applicants to list those materials that have the potential to cause water quality impacts. Stating what materials are addressed in meticulous detail may result in potentially harmful materials remaining unconsidered in permits. However, EPA has decided to add “fertilizers, pesticides, and raw materials used in the production or processing of food” to the definition in response to the comment of one State authority that such materials need to be accounted for due to their potential danger to storm water discharge quality. This same commenter recommended that “hazardous chemicals” should be added. EPA agrees,

and will delineate those chemicals as “hazardous substances” which are designated under section 101(14) of CERCLA. Further clarification has been added by requiring the listing of any chemical the facility is required to report pursuant to section 313 of title III of SARA.

Another commenter felt that EPA should not require information of past storage of significant materials. EPA agrees that this proposed requirement is overbroad and has limited the time frame to those materials that were stored in areas 3 years or fewer from the date of the permit application. The 3-year limit is consistent with other Agency reporting requirements as discussed above.

One commenter questioned EPA's proposal not to provide for a waiver from the requirement to submit quantitative data if the applicant can demonstrate that it is unnecessary for permit issuance. Another commenter said that a waiver is inappropriate. EPA believes relevant quantitative data are essential to the process, but in this rulemaking the number of pollutants that must be sampled and analyzed is reduced compared to previous regulations. The proposed requirements for quantitative data are limited to pollutants that are appropriate for given ***48021** site-specific operations, thereby making a waiver unnecessary.

Although the concept of a waiver is attractive because of the perceived potential reduction in burdens for applicants, EPA believes that because the storm water discharge testing requirements have already been streamlined, a waiver would not in practice provide significant reductions in burden for either applicants or permit issuing authorities. Requirements to provide and verify data demonstrating that a waiver is appropriate for a storm water discharge may prove to be more of a burden to the applicant and the permitting authorities. Establishing such a waiver procedure would be administratively complex and time-consuming for both EPA and the applicants, without any justifiable benefit. Therefore, this rulemaking does not include a waiver provision.

In response to one commenter, EPA wishes to emphasize that if a facility has zero storm water discharge because it is discharging to a detention pond only, a permit application is not required. Only those discharges to the waters of the United States or municipal systems need submit notifications, individual or group permit applications, or notices of intent where applicable. However, if the detention pond overflows or the discharger anticipates that it may overflow, then a permit application should be submitted.

Two commenters agreed with EPA's proposed requirement to have a description of past and present material management practices and controls. EPA believes that this is important information directly relating to the quality of storm water that can be expected at a particular facility and this requirement is retained in today's rule. However, as with other historical information requirements, EPA is limiting past practices to those that occurred within three years of the date that the application is submitted. One commenter argued that past practices should not be considered unless there is evidence that past practices cause current storm water quality problems. EPA anticipates that the information submitted by the applicant will be used to make this determination and that appropriate permit conditions can be developed accordingly.

One commenter requested clarification on the certification requirement that the data and information in the application is true and complete to the best of the certifying officer's knowledge. This is a fundamental and integral part of all NPDES permit applications. It essentially requires the signatory to assure the permit writer, based upon his or her personal knowledge, that the information has been submitted without a negligent, reckless, or purposeful misrepresentation. EPA intends to interpret this requirement in the same manner for storm water applications as other applications.

4. Group Applications

Today's final rule provides some industries with the option of participating in a group application, in lieu of submitting individual permits. There are several reasons for the group application. First, the group application procedure provides adequate information for issuing permits for certain classes of storm water discharges associated with industrial activity.

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Second, numerous commenters supported the concept of the group application as a way to reduce the costs and administrative burdens associated with storm water permit applications. Third, group applications will reduce the burden on the regulated community by requiring the submission of quantitative data from only selected members of the group. Fourth, the group application process will reduce the burden on the permit issuing authority by consolidating information for reviewing permit applications and for developing general permits suited to certain industrial groups. Where general permits are not appropriate or cannot be issued, a group application can be used to develop model individual permits, which can significantly reduce the burden of preparing individual permits.

As noted above in today's preamble, EPA intends to promulgate a general permit that will cover many types of industrial activity. Industrial dischargers eligible for such permits will generally be required to seek coverage by submittal of a notice of intent. Facilities that are ineligible for coverage under the general permit will be required to submit an individual permit application or submit a group application. The group application process promulgated today will serve as an important component to implement Tier III of EPA's industrial storm water permitting strategy discussed above. The general permit which EPA intends to promulgate in the near future shall set forth what types of facilities are eligible for coverage.

Some commenters criticized the group application procedure as an abdication of EPA's responsibility to effectively deal with pollutants in storm water discharges. One commenter stated that every facility subject to these regulations should be required to submit quantitative data. In response EPA believes, as do numerous commenters, that the group application procedure is a legitimate and effective way of dealing with a large volume of currently uncontrolled discharges. The only difference between the group application procedure and issuing individual permits based on individual applications is that the quantitative data requirements from individual facilities will be less if certain procedures are followed. EPA is convinced that marked improvements in the process of issuing permits will be achieved when these procedures are followed. Where the storm water discharge from a particular facility is identified as posing a special environmental risk, it can be required to submit individual applications and therefore separate quantitative data. It should also be noted that submittal of a group application does not exempt a facility from submitting quantitative data on its storm water discharge during the term of the permit.

The final rule refines and clarifies some of the requirements of the group application approach set forth in the December 7, 1988 proposal. Several commenters requested that EPA add a provision which would allow a facility that becomes subject to the regulations to “add on” to a group application after that group application has already been submitted. One commenter indicated that some trade associations are prohibited from engaging in an activity which would not apply to all its members, and that an “add on” provision was needed in the event such a prohibition was invoked. Another commenter noted that where a group is particularly large, for example one that consists of several thousand members, that it would be a logistical feat to ensure that all facilities eligible as members of the group are properly identified and listed on the application within the 120 day deadline for submitting part 1A of the application.

EPA believes that a group applicant should have a limited ability to add facilities to the group after part 1A has been submitted and that a provision which allows a group or group representative an unbridled ability to “add on” is impractical for a number of reasons. First, 10% of the facilities must submit quantitative data. Adding facilities after the group has been formed and approved would change the number of facilities that have to submit quantitative data on behalf of the group. This would result in an unwarranted administrative burden on the reviewing authority, which is in the position of having to examine the quantitative data and determine the appropriateness of group members (and those that are ***48022** required to submit quantitative data) within 2 months of receiving part 1 of the group application. Further, during the permit application process permitting authorities will be developing permit conditions for an identified and pre-determined group of facilities. Allowing potentially significant numbers of permit applicants to suddenly inject themselves into a group application could unnecessarily hamper or disrupt the timely development of general and model permits. In addition, if a facility were “added on” the number of facilities having to submit quantitative

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data may drop below 10%. Thus the facility desiring to “add on” may be put in the position of having to submit the quantitative data themselves, which would clearly defeat the purpose of being a part of the group application.

Nevertheless, EPA has added a provision to 122.26(e) which enables facilities to add on to a group application at the discretion of the EPA's Office of Water Enforcement and Permits, and upon a showing of good cause by the group applicant. For the reasons noted above, EPA anticipates this provision will be invoked only in limited cases where good cause is shown. Facilities not properly identified in the group application, and which cannot meet the good cause test will be required to submit individual permit applications. EPA will advise such facilities within 30 days of receiving the request as to whether the facility may add on.

However, the “add on” facility must meet the following requirements: The application for the additional facility is made within 15 months of the final rule; and the addition of the facility does not reduce the percentage of the facilities that are required to submit quantitative data to below 10% unless there are over 100 facilities that are submitting quantitative data. Approval to become part of a group application is obtained from the group or the trade association and is certified by a representative of the group; approval for adding on to a group is obtained from the Office of Water Enforcement and Permits.

Several commenters stated that the application requirements for groups are so burdensome that the advantages of the process are undermined. These concerns are addressed in greater detail below. Among the requirements which commenters objected are the requirements to list every group member's company by name and address. EPA is convinced that a condition precedent to approving a group application is at least identifying the members of the group. Without such information it would be impossible to determine if all the facilities are sufficiently similar. EPA disagrees that industries will be dissuaded from using the group application process because the advantages of the process are undermined. Although commenters perceived many burdens associated with individual permit applications, by far the most significant burden identified by the comments is the requirement for obtaining and submitting quantitative data. The group application significantly reduces this burden by requiring only10% of the facilities to submit quantitative data if the number in the group is over 100. If the number in the group is over 1000, then only 100 of the facilities need submit quantitative information. If group applicants develop cost sharing procedures to reduce the financial and administrative burdens of submitting quantitative data, it is evident that utilizing the group application could save industries as much as 90% on the most economically burdensome aspect of the application.

Several commenters perceived that the group application procedure did not offer them significant savings because under the proposal their particular industry would only be required to test for COD, BOD5, pH, TSS, oil and grease, nitrogen, and phosphorous. These commenters stated that sampling for these pollutants is not particularly expensive. EPA believes that even if a group is required only to submit minimal quantitative data on particular pollutants, substantial savings can accrue to a particular industry if the group has many members. This is particularly true when the number of outfalls to be sampled, the information on storm events, and flow measurements are factored into the cost analysis. An additional benefit for members of the group as well as for permit issuing agencies is that the process of developing a permit, including drafting and responding to public comments on the permit, is consolidated by the group application process. Accordingly, it is less resource intensive for the group to work with permit issuance authorities to develop well founded permit conditions.

One commenter raised a concern about the situation where one of the facilities that is designated for submitting quantitative data drops out of the group. If this happened, then another facility would have to submit quantitative data. In response, EPA notes that one approach would be for the group to have one or two more facilities submit quantitative data than needed to avoid problems from such a departure or to account for new additions to the group. Certainly this issue goes directly to the facility selection process which is a critical component of the group application; the facilities need to be carefully selected and reviewed by the group to prevent such difficulties.

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Several comments indicated a confusion over what facilities are eligible to take advantage of the group application procedure. Any industry or facility that is required to submit a storm water permit application under these regulations is eligible to participate in a group application. However, whether a facility can obtain a storm water permit under a group application procedure will depend upon whether that facility is a member of the same effluent guideline subcategory, or is sufficiently similar to other members of the group to be appropriate for a general permit or individual permit issued pursuant to the group application. Accordingly, group applications are not limited to national trade associations. The agency believes that the language in § 122.26(c)(2) adequately addresses these concerns. The process does not prohibit a particular company with multiple facilities from filing a group application as long as those facilities are sufficiently similar.

One commenter expressed concern that a single company would not be able to take advantage of the group application benefits unless the company had more than ten facilities. Under such circumstances the company would have to become integrated with a larger group of facilities owned by other companies in order to take advantage of the benefits afforded by the group application procedure. In response, the Agency is providing for a group application of between four and ten members, however at least half the facilities must submit data. One commenter stated that the number of facilities required to submit quantitative data should be determined on a case by case basis. EPA believes that 10 percent for groups with over ten members will be easiest to implement for both industry and EPA, and will ensure that adequate representative quantitative data are obtained so that meaningful determinations of facility similarity can be made and appropriate permit conditions in general or model permits can be developed.

Another commenter suggested that one facility with a multitude of storm water discharge points should be able to use the group permit application to reduce the amount of quantitative data ***48023** that it is required to submit. This is an accurate observation but only to the extent that the facility combines with several other facilities to form a group, in which case only 10% of the facilities need submit quantitative data. The group application procedure in today's rule is designed for use by multiple facilities only. However, if an individual facility has 10 outfalls with ten substantially identical effluents the discharger may petition the Director to sample only one of the outfalls, with that data applying to the remaining outfalls. See § 122.21(g)(7). Thus, existing authority already allows for a "group-like" process for sampling a subset of storm water outfalls at a single facility.

Concern was expressed that the spill reporting requirement from each facility in part 1B would preclude any group from demonstrating that the facilities sampled are "representative," because the incidence of past spills is very site-specific. EPA notes that since it has dropped the part 1B requirements for other reasons discussed below, this comment is now moot.

Numerous commenters noted that if a facility is part of a group application and is subsequently rejected as a group applicant, such an entity would not have a full year to submit an individual permit application. EPA agrees that this is a significant concern. Accordingly, those facilities that apply as a member of a group application will be afforded a full year from the time they are notified of their rejection as a member of the group to file an individual application. EPA notes that it intends to act on group application requests within 60 days of receipt; thus this approach will only provide facilities that are rejected from a group application a short extension of the deadline for other individual applications.

One commenter complained that the cost of defending a group's choice of representative facilities may exceed the cost of submitting an individual permit application, thereby reducing the incentive to apply as group. The agency anticipates that the selection process will be one open to negotiation between the affected parties and one that will end in a mutually satisfactory group of facilities. It is the intent of EPA to reduce the costs of submitting a permit application as much as possible, while providing adequate information to support permitting activities.

Another commenter argued that the use of model permits will create a disincentive for participating in a group because model permits may be used by the permit issuing authority to issue individual permits for discharges from similar facilities

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that did not participate in the group application. EPA does not agree. The benefit of applying as a group applicant is to take advantage of reduced representative quantitative data requirements. This incentive will exist regardless of whether or how model permits are used. Further, technology transfer can occur during the development of permits based on individual applications as well as those based on group applications.

One commenter suggested moving some of the facility specific information requirements of part 1 of the group application to part 2 of the group application in order to provide more incentive to apply as a group. EPA has considered this and believes such a change would be inappropriate. Part 1 information will be used to make an informed decision about whether individual facilities are appropriate as group members and appropriate for submitting representative quantitative data. Furthermore, information burdens from providing site specific factors in part 1 is relatively minimal, and the information requirements in the proposed part 1B application have been eliminated.

One commenter suggested that trade associations develop model permits since they have the most knowledge about the characteristics of the industries they represent. As noted above, EPA expects that the industries and trade associations will have input, through the permit application process, as to how permit conditions for storm water discharges are developed. While the applicant can submit proposed permit conditions with any type of application, EPA however cannot delegate the drafting of model permits to the permittees. EPA is developing and publishing guidance in conjunction with this rulemaking for developing permit conditions.

One commenter suggested that new dischargers should be able to take advantage of general permits developed pursuant to group applications. As with other general permits, EPA anticipates that such discharges will be able to fall within the scope of a general permit based on a group application where appropriate.

One commenter stated that the group application does not benefit municipalities since there is no requirement for industrial discharges through municipal sewers to apply for a permit. As noted in a previous discussion, industrial discharges through municipal sewers must be covered by an NPDES permit. Such facilities may avail themselves of the group application procedure. Also, municipalities are not precluded from developing a group application procedure under their management plan for industries that discharge into their municipal system, in order to streamline developing controls for such industries.

One industry wanted clarification that facilities located within a municipality would be eligible to participate in a group application. All industrial activities required to submit an individual permit are entitled to submit as part of group application, except those with existing NPDES permits covering storm water. Those facilities that discharge through a municipal separate storm sewer systems required to submit an individual application (because they do not fall within a general permit) are not precluded from using the group application procedure if appropriate.

Other municipalities expressed confusion over the industrial group application concept. The following responds to these comments. First, municipalities are not eligible for participation in a group application because the group application process is designed for industrial activities. Sampling requirements for municipal permit applications are already limited to a small subset of the outfalls from the system, as discussed below. Furthermore, permits for municipal separate storm sewer systems will be issued on a system-wide or jurisdiction-wide basis, rather than individually for each outfall. Thus, today's regulation already incorporates a “grouplike” permit application process for municipalities. Furthermore, it is highly unlikely that various municipal storm sewer systems would be “substantially similar” enough to justify group treatment in the same way as industrial facilities. In response to another comment, this regulation does not directly give the municipality enforcement power over members of an industrial group who may be discharging through its system. Only the permitting authority and private citizens and organizations (including the municipality acting in such a capacity) will have enforcement power over members of the group once permits are issued to those members.

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One commenter believed that the States with authorized NPDES programs rather than EPA should establish permit terms for permits based on group applications. In response to this comment, EPA wishes to clarify its role in the group application process. Group applications will be submitted to EPA headquarters where they will be reviewed and summarized. The ***48024** summaries of the group application will be distributed to authorized NPDES States. EPA wishes to emphasize that NPDES States are not bound by draft model permits developed by EPA. States may adopt model permits for use in their particular area, making adjustments for local water quality standards and other regional characteristics. Where general permit coverage is believed to be inappropriate, facilities may be required to apply for individual permits. One commenter objected to the group application procedure because it is not consistent with existing Federal permitting procedures, which will lead to confusion in the regulated community. The agency disagrees with this assessment. The group application is a departure from established NPDES program procedures. However, the comments, when viewed in their entirety, reflect widespread support from the regulated community for a group application procedure. Further, the comments reflect that those affected by this rulemaking understand the components of the group application and the procedures under which permits will be obtained pursuant to the group application.

One commenter expressed concern regarding how BAT limits for groups of similar industries will be developed. Technology based limits will be developed based on the information received from the group applicants. If the group applicants possess similar characteristics in terms of their discharge, BAT/BCT limitations and controls will be developed accordingly for those members of the group. If the discharge characteristics are not similar then applying industries are not appropriate for the group.

One commenter has suggested that the proposed group application is too complex with regard to the part 1A, part 1B, and part 2 group application requirements and that EPA should repropose these provisions. As discussed below, EPA has simplified the industrial group application requirements by eliminating the part 1B application. Thus, reproposal is unnecessary.

One commenter criticized the group application concept as not achieving any type of reduction in administrative burden for NPDES States. EPA disagrees with this assessment. If industries take advantage of the group application procedure, EPA will have an opportunity to review information describing a large number of dischargers in an organized manner. EPA will perform much of the initial review and analysis of the group application, and provide NPDES States with summaries of the applications thereby reducing the burden on the States. Furthermore, the procedure encourages a potentially large number of facilities to be covered by a general permit, which will clearly reduce the administrative burden of issuing individual permits.

The final rule establishes a regulatory procedure whereby a representative entity, such as a trade association, may submit a group application to the Office of Water Enforcement and Permits (OWEP) at EPA headquarters, in which quantitative data from certain representative members of a group of industrial facilities is supplied. Information received in the group application will be used by EPA headquarters to develop models for individual permits or general permits. These model permits are not issued permits, but rather they will be used by EPA Regions and the NPDES States to issue individual or general permits for participating facilities in the State. In developing such permits, the Region or NPDES State will, where necessary, adapt the model permits to take into account the hydrological conditions and receiving water quality in their area. One commenter expressed the view that having this procedure managed by EPA headquarters would cause delays and it should be delegated to the States and Regions. EPA disagrees that delay will ensue using this procedure. Furthermore, consistency in development of model and general permits can be achieved if application review is coordinated at EPA headquarters.

a. Facilities Covered. Under this rule the group application is submitted for only the facilities specifically listed in the application and not necessarily for an entire industry. The facilities in the group application selected to do sampling must be representative of the group, not necessarily of the industry.

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Facilities that are sufficiently similar to those covered in a general permit (issued pursuant to a group application) that commence discharging after the general permit has been issued, must refer to the provisions of that general permit to determine if they are eligible for coverage. Facilities that have already been issued an individual permit for storm water discharges will not be eligible for participation in a group application. Several commenters believed that this restriction is inequitable since they have experienced the administrative burden of submitting a permit application. EPA disagrees. Industries that have already obtained a permit for storm water discharges have developed a storm water management program, engaged in the collection of quantitative data, and possess familiarity and experience with submitting storm water permit applications. The Agency sees no point to instituting an entirely new permit application process for facilities that have storm water permits issued individually. It makes little sense for these industries to be involved with submitting another permit application before their current permit expires.

As noted above, once a general permit has been issued to a group of dischargers, a new facility may request that they be covered by the general permit. The permitting authority can then examine the request in light of the general permit applicability requirements and determine whether the facility is suitable or not.

b. Scope of Group Applications. Numerous comments were received on how facilities should be evaluated as members of a group application. Several commenters stated that effluent limitation guideline subcategories are not relevant to pollutants found in storm water, but rather to the facility's everyday activities, and therefore similarity should be based on each facility's discharge or the similarity of pollutants expected to be found in a facility's discharge. Other commenters felt that similarity of operations at facilities should be the criteria. Others, believed that an examination of the facility's impact on storm water quality should be the applied criteria. Other commenters suggested that EPA provide more guidance as to how broadly groups can be defined and that a failure to do so would discourage facilities from going to the trouble and expense of entering into the group application process. Some commenters were concerned that facilities would be rejected as a group because of variations in processes and process wastewater characteristics.

EPA does not agree that effluent limitation guideline subcategories are inappropriate as a method for determining group applications. EPA guideline subcategories are functional classifications, breaking down facilities into groups, for purposes of setting effluent limitations guidelines. The use of EPA subcategories will save time for both applicants and permitting authorities in determining whether a particular group is appropriate for a group application. Furthermore, EPA believes that this method of grouping provides adequate guidance for determining what facilities are grouped together. Establishing groups on the extent to which a facility's discharge ***48025** affects storm water quality would not provide applicants with sufficient guidance as to the appropriateness of individual industries for group applications and would not provide information needed to draft appropriate model permit conditions for potentially different types of industries, industrial processes, and material management practices.

However, EPA recognizes that the subcategory designations may not always be available or an effective methodology for grouping applicants. Also, there are situations where processes that are subject to different subcategories are combined. EPA agrees that the group application option should be flexible enough to allow groups to be created where subcategories are too rigid or otherwise inappropriate for developing group applications or where facilities are integrated or overlap into other subcategories. For these reasons, this rulemaking does not limit the submission to EPA subcategories alone, but rather allows groups to be formed where facilities are similar enough to be appropriate for general permit coverage.

In determining whether a group is appropriate for general permit coverage, EPA intends that the group applicant use the factors set forth in 40 CFR 122.28(a)(2)(ii), the current regulations governing general permits, as a guide. If facilities all involve the same or similar types of operations, discharge the same types of wastes, have the same effluent limitation and same or similar monitoring requirements, where applicable, they would probably be appropriate for a group application. To that extent, facilities that attempt to form groups where the constituent makeup of its process wastewater is dissimilar may run the risk of not being accepted for purposes of a group application.

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Some commenters expressed the view that categories formed using general permit factors are too broad or that the language is too vague. One commenter expressed the view that the standard is too subjective and that permit writers will be evaluating the similarity of discharge too subjectively, while other commenters felt that the criteria should be broad and flexible. Other commenters stated that the effluent guideline subcategory or general permit coverage factors are not related to storm water discharges, because much of the criteria are based upon what is occurring inside the plant, rather than activities outside of the plant. EPA believes that these criteria are reasonable for defining the scope of a group application. EPA disagrees that the procedure, which is adequate for the issuance of general permits, is inadequate for the development of a group application. EPA believes that the activities inside a facility will generally correspond to activities outside of the plant that are exposed to storm events, including stack emissions, material storage, and waste products. Furthermore, if facilities are able to demonstrate their storm water discharge has similar characteristics, that is one element in the analysis needed for establishing that the group is appropriate. EPA disagrees that the criteria are too vague. If facilities are concerned that general permit criteria is insufficient guidance, then subcategories under 40 CFR subchapter N should be used. EPA believes that the program will function best if flexibility for creating groups is maintained.

If a NPDES approved State feels that a tighter grouping of applicants is appropriate individual permit applications can be requested from those permit applicants. One commenter indicated that it was not clear whether the group application procedure could be used for all NPDES requirements. EPA would clarify that the group application is designed only to cover storm water discharges from the industrial facilities identified in § 122.26(b)(14).

As noted above, EPA wishes to clarify that facilities with existing individual NPDES permits for storm water are not eligible to participate in the group application process. From an administrative standpoint EPA is not prepared to create an entirely different mechanism for permitting industries which already have such permits.

c. Group Application Requirements. The group application, as proposed, included the following requirements in three separate parts. Part 1A of a group application included: (A) Identification of the participants in the group application by name and location; (B) a narrative description summarizing the industrial activities of participants; (C) a list of significant materials stored outside by participants; and (D) identification of 10 percent of the dischargers participating in the group application for submitting quantitative data. A proposed part 1B of the group application included the following information from each participant in the group application: (A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) and related information; (B) an estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall and a narrative description of significant materials; (C) a certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested for the presence of non-storm water discharges; (D) existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility; (E) a narrative description of industrial activities at the facility that are different from or that are in addition to the activities described under part 1A; and (F) a list of all constituents that are addressed in a NPDES permit issued to the facility for any of non-storm water discharge. Part 2 of a group application required quantitative data from 10 percent of the facilities identified.

Some commenters felt that spill histories, drainage maps, material management practices, and information on significant materials stored outside are too burdensome or meaningless for evaluating similarity of discharges among group applicants. Several commenters stated that such requirements where the group may consist of several thousand facilities were impractical and would not assist EPA in developing model permits. Many commenters insisted that the requirements imposed in part 1B would effectively discourage use of the group application procedure. EPA agrees in large part with these comments. After reevaluating the components of part 1B, and the entire rationale for instituting the group application procedure, EPA has decided to excise part 1B from the requirements, and rely on part 1A and part 2 for developing appropriate permit condition. Where appropriate, EPA may require facilities to submit the information, formerly in part 1B, during the term of the permit. In other cases, EPA will establish which facilities must submit individual permit applications where more site specific permits are appropriate.

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Under the revised part 1 and part 2, EPA will receive information pertaining to the types of industrial activity engaged in by the group, materials used by the facilities, and representative quantitative data. EPA can use such information to develop management practices that address pollutants in storm water discharges from such facilities. For most facilities, general good housekeeping or management practices will eliminate pollutants in storm water. Such requirements can be further refined by determining the nature of a group's industrial activity and by obtaining information on material used at the facility and representative quantitative data from a ***48026** percentage of the facilities. Thus, EPA is confident that model permits and general permits can be developed from the information to be submitted under part 1 and part 2.

One commenter felt that more guidance on what makes a facility representative for sampling as part of a group is needed. In response, the Agency believes the rule as currently drafted provides adequate notice.

Another commenter asked how much sampling needed to be done and how much monitoring will transpire over the life of the permit for members of a group. This will vary from permit to permit and will be determined in permit proceedings. This rulemaking only covers the quantitative data that is to be submitted in the context of the group permit application.

One commenter indicated that because of the amount of diversity in the operations of a particular industry, obtaining a sample that could be considered representative would be extremely difficult. EPA recognizes that obtaining representative quantitative data through the group application process will prove to be difficult; however, EPA has sought to minimize these perceived problems. Under the group application concept, industries must be sufficiently similar to qualify. Industries which have significantly different operations from the rest of the group that affects the quality of their storm water discharge may be required to obtain an individual permit. Use of the nine precipitation zones will enable the data in the permit application to be more easily analyzed and patterns observed on the basis of hydrology and other regional factors. How EPA will evaluate the representativeness of the sample is discussed below.

Several commenters asked why the precipitation zone of group members is relevant to the application. The need to identify precipitation zones arises because the amount of rainfall is likely to have a significant impact on the quality of the receiving water. According to an EPA study (Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality; Office of Water, Nonpoint Source Branch, Sept. 1986) the United States can be divided into nine general precipitation zones. These zones are characterized by differences in precipitation volume, precipitation intensity, precipitation duration, and precipitation intervals. Industrial facilities that seek general permits via the group application option may show significantly different loading rates as a result of these regional precipitation differences. As an example, precipitation in Seattle, Washington, located in Zone 7, approaches the mean annual storm intensity of .024 inches/hour with a mean annual storm duration of 20 hours for that Zone. In contrast, precipitation in Atlanta, Georgia, located in Zone 3 approaches the mean annual storm intensity of .102 inches/hour and a mean storm duration of 6.2 hours for that Zone. Atlanta, receives on the average four times more precipitation per hour with storms lasting one-third as long. As a result of these differences, if identical facilities within a group application were situated in each of these areas, their storm water discharges would likely exhibit different pollutant characteristics. Accordingly, data should be submitted from facilities in each zone.

One commenter felt that the EPA should abandon or modify its rainfall zone concept, because storm water quality will depend more on what materials are used at the facility than rainfall. EPA disagrees. Because storm water loading rates may differ significantly as a result of regional precipitation differences, it is necessary that for each precipitation zone containing representatives of a group application, the group must provide samples from some of those representatives. In comments to previous rulemakings it was argued that the amount of rainfall will affect the degree of impact a storm water discharge may have on the receiving stream.

One commenter stated that the precipitation zones illustrated in appendix E of the proposed rulemaking do not adequately reflect regional differences in precipitation and that in some cases the zones cut through cities where there

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are concentrations of industries without differences in their precipitation patterns. The rainfall zone map is a general guide to determining what areas of the country need to be addressed when determining representative rainfall events and quantitative data. When dealing with rainfall on a national scale, it is near impossible to make generalized statements with a great deal of accuracy. In the case of rainfall zones, rainfall patterns may be similar for facilities in close proximity to each other but none the less in different rainfall zones. In response, EPA has created these zones to reflect regional rainfall patterns as accurately as possible. Because of the variable nature of rainfall such circumstances are sure to arise. However, in order to obtain a degree of representativeness EPA is convinced that the use of these rainfall zones as described is appropriate for the submittal of group applications and the quantitative data therein.

The second and third requirements of part 1 of the group application instruct the applicant to describe the industrial activity (processes) and the significant materials used by the group. For the significant materials listed, the applicant is to discuss the materials management practices employed by members of the group. For example, the applicant should identify whether such materials are commonly covered, contained, or enclosed, and whether storm water runoff from materials storage areas is collected in settling ponds prior to discharge or diverted away from such areas to minimize the likelihood of contamination. Also, the approximate percentage of facilities in the group with no practices in place to minimize materials stored outside is to be identified.

EPA considers that the processes and materials used at a particular facility may have a bearing on the quality of the storm water. Thus, if there are different processes and materials used by members of the group, the application must identify those facilities utilizing the different processes and materials, with an explanation as to why these facilities should still be considered similar.

One commenter felt that a facility should be able to describe in its permit application the possibility of individual materials entering receiving waters. EPA supports the applicant adding site specific information which will assist the permit writer making an informed decision about the nature of the facility, the quality of its storm water discharge, and appropriate permit conditions.

The fourth element of part 1 of the group application is a commitment to submit quantitative data from ten percent of the facilities listed. EPA proposed that there must be a minimum of ten and a maximum of one hundred facilities within a group that submit data. Comments reflected some dissatisfaction with this requirement. Some commenters asserted that ten percent was too high a number and would discourage group applications, while one commenter suggested a lesser percentage would be appropriate where the group can certify that facilities are representative. One commenter suggested that EPA have the discretion to allow for a smaller percentage. Several commenters argued that EPA should be satisfied with fewer than ten percent because EPA often relies on data from less than ten percent of the plants in a subcategory when promulgating effuent guidelines and that EPA should rely on data collection goals ***48027** with affected groups as was done in the 1985 storm water proposal. Other commenters pointed out that an anomalous situation could arise where the group was small and facilities were scattered throughout the precipitation zones. For example, if a group consisted of 20 members where a minimum of ten facilities had to submit samples, and two or more members were in each precipitation zone; a total of 18 facilities (90% of the group) would have to submit quantitative data. EPA believes that there must be a sufficient number of facilities submitting data for any patterns and trends to be detectable. However, in light of these comments EPA has decided to modify the language in § 122.26(c) to allow 1 discharger in each precipitation zone to submit quantitative data where 10 or fewer of the group members are located in a particular precipitation zone. EPA believes, however, that one hundred facilities would in most cases be sufficient to characterize the nature of the runoff and thus 100 should remain the maximum. If the data are insufficient, EPA has the authority to request more sampling under section 308 of the CWA.

One commenter suggested that the ten facility cutoff was unreasonable, and that instead of cutting off the group at ten, allow a smaller number in the group and allow the facilities to sample ten percent of their outfalls instead. EPA agrees, in part, and will allow groups of between four and ten to submit a group application. However, the ten percent rule would

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not be effective in such cases. Therefore, at least half the facilities in a group of four to ten will be required to provide quantitative data from at least one outfall, with each precipitation zone represented by at least one facility.

For any group application, in addition to selecting a sufficient number of facilities from each precipitation zone, facilities selected to do the sampling should be representative of the group as a whole in terms of those characteristics identifying the group which were described in the narrative, i.e., number and range of facilities, types of processes used, and any other relevant factors. If there is some variation in the processes used by the group (40 percent of the group of food processors are canners and 60 percent are canners and freezers, for example), the different processes are to be represented. Also, samples are to be provided from facilities utilizing the materials management practices identified, including those facilities which use no materials management practices. The representation of these different factors, to the extent feasible, is to be roughly equivalent to their proportion in the group.

EPA wishes to emphasize that the provision that ten percent of the facilities need to submit quantitative data only applies to the permit application process. The general or individual permit itself may require quantitative data from each facility.

Submittal of Part 2 of the Group Application. As with part 1, part 2 of the Group Application would be submitted to the Office of Water Enforcement and Permits, in Washington, DC. If the information is incomplete, or simply is found to be an inadequate basis for establishing model permit limits, EPA has the authority under section 308 of the Clean Water Act to require that more information be submitted, which may include sampling from facilities that were part of the group application but did not provide data with the initial submission. If the group application is used by a Region or NPDES State to issue a general permit, the general permit should specify procedures for additional coverage under the permit.

If a part 2 is unacceptable or insufficient, EPA has the option to request additional information or to require that the facilities that participated in the group application submit complete individual applications (e.g. facilities that have submitted Form 1 with the group application may be required to submit Form 2F, or facilities which have submitted complete Form 1 and Form 2F information in the group application generally would not have to submit additional information).

Once the group applications are reviewed and accepted, EPA will use the information to establish draft permit terms and conditions for models for individual and general permits. NPDES approved States and EPA regional offices will continue to be the permit-issuing authority for storm water discharges. The NPDES approved States accepting the group application approach and the EPA Regions may then take the model permits and adapt them for their particular area, making adjustments for local water quality standards and other localized characteristics, and making determinations as to the need for an individual storm water permit where general permit coverage is felt to be inappropriate. Permits would be proposed by the Region or NPDES approved State in accordance with current regulations for public comment before becoming final. In NPDES States without general permit authority, or where an individual permit is deemed appropriate, the model permit can serve as the basis for issuing an individual permit.

The group application is an NPDES permit application just like any other and, as such, would be handled through normal permitting procedures, subject to the regulatory provisions applicable to permit issuance. Incomplete or otherwise inadequate submissions would be handled in the same manner as any other inadequate permit application. The permit issuing authority would retain the right to require submission of Form 1, Form 2C and Form 2F from any individual discharger it designates.

Some commenters offered other procedures for developing a group application procedure; however, these were frequently entirely different approaches or so novel that a reproposal would be required. One commenter suggested that those industries that are identified as being likely to pollute should be required to submit quantitative data. Numerous commenters contended that a generic approach for meeting the required information requirements for group applications would allow EPA to develop adequate general permits. EPA does not view these approaches as appropriate.

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5. Group Application: Applicability in NPDES States

Many commenters expressed concern about how the group application procedure will work within the framework of an NPDES approved State. The relationship between EPA and the States that are authorized to administer the NPDES program, including implementation of the storm water program, is a complicated aspect of this rulemaking. Approved States (there are 38 States and one territory so approved) must have requirements that are at least as stringent as the Federal program; they may be more stringent if they choose. Authority to issue general permits is optional with NPDES States.

EPA has determined that ten percent of the facilities must provide quantitative data in the permit application as noted above. Furthermore, these applications are submitted to EPA headquarters. Consequently States, whether NPDES approved or not, are not in a position to reject or modify this requirement. Such States may determine the amount of sampling to be done pursuant to permit conditions. If they choose to issue general permits they may include such authority in their NPDES program and, ***48028** upon approval of the program by EPA, may then issue general permits. Within the context of the NPDES provisions of the CWA, if States do not have general permitting authority, then general permits are not available in those States.

In response to one comment, EPA does not have authority to issue general or individual permits to facilities in NPDES approved states. Today's rule provides a means for affected industries to be covered by general permits developed via the group application procedure as well as from general permits developed independently of the group application process. Accordingly, today's rule anticipates that most NPDES States will seek general permit issuance authority to implement the storm water program in the most efficient and economical way. Without general permit issuance authority NPDES States will be required to issue individual permits covering storm water discharges to potentially thousands of industrial facilities.

One commenter recommended that States with approved NPDES programs should be involved in determining what industries are representative for submitting quantitative data. EPA recognizes that States will have an interest in this determination and may possess insight as to the appropriateness of using some facilities. However, EPA may be managing hundreds of group applications and approving or disapproving them as expeditiously as possible. EPA believes that involving the States in this already administratively complex and time consuming undertaking would be counterproductive. In any event, NPDES approved States are not bound by the determinations of EPA as to the appropriateness of groups or the issuance of permits based on model permits or individual permits. However, States will be encouraged to use model permits that are developed by EPA. EPA will endeavor to design general and model permits that are effective while also adaptable to the concerns of different States. Again, States are able to develop more stringent standards where they deem it to be appropriate. There are currently seventeen States that have authority to issue general permits: Arkansas, Colorado, Illinois, Kentucky, Minnesota, Missouri, Montana, New Jersey, North Dakota, Oregon, Rhode Island, Utah, Washington, West Virginia and Wisconsin. As suggested in the comments, EPA is encouraging more States to develop general permit issuing authority in order to facilitate the permitting process.

One commenter advised that the rules should state that a NPDES approved State may accept a group application or require additional information. EPA has decided not to explicitly state this in the rule. However, this comment does raise some points that need to be addressed. Because the group application option is a modification of existing NPDES permit application requirements, the State is free to adopt this option, but is not required to. If the State chooses to adopt the group application and it does not have general permit authority, the group application can be used to issue individual permits. If an approved NPDES State chooses to not issue permits based on the group application, facilities that discharge storm water associated with industrial activity that are located in that State must submit individual applications to the State permitting authority. Before submitting a group application, facilities should ascertain from the State permitting authority whether that State intends to issue permits based upon a group application approved by EPA for the purpose of developing general permits. For facilities that discharge storm water associated with industrial

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activity which are named in a group application, the Director may require an individual facility to submit an individual application where he or she determines that general permit coverage would be inappropriate for the particular facility.

One commenter stressed that EPA should streamline the procedure for States desiring to obtain general permit coverage. EPA has, over the last year, streamlined this procedure and encourages States to take advantage of this procedure. EPA recommends that States consider obtaining general permit authority as a means to efficiently issue permits for storm water discharges. These States should contact the Office of Water Enforcement and Permits at EPA Headquarters as soon as possible.

6. Group Application: Procedural Concerns

One commenter claimed that the proposed group application process and procedures violated federal law. This commenter claimed that EPA was abrogating its responsibility by allowing a trade association to design a data collection plan in lieu of completing an NPDES application form designed by EPA, thus violating the Federal Advisory Committee Act. The commenter stated that EPA would be improperly influenced by special interests if trade associations were able to design their own storm water data gathering plans. The commenter further asserted that any decisions by EPA on the content of specific group applications would be rulemakings and thus subject to the provisions of the Administrative Procedure Act.

EPA disagrees with the comment that the group application violates the Federal Advisory Committee Act (FACA). FACA governs only those groups that are established or "utilized" by an agency for the purpose of obtaining "advice" or "recommendations." The group application option does not solicit or involve any "advice" or "recommendations." It simply allows submission of data by certain members of a group in accordance with specific regulatory criteria for determining which facilities are "representative" of a group. As such, the group application is merely a submission in accordance and in compliance with specific regulatory requirements and does not contain discretionary uncircumscribed "advice" or "recommendations" as to which facilities are representative of a group.

Thus, the determination of which facilities should submit testing data in accordance with regulatory criteria is little different from many other regulatory requirements where an applicant must submit information in accordance with certain criteria. For example, under 40 CFR 122.21 all outfalls must be tested except where two or more have "substantially identical" effluents. Similarly, quantitative data for certain pollutants are to be provided where the applicant knows or "has reason to believe" such pollutants are discharged. Both of these provisions allow the applicant to exercise discretion in making certain judgments but such action is circumscribed by regulatory standards. EPA further has authority to require these facilities to submit individual applications. In none of these instances are "recommendations" or "advice" involved. EPA also notes that it is questionable whether, in providing for group applications, it is "soliciting" advice or recommendations from groups or that such groups are being "utilized" by EPA as a "preferred source" of advice. See 48 FR 19324 (April 28, 1983). Furthermore, this data collection effort may be supplemented by EPA if, after review of the data, EPA determines additional data is necessary for permit issuance. Other information gathering may act as a check on the group applications received.

EPA also does not agree with this commenter's claim that the group application scheme represents an ***48029** impermissible delegation of the Administrator's function in violation of the CWA regarding data gathering. The Administrator has the broadest discretion in determining what information is needed for permit development as well as the manner in which such information will be collected. The CWA does not require every discharger required to obtain a permit to file an application. Nor does the CWA require that the Administrator obtain data on which a permit is to be based through a formal application process (see 40 CFR 122.21). For years "applications" have not been required from dischargers covered by general permits. EPA currently obtains much information beyond that provided in applications pursuant to section 308 of the CWA. This is especially true with respect to general permit and effluent limitations guidelines development. The group application option is simply another means of data gathering. The Administrator may always collect more data should he determine it necessary upon review of a groups' data submission. And, he may

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obtain such additional data by whatever means permissible under the Statute that he deems appropriate. Thus, it can hardly be said that by this initial data gathering effort the Administrator has delegated his data gathering responsibilities. In addition, since groups are required to select "representative" facilities, etc., in accordance with specific regulatory requirements established by the Administrator and because EPA will scrutinize part 1 of the group applications and either accept or reject the group as appropriate for a group application, no impermissible delegation has occurred. EPA will make an independent determination of the acceptability of a group application in view of the information required to be submitted by the group applicant, other information available to EPA (such as information on industrial subcategories obtained in developing effluent limitations guidelines as well as individual storm water applications received as a result of today's rule) and any further information EPA may request to supplement part 1 pursuant to section 308 of the CWA. Moreover, any concerns that a general permit may be based upon biased data can be dealt with in the public permit issuance process.

Finally, EPA also does not agree that the group application option violates the Administrative Procedures Act. Again, the group application scheme is simply a data gathering device. EPA could very well have determined to gather data informally via specific requests pursuant to section 308 of the CWA. In fact, general permit and effluent limitations guideline development proceed along these lines. It would make little sense if the latter informal data gathering process were somehow illegal simply because it is set forth in a rule that allows applicants some relief upon certain showings. In this respect, several of EPA's existing regulations similarly allow an applicant to be relieved from certain data submission requirements upon appropriate demonstrations. For example, testing for certain pollutants and or certain outfalls may be waived under certain circumstances. Most importantly, the operative action of concern that impacts on the public is individual or general permit issuance based upon data obtained. As previously stated, ample opportunity for public participation is provided in the permit issuance proceeding.

7. Permit Applicability and Applications for Oil and Gas and Mining Operations

Oil, gas and mining facilities are among those industrial sites that are likely to discharge storm water runoff that is contaminated by process wastes, toxic pollutants, hazardous substances, or oil and grease. Such contamination can include disturbed soils and process wastes containing heavy metals or suspended or dissolved solids, salts, surfactants, or solvents used or produced in oil and gas operations. Because they have the potential for serious water quality impacts, Congress recognized, throughout the development of the storm water provisions of the Water Quality Act of 1987, the need to control storm water discharges from oil, gas, and mining operations, as well as those associated with other industrial activities.

However, Congress also recognized that there are numerous situations in the mining and oil and gas industries where storm water is channeled around plants and operations through a series of ditches and other structural devices in order to prevent pollution of the storm water by harmful contaminants. From the standpoint of resource drain on both EPA as the permitting agency and potential permit applicants, the conclusion was that operators that use good management practices and make expenditures to prevent contamination must not be burdened with the requirement to obtain a permit. Hence, section 402(1)(2) creates a statutory exemption from storm water permitting requirements for uncontaminated runoff from these facilities.

To implement section 402(1)(2), EPA intends to require permits for contaminated storm water discharges from oil, gas and mining operations. Storm water discharges that are not contaminated by contact with any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations will not be required to obtain a storm water discharge permit.

The regulated discharge associated with industrial activity is the discharge from any conveyance used for collecting and conveying storm water located at an industrial plant or directly related to manufacturing, processing or raw materials storage areas at an industrial plant. Industrial plants include facilities classified as Standard Industrial Classifications (SIC) 10 through 14 (the mining industry), including oil and gas exploration, production, processing, and treatment

operations, as well as transmission facilities. See 40 CFR 122.26(b)(14)(iii). This also includes plant areas that are no longer used for such activities, as well as areas that are currently being used for industrial processes.

a. Oil and Gas Operations. In determining whether storm water discharges from oil and gas facilities are "contaminated", the legislative history reflects that the EPA should consider whether oil, grease, or hazardous materials are present in storm water runoff from the sites described above in excess of reportable quantities (RQs) under section 311 of the Clean Water Act or section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). [Vol. 132 Cong. Rec. H10574 (daily ed. October 15, 1986) Conference Report].

Many of the comments received by EPA regarding this exemption focused on the concern that EPA's test for requiring a permit is and would subject an unnecessarily large number of oil and gas facilities to permit application requirements. Specific comments made in support of this concern are addressed below.

A primary issue raised by commenters centered on how to determine when a storm water discharge from an oil or gas facility is "contaminated", and therefore subject to the permitting program under section 402 of the CWA. Many of the comments received from industry representatives objected to the Agency's intent as expressed in the proposal to use past discharges as a trigger for submitting permit applications.

The proposed rule provided that the notification requirements for releases in excess of RQs established under the CWA and CERCLA would serve as a ***48030** basis for triggering the submittal of permit applications for storm water discharges from oil and gas facilities. As described in the proposal, oil and gas operations that have been required to notify authorities of the release of either oil or a hazardous substance via a storm water route would be required to submit a permit application. In other words, any facility required to provide notification of the release of an RQ of oil or a hazardous substance in storm water in the past would be required to apply for a storm water permit under the current rule. In addition, any facility required to provide notification regarding a release occurring from the effective date of today's rule forward would be required to apply for a storm water permit.

Commenters maintained that the use of historical discharges to require permit applications is inconsistent with the language and intent of section 402(1)(2) of the CWA, and relevant legislative history, both of which focus on present contamination. Requiring storm water permits based solely on the occurrence of past contaminated discharges, even where no present contamination is evident, would go beyond the statutory requirement that EPA not issue a permit absent a finding present contamination. Commenters also noted that the proposal did not take into account the fact that past problems leading to such releases may have been corrected, and that requiring an NPDES permit may no longer be necessary. The result of such a requirement, commenters maintained, would be an excessive number of unnecessary permit applications being submitted, at significant cost and minimal benefit to both regulated facilities and regulating authorities.

Commenters also indicated that using the release of reportable quantities of oil, grease or hazardous substances as a permit trigger would identify discharges of an isolated nature, rather than the continuous discharges, which should be the focus of the NPDES permit program under section 402. Such an approach, commenters maintained, is inconsistent with existing regulations under section 311 of the CWA, and would result in permit applications from facilities that are more appropriately regulated under section 311.

Despite these criticisms, many commenters recognized that the Agency is left with the task of determining when discharges from oil and gas facilities are contaminated, in order to regulate them under section 402(1)(2). It was suggested by numerous commenters that the EPA adopt an approach similar to that used under section 311 of the CWA for Spill Prevention Control and Countermeasure (SPCC) Plans. Under SPCC, facilities that are likely to discharge oil into waters of the United States are required to maintain a SPCC plan. In the event the facility has a spill of 1,000 gallons or 2 or more reportable quantities of oil in a 12 month period, the facility is required to submit its SPCC plan to the Agency.

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The triggering events proposed by the commenters for storm water permits for oil and gas operations are six reportable sheens or discharges of hazardous substances (other than oil) in excess of section 311 or section 102 reportable quantities via a storm water point source route over any thirty-six month period. It was suggested that if this threshold is reached, an operator would then file a permit application (or join a group application) based upon the presumption that its current storm water discharges are contaminated.

In response to these comments, the Agency believes that past releases that are reportable quantities can be a valid indicator of the potential for present contamination of discharges. The legislative history as cited above supports this conclusion. EPA would note that the existence of a RQ release would serve only as a triggering mechanism for a permit application. Under the proposed rule, evidence of past contamination would merely require submission of a permit application and would not be used as conclusive evidence of current contamination. The determination as to whether a permit would be actually required due to current contaminated discharge would be made by the permitting authority after reviewing the permit application. The fact of a past RQ release does not necessarily imply a conclusive finding of contamination, only that sufficient potential for contamination exists to warrant a permit application or the collection of other further information. Today's rule does not change the proposed approach in this respect. Thus, EPA does not believe that today's rule exceeds the authority of section 402(1)(2).

EPA believes that there is no legal impediment to using past RQ discharges as a trigger for requiring a storm water permit application. EPA notes that, as mentioned above, even those commenters who objected to the proposed test on legal authority grounds merely offered an alternate test that requires more releases to have occurred within a shorter period of time before a permit application is required.

Therefore, the only disagreement that remains is over what constitutes a reasonable test that will identify facilities with the potential for storm water contamination. EPA notes that neither the statute nor the legislative history provides any guidance on this question. Furthermore, EPA disagrees with the commenters who suggested that 6 releases in the past 3 years or 2 releases in the past year are necessarily more valid measures of the potential for current contamination than EPA's proposed test. There is no statistical or other basis for preferring one test to the other. However, EPA does agree with those commenters that suggest that a single release in the distant past may not accurately reflect current conditions and the current potential for contamination.

EPA has therefore amended today's rule to provide that only oil and gas facilities which have had a release of an RQ of oil or hazardous substances in storm water in the past three years will be required to submit a permit application. EPA believes that limiting the permit trigger to events of the past three years will address commenters' concerns regarding the use of "stale history" in determining whether an application is required. EPA notes that the three year cutoff is consistent with the requirement for industrial facilities to report significant leaks or spills at the facility in their storm water permit applications. See 40 CFR 122.26(c)(1)(i)(D).

Commenters asserted that EPA and the States must have some reasonable basis for concluding that a storm water discharge is contaminated before requiring permit applications or permits. Commenters believed that § 122.26(c)(1)(iii)(B) as proposed implied that the Agency's authority in this respect is unrestricted. In response, EPA may collect such data by whatever appropriate means the statute allows, in order to obtain information that a permit is required. Usually, the most practical tool for doing so is the permit application itself. However, if necessary to supplement the information made available to the Agency, EPA has broad authority to obtain information necessary to determine whether or not a permit is required, under section 308 of the Clean Water Act. Given the plain language of the CWA and the Congressional intent as manifested in the legislative history, the Agency is convinced that the approach described above is appropriate. Yet, as further discussed below, EPA has also deleted as redundant § 122.26(c)(1)(iii)(B).

Regarding the types of facilities included in the storm water regulation, a number of commenters suggested that the Agency has misconstrued the meaning of facilities "associated with ***48031** industrial activity", and has proposed an

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overly broad definition of such facilities in the oil and gas industry. Specifically, commenters suggested that only the manufacturing sector of the oil and gas industry should be subject to storm water permit application requirements, and that exploration and production activities, gas stations, terminals, and bulk plants should all be exempted from storm water permitting requirements. Commenters maintain that this broad interpretation would subject many oil and gas facilities to the storm water permit requirements, when these were not intended by Congress to be so regulated. As a second point related to this issue, some commenters felt that transmission facilities were not intended to be regulated under the storm water provisions, and should be exempted from permit requirements. This would be consistent, it was argued, with legislative history which concluded that transmission facilities do not significantly contribute to the contamination of water.

The Agency disagrees that these facilities do not fall under the storm water permitting requirements as envisioned by Congress. SIC 13, which is relied upon by EPA to identify these oil and gas operations, describes oil and gas extraction industries as including facilities related to crude oil and natural gas, natural gas liquids, drilling oil and gas wells, oil and gas exploration and field services. Moreover, legislative history as it applies to industrial activities, and thus to oil and gas (mining) operations, expressly includes exploration, production, processing, transmission, and treatment operations within the purview of storm water permitting requirements and exemptions. EPA's intent is for storm water permit requirements (and the exemption at hand) to apply to the activities listed above (exploration, production, processing, treatment, and transmission) as they relate to the categories listed in SIC 13.

Commenters requested clarification from the Agency that storm water discharges from oil and gas facilities require a permit or the filing of a permit application only when they are contaminated at the point of discharge into waters of the United States. Commenters noted that large amounts of potentially contaminated stormwater may not enter waters of the United States, or may enter at a point once the discharge is no longer “contaminated”. In these cases, it should be clear that no permit or permit application is required.

EPA agrees that oil and gas exploration, production, processing, or treatment operations or transmission facilities must only obtain a storm water permit when a discharge to waters of the U.S. (including those discharges through municipal separate storm sewers) is contaminated. A permit application will be required when any discharge in the past three years or henceforth meets the test discussed above.

Under the proposed rule, the Agency stated at § 122.26(c)(1)(iii)(B) that the Director may require on a case-by-case basis the operator of an existing or new storm water discharge from an oil or gas exploration, production, processing, or treatment operation, or transmission facility to submit an individual permit application. The Agency has removed this section since CWA section 402(1)(2), as codified in 122.26(c)(1)(iii)(A), adequately addresses every situation where a permit should be required for these facilities.

b. Use of Reportable Quantities to Determine if a Storm Water Discharge from an Oil or Gas Operation is Contaminated. Section 311(b)(5) of the CWA requires reporting of certain discharges of oil or a hazardous substance into waters of the United States (see 44 FR 50766 (August 29, 1979)). Section 304(b)(4) of the Act requires that notification levels for oil and hazardous substances be set at quantities which may be harmful to the public health or welfare of the United States, including but not limited to fish, shellfish, wildlife, and public or private property, shorelines and beaches. Facilities which discharge oil or a hazardous substance in quantities equal to or in excess of an RQ, with certain exceptions, are required to notify the National Response Center (NRC).

Section 102 of CERCLA extended the reporting requirement for releases equal to or exceeding an RQ of a hazardous substance by adding chemicals to the list of hazardous substances, and by extending the reporting requirement (with certain exceptions) to any releases to the environment, not just those to waters of the United States.

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Pursuant to section 311 of the CWA, EPA determined reportable quantities for discharges by correlating aquatic animal toxicity ranges with 5 reporting quantities, i.e., 1-, 10-, 100-, 1000-, and 5000- pounds per 24 hour period levels. Reportable quantity adjustments made under CERCLA rely on a different methodology. The strategy for adjusting reportable quantities begins with an evaluation of the intrinsic physical, chemical, and toxicological properties of each designated hazardous substance. The intrinsic properties examined, called "primary criteria," are aquatic toxicity, mammalian toxicity (oral, dermal, and inhalation), ignitability, reactivity, and chronic toxicity. In addition, substances that were identified as potential carcinogens have been evaluated for their relative activity as potential carcinogens. Each intrinsic property is ranked on a five-tier scale, associating a specific range of values on each scale with a particular reportable quantity value. After the primary criteria reportable quantities are assigned, the hazardous substances are further evaluated for their susceptibility to certain extrinsic degradation processes (secondary criteria). Secondary criteria consider whether a substance degrades relatively rapidly to a less harmful compound, and can be used to raise the primary criteria reportable quantity one level.

Also pursuant to section 311, EPA has developed a reportable quantity for oil and associated reporting requirements at 40 CFR part 110. These requirements, known as the oil sheen regulation, define the RQ for oil to be the amount of oil that violates applicable water quality standards or causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited.

Reportable quantities developed under the CWA and CERCLA were not developed as effluent guideline limitations which establish allowable limits for pollutant discharges to surface waters. Rather, a major purpose of the notification requirements is to alert government officials to releases of hazardous substances that may require rapid response to protect public health, welfare, and the environment. Notification based on reportable quantities serves as a trigger for informing the government of a release so that the need for response can be evaluated and any necessary response undertaken in a timely fashion. The reportable quantities do not themselves represent any determination that releases of a particular quantity are actually harmful to public health, welfare, or the environment.

EPA requested comment on the use of RQs for determining contamination in discharges from oil and gas facilities. As noted above numerous commenters supported the concept of using reportable quantities under certain circumstances. Comments on the measurement of oil sheens for the purpose of triggering a permit application were divided. Some commented that it is much too stringent because the amount of oil creating a ***48032** sheen may be a relatively small amount. Others viewed the test as a quick, easy, practical method that has been effective in the past.

In relying on the reporting requirements associated with releases in excess of RQs for oil or hazardous substances to trigger the submittal of permit applications for oil and gas operations, the Agency believes that the use of the reporting requirements for oil will be particularly useful. The Agency believes that the release of oil to a storm water discharge in amounts that cause an oil sheen is a good indicator of the potential for water quality impacts from storm water releases from oil and gas operations. In addition, given the extremely high number of such operations (the Agency estimates that there are over 750,000 oil wells alone in the United States), relying on the oil sheen test to determine if storm water discharges from such sites are "contaminated" will be a far easier test for operators to determine whether to file a storm water permit application than a test based on sampling. The detection of a sheen does not require sophisticated instrumentation since a sheen is easily perceived by visual observation. EPA agrees with those comments calling the oil sheen test an appropriate measure for triggering a storm water permit application. In adopting this approach, EPA recognizes, as pointed out by many commenters that an oil sheen can be created with a relatively small amount of oil.

One commenter suggested that contamination must be caused by contact with on-site material before being subject to permit application requirements. The Agency agrees with this comment. Those facilities that have had releases in excess of reportable quantities will generally have contamination from contact with on-site material as described in the CWA. Thus, use of the RQ test is an appropriate trigger. As discussed above, determination of whether contamination is present to warrant issuance of a permit will be made in the context of the permit proceeding.

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One commenter believed that the use of RQs is inappropriate because "the statute intended to exempt only oil and gas runoff that is not contaminated at all." The Agency wishes to clarify that reportable quantities are being used to determine what facilities need to file permit applications and to describe what is meant by the term "contaminated." The Director may require a permit for any discharges of storm water runoff contaminated by contact with any overburden, raw material, intermediate product, finished product, by product or waste product at the site of such operations. The use of RQs is solely a mechanism for identifying the facilities most likely to need a storm water permit consistent with the legislative history of section 402(l)(2).

c. Mining Operations. The December 7, 1988 proposal would establish background levels as the standard used to define when a storm water discharge from a mining operation is contaminated. When a storm water discharge from a mining site was found to contain pollutants at levels that exceed background levels, the owner or operator of the site was required to submit a permit application for that operation. The proposal was founded upon language in the legislative history stating that the determination of whether storm water is contaminated by contact with overburden, raw material, intermediate product, finished product, byproduct, or waste products "shall take into consideration whether these materials are present in such stormwater runoff . . . above natural background levels". [Vol. 132 Cong. Rec. H10574 (daily ed. Oct. 15, 1986) Conference Report].

Comments received on this component of the rule suggested that background levels of pollutants would be very difficult to calculate due to the complex topography frequently encountered in alpine mining regions. For example, if a mine is located in a mountain valley surrounded on all sides by hills, the site will have innumerable slopes feeding flow towards it. Under such circumstances, determining how the background level is set would prove impractical. Commenters indicated that it is very difficult to measure or determine background levels at sites where mining has occurred for prolonged periods. In many instances, data on original background levels may not be available due to long-term site activity. As a result, any background level established will vary based on the type and level of previous activity. In addition, mining sites typically have background levels that are naturally distinct from the surrounding areas. This is due to the geologic characteristics that makes them valuable as mining sites to begin with. This also makes it difficult to establish accurate background levels.

Because of these concerns EPA has decided to drop the use of background levels as a measure for determining whether a permit application is required. Accordingly, a permit application will be required when discharges of storm water runoff from mining operations come into contact with any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site. Similar to the RQ test for oil and gas operations, EPA intends to use the "contact" test solely as a permit application trigger. The determination of whether a mining operation's runoff is contaminated will be made in the context of the permit issuance proceedings.

If the owner or operator determines that no storm water runoff comes into contact with overburden, raw material, intermediate product, finished product, byproduct, or waste products, then there is no obligation to file a permit application. This framework is consistent with the statutory provisions of section 402(1)(2) and is intended to encourage each mining site to adopt the best possible management controls to prevent such contact.

Several commenters stated that EPA's use of total pollutant loadings for determining permit applicability is not consistent with the general framework of the NPDES program. Their concern is that such evaluation criteria depart from how the NPDES program has been administered in the past, based on concentration limits. In addition, commenters requested that EPA clarify that information on mass loading will be used for determining the need for a permit only. Since the analysis of natural background levels as a basis for a permit application has been dropped from this rulemaking, these issues are moot.

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Commenters noted that the proposed rule did not specify what impact this rulemaking has on the storm water exemptions in 40 CFR 440.131. The commenters recommended not changing any of these provisions. Some commenters indicated that mining facilities that have NPDES permits should not be subject to additional permitting under the storm water rule. EPA does not intend that today's rule have any effect on the conditional exemptions in 40 CFR 440.131. Where a facility has an overflow or excess discharge of process-related effluent due to stormwater runoff, the conditional exemptions in 40 CFR 440.131 remain available.

Several commenters note that the term overburden, as used in the context of the proposed storm water rule, is not defined and recommended that this term should be defined to delineate the scope of the regulation. EPA agrees that the term overburden should be defined to help properly define the scope the storm water rule. In today's rule, the term ***48033** overburden has been clarified to mean any material of any nature overlying a mineral deposit that is removed to gain access to that deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations. This definition is patterned after the overburden definition in SMCRA, and is designed to exclude undisturbed lands from permit coverage as industrial activity. However, the definition provided in this regulation may be revised at a later date, to achieve consistency with the promulgation of RCRA Subtitle D mining waste regulations in the future.

Numerous commenters raised issues pertaining to the inclusion of inactive mining areas as subject to the stormwater rule. Some commenters indicated that including inactive mine operations in the rule would create an unreasonable hardship on the industry. EPA has included inactive mining areas in today's rule because some mining sites represent a significant source of contaminated stormwater runoff. EPA has clarified that inactive mining sites are those that are no longer being actively mined, but which have an identifiable owner/operator. The rule also clarifies that active and inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities required for the sole purpose of maintaining the mining claim are undertaken. The Agency would clarify that claims on land where there has been past extraction, beneficiation, or processing of mining materials, but there is currently no active mining are considered inactive sites. However, in such cases the exclusion discussed above for uncontaminated discharges will still apply.

EPA's definition of active and inactive mining operations also excludes those areas which have been reclaimed under SMCRA or, for non-coal mining operations, under similar applicable State or Federal laws. EPA believes that, as a general matter, areas which have undergone reclamation pursuant to such laws have concluded all industrial activity in such a way as to minimize contact with overburden, mine products, etc. EPA and NPDES States, of course, retain the authority to designate particular reclaimed areas for permit coverage under section 402(p)(2)(E).

The proposed rule had included an exemption for areas which have been reclaimed under SMCRA, although the language of the proposed rule inadvertently identified the wrong universe of coal mining areas. The final rule language has been revised to clarify that areas which have been reclaimed under SMCRA (and thus are no longer subject to 40 CFR part 434 subpart E) are not subject to today's rule. Today's rule thus is consistent with the coal mining effluent guideline in its treatment of areas reclaimed under SMCRA.

In response to comments, EPA has also expanded this concept to exclude from coverage as industrial activity non-coal mines which are released from similar State or Federal reclamation requirements on or after the effective date of this rule. EPA believes it is appropriate, however, to require permit coverage for contaminated runoff from inactive non-coal mines which may have been subject to reclamation regulations, but which have been released from those requirements prior to today's rule. EPA does not have sufficient evidence to suggest that each State's previous reclamation rules and/or Federal requirements, if applicable, were necessarily effective in controlling future storm water contamination.

8. Application Requirements for Construction Activities

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As discussed above, EPA has included storm water discharges from activities involving construction operations that result in the disturbance of five acres total land in the regulatory definition of storm water discharges associated with industrial activity.

This is a departure from the proposed rule which required permit applications for discharges from activities involving construction operations that result in the disturbance of less than one acre total land area and (which are not part of a larger common plan of development or sale; or operations that are for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas and which are not part of a larger common plan of development or sale). The reasons for this change are noted below.

Many commenters representing municipalities, States, and industry requested that clearing, grading, and excavation activities not be included in the definition of storm water discharges associated with industrial activity. It was suggested that EPA delay including construction activities until after the studies mandated in section 402(p)(5) of the CWA are completed. Other commenters felt that NPDES permits are not appropriate for construction discharges due to their short term, intermediate and seasonal nature. Another commenter felt that only the construction activities on the sites of the industrial facilities identified in the other subsections of the definition of "associated with industrial activity" should be included.

EPA believes that storm water permits are appropriate for the construction industry for several reasons. Construction activity at a high level of intensity is comparable to other activity that is traditionally viewed as industrial, such as natural resource extraction. Construction that disturbs large tracts of land will involve the use of heavy equipment such as bulldozers, cranes, and dump trucks. Construction activity frequently employs dynamite and/or other equipment to eliminate trees, bedrock, rockwork, and to fill or level land. Such activities also engage in the installation of haul roads, drainage systems, and holding ponds that are typical of the industrial activity identified in § 122.26(b)(14)(i-x). EPA cannot reasonably place such activity in the same category as light commercial or retail business.

Further, the runoff generated while construction activities are occurring has potential for serious water quality impacts and reflects an activity that is industrial in nature. Where construction activities are intensive, the localized impacts of water quality may be severe because of high unit loads of pollutants, primarily sediments. Construction sites can also generate other pollutants such as phosphorus, nitrogen and nutrients from fertilizer, pesticides, petroleum products, construction chemicals and solid wastes. These materials can be toxic to aquatic organisms and degrade water for drinking and water-contact recreation. Sediment runoff rates from construction sites are typically 10 to 20 times that of agricultural lands, with runoff rates as high as 100 times that of agricultural lands, and 1,000 to 2,000 times that of forest lands. Even small construction sites may have a significant negative impact on water quality in localized areas. Over a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.

EPA is convinced that because of the impacts of construction discharges that are directly to waters of the United States, such discharges should be addressed by permits issued by Federal or NPDES State permitting authorities. It is evident from numerous studies and reports submitted under section 319 of the CWA that discharges from construction sites continue to be a major source of water quality problems and water quality standard violations. ***48034** Accordingly EPA is compelled to address these source under these regulations and thereby regulate these sources under a nationally consistent program with an appropriate level of enforcement and oversight.

Techniques to prevent or control pollutants in storm water discharges from construction are well developed and understood. A primary control technique is good site planning. A combination of nonstructural and structural best management practices are typically used on construction sites. Relatively inexpensive nonstructural vegetative controls, such as seeding and mulching, are effective control techniques. In some cases, more expensive structural controls may be necessary, such as detention basins or diversions. The most efficient controls result when a comprehensive storm water

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management system is in place. Another reason that EPA has decided to address this class of discharges is that it is part of the Agency's recent emphasis on pollution prevention. Studies such as NURP indicate that it is much more cost effective to develop measures to prevent or reduce pollutants in storm water during new development than it is to correct there problems later on. Many of these prevention and control practices, which can take the form of grading patterns as well as other controls, generally remain in place after the construction activities are completed.

a. Permit Application Requirements. In today's rulemaking, EPA has set forth distinct permit application requirements for these construction activities, at § 122.26(c)(1)(ii), to be used where general permits to be developed and promulgated by EPA are inapplicable. Such facilities will be required to provide a map indicating the site's location and the name of the receiving water and a narrative description of:

- The nature of the construction activity;

- The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

- Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a description of applicable Federal requirements and State or local erosion and sediment control requirements;

- Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a description of applicable State or local requirements, and

- An estimate of the runoff coefficient (fraction of total rainfall that will appear as runoff) of the site and the increase in impervious area after the construction addressed in the permit application is completed, a description of the nature of fill material and existing data describing the soil or the quality of the discharge.

Permit application requirements for construction activities do not include the submission of quantitative data. EPA believes that the changing nature of construction activities at a site to be covered by the permit application requirements generally would not be adequately described by quantitative data. The comments received by EPA support this determination. One State commented that a program they instituted has been based on quantitative data for the past 10 years and has proven to be very awkward, even unworkable.

Twenty commenters responded to the issue of appropriate construction site application deadlines including: Three towns (<100,000 population); one medium municipality; one large municipality; one agency associated with a large municipality; three agencies associated counties; three agencies associated with States; two industries; five industrial associations; and one private organization representing industry. The commenters primarily focused on actual deadlines and permitting authority response time.

Applicants for permits to discharge storm water into the waters of the United States from a construction site would normally be required to submit permits in the same time frame as new sources and new discharges. This rulemaking requires permit applications from such sources to be submitted at least 180 days prior to the date on which the discharge is to commence. Four commenters agreed with the application deadline of 180 days prior to commencement of discharge. Three commenters felt it would be difficult to apply 180 days prior to when the discharge was to begin. Three commenters recommended shortening the time period to 90 days. Numerous other commenters were concerned over delays during the permitting authority's review of the permit application. The commenters requested that a maximum response time be set in the regulation. Suggested maximum response times were 90 and 30 days.

In response to these comments, EPA has changed the application deadline for construction permits from at least 180 days prior to discharge to at least 90 days prior to the date when construction is to commence. This change reflects EPA's

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recognition of the nature of construction operations in that developers/builders may not be aware of projects 180 days before they are scheduled to begin.

Numerous commenters expressed concern over who should be responsible for applying for the permit. Two commenters felt the owner should be responsible so that construction bid documents can include the storm water management requirements and to avoid confusion among multiple subcontractors. One commenter thought that either the owner/developer, or general contractor should be responsible. Another commenter suggested that the designer should obtain the permit which would allow all necessary erosion controls to be part of the project plan. Several commenters requested that the responsibility simply be more clearly defined.

In response to these comments, EPA would clarify that the operator will generally be responsible for submitting the permit application. Under existing regulations at § 122.21(b), when a facility is owned by one person but operated by another, then it is the duty of the operator to apply for the permit. Due to the temporary nature of construction activities, EPA believes that the operator is the most appropriate person to be responsible for both short and long term best management practices included on the site. EPA considers the term "operator" to include a general contractor, who would generally be familiar enough with the site to prepare the application or to ensure that the site would be in compliance with the permit requirements. General contractors, in many cases, will often be on site coordinating the operation among his/her staff and any subcontractors. Furthermore, the operator/general contractor would be much more familiar with construction site operations than the owner and should be involved in the site planning from its initial stages. The application requirements in today's rule are designed to provide flexibility in developing controls to reduce pollutants in storm water discharges from construction sites. A significant aspect to this is the role of State and local authorities in control of construction storm water discharges. Sixty-three commenters addressed the question of what the role of State and local authorities should be. Most of these commenters supported local government control of construction discharges and that qualified State programs should satisfy Federal requirements.

Many commenters representing municipalities, States, and industry, felt that local government should have full control over construction storm water ***48035** discharges, either under existing programs or those required by their municipal permit. EPA agrees with these comments as far as discharges through municipal storm sewers are concerned. EPA is requiring municipalities that are required to submit municipal permit applications under this regulation to describe their program for controlling storm water discharges from construction activities into their separate storm sewers. It is envisioned that municipalities will have primary responsibility over these discharges through NPDES municipal storm water permits. However, EPA also plans to cover such discharges under general permits to be promulgated in the near future.

In response to several comments that the regulation should provide flexibility for qualified State programs to satisfy Federal requirements, the application requirements recognize that many States have implemented erosion and sediment control programs. The permit application requires a brief description of these programs. This is intended to ensure consistency between NPDES permit requirements and other State controls. Permit applicants will be in the best position to pass on this site-specific information to the permitting authority. States or Federal NPDES authorities will have the ability to exercise authority over these discharges as will other State and local authorities responsible for construction. EPA envisions NPDES permitting efforts will be coordinated with any existing programs.

The proposed rule requested comments on appropriate measures to reduce pollutants in construction site runoff. Numerous commenters representing municipalities, States, and industry responded. Some commenters recommended specific best management practices (BMPs) whereas others suggested ways in which the measures should be incorporated into the program. One commenter suggested that EPA establish design and performance standards for appropriate BMPs. One State commenter recommended requiring a schedule or sequence for use of BMPs. A municipality suggested developing guidance on erosion control at construction sites and disseminating the guidance to educate contractors and

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construction workers in proper erosion control techniques. The Agency is continuing to review these recommendations for the purposes of permit development and issuance.

Another commenter suggested that further research be done to determine the effectiveness of particular BMPs in reducing pollutants in construction site runoff. EPA agrees that more research and studies can be undertaken to develop methodologies for more effective storm water controls and will continue to lookat these concerns pursuant to section 402(p)(5) studies. However, EPA is convinced that enough information, technology, and proven BMP's are available to address these discharges in this regulation.

Specific BMPs suggested by the commenters include: wheel washing; locked exit roadways, street cleaning methods which exclude sheet washing; clearing and grading codes; construction standards; riparian corridors; solids retention basins; soil erosion barriers; selected excavation; adequate collection systems; vegetate disturbed areas; proper application of fertilizers; proper equipment storage; use of straw bales and filter fabrics; and use of diversions to reduce effective length of slopes. EPA is continuing to evaluate these suggestions for developing appropriate permit conditions for construction activity.

b. Administrative Burdens. Many commenters representing municipalities, States, and industry commented on the administrative burdens of individually permitting each construction site discharging to waters of the United States. The extensive use of general permits for storm water discharges from construction activities that are subject to NPDES requirements is anticipated to minimize administrative delays associated with permit issuance. Many commenters strongly endorsed extensive use of general permits. In addition the Agency will provide as much assistance as possible for developing appropriate permit conditions.

Many commenters responded to the use of acreage limits in determining which construction sites are required to submit a permit application, including several cities, counties and States. Some commenters generally supported the use of an acre limit. Many commenters suggested increasing the acreage limit. Several suggested using a five acre limit for both residential and nonresidential development. Others suggested greater acreage as the cutoff. Two commenters concurred with the proposed limit of one acre/five acres and one commenter suggested lowering the residential limit to one acre.

Other factors were suggested as a means to create a cutoff for requiring permit applications. Several commenters suggested exempting construction that would be completed with a certain time frame, such as construction of less than 12 months. EPA believes that this is inappropriate because some construction can be intensive and expansive, but nonetheless take place over a short period of time, such as a parking lot. One commenter suggested basing the limit on the quantity of soil moved, i.e., cubic yards. In response, this approach would not be particularly helpful since removal of soil will not necessarily relate to the amount of land surface disturbed and exposed to the elements. Another commenter suggested that where there is single family detached housing construction that should trigger applications as well as the proposed acreage limit. This would not be appropriate since EPA is attempting to focus only on those construction activities that resemble industrial activity. After considering these and similar comments EPA has limited the definition of “storm water discharge associated with industrial activity” by exempting from the definition those construction operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale. In considering the appropriate scope of the definition of storm water discharge associated with industrial activity as it relates to construction activities, EPA recognized that a wide variety of factors can affect the water quality impacts associated with construction site runoff, including the quality of receiving waters, the size of the area disturbed, soil conditions, seasonal rainfall patterns, the slope of area disturbed, and the intensity of construction activities. These factors will be considered by the permit writer when issuing the permit. However, as noted above, EPA views such site-specific factors to be too difficult to define in a regulatory framework that is national in scope. For example, attempting to adjust permit application triggers based upon a myriad of regional rainfall patterns is not a practical solution. However, permit conditions adjusted for specific geographical areas may be appropriate.

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Under the December 7, 1988, proposal the definition of industrial activity exempted: construction operations that resulted in the disturbance of less than one acre total land area which was not part of a larger common plan of development or sale; or operations for single family residential projects, including duplexes, triplexes, or quadruplexes, that result in the disturbance of less than five acre total land areas which were not part of a larger common plan of development or sale. EPA distinguished between single family residential development and ***48036** other commercial development because other commercial development is more likely to occur in more densely developed areas. Also, it was reasoned that other commercial development provides a more complete opportunity to develop controls that remain in place after the construction activity is completed, since continued maintenance after the permit has expired, is more feasible.

However, EPA has decided to depart from the proposal and use an unqualified five acre area in today's final rule. This limit has been selected, in part, because of administrative concerns. EPA recognizes that State and local sediment and erosion controls may address construction activities disturbing less five acres for residential development; the five acre limit in today's rule is not intended to supersede more stringent State or local sediment and erosion controls. In light of the comments, EPA is convinced that the acreage limit is appropriate for identifying sites that are amount to industrial activity. Several comments suggested higher acreage limits without giving a supporting rationale except administrative concerns. Several commenters agreed that the five acre limit is suitable, but again without specifying why they agreed. EPA is convinced, however, that the acreage limits as finalized in today's rule reflect an earth disturbance and/or removal effort that is industrial in magnitude. Disturbances on large tracts of land will employ more heavy machinery and industrial equipment for removing vegetation and bedrock.

For construction facilities that are not included in the definition of storm water discharge associated with industrial activity, EPA will consider the appropriate procedures and methods to reduce pollutants in construction site runoff under the studies authorized by section 402(p)(5) of the CWA. EPA will also consider under section 402(p)(5) appropriate procedures and methods during post-construction for maintaining structural controls developed pursuant to NPDES permits issued for storm water discharges associated with industrial activity from construction sites.

Numerous commenters requested clarification as to whether permits for storm water discharges from construction activities at an industrial facility are required. EPA is requiring permits for all storm water discharges from construction activities where the land disturbed meets the requirements established in § 122.26(b)(14)(x) and which discharge into waters of the United States. The location of the construction activity or the ultimate land use at the site does not factor into the analysis.

G. Municipal Separate Storm Sewer Systems

1. Municipal Separate Storm Sewers

Today's rule defines “municipal separate storm sewer” at § 122.26(b)(8) to include any conveyance or system of conveyances that is owned or operated by a State or local government entity and is designed for collecting and conveying storm water which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. It is important to note that today's permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more do not apply to discharges from combined sewers (systems designed as both a sanitary sewer and a storm sewer). For purposes of calculating whether a municipal separate storm sewer system meets the large or medium population criteria, a municipality may petition to have the population served by a combined sewer deducted from the total population.Section 122.26(f) of today's rule describes this procedure.

EPA requested comments on whether different language for the definition of municipal separate storm sewer would clarify responsibility under the NPDES permit system. Comments were also requested on whether the definition needed to be clarified by explicitly stating that municipal streets and roads with drainage systems (curb and gutter, ditches, etc.) are part of the municipal storm sewer system, and that the owners or operators of such roads are responsible for

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such discharges. Numerous comments were received by EPA on this issue. Some commenters questioned whether road culverts and road ditches were municipal separate storm sewers, while others specifically recommended that further clarifying language should be added so that owners and operators of roads and streets understand that they are covered by this regulation. In light of these comments, EPA has clarified that municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that discharge into the waters of the United States are municipal separate storm sewers. One commenter asked if "other wastes" in the proposed definition of municipal separate storm sewer (40 CFR 122.26 (b)(8)(i)) included storm water. In response, EPA has added "storm water" to this definition in order to clarify that the rule addresses such systems.

EPA requested comments on whether legal classifications such as "storm sewers that are not private (e.g. public, district or joint district sewers)" would provide a clearer definition of municipal separate storm sewer than an owner or operator criterion, especially for the purpose of determining responsibility under the NPDES program. Most commenters agreed that the owner/operator concept, and the additional language noted above, is sufficient for this purpose. EPA also requested comments on to what extent the owner/operator concept should apply to municipal governments with land-use authority over lands which contribute storm water runoff to the municipal storm sewer system, and how the responsibility should be clarified. In response to comments on this point, EPA has addressed these concerns in the context of clarifying what municipal entities are responsible for applying for a permit covering storm water discharges from municipal systems in section VI.H. below.

One commenter expressed a desire for clarification as to whether conveyances that were once used for the conveyance of storm water, but are no longer used in that manner, are covered by the definition. EPA emphasizes that this rulemaking only addresses conveyances that are part of a separate storm sewer system that discharges storm water into waters of the United States.

One commenter stated that if EPA intends to regulate roadside collection systems then EPA must repropose since these were not considered by the public. EPA disagrees with this comment since one of the options specifically addressed the inclusion of roadside drainage systems and roads in the definition of municipal separate storm sewer system. In addition, the public recognized the issue in comments on the proposal. EPA would note that several commenters specifically endorsed EPA's inclusion of these conveyances.

2. Effective Prohibition on Non-Storm Water Discharges

Section 402(p)(3)(B)(ii) of the amended CWA requires that permits for discharges from municipal storm sewers shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Based on the legislative history of section 405 of the WQA, EPA does not interpret the effective prohibition on non-storm water discharges to municipal separate storm sewers to apply to discharges that are not composed entirely of storm water, as long as such discharge has been issued a separate NPDES permit. Rather, ***48037** an "effective prohibition" would require separate NPDES permits for non-storm water discharges to municipal storm sewers. In many cases in the past, applicants for NPDES permits for process wastewaters and other non-storm water discharges have been granted approval to discharge into municipal separate storm sewers, provided that the permit conditions for the discharge are met at the point where the discharge enters into the separate storm sewer. Permits for such discharges must meet applicable technology-based and water-quality based requirements of Sections 402 and 301 of the CWA. If the permit for a non-storm water discharge to a municipal separate storm sewer contains water-quality based limitations, then such limitations should generally be based on meeting applicable water quality standards at the boundary of a State established mixing zone (for States with mixing zones) located in the receiving waters of the United States.

All options will be considered when an applicant applies for a NPDES permit for a non-storm water discharge to a municipal separate storm sewer. In some cases, permits will be denied for discharges to storm sewers that are causing water quality problems in receiving waters. However, not all discharges present such problems; and in these cases EPA or State permit writers may allow such discharges to municipal separate storm sewers within appropriate permit limits.

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Today's rule has two permit application requirements that are designed to begin implementation of the effective prohibition. The first requirement discussed in VI.H.6.a., below, addresses a screening analysis which is intended to provide sufficient information to develop priorities for a program to detect and remove illicit discharges. The second provision, discussed in VI.H.7.b., requires municipal applicants to develop a recommended site-specific management plan to detect and remove illicit discharges (or ensure they are covered by an NPDES permit) and to control improper disposal to municipal separate storm sewer systems.

Several commenters suggested that either the definition of "storm water" should include some additional classes of nonprecipitation sources, or that municipalities should not be held responsible for "effectively prohibiting" some classes of nonstorm water discharges into their municipal storm sewers. The various types of discharges addressed by these comments include detention and retention reservoir releases, water line flushing, fire hydrant flushing, runoff from fire fighting, swimming pool drainaqe and discharge, landscape irrigation, diverted stream flows, uncontaminated pumped ground water, rising ground water, discharges from potable water sources, uncontaminated waters from cooling towers, foundation drains, non-contact cooling water (such as heating, ventilation, air conditioning (HVAC) water that POTWs require to be discharged to separate storm sewers rather than sanitary sewers), irrigation water, springs, roofdrains, water from crawl space pumps, footing drains, lawn watering, individual car washing, flows from riparian habitats and wetlands. Most of these comments were made with regard to the concern that these were commonly occurring discharges which did not pose significant environmental problems.

EPA disagrees that the above described flows will not pose, in every case, significant environmental problems. At the same time, it is unlikely Congress intended to require municipalities to effectively prohibit individual car washing or discharges resulting from efforts to extinguish a building fire and other seemingly innocent flows that are characteristic of human existence in urban environments and which discharge to municipal separate storm sewers. It should be noted that the legislative history is essentially silent on this point. Accordingly, EPA is clarifying that section 402(p)(3)(B) of the CWA (which requires permits for municipal separate storm sewers to 'effectively' prohibit non-storm water discharges) does not require permits for municipalities to prohibit certain discharges or flows of nonstorm water to waters of the United States through municipal separate storm sewers in all cases. Accordingly, § 122.26(d)(2)(iv)(B)(1) states that the proposed management program shall include: "A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; the program description shall address the following categories of non-storm water discharges or flows only where such discharges are identified by the municipality as sources of pollutants to waters of the United States: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash waters. Program descriptions shall address discharges from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States."

However, the Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate. In the case of fire fighting it is not the intention of these rules to prohibit in any circumstances the protection of life and public or private property through the use of water or other fire retardants that flow into separate storm sewers. However, there may be instances where specified management practices are appropriate where these flows do occur (controlled blazes are one example).

Conveyances which continue to accept other "non-storm water" discharges (e.g. discharges without an NPDES permit) with the exceptions noted above do not meet the definition of municipal separate storm sewer and are not subject to section 402(p)(3)(B) of the CWA unless the non-storm water discharges are issued separate NPDES permits. Instead,

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conveyances which continue to accept non-storm water discharges which have not been issued separate NPDES permits are subject to sections 301 and 402 of the CWA. For example, combined sewers which convey storm water and sanitary sewage are not separate storm sewers and must comply with permit application requirements at 40 CFR 122.21 as well as other regulatory criteria for combined sewers.

3. Site-Specific Storm Water Quality Management Programs for Municipal Systems

Section 402(p)(3)(iii) of the CWA mandates that permits for discharges from municipal separate storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Director determines appropriate for the control of such pollutants.

When enacting this provision, Congress was aware of the difficulties in regulating discharges from municipal ***48038** separate storm sewers solely through traditional end-of-pipe treatment and intended for EPA and NPDES States to develop permit requirements that were much broader in nature than requirements which are traditionally found in NPDES permits for industrial process discharges or POTWs. The legislative history indicates, municipal storm sewer system "permits will not necessarily be like industrial discharge permits. Often, an end-of-the-pipe treatment technology is not appropriate for this type of discharge." [Vol. 132 Cong. Rec. S16425 (daily ed. Oct. 16, 1986)].

A shift towards comprehensive storm water quality management programs to reduce the discharge of pollutants from municipal separate storm sewer systems is appropriate for a number of reasons. First, discharges from municipal storm sewers are highly intermittent, and are usually characterized by very high flows occurring over relatively short time intervals. For this reason, municipal storm sewer systems are usually designed with an extremely high number of outfalls within a given municipality to reduce potential flooding. Traditional end-of-pipe controls are limited by the materials management problems that arise with high volume, intermittent flows occurring at a large number of outfalls. Second, the nature and extent of pollutants in discharges from municipal systems will depend on the activities occurring on the lands which contribute runoff to the system. Municipal separate storm sewers tend to discharge runoff drained from lands used for a wide variety of activities. Given the material management problems associated with end-of-pipe controls, management programs that are directed at pollutant sources are often more practical than relying solely on end-of-pipe controls.

In past rulemakings, much of the criticism of the concept of subjecting discharges from municipal separate storm sewers to the NPDES permit program focused on the perception that the rigid regulatory program applied to industrial process waters and effluents from publicly owned treatment works was not appropriate for the site-specific nature of the sources which are responsible for the discharge of pollutants from municipal storm sewers.

The water quality impacts of discharges from municipal separate storm sewer systems depend on a wide range of factors including: The magnitude and duration of rainfall events, the time period between events, soil conditions, the fraction of land that is impervious to rainfall, land use activities, the presence of illicit connections, and the ratio of the storm water discharge to receiving water flow. In enacting section 405 of the WQA, Congress recognized that permit requirements for municipal separate storm sewer systems should be developed in a flexible manner to allow site-specific permit conditions to reflect the wide range of impacts that can be associated with these discharges. The legislative history accompanying the provision explained that "[p]ermits for discharges from municipal separate stormwater systems * * * must include a requirement to effectively prohibit non-stormwater discharges into storm sewers and controls to reduce the discharge of pollutants to the maximum extent practicable, * * * These controls may be different in different permits. All types of controls listed in subsection [(p)(3)(C)] are not required to be incorporated into each permit" [Vol. 132 Cong. Rec. HI0576 (daily ed. October 15, 1986) Conference Report]. Consistent with the intent of Congress, this rule sets out permit application requirements that are sufficiently flexible to allow the development of site-specific permit conditions.

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Several commenters agreed with this approach. One municipality recommended that there be as much flexibility as possible so that the permitting authority can work with each municipality in developing meaningful long-term goals with plans for improving storm water quality. This commenter noted that too many specific regulations that apply nationwide do not take into consideration the climatic and governmental differences within the States. EPA agrees that as much flexibility as possible should be incorporated into the program. However, flexibility should not be built into the program to such an extent that all municipalities do not face essentially the same responsibilities and commitment for achieving the goals of the CWA. EPA believes that these final regulations build in substantial flexibility in designing programs that meet particular needs, without abandoning a nationally consistent structure designed to create storm water control programs.

4. Large and Medium Municipal Storm Sewer Systems

During the 1987 reauthorization of the CWA, Congress established a framework for EPA to implement a permit program for municipal separate storm sewers and establishing phased deadlines for its implementation. The amended CWA establishes priorities for EPA to develop permit application requirements and issue permits for discharges from three classes of municipal separate storm sewer systems. The CWA requires that NPDES permits be issued for discharges from large municipal separate storm sewer systems (systems serving a population of more than 250,000) by no later than February 4, 1991. Permits for discharges from medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000) must be issued by February 4, 1992. After October 1, 1992, the requirements of sections 301 and 402 of the CWA are restored for all other discharges from municipal separate storm sewers.

The priorities established in the Act are based on the size of the population served by the system. Municipal operators of these systems are generally thought to be more capable of initiating storm water programs and discharges from municipal separate storm sewers serving larger populations are thought to present a higher potential for contributing to adverse water quality impacts. NURP and other studies have verified that the event mean concentration of pollutants in urban runoff from residential and commercial areas remains relatively constant from one area to another, indicating that pollutant loads from urban runoff strongly depend on the total area and imperviousness of developed land, which in turn is related to population.

The term “municipal separate storm sewer system” is not defined by the Act. By not defining the term, Congress intended to provide EPA discretion to define the scope of municipal systems consistent with the objectives of developing site-specific management programs in NPDES permits. EPA considered two key issues in defining the scope of municipal separate storm sewer system: (1) What is a reasonable definition of the term “system,” and (2) how to determine the number of people “served” by a storm sewer system. EPA found these two issues to be intertwined. Different approaches to defining the scope of a system allowed for greater or lesser certainty in deterining the population served by the system.

In the December 7, 1988, proposal, EPA described seven options for defining “municipal separate storm sewer system.” In developing these options the EPA considered:

- The inter-jurisdiction complexities associated with municipal governments;

- The fact that many municipal storm water management programs have traditionally focused on water quantity ***48039** concerns, and have not evaluated water quality impacts of system discharges or developed measures to reduce pollutants in such discharges;

- The advantages of developing system-wide storm water management programs for municipal systems;

- The geographic basis necessary for planning of comprehensive management programs to reduce pollutants in discharges from municipal separate storm sewers to the maximum extent practicable;

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- The geographic basis necessary to provide flexibility to target controls on areas where water quality impacts associated with discharges from municipal systems are the greatest and to provide an opportunity to develop cost effective controls;

- The need to establish a reasonable number of permits for municipal systems during the initial phases of program development that will provide an adequate basis for a storm water quality management program for over 13,000 municipalities after the October 1, 1992 general prohibition on storm water permits expires; and

- Congressional intent to allow the development of jurisdiction-wide, comprehensive storm water management programs with priorities given to the most heavily populated areas of the country.

a. Overview of Proposed Options and Comments. The December 7, 1988, proposal requested comment on seven options for defining large and medium municipal separate storm sewer system. With the addition of a watershed-based approach suggested by certain commenters, eight options or approaches were addressed by the over 200 commenters on this issue: Option 1—systems owned or operated by incorporated places augmented by integrated discharges; Option 2—systems owned or operated by incorporated places augmented with significant other municipal discharges; Option 3—systems owned or operated by counties; Option 4—systems owned and operated by States or State departments of transportation; Option 5—systems within the boundaries of an incorporated place; Option 6—systems within the boundaries of counties; Option 7—systems in census designated urbanized areas; and Option 8—systems defined by watershed boundaries.

Generally, these options can be classified into two categories. The first category of options, Options 1, 2 and 3, define municipal systems in terms of the municipal entity which owns or operates storm sewers within municipal boundaries of the requisite population. The second category of options would define municipal systems on a geographic basis. Under Options 4, 5, 6, 7 and 8 all municipal separate storm sewers within the specified geographic area would be part of the municipal system, regardless of which municipal entity owns or operates the storm sewer. EPA did not propose to define the scope of a municipal separate storm sewer system in engineering terms because of practical problems determining the boundaries of and the populations served by "systems" defined in such a manner. In addition an engineering approach based on physical interconnections of storm sewer pipes by itself does not provide a rational basis for developing a storm water program to improve water quality where a large number of individual storm water catchments are found within a municipality.

In the December 7, 1988, proposal, EPA favored those options that relied primarily on the municipal entity which owns or operates or otherwise has jurisdiction over storm sewers. These options were preferred because it was anticipated that the administrative complexities of developing the permit programs would be reduced by decreasing the number of affected municipal entities. However, most commenters were not satisfied that such an approach would reduce administrative burdens or complexities.

The diversity of arguments and rationales offered in comments justifying the selection of particular option, or combinations thereof, were generally a function of geographic, climatic, and institutional differences around the country. As such, there was little substantive agreement with how this program should be implemented as far as defining large and medium municipal separate storm sewer systems. Of all the options, Option 1 generally received the most favorable comment. However, the overwhelming majority of comments suggested different options or other alternatives. Having reviewed the comments at length, EPA is convinced that the definition of municipal separate storm sewers should possess elements of several of the options enumerated above and a mechanism that enables States or EPA Regions to define a system that best suits their various political and geographical conditions.

The following comments were the most pervasive, and represent those issues and concerns of greatest importance to the public: (1) The approach chosen initially must be realistic and achievable administratively; (2) the definition must be flexible enough to accommodate development of the program on a watershed basis, and incorporate elements of existing

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programs and frameworks and regional differences in climate, geography, and political institutions; (3) permittees must have legal authority and control over land use; (4) discharges from State highways, identified as a significant source of runoff and pollutants, should be included in the program and combined in some manner with one or more of the other options; (5) the definition should address how the inclusion of interrelated discharges into the municipal separate storm sewer system are timed, decided upon, dealt with, etc.; (6) any approach must address the major sources of pollutants; (7) development of co-permittee management plans must be coordinated or developed on a regional basis and in the same time frame—fragmented or balkanized programs must be avoided; (8) municipalities should be regulated as equitably as possible; (9) flood control districts should be addressed as a system or part of a system; (10) the definition must conform to the legal requirements of the Clean Water Act; and (1*l*) the definition should limit the number of co-permittees as much as possible.

b. Definition of large and medium municipal separate storm sewer system. A combination of the options outlined in the 1988 proposal would address most of these concerns, while achieving a realistic and environmentally beneficial storm water program. Accordingly, EPA has adopted the following definition of large and medium municipal separate storm sewer systems. Large and medium separate storm sewer systems are municipal separate storm sewers that:

(i) Are located in an incorporated place with a population of 100,000 or more or 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (see appendices F and G of part 122 for a list of these places based on the 1980 Census);

(ii) Are located within counties having areas that are designated as urbanized areas by latest decennial Bureau of Census estimates and where the population of such areas exceeds 100,000, after the population in the incorporated places, townships or towns within such counties is excluded (see appendices H and I for a listing of these counties based on the 1980 census) (incorporated places, towns, and townships within these counties are excluded from permit application requirements unless they fall under paragraph (i) or are designated under paragraph (iii)); or (iii) are owned or ***48040** operated by a municipality other than those described in paragraph (i) or (ii) that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraphs (i) or (ii). In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in subparagraph (i);

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors.

(iv) The Director may, upon petition, designate as a system, any municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (i), (ii), and (iii).

Under today's rule at § 122.26(a)(3)(iii) the regional authority shall be responsible for submitting a permit application under the following guidelines: The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due; the permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the

municipal application; each of the operators of municipal separate storm systems described in paragraphs 122.26(b)(4)(i), (ii), and (iii) and (7)(i), (ii), and (iii), that are under the purview of the designated regional authority, shall comply with the application requirements of § 122.26(d).

As noted above, the finalized definition of large and medium municipal separate storm sewer system is combination of the approaches as proposed. (In the following discussion "paragraph (i)" refers to §§ 122.26 (b)(4)(i) and (b)(7)(i); "paragraph (ii)" refers to §§ 122.26(b)(4)(ii) and (b)(7)(ii); "paragraph (iii)" refers to §§ 122.26 (b)(4)(iii) and (b)(7)(iii); and "paragraph (iv)" refers to §§ 122.26 (b)(4)(iv) and (b)(7)(iv)). Paragraph (i) originates from proposed Option 5 (boundaries of incorporated places); paragraph (ii) originates from Option 6 (boundaries of counties) and Option 7 (urbanized areas); paragraph (iii) originates from Options 1 and 5; and paragraph (iv) is an outgrowth of comments on all options, especially Option 4 (State owned systems/State highways) and Option 8 (watersheds).

This definition creates a system by virtue of the fact that storm sewers within defined geographical and political areas, and the owner/operators of separate storm sewers in those areas, are addressed or required to obtain permits. Although within these systems, different segments and discharges of storm water conveyances may be owned or operated by different public entities, EPA is convinced by comments that discharges from such conveyances are interrelated to such an extent that all of these conveyances may be properly considered a "system." These comments are identified and discussed in greater detail below.

c. Response to comments. Many commenters urged that the approach taken must be administratively achievable. Option 5 of the proposal (boundaries of incorporated places), which can be equated to paragraphs (i) and (iii) above, was identified by several commenters as the most workable of all the options. Many commenters stated that Option 1 (systems owned or operated by incorporated places) was inappropriate because of special districts and other owners of systems within the incorporated area; and although EPA proposed a designation provision for interrelated discharges in Option 1, commenters advised that it would be impossible to identify these systems, account for their discharges, and exclude or include them in a timely manner if Option 1 was selected (Option 1 only addresses those systems owned or operated by the incorporated place). The final rule would obviate these concerns, since all the publicly owned sewers within the boundaries of the municipality will be required to be covered by a permit.

Other commenters noted that cities sometimes have storm water conveyances owned or operated by numerous entities. One municipality commented that these problems could be more easily resolved using a unified permit/district wide approach, which the final approach outlined above can accomplish. One county stated that Option 1 of the proposal would result in a permanent balkanization of stormwater programs and that a regional approach focusing on the entire system should be established. Another municipality recommended that all the systems of conveyances within the incorporated city boundaries be issued a permit. In rejecting Option 1 of the proposal, one municipality stated that program inefficiencies would result from implementing a piecemeal program in a contiguous urban environment with different owners and operators. One State conveyed similar concerns. Using a geographical approach, as described in paragraph (i) of the final definition, will best address all of these concerns.

One commenter criticized proposed Option 1 as being contrary to the legal requirements of the WQA, and a further example of EPA's continuing attempt to minimize the scope of a national storm water program. It was noted that the legislative history regarding requirements for large and medium municipal separate storm sewer systems in section 402(p) of the CWA generally does not reference incorporated cities or towns. As a result, the commenter recommended that the term "municipal" in municipal separate storm sewer system refer to separate storm sewers operated by municipal entities meeting the definition of "municipality" in section 502 of the CWA and that the scope of the term "municipal separate storm sewer system" be defined as broadly as possible. This approach would result in defining large and medium municipal separate storm sewer systems to include all municipal separate storm sewers within the 410 counties with a population of 100,000 or more. EPA has adopted the commenter's recommendation to extend the scope of the program to the extent that today's rule covers all municipal separate storm sewers within certain areas rather than only those

operated by an incorporated place. EPA disagrees however that it must define the term "system" to include sewers within any municipal boundary of sufficient population with reference to section 502(4). By not providing explicit definitions, section 402(p)(3)(B) of the CWA gives EPA discretion to define how municipal separate storm sewer systems are defined. There is no indication in the language of the CWA or the legislative history that Congress intended that the scope of "municipality" and the scope of "municipal separate storm sewer system" to be identical, particularly since the latter term is not defined in the statute. Furthermore, for the reasons discussed elsewhere in this section, EPA believes that today's definition is a reasonable accommodation of the many conflicting concerns surrounding the proper way to delineate the extent of a ***48041** municipal separate storm sewer system serving over 100,000 people.

Several commenters concluded that EPA should be flexible enough to allow the permitting authority broad discretion to establish system wide permits, with flood control districts and/or counties acting as co-permittees with the various incorporated cities within the district boundaries. Commenters expressed concern that Option 1 would not allow for such flexibility.

Arguments that were advanced by commenters in support of proposed Option 1 are equally applicable to paragraph (i), above. Like proposed Option 1, the approach outlined above targets major cities. However, it also has the advantage of addressing municipal separate storm sewer systems which may be interrelated to those owned by the city, a benefit recognized by one municipality that endorsed the selection of proposed Option 5. This will also give the permitting authority more discretion to establish co-permittee relationships.

Paragraph (ii) of the final definition also uses a geographical approach to the definition of municipal storm sewer systems to include municipal storm sewers within urbanized counties. Thus, it closely resembles Option 7 of the proposal. The counties identified in paragraph (ii) have, based on the 1980 Census, a population of 100,000 or more in urbanized,[FN5] unincorporated portions of the county. In the unincorporated areas of these counties (or in the 20 States where the Census recognizes minor civil divisions, unincorporated county areas outside of towns or townships), the county is the primary local government entity. In these cases, the county performs many of the same functions as incorporated cities with a population of 100,000, and is generally expected to have the necessary legal and land use authority in these areas to begin to implement storm water management programs. Due to the urbanized nature of their population, discharges from the municipal separate storm sewers in these counties will have many similarities to discharges from municipal systems in incorporated cities with a population of 100,000 or more. Addressing these counties in this fashion will not adversely affect small municipalities (incorporated places, towns and townships) within the county, as municipal separate storm sewers that are located in the small incorporated places, townships or towns within these counties are not automatically included as part of the system.

EPA has focused on the unincorporated areas because permit applications cannot be required from systems that serve a population less than 100,000, unless designated. EPA received the comment that if the sewers in incorporated places within such counties were included as part of the system for that county, there would be the potential for systems serving a population less than 100,000 to be improperly subject to permit requirements. EPA agrees with the comment, except that EPA reserves the authority to designate sewers in small incorporated places as part of the system subject to permitting, pursuant to paragraph (iii) of the final definition. Incorporated areas within the identified counties will be required to file permit applications if the population served by the municipal separate storm sewer system is 100,000 or more.

As one commenter noted, the counties addressed by the definition will generally be areas of high growth with a growing tax base that can finance a storm water management program. Numerous counties affected by paragraph (ii) commented on the proposal. Several of these indicated a preference for the county government as the permittee. Others indicated that their county had the ability to perform the functions of the permit applicant and permittee. One county brought to EPA's attention that the county had laid plans for a storm water utility scheduled to be in operation in 1989. Several of the counties supported the use of watersheds, or flexible regional approaches, as the basis for the definition of municipal separate storm sewer systems. The modified definition should satisfy these concerns.

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EPA recognizes that some of the counties addressed by today's rule have, in addition to areas with high unincorporated urbanized populations, areas that are essentially rural or uninhabited and may not be the subject of planned development. While permits issued for these municipal systems will cover municipal system discharges in unincorporated portions of the county, it is the intent of EPA that management plans and other components of the programs focus on the urbanized and developing areas of the county. Undeveloped lands of the county are not expected to have many, if any, municipal separate storm sewers.

Paragraphs (i) and (ii) above will help resolve the problems associated with permittees not having adequate land use controls, the legal authority to implement controls, and the ownership of the conveyances. This factor was mentioned by numerous commenters on the proposed options, especially county governments. Under paragraphs (i) and (ii), all publicly owned separate storm sewers within the appropriate municipal boundaries will be defined as part of the municipal system. In many cases, a number of municipal operators of these storm sewers will be responsible for discharges from these systems. Since a number of co-permittees may be addressed in the permits for these discharges, problems associated with the ability to control pollutants that are contributed from interrelated discharges will be minimized. State highways or flood control districts, which may have no land use authority in incorporated cities, will be co-permittees with the city which does possess land use authority. EPA envisions that permit conditions for these systems will be written to establish duties that are commensurate with the legal authorities of a co-permittee. For example, under a permit, a flood control district may be responsible for the maintenance of drainage channels that they have jurisdiction over, while a city is responsible for implementing a sediment and erosion ordinance for construction sites which relates to discharges to the drainage channel. Confusion over ownership of conveyances or systems, at least for the purposes of determining whether they require a permit, will be minimized since all conveyances will be covered. Similarly, under paragraph (ii), the affected counties are expected to have the necessary legal and land use authority to implement programs and controls in unincorporated, urbanized areas because the county government is the primary political or governing entity in these geographical areas.

Many commenters from all levels of State and local government expressed concern about controlling pollutants from State highways. Paragraphs (i) and (ii) will result in discharges from separate storm sewers serving State highways and other highways through storm sewers that are located within incorporated places with the appropriate population or highways in unincorporated portions of specified counties being included as part of the large or medium municipal separate storm sewer system, since all municipal separate storm sewers within the boundaries of these political entities are included. Paragraph (iv) can facilitate ***48042** the submission of a permit application for storm sewers operated as part of an entire State highway system. Paragraph (iv) would allow an entire system in a geographical region under the purview of a State agency (such as a State Department of Transportation) to be designated, where all the permit application requirements and requirements established under § 122.26(a)(iii)(C) can be met.

Paragraphs (i) and (ii) can effectively deal with many of the major sources of pollutants. One municipality noted that Option 5 (paragraph (i)) would require all systems in the incorporated boundaries to obtain permits and institute control measures, rather than just the few owned or operated by incorporated cities. Another municipality noted that this approach could deal with many of the regional variations in sources of pollution. Many commenters, including environmental groups, believed that proposed Option 3 (systems owned or operated by counties), Option 6 (systems within the boundaries of counties), and Option 7 (system in urbanized areas) were good approaches because more sources of pollution would be addressed. It was also maintained that Options 3, 6 and 7 could incorporate watershed planning which, in the view of some commenters, is the only effective way to address pollutants in storm water.

Commenters noted that addressing counties and urbanized areas would focus attention on developing areas which would otherwise be left out in the initial phases of permitting. One commenter noted that most new development in large urbanized areas occurs outside of core cities (incorporated cities with a population of 100,000 or more). Newly developing

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areas provide opportunities for installing pollutant controls cost effectively. EPA agrees with these comments and notes that paragraph (ii) addresses a significant number of counties with highly developed or developing areas.

However, EPA is convinced that addressing all counties or urbanized areas in the initial phases of the storm water program is ill-advised. Commenters noted that some counties have inappropriate or nonexistent governmental structures, and that a program that addressed all counties in the country with a population of 100,000 or more would be unmanageable, because too many municipal entities nationwide would be involved in the program initially. Commenters advised that defining municipal storm sewer systems solely in terms of the boundaries of census urbanized areas (Option 7) would result in systems which did not correspond to jurisdictions that are in a position to implement a storm water programs. Thus, EPA has modified Option 7 and combined it with Option 6 to create paragraph (ii) above.

Paragraph (iii) incorporates a designation authority such that municipalities that own or operate discharges from separate storm sewers systems other than those described in paragraph (i) or (ii) may be designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the other discharges of the designated storm sewer and the discharges from the large or medium municipal separate storm sewers. In making this determination the physical interconnections between the municipal separate storm sewers, the location of discharges from the designated municipal separate storm sewer relative to discharges from large or medium municipal separate storm sewers, the quantity and nature of pollutants discharged to waters of the United States, the nature of the receiving waters, or other relevant factors may be considered.

Comments indicated that the designation authority as proposed and described above should be retained. One State noted that this approach gives the most flexibility in making the case-by-case designations, while also delineating in sufficient detail what criteria are used to make the determination. This commenter was concerned about being able to regulate many of the interrelated discharges from counties surrounding incorporated cities.

Paragraph (iv) of the final definition allows the permitting authority, upon petition, to designate as a medium or large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (i), (ii), (iii).

Paragraph (iv) was added to the final definitions to respond to a variety of concerns of commenters. One of the prime concerns of commenters was that the definition of large and medium municipal separate storm sewer systems must be flexible enough to accommodate: Programs on a watershed basis, existing storm water programs and frameworks and regional differences in climate, geography, and political institutions. Some States were particularly expressive regarding this concern. One State maintained that an inflexible program could totally disrupt ongoing State efforts. Other commenters urged that the regulation encourage the establishment of regional storm water authorities or other mechanisms that can deal with storm water quality on a watershed basis. One State proposed defining the municipal separate storm sewer system to include all municipal separate storm sewers within a core incorporated place of 100,000 or more, and all surrounding incorporated places within the State defined watershed. One of the State water districts advised that the regulations should be flexible enough to allow regional water quality boards to apply the regulations geographically. One national association expressed concern that existing institutional arrangements for flood control and drainage would be ignored, while another warned against fostering a proliferation of inconsistent patchwork programs based on arbitrary definitions and jurisdictions which bear no relationship to water quality.

EPA is convinced that the mechanism described in paragraph (iv) provides a means whereby the mechanisms and concepts identified above can be utilized or created in appropriate circumstances. In addition, § 122.26(f)(4) provides a means for State or local government agencies to petition the Director for the designation of regional authorities responsible for a portion of the storm water program. For example, some States or counties may currently or in the near future have regional storm water management authorities that have the ability to apply for permits under today's

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rule and carry out the terms of the permit. Some of these authorities may encompass within their jurisdiction large or medium municipal separate storm sewer systems as defined in today's rule. EPA wishes to encourage such entities to assume the role as permittee under today's rule. That is the purpose of paragraph (iv). Such authorities may petition the Director to assume such a role.

Many commenters expressed the view that municipal management plans must be coordinated or developed among co-permittees on a regional basis and in the same timeframe. Paragraphs (i), (iii) and (iv) would bring in all appropriate municipal entities with jurisdiction over a specified geographical area in the same timeframe. Several commenters, including one State, noted proposed Option 1 would lead to fragmented, ill-coordinated programs. Paragraphs (i), (iii), and (iv) do not suffer this drawback ***48043** to the same extent since all the municipal separate storm sewers are addressed within the incorporated place, instead of only those owned or operated by the incorporated place.

Equal treatment of municipalities within a watershed or other specified area was a major subject of comment. Many commenters urged that a degree of fairness could be achieved by requiring permit applications, and the concomitant expenditure of municipal dollars and resources, from all municipalities within an entire urban area that contributes to storm water pollution, rather than from a discrete system within an arbitrary political boundary. Paragraph (i), especially when coupled with paragraphs (ii), (iii), and (iv), can best accomplish a more equitable approach, because all owners and operators of municipal separate storm sewers within a system have responsibilities. In addition, some of the areas outside the incorporated city limits which are engaged in expansive urban or suburban development will be brought into the program. Paragraph (iv) will provide a means for State or regional authorities to use existing or emerging mechanisms to set up storm water management programs, and would require multiple agencies either to become regional co-permittees or to be subject to a regional permit.

Paragraphs (i), (ii), (iii), and (iv) could also require flood control districts to be co-permittees, which was a major concern of counties and numerous cities. One municipality stated that the inclusion of flood control districts would greatly reduce the administrative burden required to prepare a single inter-city discharge agreement and would establish a common legal authority to implement the program. Numerous county agencies believed it imperative that flood control districts be brought into a system-wide permit strategy.

Paragraphs (i) and (iii) may not accommodate the concern of several commenters that the number of co-permittees be kept to a minimum. The fact that all the municipal separate storm sewers within the boundaries of the appropriate incorporated places will be addressed dictates that some permits will have several co-permittees. This is a major concern since it goes directly to achieving an effective initial storm water program. There is concern about being able to bring all the co-permittees together under intra-municipal agreements or contracts within regulatory deadlines. This problem would be resolved in the short term by selecting Option 1. However, Option 1 may still require inter-municipal agreements because of the designation authority under § 122.26 (b)(4)(ii) and (b)(7)(ii) of the proposal. In addition, such inter-jurisdictional problems will arise after October 1, 1992 when the moratorium on requiring NPDES permits for discharges from other municipal separate storm sewers ends. Under the permitting goals established by the CWA, multi-jurisdictional storm water programs and agreements cannot be avoided. Despite interest in limiting the number of co-permittees, EPA decided not to adopt Option 1 for the reasons already stated.

Section 402(p)(3)(B)(i) of the amended CWA provides that permits for municipal discharges from municipal storm sewers may be issued on a system-wide or jurisdiction-wide basis. This provision is an important mechanism for developing the comprehensive storm water management programs envisioned by the Act.

Under the permit application requirements of today's rule, if the appropriate co-applicants are identified, one permit application may be submitted for a large or medium municipal separate storm sewer system (see section VI.G.4 above). System-wide permit applications can in turn be used to issue system-wide permits which could cover all discharges in the system.

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Where several municipal entities are responsible for obtaining a permit for various discharges within a single system, EPA will encourage system-wide permit applications involving the several municipal entities for a number of reasons. The system-wide approach not only provides an appropriate basis for planning activities and coordinating development, but also provides municipal entities participating in a system-wide application the means to spread the resource burden of monitoring, evaluating water quality impacts, and developing and implementing controls.

The system-wide approach provided in today's rule recognizes differences between individual municipalities with responsibilities for discharges from the municipal system. Today's application rule requires information to be submitted that enables the permit issuing authorities to develop tailored programs for each permittee with responsibility for certain components, segments, or portions of the municipal separate storm sewer system. The permit application requirements allow individual municipal entities, participating in system-wide applications, to submit site specific information regarding storm water quality management programs to reduce pollutants in system discharges as a whole, or from specific points within the system.

In some cases, it may be undesirable for all municipal entities with storm water responsibility within a municipal system to be co-permittees under one system-wide permit. The permit application requirements in today's rule allow individual municipal entities within the system to submit permit applications and obtain a permit for that portion of the storm sewer system for which they are responsible. Thus, several permits may be issued to cover various subdivisions of a single municipal system.

In summary, EPA believes that the definition of municipal storm sewer system adopted in today's rule has several distinct advantages that were identified in comments:

- The definition adopts features of several options;

- The definition targets areas that have the necessary police powers and land use authority to implement the program;

- The definition can utilize watersheds or accommodate existing administrative frameworks and storm water programs;

- The definition provides that all systems within a geographical area including highways and flood control districts will be covered, thereby avoiding fragmented and ill-coordinated programs;

- The definition has flexible designation authority; and

- The definition addresses major sources of pollutants without being overly broad.

H. Permit Application Requirements for Large and Medium Municipal Systems

1. Implementing the Permit Program

Given the differing nature of discharges from municipal separate storm sewer systems in different parts of the country and the varying water quality impacts of municipal storm sewer discharges on receiving waters, today's permit application requirements are designed to lead to the development of site-specific storm water management programs. In order to effectively implement this goal, EPA intends to retain the overall structure of the municipal permit application as proposed in the December 7, 1988, proposal.

2. Structure of the Permit Application

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EPA proposed a two-part permit application designed to meet the goal of ***48044** developing site-specific storm water quality management programs in NPDES permits. In response to a request for comments on this aspect of the proposal, numerous comments were received. After reviewing these comments, EPA has decided to retain the two-part permit application. Many commenters agreed that the approach as proposed is appropriate for phasing in and developing site specific storm water management programs. One large municipality strongly endorsed the two-part application, stating that it would facilitate the identification of water quality problem areas and the development of priorities for control measures, thereby allowing for more cost-effective program development. Two State agencies expressed the same view, and noted that the two-part approach is reasonable and well structured for efficient development of programs. One large municipality noted it would allow the permit authority and the permit applicant the time needed to gain the knowledge and data to develop site-specific permits. A medium municipality expressed similar views.

Numerous commenters submitted endorsements of a proposal offered by one of the national municipal associations. This approach responded to EPA's request for comments on alternatives to a two-part application process. These comments recommended having permit applicants submit information regarding their existing legal authority, prepare source identification information, describe existing management plans, provide discharge characterization information based on existing data, and prepare a monitoring, characterization and illicit discharge and removal plan in a one-part application. The remaining requirements such as: implementing plans to remove illicit connections, obtaining legal authority, monitoring and characterization, plans for structural controls, preparation of control assessments, preparation of fiscal analysis, and management plan implementation would be part of the permit and take place during the compliance period of the permit. It was argued that this would result in a more orderly development of stormwater management programs while allowing for quick implementation of efforts to eliminate illicit discharges and initiate some BMPs.

After careful review and consideration of these comments, EPA is convinced that this approach would not meet the goals and requirements of section 402 of the Clean Water Act. Section 402(p)(3)(B) of the CWA requires that permits effectively prohibit non-storm water discharges into storm sewers and incorporate controls that reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system design and engineering methods. The above comments suggesting an alternative for achieving this goal are not entirely compatible with these requirements. In light of the language in the statute, permit conditions should do more than plan for controls during the term of the permit. A strong effort to have the necessary police powers and controls based on pollutant data should be undertaken before permits are issued. In short, the one-part application described by these comments would result in permits that would focus too much on preparation and not enough on implementing controls for pollutants.

In comparison, EPA's approach requires municipalities to submit a two-part application over a two year period. Part one of the application would require information regarding existing programs and the means available to the municipality to control pollutants in its storm water discharges. In addition, part one would require field screening of major outfalls to detect illicit connections. Part two of the permit application would require a limited amount of representative quantitative data and a description of proposed storm water management plans. The purpose of the two-part application process is to develop information, in a reasonable time frame, that would build successful municipal storm water management programs and allow the permit writer to make informed decisions with regard to developing permit conditions. This will include initiating efforts to effectively prohibit non-storm water discharges into storm sewers, and initially implementing controls that reduce the discharge of pollutants to the maximum extent practicable, including management practices and control techniques during the term of the permit. Such an approach clearly meets the statutory mandate of section 402(p)(3)(B).

a. Part 1 Application. Part 1 of the permit application is intended to provide an adequate basis for identifying sources of pollutants to the municipal storm sewer system, to preliminarily identify discharges of storm water that are appropriate for individual permits, and to formulate a strategy for characterizing the discharges from municipal separate storm sewer

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systems. Several commenters supported retaining these components of the application process. The components of part 1 of the permit application include:

- General information regarding the permit applicant or co-applicants (§ 122.26(d)(1)(i));

- A description of the existing legal authority of the applicant(s) to control pollutants in storm water discharges and a plan to augment legal authority where necessary (§ 122.26(d)(1)(ii));

- Source identification information including: a topographic map, description of the historic use of ordinances or other controls which limited the discharge of non-storm water discharges to municipal separate storm sewer systems, the location of known municipal separate storm sewer outfalls, projected growth, location of structural controls, and location of waste disposal facilities (§ 122.26(d)(1)(iii));

- Information characterizing the nature of system discharges including existing quantitative data, the results of a field screening analysis to detect illicit discharges and illegal dumping to the municipal system, an identification of receiving waters with known water quality impacts associated with storm water discharges, a proposed plan to characterize discharges from the municipal storm sewer system by estimating pollutant loads and the concentration of representative discharges, and a plan to obtain representative data (§ 122.26(d)(1)(iv)); and

- A description of existing structural and non-structural controls to reduce the discharge of pollutants from the municipal storm sewer (§ 122.26(d)(1)(v)).

One commenter disagreed that source identification should be made part of the permit application process beyond the identification of major municipal storm sewer outfalls. In reply, EPA is convinced that the other elements of the source identification are critical for identifying sources of pollutants and creating a base of knowledge from which informed decisions about permit conditions and further data requirements can be determined. One county stated that it already had engaged in extensive monitoring and modeling of watersheds and that its programs should be substituted for EPA's. In response, EPA anticipates that information collected under various State, county or city programs that matches the information requirements in this rulemaking may be used by the applicants in submissions under this rulemaking where the requirements of the rule are met. However, because of the divergence in data collection techniques and information collected by ***48045** these programs, EPA disagrees that it would be appropriate to accept a substitution in its entirety without tailoring such a program to today's specific information requirements. One municipality noted that municipal systems are not well documented and responsibility for them is in question. In response, EPA notes that the source identification procedure is designed, in part, to address such shortcomings.

Several municipalities suggested that legal authority could be demonstrated by providing EPA with copies of appropriate local ordinances to demonstrate their legal authority and a statement from the city attorney. EPA agrees that these methods are appropriate for making this demonstration.

Several commenters noted that there was adequate existing municipal legal authority to carry out the program requirements or such authority could be obtained by the municipality. Other commenters stated that municipalities possess some authority over certain activities but may not have authority over discharges from roads and construction. Numerous commenters, however, claimed that certain municipalities had no existing legal authority to carry out the permit requirements and that obtaining all the necessary legal authority could take several years due to cumbersome legislative and political processes. In response, part 1 of the permit application will establish a schedule for the development of legal authority that will be needed to accomplish the goals of the permit application and permits. Some municipalities will have more advanced storm water programs with appropriate legal authority or the ability to establish necessary ordinances. Providing an appropriate schedule will not present difficulties in these circumstances. EPA also notes that the definitions of large and medium municipal separate storm sewer systems finalized in today's rule will

in many cases result in a number of co-applicants participating in a system wide application. It is anticipated that the development of adequate inter-jurisdictional agreements specifying the various responsibilities of the co-permittees may in some cases be very complex, thereby justifying the development of a schedule to complete the task. For example, clarifying the authority over discharges from roads may present difficulties where a number of municipal entities operate different roads in a given jurisdiction. In other limited cases, the MEP standard for municipal permits may translate into permit conditions that extend the schedule for obtaining necessary legal authority into the term of the permit. These situations will be evaluated on a case-by-case basis by permit issuing authorities.

Numerous commenters supported the field screening analysis as proposed. Comments from three municipalities noted that it would be a cost effective means of identifying problem areas. One municipality noted that illicit connections can be reliably detected by the screening method proposed. In view of these comments EPA has decided to retain this portion of the regulation. However many commenters expressed concern over how the proposed approach would work given the particular circumstances under which some municipal storm water systems are arranged. Several commenters questioned the effectiveness of dry weather monitoring for several reasons, including the shallow depth of some cities' water tables. Accordingly, an alternative approach may be utilized by the municipal permittee, and this is discussed later in section VI.H.3.

Some comments suggested that if any field screening is required that it be done during the term of the permit. EPA believes that field screening should not be done during the term of the permit exclusively. Unless a field screening is accomplished during the permit application phase there will be scant knowledge, if any, upon which illicit connection programs can be established for the term of the permits. EPA views field screening during the application process as an appropriate means of beginning to meet the CWA's requirement of effectively prohibiting non-storm water discharges into municipal separate storm sewers.

The submittal of part 1 of the permit application will allow EPA, or approved NPDES States, to adjust part 2 permit application requirements to assure flexibility for submitting information under part 2, given the site specific characteristics of each municipal storm sewer system.

EPA agrees with the concerns of commenters regarding the estimate of the reduction of pollutant loads from existing management programs. EPA agrees that sufficient data may not be available to establish meaningful estimates. Therefore this component of the proposed part 1 is not a requirement of today's rule.

b. Part 2 Application. Part 2 of the proposed permit application is designed to supplement information found in part 1 and to provide municipalities with the opportunity of proposing a comprehensive program of structural and non-structural control measures that will control the discharge of pollutants, to the maximum extent practicable, from municipal storm sewers. The components of the proposed part 2 of the permit application included:

- A demonstration that the legal authority of the permit applicant satisfies regulatory criteria (§ 122.26(d)(2)(i));

- Supplementation of the source identification information submitted in part 1 of the application to assure the identification of all major outfalls and land use activities (§ 122.26(d)(2)(ii);

- Information to characterize discharges from the municipal system;

- A proposed management program to control the discharge of pollutants to the maximum extent practicable, from municipal storm sewers (§ 122.26(d)(2)(iv));

- Assessment of the performance of proposed controls (§ 122.26(d)(2)(v));

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- A financial analysis estimating the cost of implementing the proposed management programs along with identifying sources of revenue § 122.26(d)(2)(vi);

- A description of the roles and responsibilities of co-applicants (§ 122.26(d)(2)(vii)).

One municipality agreed that the assessment of the performance of controls was a critical component of establishing a viable program and one that could be accomplished within the time frame of the permit application deadlines. One commenter suggested that the applicant describe what financial resources are currently available. In response, EPA will require applicants to describe the municipality's existing budget for storm water programs in part 1 of the permit application requirements. This information will be useful to evaluate the municipality's ability to prepare and implement management plans. In response to other comments, this information will also include an overview of the municipality's financial resources and a description of the municipality's budget, including overall indebtedness and assets.

EPA has retained the financial analysis in this portion of the rule on the advice of two municipal commenters, who agreed that this was an important component of establishing a viable program and one that could be accomplished within the time frame of the permit application deadlines. Another commenter noted that this requirement is appropriate to justify a municipality's proposed management plan.

***48046 3. Major Outfalls**

In past rulemakings, a controversial issue has been the appropriate sampling requirements for municipal separate storm sewer systems. Earlier storm water rulemakings have been based primarily on the principle that all discharges to waters of the United States from municipal separate storm sewers located in urban areas must be covered by an individual permit. This approach requires that individual permit applications contain quantitative data to be submitted for all such discharges. This approach was criticized because of a potentially unmanageable number of outfalls in some municipal separate storm sewer systems. Most incorporated cities with a population of 100,000 or more do not know the exact number of outfalls from their municipal systems; but based on the comments, the number ranges from 500 to 8,000 or more.

In light of the increased flexibility provided by the WQA and the development of EPA's system-wide approach for regulating municipal separate storm sewer discharges, today's rule will not require submittal of individual permit applications with quantitative data for each outfall of a municipal system. Rather today's rule will encourage system-wide permit applications to provide information suitable for developing effective storm water management programs. Under this approach, not all outfalls of the municipal system will be sampled, but rather more specific and accurate models for estimating pollutant loads and discharge concentrations will be used. The use of these models will require the identification of sources which are responsible for discharging pollutants into municipal separate storm sewers and will not require as much data to calibrate due to the source-specific nature of the model. A number of standard and localized models have been developed for estimating pollutant loads from storm water discharges.

Several commenters support the use of models for developing management plans and estimating pollutant loadings and concentrations. EPA encourages their use where applicable to particular systems.

By adopting an approach that incorporates source identification measures, the amount of quantitative data required to characterize discharges from the municipal system will be reduced because of the increased accuracy of the site-specific models which can be used. Consistent with a system-wide permit application approach, EPA proposed to focus source identification measures on “major outfalls.” The proposed definition of major outfalls includes any municipal separate storm sewer outfall that discharges from a pipe with a diameter of more than 36 inches or its equivalent (discharges from a drainage area of more than 50 acres), or for municipal separate storm sewers that receive storm water from lands zoned for industrial activities, an outfall that discharges from a pipe with a diameter of more than 12 inches or its equivalent (discharges from a drainage area of 2 acres or more).

Numerous entities offered comments on this definition. Several commenters concurred with this proposed definition. One commenter maintained that the data collected at such outfalls would be sufficient to estimate pollutant loads as well as concentrations using well calibrated models. Another municipality stated that 50 acres was an excellent approximation for the average drainage area served by a 36-inch storm sewer. Two States and one county supported the definition as proposed. One large municipal entity supported the definition, stating that screening major outfalls could be accomplished with available staff over a three month period. In light of these comments, EPA has decided to retain, in part, the definition as proposed.

Numerous commenters suggested alternative definitions or otherwise disagreed with the proposed definition. Most of these comments expressed concern about the number of outfalls that would have to be tested or screened if the definition was retained. For this reason EPA has decided to limit the total number of major outfalls or equivalent sampling points that have to be tested to 250 or 500 for medium or large systems respectively. This change is discussed in further detail below.

The following are examples of comments that opposed the definition of a "major outfall" as proposed. Several commenters stated that, in the southwest, 6 to 12 foot outfalls are the norm, and that smaller outfalls should not be addressed unless there is a compelling reason to suspect illicit connections. One commenter suggested a size of 54 inches and 50 acres, while another commenter suggested that 48 inches would be appropriate. One commenter suggested that the diameter for industrial pipes should be 18 inches, while another commenter suggested that 50 acres should be the only criterion.

One commenter noted that pipe size will vary according to rainfall patterns and that a single approach would not work universally. This comment, and other similar points of view as noted herein, convinces that Agency that a more flexible approach is needed to identify field screening and sampling locations. However, EPA is also convinced that a universal standard is necessary for purposes of identifying drainage areas within the municipal system and discrete areas of land use that are drained by certain sized outfalls. This information is critical since these conveyances, and lands they drain, are sources of pollutants to waters of the United States from municipal systems and are properly the subject of appropriate permit conditions.

Many commenters suggested placing a limit on the number of major outfalls addressed during the field screening phase of the permit application. Two municipalities stated that the proposed definition of major outfalls in terms to the pipe diameter was too small and that too many outfalls would be covered. One municipality stated that under the proposed definition, it would have over 4700 "major outfalls," a number viewed as being unacceptably large. Several municipalities argued that they would be penalized for over-design of their storm drain system. One municipality stated field screening of outfalls should be limited to 200 for medium cities and 500 for large cities. Some commenters suggested EPA set a percentage of major outfalls for screening, because all pipes in some municipalities meet the definition of major outfall. One commenter suggested that a sliding scale be used to determine the number of outfalls tested: those with 50 test all, those with 100-200 test 50%, etc. Other commenters suggested a flat percentage of outfalls or flat number such as 100.

4. Field Screening Program

EPA also received several comments in response to the proposed field screening methodology. Among the major concerns were: End of pipe sampling may not be practical and the more appropriate and accessible location is likely to be the nearest upstream manhole; the type of discharge should be the criterion for selecting sampling points as opposed to pipe size; a system wide evaluation is more appropriate than checking each outfall; within some systems, major outfalls or pipe size will not reflect discharges from suspect or old land use areas; efforts should be focused on locations where illicit connections are expected; sites should be determined by looking at sites within drainage basin areas based on land use within those basins; land use and hydrology of the watershed should be the criteria for selecting points; ***48047** screening should be performed at locations that will allow for the location of upstream discharges; the focus should be

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exclusively on drainage areas rather than pipe size, since pipe size will vary with slope; a prescribed percentage of total flow may be more appropriate; state water quality standards should be utilized along with focusing on actual quality in the reaches of a stream.

EPA is convinced by these comments that today's rule should allow applicants to either field screen all major outfalls as proposed (first procedure) or use a second procedure to provide for the strategic location of sampling points to pinpoint illicit connections. EPA agrees with comments that the size of the outfall will not always reflect the chance of uncovering illicit connections or discharges, and that field screening points should be easily accessible.

This second procedure is as follows: field screening points and/or outfalls are randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a major outfall or segment of the storm sewer system. The grid shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced 1/4 mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points or major outfalls should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) The assessment and selection of cells shall use the following criteria: Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points for detecting illicit connections; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible);

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (1) through (6) above, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen at least 250 or 500 major outfalls respectively using the following method: the applicant shall establish a grid system consisting of north-south and east-west lines spaced 1/4 mile apart overlaid on a map of the boundaries of a large or medium municipal entity described at § 122.26(b), thereby creating a series of cells; major outfalls in as many different cells as possible shall be selected until 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

The methodology outlined above is in response to public comments which indicated that the field screening and sampling of major outfalls as proposed would lead to insurmountable logistical problems in some municipal systems. EPA believes that the above is an effective approach to pinpointing suspected problem points along a given trunkline or segment of separate storm sewer system. Jurisdictions with no extensive or previous history of monitoring, or lack of an intensive

monitoring program can utilize the methods described in establishing a program. Furthermore, the approach will allow for the prioritization of outfalls, sampling points, or areas within the municipality where there are suspected illicit connections or discharges, or other circumstances creating higher concentrations and loadings of pollutants.

Paragraph (7) enables municipalities to select major outfalls without regard to the municipal sewer system map that is required for using the procedure described in paragraphs (1) through (6). However, the applicant must still select outfalls within the cells created by overlaying a 1/4 mile grid over a map of the boundaries of the large or medium municipal entity defined under § 122.26(b), and select major outfalls within as many of those cells as possible, up to 500 (large municipal systems) or 250 (medium municipal systems). In this manner, as many different areas and land uses within the municipal system will be covered by the field screening component of the municipal application.

In order to keep the costs of the program within the anticipated limits of the proposed regulation, the number of outfalls or sampling locations using the grid system is to be limited to 500 for large municipal separate storm sewer systems and 250 for medium municipal separate storm sewer systems.

In response to several comments, EPA has clarified the definition of major outfalls with regard to the words, “pipe with an inside diameter of 36 inches or more or its equivalent” and “a pipe with an inside diameter of 12 inches or more or its equivalent.” This definition has been modified to specify that single pipes or single conveyances with the appropriate diameter or equivalent are covered.

EPA's proposal required municipal permit applicants to submit a fiscal analysis of expenditures that will be required in order to implement the proposed management plans required in part 2 of the application. The description of fiscal resources should include a description of the source of the funds. Some commenters felt that a fiscal analysis should only be required during the term of the permit. In response, EPA believes that during the two years of permit application development, the permit applicant should be in a position to submit information on the ability and means for financing storm water management programs during the term of the permit. EPA views this information as an important means of evaluating the scope of program and whether the permittee will be devoting adequate resources to implementing the program before that program is mapped out in the permit itself.

5. Source Identification

The identification of sources which contribute pollutants to municipal separate storm sewers is a critical step in characterizing the nature and extent of pollutants in discharges and in developing appropriate control measures. Source identification can be useful for providing an analysis of pollutant source contribution and for identifying the relationship between pollutant sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm ***48048** sewer systems to support a targeted approach to control pollutant sources.

The relative contribution of pollutants from various sources will be highly site-specific. The first step in developing a targeted approach for controlling pollutants in discharges from municipal storm sewer systems is identifying the various sources in each drainage basin that will contribute pollutants to the municipal storm sewer system.

This rulemaking phases in the source identification requirements of the permit program by establishing minimum objectives in part 1 of the application and by requiring applicants to submit a source identification plan in part 2 of the application to provide additional information during the term of the permit. The minimum source identification requirements of part 1 of the application have been designed to provide sufficient information to provide an initial characterization of pollutants in the discharges from the municipal storm sewer system. EPA realizes that with many large, complex municipal storm sewer systems, it may be difficult to identify all outfalls during the permit application process. Accordingly, EPA is requiring that known outfalls be reported in part 1 of the application. Part 1 of the application will also include: A description of procedures and a proposed program to identify additional major outfalls;

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the identification of the drainage area associated with known outfalls; a description of major land use classifications in each drainage area, descriptions of soils, the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities which discharge storm water to the municipal storm sewer system; and ten year projections of population growth and development activities (population data and development projections will be useful for future predictions of loadings to receiving waters from municipal storm sewer systems, and capacities required for treatment systems). In general, population projections should reflect various scenarios of development (high, medium, low relative to recent trends).

Part 2 of the application will supplement the information reported in part 1 of the application so that, at a minimum, all major outfalls are identified.

Under today's rule, municipal or public entities responsible for applying for and obtaining an NPDES permit will be required to identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water associated with industrial activity into a large or medium municipal separate storm sewer system.

Requiring these source identification measures is supported by the legislative history of section 405 of the WQA, which instructs that “[i]n writing any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of any industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge.” (emphasis added) [Vol 133 Cong. Rec. S752 (daily ed. Jan. 14, 1987].

One municipality questioned the purpose of the topographic map and commented that the scale of the topographic map is too large to indicate any of the required outfall, drainage, industrial or structural control information. In response, the purpose of the topographic map is to identify receiving waters, major storm water sewer lines that contribute discharges to these waters, and potential sources of storm water pollution. EPA disagrees that a USGS 7.5 scale map is inappropriate for identifying these features within a municipal system. The scale afforded by such a map provides sufficient detail to allow specified delineation of outfalls, while not requiring an overly burdensome map in terms of size. Numerous commenters noted the value of source identification information and generally supported submitting this information in the permit application.

Many commenters questioned the value of the source identification information for the purpose of characterizing pollutant loads and concentrations. Conversely, one commenter opined that the requirement would provide sufficient information to estimate pollutant loadings from each outfall using loading models to estimate loadings by watershed. In response, the source identification information serves several purposes. It is the first step for identifying potential sources of pollutants from which more in depth analysis can be accomplished, under the discharge characterization component of the application. Also, where appropriate, it may be used in conjunction with models to estimate loadings and concentrations. EPA has also taken note of the many comments that question or dismiss the concept of determining pollutant loads and concentrations solely from source identification. Accordingly, EPA is convinced that at least some of the sampling requirements as proposed are necessary to facilitate more accurate system specific estimates of pollutant concentrations and loadings. These are discussed below, in the discharge characterization section.

One commenter suggested that aerial photos be submitted in lieu of topographic maps. EPA agrees that an aerial photograph of the appropriate scale that communicates the same information as a topographic map may be substituted. Today's final rule reflects this flexibility.

The source identification component of the municipal application also requires that municipal applicants identify the industrial activity within the drainage area associated with each major outfall. One commenter stated that where multiple storm sewers outfalls discharge to a stream reach, municipalities should be allowed to delineate a single sewer-shed for

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identifying sources of industrial activity. In response, the rule does not delimit an applicant's ability to identify industries in groups according to a common series of storm sewer outfalls, if that is an easier or more appropriate methodology for that particular applicant. However, EPA would view this as appropriate only where the land use is of one type, such as industrial. Where land use is mixed within the drainage area associated with each major outfall, such differences need to be identified.

In response to comments, to the extent that EPA is requesting that applicants identify the types of industrial facilities operating within the municipality, the municipality is free to use Standard Industrial Classification (SIC) or other systems which identify the principal products or services of the facility. One commenter disagreed with EPA's decision to require a list of water bodies that are listed under CWA sections 304(1), 319(a), 314(a), and 320, because the States already have this information and that requesting it from permittees could result in "omissions, misunderstandings, and mistakes." EPA believes that these waters should be identified in the application so that appropriate permit conditions can be developed that address storm water discharges that are adversely effecting such waters. EPA believes that having this information immediately at the disposal of the municipality and the permit writer will speed the process and alert the municipality of storm water discharges to listed water bodies and potentially polluted storm water discharges to those waters.

***48049 6. Characterization of Discharges**

The characterization plan and data collection required in today's rule as elements of Part-one and Part-two of the municipal permit application is comprised of several major components:

- A screening analysis to provide information to develop a program for detecting and controlling illicit connections and illegal dumping to the municipal separate storm sewer system;

- Initial quantitative data to allow the development of a representative sampling program to be incorporated as a permit condition;

- System-wide estimates of annual pollutant loadings and the mean concentration of pollutants in storm water discharges, and a schedule to provide estimates during the term of the permit for each major outfall of the seasonal pollutant loadings and the event mean concentration of pollutants in storm water discharges; and

- An identification of receiving waters with known water quality impacts associated with storm water discharges.

Several commenters noted the importance of developing and targeting management programs based on discharge characterization data and monitoring. Numerous other commenters stressed the importance of a program to identify and eliminate illicit connections and improper disposal. EPA agrees that discharge characterization is an important component of developing management programs. Most of the discharge characterization components of the municipal application procedure have been retained as proposed. However some changes and clarifications have been made, and these are noted below.

a. Screening analysis for illicit discharges (part 1 of application). Illicit discharges (non-storm water discharges without a NPDES permit), and illegal dumping to municipal separate storm sewer systems occur in a relatively haphazard manner. Due to the unpredictability of such discharges, today's permit applications require a field analysis for the development of priorities for detecting and controlling such discharges. A field screening approach will provide a means of detecting high levels of pollutants in dry weather flows, which is one indicator of illicit connections. Results of a field test of such discharges will provide further information about the nature of the discharge to determine if further investigation is warranted. Visual observation of dry weather flows has been shown to be one the most effective means for tracking down illicit connections and improper disposal.

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As discussed in greater detail in section VI.H.7.b of today's preamble, EPA is proposing to require that municipal applicants submit a comprehensive plan to develop a program to detect and control illicit connections and illegal dumping. In order to develop appropriate priorities for these programs, applicants shall submit the results of a screening analysis to be performed on major outfalls or "field screening points" in the systems to detect the presence of illicit hookups and illegal dumping. The results of the screening analysis, referred to as the field screen, would be reported in part 1 of the permit application.

Under the requirements for a field screen, the applicant or co-applicants will submit a description of observations of dry weather discharges from major outfalls or "field screening points" identified in part 1 of the application. At a minimum, the field screen would include a description of visual observations made during a dry weather period. If any flow is observed during a dry weather period, two grab samples will be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observation regarding the potential presence of non-storm water discharges or illegal dumping would be provided. In addition, the applicant should provide the results of a field screen which includes on-site estimates of pH, total chlorine, total copper, total phenol, detergents (or surfacants) along with a description of the flow. EPA is not requiring analytical methods approved under 40 CFR part 136 be used exclusively in the field screen. Rather, the use of inexpensive field sampling techniques such as the use of colormetric detection methods is anticipated. Where the field screen does not involve analytical methods approved under 40 CFR part 136, the applicant is required to provide a description of the method used which includes the name of the manufacturer of the test method, including the range and accuracy of the test. Appropriate field techniques for a field screen of dry weather discharges are discussed in EPA guidance for municipal storm water discharge permit applications.

It should be clarified that data from the field screen is generally not appropriate for comprehensive evaluation of water quality impacts, or estimating pollutant loadings. Rather, the information from the field screen in part 1 of the application will be used along with other information, such as the age of development and degree of industrial activity in the drainage basin, to identify areas or outfalls which are appropriate targets for management programs and for investigations directed at identifying and controlling non-storm water discharges to separate storm sewers during the term of the permit.

In the December 7, 1988, proposal, EPA proposed a second phase of the screening analysis requiring that wet-weather and dry-weather samples be collected and analyzed in accordance with analytical methods approved under 40 CFR part 136 from designated major outfalls for a larger set of pollutants identified with illicit connections. Comments essentially viewed this proposal as too ambitious for the permit application. One commenter recommended that this procedure could best be accomplished during the term of the permit. Some comments maintained that the collection of analytical samples as a follow up to an initial field screen analysis was not the most cost-effective, practicable or efficient method for pinpointing illicit connections. EPA recognizes that several municipal programs to detect and control illicit connections and other non-storm water discharges have been successfully developed and implemented without the use of extensive analytical sampling (for example, programs in Fort Worth, TX and Washtenaw County, MI). After identifying and analyzing the comments on this aspect of the proposal EPA has withdrawn this element of the proposal from today's rule. EPA believes that a follow-up phase to the initial field screening is more appropriate during the term of the permit. Thus, EPA has dropped the field screening requirement proposed for Part 2 of the application.

b. Representative data (Part 2 of application). The NURP study showed that pollutant concentrations in urban runoff can exhibit significant variation. Pollutant concentrations in such discharges vary during storm events and from storm event to storm event. Given the complex, variable nature of storm water discharges from municipal systems, EPA favors a permit scheme where the collection of representative data is primarily a task that will be accomplished through monitoring programs during the term of the permit. Permit writers have the necessary flexibility to develop monitoring requirements that more accurately reflect the true nature of highly variable and complex discharges.

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***48050** Today's rule provides for an initial assessment of the quality of discharges from municipal separate storm sewers based primarily on source identification measures and existing information received in the permit application. This information will be used to begin to characterize system discharges. The analysis developed under this approach will not rely soley on sampling data collected during the application process, but will also incorporate existing data bases such as the one developed under the NURP study. Today's rule requires that some quantitative data will be collected to ensure the system discharges can be appropriately represented by the various existing data bases and to provide a basis for developing a monitoring plan to be implemented as a permit condition.

Today's rule requires that quantitative data be submitted for discharges from selected storm events at between 5 and 10 outfalls or field screening points. The municipality will recommend and the Director will then designate the outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system, on the basis of information received in part 1 of the application. The applicant will be required to collect samples of a storm discharge from three storm events occurring one month apart for each designated outfall or field screening point. This is a modification to the December 7, 1988, proposal wherein only one of the 5 to 10 outfalls was to be sampled during three storm events, and the remaining sampled only once. This requirement may be modified by the Director if the type and frequency of storm events require different sampling. The Director may require samples of discharges to be collected during snow melts or during specified seasons. The Director may also require additional testing during a single event if it is unlikely that there will be three storm events suitable for sampling during the year. Furthermore, the Director may allow exemptions to the three storm event requirement when climatic conditions create good cause for such exemptions; for example, arid regions or areas experiencing drought conditions during the period when applications are developed could be exempted.

EPA has added requirements to sample more storm events in response to comments that the sampling procedure proposed would not necessarily yield representative data. Commenters indicated that: rain events of different intensity may yield different levels and types of pollutants; a rain event after a dry spell of several months will not be representative when compared to rain events occurring closer together, due to the build up of constituents; one sample may reflect short term effects such as improper disposal rather than long term effects; and that rain events are generally too variable to rely on the limited sampling as proposed. Clearly the data collected from sampling storm water discharges has a tendency to vary greatly. The more sampling that is accomplished, the greater extent to which this variability may be accounted for and appropriate management programs developed.

In selecting the amount of data to be collected during the permit application process, EPA has attempted to balance the usefulness of this data against the economic and logistical constraints in actually obtaining it. In some cases the data obtained will support initial loading and concentration estimates obtained using various modeling techniques, from which appropriate permit conditions can be developed. Data obtained may be supplemented with further data collection during the term of the permit.

EPA believes that the requirement that selected major municipal outfalls or “field screening points” be sampled for more than one event will provide verification that the characterization of discharge is valid. Where an ongoing sampling program is defined for the term of the permit, samples taken during the first few years of this period can be used to verify the application results. If a municipality or an industry questions the conclusions drawn from the characterization sampling, it may at its discretion choose to perform additional sampling to either confirm or dispel these concerns.

All samples collected will be analyzed for all pollutants listed in Table II, (organic pollutants), and Table III, (toxic metals, cyanide and total phenol) of appendix D of 40 CFR part 122, and for the pollutants listed in Table M-1 below:

Table M-1

Total suspended solids (TSS)	Total dissolved solids.

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COD	BOD [5] .
Oil and grease	Fecal coliform.
Fecal streptococcus	pH.
Dissolved phosphorus	
Total ammonia plus organic nitrogen	Total phosphorus.
Total Kjeldahl nitrogen	Nitrate plus nitrite.

A portion of the NURP program involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. The NURP program excluded testing for asbestos and dioxin. Results for seven other organic priority pollutants were not considered valid due to changes in, or constraints on test methods. Seventy-seven priority pollutants were detected in samples of storm water discharges from lands used for residential, commercial and light industries taken during the NURP study, including 14 inorganic and 63 organic pollutants. Table M-2 shows the priority pollutants which were detected in at least ten percent of the discharge samples which were sampled for priority pollutants.

Table M-2.—Priority Pollutants Detected in at Least 10% of NURP Samples

[In percent]

Metals and inorganics	Frequency of detection
Antimony	13
Arsenic	52
Beryllium	12
Cadmium	48
Chromium	58
Copper	91
Cyanides	23
Lead	94
Nickel	43
Selenium	11
Zinc	94
Pesticides:	
Alpha-hexachlorocyclohexane	20
Alpha-endosulfan	19

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Chlordane	17
Lindane	15
Halogenated aliphatics:	
Methane, dichloro-	11
Phenols and cresols:	
Phenol	14
Phenol, pentachloro-	19
Phenol, 4-nitro	10
Phthalate esters:	
Phthalate, bis(2-ethylhexyl)	22
Polycyclic aromatic hydrocarbons:	
Chrysene	10
Fluoranthene	16
Phenanthrene	12
Pyrene	15

The NURP data also showed a significant number of these samples exceeded various freshwater water quality criteria. The exceedence of water quality criteria does not necessarily imply that an actual violation of standards will exist in the receiving water body in question. Rather, the enumeration of exceedences serves as a screening function to identify those constituents whose presence in urban storm water runoff may warrant high priority for further evaluation.

Members of this group represent all of the major organic chemical fractions ***48051** found in Table II of appendix D of 40 CFR part 122 (volatiles, acid compounds, base/neutrals, pesticides). Today's rule requires testing for all organic constituents in Table II rather than limiting the sampling requirements to the 24 toxic constituents found in the NURP study because they will provide a better description of the discharge at essentially the same cost. (The cost of analyzing samples for organic chemicals strongly depends on the number of major organic chemical fractions tested). The NURP study focused on characterizing storm water discharges from lands used for residential, commercial and light industrial activities. In general, the NURP study did not focus on other sources of pollutants to municipal separate storm sewer systems and, therefore, does not reflect all potential pollutants that may be present in discharges from municipal separate storm sewer systems.

The sampling requirements for the permit application address a limited number of sampling locations but require analysis for a wide range of pollutants. Sampling for a wide range of pollutants as a permit application requirement should provide permit writers with appropriate data to target more specific pollutants when developing requirements for a monitoring program during the term of the permit.

Numerous commenters stated that monitoring for all priority pollutants seemed excessive. However, EPA is convinced that it is more appropriate for permit conditions to focus on and prioritize particular pollutant problems after data covering a broad spectrum of pollutants are developed. As noted above, NURP identified 77 priority pollutants in urban runoff, but only from residential, commercial, and light industrial (e.g. industrial parks) areas. One municipal

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entity stated that this approach is a reasonable and realistic means of providing some useful baseline data, while others recommended sampling a variety of parameters that are included in Tables M-1 and M-2. Another municipal entity stated that characterization of outfall discharge quality during storm events is necessary as a means of targeting source control activities.

EPA is working with the United States Geological Survey (USGS) to evaluate the availability of USGS technical assistance to municipalities through cooperative funding programs to aid in collecting representative quantitative data of storm water discharges from municipal systems.

USGS data collection programs with municipalities typically include storm water discharge samples obtained at various times during a storm hydrograph event. Various USGS field procedures can be used to obtain discharge data for pipes, culverts, etc., typically found in urban areas. Pollutant models can be calibrated with data and long-term rainfall records to simulate the quality of system discharges and compared to other storm water models.

In addition, EPA recognizes that many municipalities have participated in studies, such as NURP, that involve sampling of urban runoff as well as other components of discharges from municipal separate storm sewer systems. All existing storm water sampling data along with relevant water quality data, sediment data, fish tissue data or biosurvey data taken over the last ten years is considered relevant and, under today's rule, must be submitted with part l of the application. Sampling data that is submitted must be accompanied with a narrative description of the drainage area served by the outfall monitored, a description of the sampling and quality control program, and the location of receiving water monitoring.

EPA requested comments on the use of existing data, such as that generated under the NURP study, to satisfy the requirement of providing representative sampling data. Commenters did not agree on the value of NURP results as an indicator of representative data. Several commenters expressed the view that existing data could be used to satisfy in whole or in part the representative sampling requirements of the storm water permit application. However, commenters generally did not offer suggested criteria that could be used to verify the validity of existing data. One commenter believed that intensive sampling over a period of ten years in 12 basins, when combined with NURP data, would be adequate.

One commenter supported the use of data, such as that obtained from the NURP study, to target sampling programs. EPA supports such a methodology and has retained this portion of the proposed discharge characterization component. EPA received strong support from an environmental group for retaining this information requirement in part 1 of the application.

In light of these comments EPA believes it is appropriate to retain the representative sampling requirements without resorting to the use of existing data exclusively. Because of the inherent variability in reliability and applicability of existing data, EPA is convinced that a nationally consistent methodology for collecting data is appropriate. This data can then be used in conjunction with other existing data and models to develop appropriate site specific management programs and more generalized management program strategies. Where existing data and data collected under today's rule varies or does not match, further sampling under the term of the permit will be accomplished to more accurately assess the discharge of pollutants.

c. Loading and Concentration Estimates (part 2 of application). The assessment of the water quality impacts of discharges from municipal separate storm sewer systems on receiving waters requires the analysis of both pollutant loadings and concentrations of pollutants in discharges.

The loading and concentration estimates in today's rule will be used to evaluate two types of water quality impacts: (1) Short-term impacts; and (2) long-term impacts. Specifically, the regulation requires estimates of the annual pollutant load of the cumulative discharges to waters of the United States from municipal outfalls and the event mean concentration of

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the cumulative discharges to waters of the United States municipal outfalls during a storm event for BOD5 , COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods. Municipalities have options in the use of methodologies, including those presented in NURP for calculating loads.

Short term impacts from discharges from municipal separate storm sewers involve changes in water quality that occur during and shortly after storm events. Examples of short-term impacts that can lead to impairments include periodic dissolved oxygen depression due to the oxidation of contaminants, high bacteria levels, fish kills, acute effects of toxic pollutants, contact recreation impairments and loss of submerged macrophytes. Characterization of instream pollutant concentrations based on estimated pollutant concentrations in system discharges are important for evaluating these types of impacts.

Long-term water quality impacts from discharges from municipal separate storm sewers may be caused by contaminants associated with suspended solids that settle in receiving water sediments and by nutrients which enter receiving water systems with long ***48052** retention times. Pollutant loading data are important for evaluation of impairments such as loss of storage capacity in streams, estuaries, reservoirs, lakes and bays, lake eutrophication caused by high nutrient loadings, and destruction of benthic habitat. Other examples of the long-term water quality impacts include depressed dissolved oxygen caused by the oxidation of organics in bottom sediments and biological accumulation of toxics as a result of uptake by organisms in the food chain. An estimate of annual pollutant loading associated with discharges from municipal storm water sewer systems is necessary to evaluate the magnitude and severity of the environmental impacts of such discharges and to evaluate the effectiveness of controls which are imposed at a later time.

Municipal storm water sewer systems generally handle runoff from large drainage areas and the sources of pollution are usually very diffuse. The concentrations of many pollutants in discharges from these systems are often low relative to many industrial process and POTW discharges. The water quality impacts of low concentration pollution discharges tend to be cumulative and need to be evaluated in terms of aggregate loadings as well as pollutant concentrations. A site-specific loading analysis can be used to evaluate the relative contribution of various pollutant sources.

7. Storm Water Quality Management Plans

Today's rule facilitates the development of site-specific permit conditions by requiring large and medium municipal permit applicants to submit, along with other information, a description of existing structural and non-structural prevention and control measures on discharges of pollutants from municipal storm sewers in part I of the permit application. Section 122.26(d)(2)(iv) requires the applicant to identify in part 2 of the application, to the degree necessary to meet the MEP standard, additional prevention or control measures which will be implemented during the life of the permit. Although, in many cases, it will not be possible to identify all prevention and control measures that are appropriate as permit conditions, EPA believes that the process of identifying components of a comprehensive prevention and/or control program should begin early and that applicants should be given the opportunity to identify and propose the components of the program that they believe are appropriate for first preventing or controlling discharges of pollutants.

As noted earlier, EPA recognizes that problems associated with storm water, combined sewer overflows (CSOs) and infiltration and inflow (I&I) are all inter-related even though they are treated somewhat differently under the law. EPA believes that it is important to begin linking these programs and activities and, because of the potential cost to local governments, to investigate the use of innovative, nontraditional approaches to reducing or preventing contamination of storm water. The application process for developing municipal storm water management plans provides an ideal opportunity between steps l and 2 for considering the full range of nontraditional, preventive approaches.

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The permit application requirements in today's rule require the applicant or co-applicants to develop management programs for four types of pollutant sources which discharge to large and medium municipal storm sewer systems. Discharges from large and medium municipal storm sewer systems are usually expected to be composed primarily of: (1) Runoff from commercial and residential areas; (2) storm water runoff from industrial areas; (3) runoff from construction sites; and (4) non-storm water discharges. Part 2 of the permit application has been designed to allow the applicant the opportunity to propose MEP control measures for each of these components of the discharge. Discharges from some municipal systems may also contain pollutants from other sources, such as runoff from land disposal activities (leaking septic tanks, landfills and land application of sewage sludge). Where other sources, such as land disposal, contribute significant amounts of pollutants to a municipal storm sewer system, appropriate control measures should be included on a site-specific basis. Proposed management programs will then be evaluated in the development of permit conditions.

There is some overlap in the manner in which these pollutant sources are characterized and their sources identified. For instance, improper disposal of oil into storm drains is often associated with do-it-yourself automobile oil changes in residential areas, or improper application or over-use of herbicides and pesticides in residential areas can also occur in industrial areas. Also, some control measures will reduce pollutant loads for multiple components of the municipal storm sewer discharge. These measures should be identified under all appropriate places in the application; as discussed below, however, double counting of pollutant removal must be avoided when the total assessment of control measures is performed.

Although many land use programs have multiple purposes, including the reduction of pollutants in discharges from municipal separate storm sewer systems, the proposed management programs in today's rule are intended to address only those controls which can be implemented by the permit applicant or co-applicants. EPA cannot abrogate its responsibilities under the CWA to implement the NPDES permit program by relying on pollution control programs that are outside the NPDES program. For example, municipal permit management programs may not rely exclusively on erosion or sediment control laws for implementing that portion of management programs that address discharges from construction sites, unless such laws implement NPDES permit program requirements entirely and that such implementation is a part of the permit.

EPA anticipates that storm water management programs will evolve and mature over time. The permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality. The proposed permit applications will require applicants to provide a description of the range of control measures considered for implementation during the term of the permit. Flexibility in developing permit conditions will be encouraged by providing applicants an opportunity to identify in the permit application priority controls appropriate for the initial implementation of management programs. Many commenters endorsed the flexible site-specific storm water program approach as proposed as a method for addressing regional water quality control programs in a cost effective manner. To this extent, EPA agrees with one municipality that management programs should focus on more serious problems and sources of pollutants identified in the municipal system. However, EPA believes that to implement section 402(p)(3), comprehensive storm water management programs which address a number of major sources of pollutants to a system are necessary. Municipal programs should not be focused solely on a single source of pollution, such as illicit connections.

One commenter maintained that management program development ***48053** should be flexible enough to allow for consideration of what is attainable based on the area's climate, vegetation, hydrology, and land uses. EPA agrees with this comment. Some strategies for reducing pollutants in the northeast will not be practical in the southwest, such as management programs for deicing activities. The permit application process will determine what strategies are appropriate in different locations.

Several commenters supported addressing storm water pollutant problems through management practices or programs rather than end of pipe controls or treatment. EPA agrees with this comment to the extent that storm water management

practices are a general theme of this rulemaking with regard to municipal permits. However, there will be cases where such discharges are best addressed through technology such as retention, detention or infiltration ponds.

One commenter reacted unfavorably to the flexible site-specific management plan approach stating that there is no hard criteria upon which to judge the adequacy of programs. Another commenter felt that there should be a BAT standard for municipal permits. Another commenter stated that the rule should contain specific BMPs that the permittee must comply with. EPA disagrees with these comments. The Clean Water Act requires municipalities to apply for permits that will reduce pollutants in discharges to the maximum extent practicable and sets out the types of controls that are contemplated to deal with storm water discharges from municipalities. The language of CWA section 402(p)(3) contemplates that, because of the fundamentally different characteristics of many municipalities, municipalities will have permits tailored to meet particular geographical, hydrological, and climatic conditions. Management practices and programs may be incorporated into the terms of the permit where appropriate. Permit conditions, which require that storm water management programs be developed and implemented or require specific practices, are enforceable in accordance with the terms of the permit. EPA disagrees with the notion that this regulation, which addressed permit application requirements, should create mandatory permit requirements which may have no legitimate application to a particular municipality. The whole point of the permit scheme for these discharges is to avoid inflexibility in the types and levels of control. Further, to the degree that such mandatory requirements may be appropriate, these requirements should be established under the authority of section 402(p)(6) of the CWA and not in this rulemaking, which addresses permit application requirements.

Some commenters suggested that management programs should be developed as part of the permit conditions and not as part of the permit application. EPA agrees that management programs and their ongoing development should be part of the permit term. However, EPA is convinced, and many commenters agree, that the permit application should contain information on what the permittee has done to date and what it proposes and plans to do during the permit term based upon its discharge characterization and source identification data. This is a reasonable and logical approach and one that meets the intent and letter of section 402(p)(3) of the CWA. As stated above, this would be an appropriate method for implementing storm water management programs that should mature and evolve over time.

Applicants will propose priorities based on a consideration of appropriate controls including, but not limited to, consideration of controls that address: reducing pollutants to municipal separate storm sewer system discharges that are associated with storm water from commercial and residential areas (§ 122.26(d)(2)(iv)(A)); illicit discharges and illegal disposal (§ 122.26(d)(2)(iv)(B)); storm water from industrial areas (§ 122.26(d)(2)(iv)(C)); and runoff from construction sites (§ 122.26(d)(2)(iv)(D)). Permits for different municipalities will place different emphasis on controlling various components of discharges from municipal storm sewers. For example, the potential for cross-connections (such as municipal sewage or industrial process wastewater discharges to a municipal separate storm sewer) is generally expected to be greater in municipalities with older developed areas. On the other hand, municipalities with larger areas of new development will have a greater opportunity to focus controls to reduce pollutants in storm water generated by the area after it is developed, discharges from construction sites, and other planning activities.

EPA requested comments on the process and methods for developing appropriate priorities in management programs proposed in applications and how the development of these priorities can be coordinated with controls on other discharges to ensure the achievement of water quality standards and the goals of the CWA.

Discharges from diffuse sources in residential areas was recognized by several commenters as a significant source of pollutants. Accordingly, these elements of the management plans have been retained. In conjunction with the importance of developing programs for illicit connections, numerous commenters stated that education programs are a priority. Another commenter emphasized that ordinances prohibiting such discharges and their enforcement is a crucial means of a successful program in this regard. EPA agrees with these comments and consequently will retain those portions

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of management program development that include a description of a program for educational activities such as public information for the proper disposal of oil and toxic materials and the use of herbicides, pesticides and fertilizers.

Some commenters noted that discharge characterization is necessary for development of appropriate management plans. EPA agrees with these comments and has retained the discharge characterization components in this rulemaking. However, EPA disagrees that the results of all discharge characterization procedures (i.e., part 1 and part 2) are necessary to describe and propose a program as required in part 2 of the application. The application of various models is available to permit applicants, where needed, to develop appropriate management programs. All available site specific discharge characterization data should be available to the permit writer to draft appropriate conditions for the term of the permit.

One commenter noted that an important aspect of developing management plans is establishing the necessary legal authority to improve water quality. EPA agrees with this comment and has retained those aspects of the regulation which call for development and attainment of adequate legal authority in both parts of the municipal application.

One commenter stated that programs should address previously identified water quality problems in other programs that are required by section 304(1) of the CWA. EPA agrees that identified water quality problems need to be addressed by management programs, and the municipal permit application will call for an identification of these waters. However, EPA does not endorse addressing these waters to the exclusion of all others within the boundaries of the municipal separate storm sewer system. Some waters may experience substantial degradation after rain events and still not be listed under ***48054** section 304(1). Further, water quality impacts in listed waters may not be related to storm water discharges, while other non-listed waters do have water quality impacts from storm water discharges. Similarly, EPA agrees with one commenter that it may be desirable to focus attention and resources on certain problem watersheds within a municipality, and controls may be imposed and programs prioritized on that basis. However, such a focus should not be to the exclusion of other waters and watersheds that have water quality problems (although less troublesome) traceable to storm water discharges. The CWA requires that permits address discharges to waters of the United States, not just waters previously targeted under special programs.

Some commenters expressed concern that the permit application requires the design of management programs before knowing what will be in the permits. EPA disagrees with the thrust of this comment, that is that the order of requirements is inappropriate. The permit applicant will have two years to develop proposed plans which can be considered by permit writers in the development of the permit. Based upon a consideration of the management program proposed by the municipality and other relevant information, permits can be tailored for individual programs. One commenter stated that the cornerstone of management programs are inspection and enforcement programs. EPA agrees that these two elements are important components. Without inspection and enforcement mechanisms the programs will undoubtedly falter. Accordingly these requirements in the description of management programs in the permit application have been retained. In a similar vein, one commenter emphasized the importance of developing legal authority, financial capability, and administrative infrastructure. EPA agrees with this comment and has retained those aspects of the regulation that call for a description of applicants plans and resources in these areas.

One commenter stressed that control of discharges into the municipal system from industries is an important goal of municipal storm water management programs. EPA agrees with this comment and has retained the proposed description of management programs to address discharges from industrial sources. Other commenters identified industries as the principal contributors of pollutants to municipal separate storm sewer systems.

In addition, EPA will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under section 402(p)(5) of the CWA. One purpose of these studies will be to evaluate the costs and water quality benefits associated with implementing these procedures and methods. This evaluation will address a number of factors which impact the implementation costs associated with these programs, such as the extent to which similar municipal ordinances are currently being implemented, the degree to which

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existing municipal programs (such as flood management programs or construction site inspections) can be expanded to address water quality concerns, the resource intensiveness of the control, and whether the control program will involve public or private expenditures. This information, along with information gained during permit implementation will aid in the dynamic long-term development of municipal storm water management programs.

a. Measures to reduce pollutants in runoff from commercial and residential areas. The NURP program evaluated runoff from lands primarily dedicated to residential and commercial activities. The areas evaluated in the study reflect some other activities, such as light industry, which are commonly dispersed among residential and commercial areas. The NURP study selected sampling locations that were thought to be relatively free of illicit discharges and storm water from heavy industrial sites including storm water runoff from heavy construction sites. Of course, in a study such as NURP it was impossible to totally isolate various contributions to the runoff. In developing the permit application requirements in today's rule EPA has, in general, relied on the NURP definition of urban runoff—runoff from lands used for residential, commercial and light industrial activities.

NURP and numerous other studies have shown that runoff from residential and commercial areas washes a number of pollutants into receiving waters. Of equal importance is the volume of storm water runoff leaving urban areas during storm events. Large intermittent volumes of runoff can destroy aquatic habitat. As the percentage of paved surfaces increases, the volume and rate of runoff and the corresponding pollutant loads also increase. Thus, the amount of storm water runoff from commercial and residential areas and the pollutant loadings associated with storm water runoff increases as development progresses; and they remain at an elevated level for the lifetime of the development.

Proposed § 122.26(d)(2)(iv)(A) requires municipal storm sewer system applicants to provide in part 2 of the application a description of a proposed management program that will describe priorities for implementing management programs based on a consideration of appropriate controls including:

- A description of maintenance activities and a maintenance schedule for structural controls;

- A description of planning procedures including a comprehensive master plan to control after construction is completed, the discharge of pollutants from municipal separate storm sewers which receive discharges from new development and significant redevelopment after construction is completed (in response to comment this contemplates an engineering policy and procedure strategy with long term planning);

- A description of practices for operating and maintaining public highways and procedures for reducing the impact on receiving waters of such discharges from municipal storm sewer system;

- A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies; and

- A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

Water quality problems caused by municipal storm sewer discharges will generally be most acute in heavily developed areas. Prevention measures may be desirable and cost effective. However, structural control measures may also be effective, although opportunities for implementing these measures may be limited in previously developed areas. Commonly used structural technologies include a wide variety of treatment techniques, including first flush diversion systems, detention/infiltration basins, retention basins, extended detention basins, infiltration trenches, porous

pavement, oil/grit separators, grass swales, and swirl concentrators. A major problem associated with sound storm water management is the need for operating ***48055** and maintaining the system for its expected life.

The unavailability of land in highly developed areas often makes the use of structural controls infeasible for modifying many existing systems. Non-structural practices can play a more important role. Non-structural practices can include erosion control, streambank management techniques, street cleaning operations, vegetation/lawn maintenance controls, debris removal, road salt application management and public awareness programs.

As noted above, the first component of the proposed program to reduce pollutants in storm water from commercial and residential areas which discharge to municipal storm sewer systems is to describe maintenance activities and schedule. The second component of the proposed program to reduce pollutants in storm water from commercial and residential areas which discharge to municipal storm sewer systems provides that applicants describe the planning procedures and a comprehensive master plan that will assure that increases of pollutant loading associated with newly developed areas are, to the maximum extent practicable, limited. These measures should address storm water from commercial and residential areas which discharge to the municipal storm sewer that occur after the construction phase of development is completed. Controls for construction activities are addressed later in today's rule. One commenter noted the feasibility of developing management plans for newly developing areas. EPA agrees with this comment and has retained that portion of the regulation that deals with a description of controls for areas of new development. Similarly, one municipality stressed the importance and achievability of addressing storm water discharges from construction sites.

As urban development occurs, the volume of storm water and its rate of discharge increases. These increases are caused when pavement and structures cover soils and destroy vegetation which otherwise would slow and absorb runoff. Development also accelerates erosion through alteration of the land surface. Areas that are in the process of development offer the greatest potential for utilizing the full range of structural and non-structural best management practices. If these measures are to provide controls to reduce pollutant discharges after the area has been developed, comprehensive planning must be used to incorporate these measures as the area is in the process of developing. These measures offer an important opportunity to limit increases in pollutant loads.

The third component of § 122.26(d)(2)(iv)(A) provides a description of practices for operating and maintaining public roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems. General guidelines recommended for managing highway storm water runoff include litter control, pesticide/herbicide use management, reducing direct discharges, reducing runoff velocity, grassed channels, curb elimination, catchbasin maintenance, appropriate streetcleaning, establishing and maintaining vegetation, development of management controls for salt storage facilities, education and calibration practices for deicing application, infiltration practices, and detention/retention practices.

The fourth component of § 122.26(d)(2)(iv)(A) provides that applicants identify procedures that enable flood management agencies to consider the impact of flood management projects on the water quality of receiving streams. A well-developed storm water management program can reduce the amount of pollutants in storm water discharges as well as benefit flood control objectives. As discussed above, increased development can increase both the quantity of runoff from commercial and residential areas and the pollutant load associated with such discharges. Disturbing the land cover, altering natural drainage patterns, and increasing impervious area all increase the quantity and rate of runoff, thereby increasing both erosion and flooding potential. An integrated planning approach helps planners make the best decisions to benefit both flood control and water quality objectives.

The fifth component of § 122.26(d)(2)(iv)(A) would provide that municipal applicants submit a description of a program to reduce, to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer. Such a program may include controls such as educational activities and other measures for commercial applicators and distributors and controls for application in public rights-

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of-way and at municipal facilities. Discharges of these materials to municipal storm sewer systems can be controlled by proper application of these materials. Some commenters noted that insecticides used in residential areas are a probable source of pollutants in storm water discharges from residential areas, as well as salting and other de-icing activities. In response to this comment, part of a community management plan may include controls or education programs to limit the impacts of these sources of pollutants. One commenter noted that many communities already have household toxic disposal programs. Where appropriate these can be incorporated into municipal management programs.

Some commenters suggested substituting the management program description for residential and commercial areas with a simple identification of applicable management practices. EPA agrees that identification of appropriate management practices is a critical component of a program description for these areas. In essence, this is what the program description is designed to achieve. However, for the reasons discussed in greater detail above, EPA is convinced that an appropriate program must address all of the components of the management program for residential and commercial areas that are outlined in today's rule. Further, for the purposes of writing a permit with enforceable conditions, the application should identify a schedule to implement management practices. The applicant should be able to estimate the reduction in pollutant loads as a result of the development of certain management practices and programs (§ 122.26(d)(2)(v). A program may also include public education programs, which are not necessarily viewed as traditional BMPs.

b. Measures for illicit discharges and improper disposal. The CWA requires that NPDES permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers." In today's rule, EPA will begin to implement this statutory mandate by focusing on two types of discharges to large and medium municipal separate storm sewer systems. See § 122.26(d)(1)(iv)(D) and (d)(2)(iv)(B). One type of non-storm water discharges are illicit discharges which are plumbed into the system or that result from leakage of sanitary sewage system. The other class of non-storm water discharges result from the improper disposal of materials such as used oil and other toxic materials.

Illicit discharges. In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Although the ***48056** NURP study did not emphasize identifying illicit connections to storm sewers other than to assure that monitoring sites used in the study were free from sanitary sewage contamination, the study concluded that illicit connections can result in high bacterial counts and dangers to public health. The study also noted that removing such discharges presented opportunities for dramatic improvements in the quality of urban storm water discharges.

Other studies have shown that illicit connections to storm sewers can create severe, wide-spread contamination problems. For example, the Huron River Pollution Abatement Program inspected 660 businesses, homes and other buildings located in Washtenaw County, Michigan and identified 14% of the buildings as having improper storm drain connections. Illicit discharges were detected at a higher rate of 60% for automobile related businesses, including service stations, automobile dealerships, car washes, body shops and light industrial facilities. While some of the problems discovered in this study were the result of improper plumbing or illegal connections, a majority were approved connections at the time they were built. Many commenters emphasized the identification and elimination of illicit connections as a priority, including leakage from sanitary sewers. EPA agrees with these comments and intends to retain this portion of the program without modification.

A wide variety of technologies exist for detecting illicit discharges. The effectiveness of these measures largely depends upon the site-specific design of the system. Under today's rule, permit applicants would develop a description of a proposed management program, including priorities for implementing the program and a schedule to implement a program to identify illicit discharges to the municipal storm sewer system. This rulemaking will require the initial priorities for analyzing various portions of the system and the appropriate detection techniques to be used.

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Improper disposal. The permit application requirements for municipal storm sewer systems include a requirement that the municipal permit applicant describe a program to assist and facilitate in the proper management of used oil and toxic materials. Improper management of used oil can lead to discharges to municipal storm sewers that in turn may have a significant impact on receiving water bodies. EPA estimates that, annually, 267 million gallons of used oil, including 135 million gallons of used oil from do-it-yourself automobile oil changes, are disposed of improperly. An additional 70 million gallons of used oil, most coming from service stations and repair shops, are used for road oiling. Many commenters emphasized the elimination of discharges composed of improperly disposed of oil and toxic material. One commenter identified motor oil as the major source of oil contamination and that EPA needs to encourage proper disposal of used oil. Several other commenters emphasized the importance of recycling programs for oil. EPA agrees with these comments and intends to retain this portion of the program without modification. One commenter identified public awareness and timely reporting of illegal dumping as critical components of this portion of the program. EPA agrees with this comment and intends for management programs to deal with this problem.

c. Measures to reduce pollutants in storm water discharges through municipal separate storm sewers from municipal landfills, hazardous waste treatment, disposal and recovery facilities that are subject to section 313 of title III of SARA. As discussed in section VI.C of today's preamble, industrial facilities that discharge storm water through a large or medium municipal separate storm sewer system are required to apply for a permit under § 122.26(c) or seek coverage under a promulgated general permit. Today's rule also requires the municipal storm sewer permittee to describe a program to address industrial dischargers that are covered under the municipal storm sewer permit. Today's rule requires the municipal applicant to identify such discharges (see source identification requirements under § 122.26(d)(2)(ii)), provide a description of a program to monitor pollutants in runoff from certain industrial facilities that discharge to the municipal separate storm sewer system, identify priorities and procedures for inspections, and establish and implement control measures for such discharges. Should a municipality suspect that an individual discharger is discharging pollutants in storm water above acceptable limits, and the owner/operator of the system has no authority over the discharge, the municipality should contact the NPDES permitting authority for appropriate action. Two example of possible action are: if the facility already has an individual permit, the permit may be reopened and further controls imposed; or if the facility is covered by a promulgated general permit, then an individual site-specific permit application may be required.

In the December 7, 1988, proposal, EPA requested comments concerning what storm water discharges from industrial facilities through municipal systems should be monitored. One of the proposed approaches was to require data on portions of the municipal system which receive storm water from facilities which are listed in the proposed regulatory definition at § 122.26(b)(14) of “storm water discharge associated with industrial activity” (with the exception of construction activities and uncontaminated storm water from oil and gas operations) which discharge through the municipal system. However, given the large number of facilities meeting this definition that discharge through municipal systems, a monitoring program that requires the submission of quantitative data regarding portions of the municipal systems receiving storm water from such facilities may not be practicable. Such a requirement could, for some systems, potentially become the most resource intensive requirements in the municipal permit. Therefore, EPA proposed various ways to develop appropriate targeting for monitoring programs.

EPA requested comments on a requirement that, at a minimum, monitoring programs address discharges from municipal separate storm sewer outfalls that contain storm water discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, and runoff from industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Section 313 of title III requires that operators or certain facilities that manufacture, import, process, or otherwise use certain toxic chemicals report annually their releases of those chemicals to any environmental media. Section 313(b) of title III specifies that a facility is covered for the purposes of reporting if it meets all of the following criteria:

- The facility has ten or more full-time employees;

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- The facility is in Standard Industrial Classification (SIC) codes 20 through 39;

- The facility manufactured (including quantities imported), processed, or otherwise used a listed chemical in amounts that exceed certain threshold quantities during the calendar year for which reporting is required.

Listed chemicals include 329 toxic chemicals listed at 40 CFR 372.45. After 1989, the threshold quantities of listed chemicals that the facility must manufacture, import or process (in order to trigger the submission of a release ***48057** report) is 25,000 pounds per year. The threshold for a use other than manufacturing, importing or processing of listed toxic chemicals is 10,000 pounds per year. EPA promulgated a final regulation clarifying these reporting requirements on February 16, 1988, (53 FR 4500).

EPA received numerous comments regarding limiting the types of facilities that are initially subject to monitoring and municipal management programs. Numerous municipalities agreed that focusing on the above facilities is an appropriate means for setting priorities for the development of control measures to eliminate or reduce pollutants associated with industrial facilities. Commenters agreed that the potential for toxic materials in discharges is high because of the high volume of such materials at these facilities and that information regarding discharges and material management practices will be available through section 313 of SARA. One commenter noted that building on an established program will contribute to establishing an effective storm water program. Accordingly, EPA has specified at § 122.26(d)(2)(ii)(C) that the municipal applicant must describe a program that identifies priorities and procedures for inspections and establishing and implementing control measures for these facilities.

Several commenters suggested that these facilities should not be singled out because the presence of the threshold amounts of SARA 313 chemicals does not indicate that significant quantities of those chemicals are likely to enter the facility's storm water runoff. Instead it was suggested that municipalities should monitor storm sewers as a whole to determine what chemicals are present and therefore what facilities are responsible. EPA disagrees with these comments. The object of these requirements is initially to set priorities for monitoring requirements. Then, if the situation requires, controls can be developed and instituted. If a facility is a member of this class of facilities and does not discharge excessive quantities of SARA 313 chemicals, then it may not be subjected to further monitoring and controls. As noted above, the selection of facilities is only a means of setting priorities for facilities for the development of municipal plans.

EPA agrees, however, that there will be other facilities that are significant sources of pollutants and should be addressed by municipalities as soon as possible under management programs. Accordingly, those industrial facilities that the municipal permit applicant determines to be contributing a substantial pollutant loading to the municipal storm sewer system shall be addressed in this portion of the municipal management program.

EPA also requested comments on monitoring programs for municipal discharges including the submission of quantitative data on the following constituents;

- Any pollutants limited in an effluent guidelines for the industry subcategories, where applicable;

- Any pollutant listed in a discharging facility's NPDES permits for process wastewater, where applicable;

- Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

- Any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

These are the same constituents that are to be addressed in individual permit applicants for storm water discharges associated with industrial activity.

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Several industries and municipalities submitted comments on this issue. Some commenters agreed that these are appropriate parameters. Some commenters advised that the ability of municipalities to implement this aspect of the program depended on industries submitting this data. Several industries provided comments suggesting that the approach should allow the permittee flexibility in determining which parameters are chosen because of the burdens of monitoring and the complexity of materials and flows in municipal systems.

In light of these comments, EPA has retained § 122.26(d)(2)(iv)(C) as proposed requiring municipalities to describe a monitoring program which utilizes the above parameters. Monitoring for these parameters provides consistency with the individual application requirements for industries, provides uniformity in municipal applications, and will narrow the parameters to conform to the types of industries discharging into the municipal systems. Monitoring programs may consist of programs undertaken by the municipality exclusively or requirements imposed on industry by the municipality, or a combination of approaches. Appropriate procedures are discussed in municipal permit application guidance.

EPA requested comments on appropriate means for municipalities to determine what facilities are contributing pollutants to municipal systems. Many commenters responded with numerous methodologies. Some of these have been addressed in guidance. Municipalities will have options in selecting the most appropriate methodology given their circumstances as described in their permit applications.

EPA initially favors establishing monitoring requirements to be applied to those outfalls that directly discharge to waters of the United States. EPA received one comment from a municipality with regard to this issue which agreed that this was the most logical approach. Monitoring of outfalls close to the point of discharge to waters of the United States is generally preferable when attempting to identify priorities for developing pollutant control programs. However, under certain circumstances, it may be preferable to monitor at the point where the runoff from the industrial facility discharges to the municipal system. For example, if many facilities discharge substantially similar storm water to a municipal system it may be more practicable to monitor discharges from representative facilities in order to characterize pollutants in the discharge.

As noted by numerous industries, if municipal characterization plans reveal problems from certain industrial dischargers, then such facilities may be required to provide further data from their own monitoring. As noted above, EPA envisions that this data could then be used to develop appropriate control practices or techniques and/or require individual permit applications if a general permit covering the facility proves inadequate.

Comments were also solicited as to whether end-of-pipe treatment generally was more appropriate than source controls for storm water from industrial facilities which discharge to municipal systems. Many commenters, including both municipalities and industries, stated that source controls are the only practical and feasible means of controlling pollutants in storm water runoff, and specifically opposed the concept of end-of-pipe treatment or other controls. Some commenters maintained that, from an economic and environmental standpoint, end-of-pipe treatment may be the only effective means. One advised that the prompt cleanup of spills, controlled wash down of process areas, covering of material loading areas, storm water runoff diversion, covered storage areas, detention basins or other such mechanisms would prevent storm water from mixing with pollutants and possibly discharging them into receiving waters. Another noted that in the urban areas, there is little potential for treatment; consequently, it would seem ***48058** that controls and/or retrofitting existing facilities would be necessary when violations are found and that citizens will be better served by source controls appropriate to the individual problem.

EPA agrees with these comments to the extent that source controls and management programs are the general thrust of these regulations. However, in some situations end-of-pipe treatment, such as holding ponds, may be the only reasonable alternative. EPA disagrees with one industrial commenter that the municipalities should be almost entirely responsible for treating municipal discharges at the end of-the-pipe without reliance on source controls by industrial dischargers. Municipal programs may require controls on industrial sources with demonstrated storm water discharge problems. One

industrial association noted that its member companies already have incentive to properly handle their materials and facilities because of other environmental programs with spill and erosion controls.

Numerous commenters stated that the program addressing industrial dischargers through municipal systems needs to be clearly defined in order to eliminate, as much as possible, potential conflicts between the system operator and dischargers. EPA has provided a framework for development of management plans to control pollutants from these particular sources. However, because of the differences in municipal systems and hydrology nationwide, EPA is not convinced that program specificity is an appropriate approach. The concept of the management program is to provide flexibility to the permit applicants to develop regional site specific control programs.

One commenter suggested that required controls should be limited to a facility's proportional contribution (based on concentration) of pollutants. EPA disagrees. Most facilities discharging through a municipal separate storm sewer will need to be covered by a general or individual permit. These permits will control the introduction of pollutants from that facility through the municipal storm sewer to the waters of the U.S. Any additional controls placed on the facility by the municipality will be at the discretion of the municipality. EPA is not requiring municipalities to adopt a particular level of controls on industrial facilities as suggested by the commenter.

One commenter questioned how dischargers that discharged both into the waters of the United States and through a municipal system will be addressed and whether there is a potential for inconsistent requirements. Industries that discharge storm water associated with industrial activity into the waters of the United States are required to be covered by individual permits or general permits for such discharges. Dischargers of storm water associated with industrial activity through municipal separate storm sewer systems will be subject to municipal management programs that address such discharges as well as to an individual or general NPDES permit for those discharges. EPA does not believe there is a significant risk of inconsistent requirements, since each industrial facility must meet BAT/BCT-level controls in its NPDES permit. EPA doubts that municipalities will impose much more stringent controls.

Many commenters stated that if cities and municipalities are to be responsible for industrial storm water discharges through their system, then municipalities should have authority to make determinations as to what industries should be regulated, how they are regulated, and when enforcement actions are undertaken. In response, EPA notes that the proposal has been changed and that municipalities will not be solely responsible for industries discharging through their system. Nonetheless, municipalities will be required to meet the terms of their permits related to industrial dischargers. Municipalities may undertake programs that go beyond the threshold requirements of the permit. Some municipal entities stated that municipal permittees should be able to require permit applications from industries in the same manner that EPA does and also require permits. In response, if operators of large and medium municipal separate storm sewer systems wish to employ such a program, then this portion of the management program may incorporate such practices.

d. Measures to reduce pollutants in runoff from construction sites into municipal systems. Section VI.F.8 of today's rule discusses EPA's proposal to define the term “storm water discharge associated with industrial activity” to include runoff from construction sites, including preconstruction activities except operations that result in the disturbance of less than 5 acres total land area which are not part of a larger common plan of development or sale. Under today's rule, facilities that discharge runoff from construction sites that meet this definition will be required to submit permit applications unless they are to be covered by another individual or general NPDES permit. Permit application requirements for such discharges are at 40 CFR 122.26(c)(1)(ii).

Section 122.26(d)(2)(iv)(D) of today's rule requires applicants for a permit for large or medium municipal separate storm sewer systems to submit a description of a proposed management program to control pollutants in construction site runoff that discharges to municipal systems. Under this provision, municipal applicants will submit a description of a program for implementing and maintaining structural and non-structural best management practices for controlling storm water runoff at construction sites. The program will address procedures for site planning, enforceable requirements

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for nonstructural and structural best management practices, procedures for inspecting sites and enforcing control measures, and educational and training measures. Generally, construction site ordinances are effective when they are implemented. However, in many areas, even though ordinances exist, they have limited effectiveness because they are not adequately implemented. Maintaining best management practices also presents problems. Retention and infiltration basins fill up and silt fences may break or be overtopped. Weak inspection and enforcement point to the need for more emphasis on training and education to complement regulatory programs. Permits issued to municipalities will address these concerns.

8. Assessment of Controls

EPA proposed that municipal applicants provide an initial assessment of the effectiveness of the control method for structural or non-structural controls which have been proposed in the management program. Some commenters stated that the assessment of controls should be left to the term of the permit because the effectiveness of controls will be hard to establish. EPA believes that an initial estimate or assessment is needed because the performance of appropriate management controls is highly dependent on site-specific factors. The assessment will be used in conjunction with the development of pollutant loading and concentration estimates (see VI.H.6.c) and the evaluation of water quality benefits associated with implementing controls. Such assessments do not have to be verified with quantitative data, but can be based on accepted engineering design practices. Further more precise assessments based upon quantitative data can be undertaken during the term of the permit.

48059** ***I. Annual Reports

As discussed earlier in today's preamble, EPA has provided for proposed flexible permit application requirements to facilitate the development of site-specific programs to control the discharge of pollutants from large and medium municipal separate storm sewer systems. Many municipalities are in the early stages of the complex task of developing a program suitable for controlling pollutants in discharges under a NPDES permit, while other municipalities have relatively sophisticated programs in place. In order to ensure that such site-specific programs are developed in a timely manner, EPA proposed to require permittees of municipal separate storm sewer systems to submit status reports every year which reflect the development of their control programs.

The reports will be used by the permitting authority to aid in evaluating compliance with permit conditions and where necessary, modify permit conditions to address changed conditions. EPA requested comments on the appropriate content of the annual reports. Based on these comments EPA has added the following in these reports: an analysis of data, including monitoring data, that is accumulated throughout the year; new outfalls or discharges; annual expenditures; identification of water quality improvements or degradation on watershed basis; budget for year following each annual report; and administrative information including enforcement activities, inspections, and public education programs. EPA views this information as important for evaluating the municipal program. Annual monitoring data and identified water quality improvements are important for evaluating the success of management programs in reducing pollutants. If new outfalls come into existence during the term of the permit, these may be sources of pollutants and appropriate permit conditions will be developed. Annual reports should reflect the level of enforcement activity and inspections undertaken to ensure that the legal authority developed by the municipality is properly exercised. Many of the management programs depend upon an ongoing high level of public education. Accordingly, the undertaking of these programs on an annual basis should be documented.

J. Application Deadlines

The CWA provided a statutory time frame for implementing the storm water permit application process and issuance and compliance with permits.

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The CWA requires EPA to promulgate permit application requirements for storm water discharges associated with industrial activity and for large municipal separate storm sewer systems by "no later than two years" after the date of enactment (i.e. no later than February 4, 1989). In conjunction with this requirement, the Act requires that permit applications for these classes of discharges be submitted within one year after the statutory date by which EPA is to promulgate permit application requirements by providing that such applications "shall be filed no later than three years" after the date of enactment of the WQA (i.e., no later than February 4, 1990).

The CWA also requires EPA to promulgate final regulations governing storm water permit application requirements for discharges from municipal separate storm sewer systems serving a population of 100,000 or more but less than 250,000 by "no later than four years" after enactment (i.e. no later than February 4, 1991). Permit applications for medium municipal separate storm sewer systems "shall be filed no later than five years" after the date of enactment of the CWA (i.e., no later than February 4, 1992). The CWA did not establish the time period between designation and permit application submittal for case-by-case designations under section 402(p)(2)(E).

Comments on earlier rulemakings involving storm water application deadlines have established that applicants need adequate time to obtain "representative" storm water samples. Many commenters have indicated that at least one full year is needed to obtain such samples. This is because many discharges are located in areas where testing during dry seasons or winter would not be feasible. The intermittent and unpredictable nature of storm water discharges can result in difficult and time-consuming data gathering. Moreover, some operators of municipal separate storm sewer systems have many storm water discharges associated with industrial activity, which can require considerable time to identify, analyze, and submit applications. This creates a tremendous practical problem for the extremely high number of unpermitted storm water discharges. The public's interest in a sound storm water program and the development of a useful storm water data base is best served by establishing an application deadline which will allow sufficient time to gather, analyze, and prepare meaningful applications. Based on a consideration of these factors, EPA proposed that individual permit applications for storm water discharges associated with industrial activity, which currently are not covered by a permit and that are required to obtain a permit, be submitted one year after the final rule is promulgated.

EPA received numerous comments from industries on the one year requirement for submitting applications. Several commenters supported the proposed deadline as realistic, while others believed more time was needed to meet the information and quantitative requirement.

EPA rejects the assertion by some commenters that a year is too short a period of time to obtain the required quantitative data. Today's rule generally requires applications for storm water discharges associated with industrial activity to be submitted on or before November 18, 1991. Operators of storm water discharges associated with industrial activity which discharge through a municipal separate storm sewer are subject to the same application deadline as other storm water discharges associated with industrial activity. Since final regulation at § 122.21(g)(7) provides considerable latitude for selecting rain events for quantitative data, EPA is convinced that in most cases data can be obtained during the one year time frame. If data cannot be collected during the one year time frame because of anomalous weather (e.g. drought conditions), then permitting authorities may grant additional time for submitting that data on a case-by-case basis. See § 122.21(g)(7).

Operators of storm water discharges which are currently covered by a permit will not be required to submit a permit application until their existing permit expires. In recognition of the time required to collect storm water discharge data, EPA will allow facilities which currently have a NPDES permit for a storm water discharge and which must reapply for permit renewal during the first year following promulgation of today's permit application requirements the option of applying in accordance with existing Form 1 and Form 2C requirements (in lieu of applying in accordance with the revised application requirements).

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As discussed in section VI.D.4 and section VI.F.6 of today's preamble, EPA has established a two part permit application both for both group applications for sufficiently similar facilities that discharge storm water associated with industrial activity and for operators of large or medium municipal separate storm sewer systems. The deadlines for submitting ***48060** permit applications in today's rule provide adequate time for: (1) Applicants to prepare Part 1 of the application; (2) EPA or an approved State to adequately review applications; and (3) applicants to prepare the contents of the part 2 application.

Part 1 of the group application for storm water discharges associated with industrial activity must be submitted within 120 days from the publication of these final permit application regulations. This time is necessary to form groups and for individual members of the group to prepare the non-quantitative information required in part 1 of the application. Part 1 of the group application will be submitted to EPA Headquarters in Washington, DC and reviewed within 60 days after being received. Part 2 of the application would then be submitted within one year after the part 1 application is approved. It should be noted that many facilities located in States in which general permits can be issued, will be eligible for coverage by a storm water general permit to be promulgated in the near future. Such facilities may either seek coverage under such general permits or participate in the group application.

Several comments were received by EPA that indicated that a period of 120 days was too short a period for groups to be formed. EPA disagrees with these comments. The information that EPA is requiring to be submitted by the group or group representative is information that is generally available such as the location of the facility, its industrial activity, and material management practices. EPA believes that 120 days is sufficient to gather and submit this information along with an identification of 10% of the facilities which will submit quantitative data. To ameliorate any difficulties for applicants, EPA has provided a means for late facilities to "add on" where appropriate, on a case-by-case basis, as discussed in section VI.F.4. above.

Several comments were received with regard to the requirement that new dischargers submit an application at least 180 days before the date on which the discharge is to commence. One commenter noted that it will be difficult for a facility to know when a storm water discharge is to commence since precipitation and runoff cannot be predicted to any degree of accuracy. In response, new dischargers must apply for a storm water permit application 180 days before that facility commences manufacturing, processing, or raw material storage operations which may result in the discharge of pollutants from storm water runoff, and 90 days for new construction sites.

For large municipal separate storm sewer systems (systems serving a population of more than 250,000), EPA proposed that part 1 of the permit application be submitted within one year of the date of the final regulations, with approval or disapproval by the permit issuing authority of the provisions of the part 1 permit application within 90 days after receiving part 1 of the application. The Part 2 portion of the application was to be submitted within two years of the date of promulgation.

For medium municipal separate storm sewer systems (systems serving a population of more than 100,000, but less than 250,000), EPA proposed that permit applications would be required nine months after the date of the final rule, with approval or disapproval of the provisions of the part 1 permit application within 90 days after receiving the part 1 application. The part 2 portion of the application would then be submitted no later than one year after the part 1 application has been approved.

Numerous comments were received by EPA from municipalities on these proposed deadlines. Many of these comments reflect the sentiment that the deadlines are too tight and that the required information would not be available for submission within the required time frame. Some commenters suggested deadlines that would add over three years to the permit application process. Other commenters suggested a revamped application process and a shorter deadline of 18 months. Some commenters explained that additional time would be needed to obtain adequate legal authority, while another stated that an inventory of outfalls required more time. One commenter maintained that intergovernmental

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agreements will require more time to prepare, and others expressed the view that more time was needed for the review of part 1 of the application by permitting authorities. Others felt more time was needed for collecting data, or hiring additional staff to accomplish the work. Most of these commenters did not provide specific details regarding what would be an appropriate amount of time and why.

After reviewing these comments EPA has decided to modify some of the deadlines as proposed. EPA is convinced that to properly achieve the goals of the CWA, the permit application requirements as discussed in previous sections are appropriate; but that the deadlines for medium municipal separate storm sewer systems should be adjusted so that the program's goals can be properly accomplished. After reviewing comments, EPA believes that medium municipalities will have fewer resources and existing institutional arrangements than large cities and therefore more time should be granted to these cities for submitting parts 1 and 2 of the application.

Accordingly EPA will require large municipal systems to submit part 1 of the permit application no later than November 18, 1991. Part 1 will be reviewed and approved or disapproved by the Director within 90 days. Part 2 of the application will then be submitted November 16, 1992. Medium municipal systems will submit part 1 of the application on May 18, 1992. Approval or disapproval by the Director will be accomplished within 90 days. Part 2 of the application will be submitted by May 17, 1993. These deadlines will give large systems two years to complete the application process, and medium systems 2 years and 6 months to submit applications. EPA is convinced that the permit application schedule is warranted and should provide adequate time to prepare the application.

In establishing these regulatory deadlines EPA is fully aware that they are not synchronized with the statutory deadlines as established by Congress. One commenter argued that the deadlines as proposed were contrary to the deadlines established by Congress and that EPA had no authority to extend these deadlines. (For large municipal separate storm sewer systems and storm water discharges associated with industrial activity, Congress established a deadline of February 4, 1990, for submission of permit applications; for medium municipal separate storm sewer systems, the deadline is February 4, 1992.) In response, this regulation provides certain deadlines for meeting the substantive requirements of this rulemaking—requirements which EPA is convinced are necessary for the development of enforceable and sound storm water permits. EPA believes it is important to give applicants sufficient time to reasonably comply with the permit application requirements set out today. EPA will therefore accept applications for storm water discharge permits up to the dates specified in today's rule. By establishing these regulatory deadlines, however, EPA is not attempting to waive or revoke the statutory deadlines established in Section 402(p) of the CWA and does not assert the authority to do so. The statutory permit application deadlines ***48061** continue to be enforceable requirements.

EPA was not able to promulgate the final application regulations for storm water discharges before the February 4, 1990, deadline for industrial and large municipal dischargers despite its best efforts. Further, as noted above, EPA is not able to waive the statutory deadline. Dischargers concerned with complying with the statutory deadline should submit a permit application as required under this rulemaking as expeditiously as possible.

Operators of storm water discharges that are not specifically required to file a permit application under today's rule may be required to obtain a permit for their discharge on the basis of a case-by-case designation by the Administrator or the NPDES State.

The Administrator or NPDES State may also designate storm water discharges (except agricultural storm water discharges), that contribute to a violation of a water quality standard or that are significant contributors of pollutants to waters of the United States for a permit. Prior to a case-by-case determination that an individual permit is required for a storm water discharge, the Administrator or NPDES State may require the operator of the discharge to submit a permit application. 40 CFR 124.52(c) requires the operator of designated storm water discharges to submit a permit application within 60 days of notice, unless permission for a later date is granted. The 60-day deadline is consistent with the procedures for designating other discharges for a NPDES permit on a case-by-case basis found at 40 CFR 124.52.

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The 60-day deadline recognizes that case-by-case designations often require an expedited response, however, flexibility exists to allow for case-by-case extensions.

The December 7, 1988, proposal also proposed Part 504 State Storm Water Management Programs. The Agency has not included this component in today's rule. The Agency believes this program element is appropriate for addressing in regulations promulgated under section 402(p)(6) of the CWA.

VII. Economic Impact

EPA has prepared an Information Collection Request for the purpose of estimating the information collection burden imposed on Federal, State and local governments and industry for revisions to NPDES permit application requirements for storm water discharges codified in 40 CFR part 122. EPA is promulgating these revisions in response to Section 402(p)(4) of the Clean Water Act, as amended by the Water Quality Act of 1987 (WQA). The revisions would apply to: Storm water discharges associated with industrial activity; discharges from municipal separate storm sewer systems serving a population of 250,000 or more and discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000.

The estimated annual cost of applying for NPDES permits for discharges from municipal separate storm sewer systems is $4.2 million. EPA estimates that an average permit application for a large municipality will cost $76,681 and require 4,534 hours to prepare. The average application for a medium municipality will cost $49,249 (2,912 hours) to prepare. The annual respondent cost for NPDES permit applications, notices of intent, and notifications for facilities with discharges associated with industrial activity is estimated to be $9.5 million (271,248 hours). EPA estimates that the average preparation cost of an individual industrial permit application would be $1,007 (28.6 hours). Average Group application will cost $74.00 per facility (2.1 hours). The average cost of the notification and notice of intent to be covered by general permit is $17.00 (0.5 hours).

The annual cost to the Federal Government and approved States for administration of the program is estimated to be $588,603. The total cost for municipalities, industry, and State and Federal authorities is estimated to be $14.5 million annually.

In general, the cost estimates provided in the ICR focus primarily on the costs associated with developing, submitting and reviewing the permit applications associated with today's rule. EPA will continue to evaluate procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality in the studies required under section 402(p)(5) of the CWA. Executive Order 12291 requires EPA and other agencies to perform regulatory analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million or more annually or have certain other economic impacts. Today's proposed amendments would generally make the NPDES permit application regulations more flexible and less burdensome for the regulated community. These regulations do not, satisfy any of the criteria specified in section 1(b) of the Executive Order and, as such, do not constitute a major rule. This regulation was submitted to the Office of Management and Budget (OMB) for review.

VIII. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the Office of Management and Budget (OMB) under provision of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and have been assigned OMB control number 2040-0086.

Public reporting burden for permit applications for storm water discharges associated with industrial activity (other than from construction facilities) is estimated to average 28.6 hours per individual permit application, 0.5 hours per notice of intent to be covered by general permit, and 2.1 hours per group applicant. The public reporting burden for permit applications for storm water discharges associated with industrial activity from construction activities submitting

individual applications is estimated to average 4.5 hours per response. The public reporting burden for facilities which discharge storm water associated with industrial activity to municipal separate storm sewers serving a population over 100,000 to notify the operator of the municipal separate storm sewer system is estimated to average 0.5 hours per response.

The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 250,000 or more is estimated to average 4,534 hours per response. The reporting burden for system-wide permit applications for discharges from municipal separate storm sewer systems serving a population of 100,000 or more, but less than 250,000 is estimated to average 2,912 hours per response. Estimates of reporting burden include time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

IX. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 60*l* et seq., EPA is required to prepare a Regulatory Flexibility Analysis to assess the impact of rules on small entities. No Regulatory Flexibility Analysis is required, however, where the head of the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.

Today's amendments to the regulations would generally make the NPDES permit applications regulations more flexible and less burdensome for permittees. Accordingly, I hereby ***48062** certify, pursuant to 5 U.S.C. 605(b), that these amendments do not, have a significant impact on a substantial number of small entities.

List of Subjects in 40 CFR Parts 122, 123, and 124

Administrative practice and procedure, Environmental protection, Reporting and recordkeeping requirements, Water pollution control.

Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

Dated: October 31, 1990.

William K. Reilly,

Administrator.

For the reasons stated in the preamble, parts 122, 123, and 124 of title 40 of the Code of Federal Regulations are amended as follows:

PART 122—EPA ADMINISTERED PERMIT PROGRAMS; THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart B—Permit Application and Special NPDES Program Requirements

1. The authority citation for part 122 continues to read as follows:

Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

2. Section 122.1 is amended by revising paragraph (b)(2)(iv) to read as follows:

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§ 122.1 Purpose and scope.
* * * * *
(b) * * *

(2) * * *

(iv) Discharges of storm water as set forth in § 122.26; and
* * * * *
3. Section 122.21 is amended by revising paragraph (c)(1), by removing the last sentence of paragraph (f)(7), by removing paragraph (f)(9), by adding two sentences at the end of paragraph (g)(3), by revising paragraph (g)(7) introductory text, by removing and reserving paragraph (g)(10) and by revising the introductory text of paragraph (k) to read as follows:

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).
* * * * *
(c) Time to apply. (1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity. Facilities described under § 122.26(b)(14)(x) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and § 122.26 (c)(1)(i)(G) and (c)(1)(ii).
* * * * *
(g) * * *

(3) * * * The average flow of point sources composed of storm water may be estimated. The basis for the rainfall event and the method of estimation must be indicated.
* * * * *
(7) Effluent characteristics. Information on the discharge of pollutants specified in this paragraph (except information on storm water discharges which is to be provided as specified in § 122.26). When "quantitative data" for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that the quantitative data also apply to the substantially identical outfalls. The requirements in paragraphs (g)(7) (iii) and (iv) of this section that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. Grab samples must be used for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform and fecal streptococcus. For all other pollutants, 24-hour composite samples must be used. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. For storm water discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area. For all applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge. The flow-weighted composite sample for a storm water

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discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes (applicants submitting permit applications for storm water discharges under § 122.26(d) may collect flow weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director). However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first thirty minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in § 122.26(c)(1). For all storm water permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in § 122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under 40 CFR part 136, and additional time for submitting data on a ***48063** case-by-case basis. An applicant is expected to "know or have reason to believe" that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

* * * * *

(k) Application requirements for new sources and new discharges. New manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits (except for new discharges of facilities subject to the requirements of paragraph (h) of this section or new discharges of storm water associated with industrial activity which are subject to the requirements of § 122.26(c)(1) and this section (except as provided by § 122.26(c)(1)(ii)) shall provide the following information to the Director, using the application forms provided by the Director:

* * * * *

4. Section 122.22(b) introductory text is revised to read as follows:

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

* * * * *

(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

* * * * *

5. Section 122.26 is revised to read as follows:

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) Permit requirement. (1) Prior to October 1, 1992, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

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(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at § 122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:
(A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from mining operations or oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(3) Large and medium municipal separate storm sewer systems. (i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(1) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

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(2) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(3) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4) (i), (ii), and (iii) or (b)(7) (i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

***48064** (4) Discharges through large and medium municipal separate storm sewer systems. In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) Other municipal separate storm sewers. The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) Non-municipal separate storm sewers. For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

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(7) Combined sewer systems. Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. See 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(b) Definitions. (1) Co-permittee means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) Incorporated place means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) Large municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the latest Decennial Census by the Bureau of Census (appendix F); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4) (i), (ii), (iii) of this section.

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(5) Major municipal separate storm sewer outfall (or "major outfall") means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) Major outfall means a major municipal separate storm sewer outfall.

(7) Medium municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the latest Decennial Census by the Bureau of Census (appendix G); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4) (i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4) (i) or (ii) of this section. In making this determination the Director may consider the following factors:

***48065** (A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

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(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

(9) Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) Overburden means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) Runoff coefficient means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 CFR part 122. For the categories of industries identified in paragraphs (b)(14) (i) through (x) of this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph (b)(14)(xi) of this section, the term includes only storm water discharges from all the areas (except access roads and rail lines) that are listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph (b)(14)(i)-(xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in “industrial activity” for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

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(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 31*l*, 32 (except 323), 33, 344l, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined ***48066** materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)-(vii) or (ix)-(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan of development or sale;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (ii)-(x));

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(c) Application requirements for storm water discharges associated with industrial activity—(1) Individual application. Dischargers of storm water associated with industrial activity are required to apply for an individual permit, apply for a permit through a group application, or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit, or any discharge of storm water which the Director is evaluating for designation (see 40 CFR 124.52(c)) under paragraph (a)(1)(v) of this section and is not a municipal separate storm sewer, and which is not part of a group application described under paragraph (c)(2) of this section, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of the remainder of this paragraph. Applicants for discharges composed entirely of storm water shall submit Form 1 and Form 2F. Applicants for discharges composed of storm water and non-storm water shall submit Form 1, Form 2C, and Form 2F. Applicants for new sources or new discharges (as defined in § 122.2 of this part) composed of storm water and non-storm water shall submit Form 1, Form 2D, and Form 2F.

(i) Except as provided in § 122.26(c)(1)(ii)-(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(1) Any pollutant limited in an effluent guideline to which the facility is subject;

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(2) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(3) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(4) Any information on the discharge required under paragraph § 122.21(g)(7)(iii) and (iv) of this part;

***48067** (5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(i), (g)(7)(ii), and (g)(7)(v); and

(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) The operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

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(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or

(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under § 122.21(g)(13) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) Group application for discharges associated with industrial activity. In lieu of individual applications or notice of intent to be covered by a general permit for storm water discharges associated with industrial activity, a group application may be filed by an entity representing a group of applicants (except facilities that have existing individual NPDES permits for storm water) that are part of the same subcategory (see 40 CFR subchapter N, part 405 to 471) or, where such grouping is inapplicable, are sufficiently similar as to be appropriate for general permit coverage under § 122.28 of this part. The part 1 application shall be submitted to the Office of Water Enforcement and Permits, U.S. EPA, 401 M Street, SW., Washington, DC 20460 (EN-336) for approval. Once a part 1 application is approved, group applicants are to submit Part 2 of the group application to the Office of Water Enforcement and Permits. A group application shall consist of:

(i) Part 1. Part 1 of a group application shall:

(A) Identify the participants in the group application by name and location. Facilities participating in the group application shall be listed in nine subdivisions, based on the facility location relative to the nine precipitation zones indicated in appendix E to this part.

(B) Include a narrative description summarizing the industrial activities of participants of the group application and explaining why the participants, as a whole, are sufficiently similar to be a covered by a general permit;

(C) Include a list of significant materials stored exposed to precipitation by participants in the group application and materials management practices employed to diminish contact by these materials with precipitation and storm water runoff;

(D) Identify ten percent of the dischargers participating in the group application (with a minimum of 10 dischargers, and either a minimum of two dischargers from each precipitation zone indicated in appendix E of this part in which ten or more members of the group are located, or one discharger from each precipitation zone indicated in appendix E of this part in which nine or fewer members of the group are located) from which quantitative data will be submitted in part 2. If more than 1,000 facilities are identified in a group application, no more than 100 dischargers must submit quantitative data in Part 2. Groups of between four and ten dischargers may be formed. However, in groups of between four and ten, at least half the facilities must submit quantitative data, and at least one facility in each precipitation zone in which members of the group are located must submit data. A description of why the facilities selected to perform sampling and analysis are representative of the group as a whole in terms of the information provided in paragraph (c)(1)(i)(B) and (i)(C) of this section, shall accompany this section. Different factors impacting the nature of the storm water

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discharges, such as processes used and material management, shall be represented, to the extent feasible, in a manner roughly equivalent to their proportion in the group.

(ii) Part 2. Part 2 of a group application shall contain quantitative ***48068** data (NPDES Form 2F), as modified by paragraph (c)(1) of this section, so that when part 1 and part 2 of the group application are taken together, a complete NPDES application (Form 1, Form 2C, and Form 2F) can be evaluated for each discharger identified in paragraph (c)(2)(i)(D) of this section.

(d) Application requirements for large and medium municipal separate storm sewer discharges. The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include;

(1) Part 1. Part 1 of the application shall consist of;

(i) General information. The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) Legal authority. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) Source identification. (A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(1) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(2) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;

(3) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(4) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(5) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

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(6) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) Discharge characterization. (A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(1) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(2) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(3) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(4) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(5) Areas of concern of the Great Lakes identified by the International Joint Commission;

(6) Designated estuaries under the National Estuary Program under section 320 of the CWA;

(7) Recognized by the applicant as highly valued or sensitive waters;

(8) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and

(9) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) Field screening. Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field

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analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or ***48069** any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlayed on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (1) through (6) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced ¼ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) Characterization plan. Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (see paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) Management programs. (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source

controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) Fiscal resources. (A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) Part 2. Part 2 of the application shall consist of:

(i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) Source identification. The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) Characterization data. When “quantitative data” for a pollutant are required under paragraph (d)(a)(iii)(A)(3) of this paragraph, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under 40 CFR part 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

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(A) Quantitative data from representative outfalls designated by the Director (based on information received ***48070** in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(3) For samples collected and described under paragraphs (d)(2)(iii) (A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

COD

BOD5

Oil and grease

Fecal coliform

Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD5 , COD, TSS, dissolved

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solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

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(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

***48071** (B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncomtaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

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(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5 , TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) Fiscal analysis. For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) Application deadlines. Any operator of a point source required to obtain a permit under paragraph (a)(1) of this section that does not have an effective NPDES permit covering its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) For any storm water discharge associated with industrial activity identified in paragraph (b)(14) (i)-(xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or which is not covered under a

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promulgated storm water general permit, a permit application made pursuant to paragraph (c) of this section shall be submitted to the Director by November 18, 1991;

***48072** (2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1 of the application shall be submitted to the Director, Office of Water Enforcement and Permits by March 18, 1991;

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2 of the application shall be submitted to the Director, Office of Water Enforcement and Permits no later than 12 months after the date of approval of the part 1 application.

(iv) Facilities that are rejected as members of a group by the permitting authority shall have 12 months to file an individual permit application from the date they receive notification of their rejection.

(v) A facility listed under paragraph (b)(14) (i)-(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18,1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 60 days of notice, unless permission for a later date is granted by the Director (see 40 CFR 124.52(c)), for:

(i) A storm water discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraph (a)(1)(v) of this section);

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(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. New applications shall be submitted in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) 180 days before the expiration of such permits. Facilities with expired permits or permits due to expire before May 18, 1992, shall submit applications in accordance with the deadline set forth under paragraph (e)(1) of this section.

(f) Petitions. (1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large or medium municipal separate storm sewer system as defined by paragraphs (b)(4)(iv) or (b)(7)(iv) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition.

6. Section 122.28(b)(2)(i) is revised to read as follows:

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(b) * * *

(2) Requiring an individual permit. (i) The Director may require any discharger authorized by a general permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take action under this paragraph. Cases where an individual NPDES permit may be required include the following:

(A) The discharger or "treatment works treating domestic sewage" is not in compliance with the conditions of the general NPDES permit;

(B) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source or treatment works treating domestic sewage;

(C) Effluent limitation guidelines are promulgated for point sources covered by the general NPDES permit;

(D) A Water Quality Management plan containing requirements applicable to such point sources is approved;

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(E) Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the general permit, or either a temporary or permanent reduction or elimination of the authorized discharge is necessary;

(F) Standards for sewage sludge use or disposal have been promulgated for the sludge use and disposal practice covered by the general NPDES permit; or

(G) The discharge(s) is a significant contributor of pollutants. In making this determination, the Director may consider the following factors:

(1) The location of the discharge with respect to waters of the United States;

(2) The size of the discharge;

(3) The quantity and nature of the pollutants discharged to waters of the United States; and

(4) Other relevant factors;

* * * * *

***48073** 7. Section 122.42 is amended by adding paragraph (c) to read as follows:

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(c) Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part;

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;

(7) Identification of water quality improvements or degradation;

7a. Part 122 is amended by adding appendices E through I as follows:

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Appendix E to Part 122—Rainfall Zones of the United States
insert illustration 416A

Not Shown: Alaska (Zone 7); Hawaii (Zone 7); Northern Mariana Islands (Zone 7); Guam (Zone 7); American Samoa (Zone 7); Trust Territory of the Pacific Islands (Zone 7); Puerto Rico (Zone 3) Virgin Islands (Zone 3).
Source: Methodology for Analysis of Detention Basins for Control of Urban Runoff Quality, prepared for U.S. Environmental Protection Agency, Office of Water, Nonpoint Source Division, Washington, DC, 1986.

Appendix F to Part 122—Incorporated Places With Populations Greater Than 250,000 According to Latest Decennial Census by Bureau of Census.

State	Incorporated place
Alabama	Birmingham.
Arizona	Phoenix.
	Tucson.
California	Long Beach.
	Los Angeles.
	Oakland.
	Sacramento.
	San Diego.
	San Francisco.
	San Jose.
Colorado	Denver.
District of Columbia	
Florida	Jacksonville.
	Miami.
	Tampa.
Georgia	Atlanta.
Illinois	Chicago.
Indiana	Indianapolis.
Kansas	Wichita.
Kentucky	Louisville.

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Louisiana	New Orleans.
Maryland	Baltimore.
Massachusetts	Boston.
Michigan	Detroit.
Minnesota	Minneapolis
	St. Paul.
Missouri	Kansas City.
	St. Louis.
Nebraska	Omaha.
New Jersey	Newark.
New Mexico	Albuquerque.
New York	Buffalo.
	Bronx Borough.
	Brooklyn Borough.
	Manhattan Borough.
	Queens Borough.
	Staten Island Borough.
North Carolina	Charlotte.
Ohio	Cincinnati.
	Cleveland.
	Columbus.
	Toledo.
Oklahoma	Oklahoma City.
	Tulsa.
Oregon	Portland.
Pennsylvania	Philadelphia.
	Pittsburgh.
Tennessee	Memphis.
	Nashville/Davidson.

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Texas	Austin.
	Dallas.
	El Paso.
	Fort Worth.
	Houston.
	San Antonio.
Virginia	Norfolk.
	Virginia Beach.
Washington	Seattle.
Wisconsin	Milwaukee.

***48074 Appendix G to Part 122—Incorporated Places With Populations Greater Than 100,000 and Less Than 250,000 According to Latest Decennial Census by Bureau of Census**

State	Incorporated place
Alabama	Huntsville.
	Mobile.
	Montgomery.
Alaska	Anchorage.
Arizona	Mesa.
	Tempe.
Arkansas	Little Rock.
California	Anaheim.
	Bakersfield.
	Berkeley.
	Concord.
	Fremont.
	Fresno.
	Fullerton.
	Garden Grove.
	Glendale.

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	Huntington Beach.
	Modesto.
	Oxnard.
	Pasadena.
	Riverside.
	San Bernadino.
	Santa Ana.
	Stockton.
	Sunnyvale.
	Torrance.
Colorado	Aurora.
	Colorado Springs.
	Lakewood.
	Pueblo.
Connecticut	Bridgeport.
	Hartford.
	New Haven.
	Stamford.
	Waterbury.
Florida	Fort Lauderdale.
	Hialeah.
	Hollywood.
	Orlando.
	St. Petersburg.
Georgia	Columbus.
	Macon.
	Savannah.
Idaho	Boise City.
Illinois	Peoria.

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	Rockford.
Indiana	Evansville.
	Fort Wayne.
	Gary.
	South Bend.
Iowa	Cedar Rapids.
	Davenport.
	Des Moines.
Kansas	Kansas City.
	Topeka.
Kentucky	Lexington-Fayette.
Louisiana	Baton Rouge.
	Shreveport.
Massachusetts	Springfield.
	Worcester.
Michigan	Ann Arbor.
	Flint.
	Grand Rapids.
	Lansing.
	Livonia.
	Sterling Heights.
	Warren.
Mississippi	Jackson.
Missouri	Independence.
	Springfield.
Nebraska	Lincoln.
Nevada	Las Vegas.
	Reno.
New Jersey	Elizabeth.

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	Jersey City.
	Paterson.
New York	Albany.
	Rochester.
	Syracuse.
	Yonkers.
North Carolina	Durham.
	Greensboro.
	Raleigh.
	Winston-Salem.
Ohio	Akron.
	Dayton.
	Youngstown.
Oregon	Eugene.
Pennsylvania	Allentown.
	Erie.
Rhode Island	Providence.
South Carolina	Columbia.
Tennessee	Chattanooga.
	Knoxville.
Texas	Amarillo.
	Arlington.
	Beaumont.
	Corpus Christi.
	Garland.
	Irving.
	Lubbock.
	Pasadena.
	Waco.

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Utah	Salt Lake City.
Virginia	Alexandria.
	Chesapeake.
	Hampton.
	Newport News.
	Portsmouth.
	Richmond.
	Roanoke.
Washington	Spokane.
	Tacoma.
Wisconsin	Madison.

Appendix H to Part 122— Counties with Unincorporated Urbanized Areas With a Population of 250,000 or More According to the Latest Decennial Census by the Bureau of Census

State	County	Unincorporated urbanized population
California	Los Angeles	912,664
	Sacramento	449,056
	San Diego	304,758
Delaware	New Castle	257,184
Florida	Dade	781,949
Georgia	DeKalb	386,379
Hawaii	Honolulu	688,178
Maryland	Anne Arundel	271,458
	Baltimore	601,308
	Montgomery	447,993
	Prince George's	450,188
Texas	Harris	409,601
Utah	Salt Lake	304,632
Virginia	Fairfax	527,178
Washington	King	336,800

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Appendix I to Part 122—Counties With Unincorporated Urbanized Areas Greater Than 100,000, But Less Than 250,000 According to the Latest Decennial Census by the Bureau of Census

State	County	Unincorporated urbanized population
Alabama	Jefferson	102,917
Arizona	Pima	111,479
California	Alameda	187,474
	Contra Costa	158,452
	Kern	117,231
	Orange	210,693
	Riverside	115,719
	San Bernardino	148,644
Florida	Broward	159,370
	Escambia	147,892
	Hillsborough	238,292
	Orange	245,325
	Palm Beach	167,089
	Pinellas	194,389
	Polk	104,150
	Sarasota	110,009
Georgia	Clayton	100,742
	Cobb	204,121
	Richmond	118,529
Kentucky	Jefferson	224,958
Louisiana	Jefferson	140,836
North Carolina	Cumberland	142,727
Nevada	Clark	201,775
Oregon	Multnomah	141,100
	Washington	109,348
South Carolina	Greenville	135,398

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	Richland	124,684
Virginia	Arlington	152,599
	Henrico	161,204
	Chesterfield	108,348
Washington	Snohomish	103,493
	Pierce	196,113

PART 123—STATE PROGRAM REQUIREMENTS

8. The authority citation for part 123 continues to read as follows:

***48075** Authority: Clean Water Act, 33 U.S.C. 1251 et seq.

9. Section 123.25 is amended by revising paragraph (a)(9) to read as follows:

§ 123.25 Requirements for permitting.

(a) * * *

(9) § 122.26—(Storm water discharges);

* * * * *

PART 124—PROCEDURES FOR DECISIONMAKING

10. The authority citation for part 124 continues to read as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.; Safe Drinking Water Act, 42 U.S.C. 300f et seq.; Clean Water Act, 33 U.S.C. 1251 et seq.; and Clean Air Act, 42 U.S.C. 1857 et seq.

11. Section 124.52 is revised to read as follows:

§ 124.52 Permits required on a case-by-case basis.

(a) Various sections of part 122, subpart B allow the Director to determine, on a case-by-case basis, that certain concentrated animal feeding operations (§ 122.23), concentrated aquatic animal production facilities (§ l22.24), storm water discharges (§ 122.26), and certain other facilities covered by general permits (§ 122.28) that do not generally require an individual permit may be required to obtain an individual permit because of their contributions to water pollution.

(b) Whenever the Regional Administrator decides that an individual permit is required under this section, except as provided in paragraph (c) of this section, the Regional Administrator shall notify the discharger in writing of that decision and the reasons for it, and shall send an application form with the notice. The discharger must apply for a permit under § 122.21 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

(c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (see 40 CFR 122.26 (a)(1)(v) and (c)(1)(v)), the Regional Administrator may require the discharger to submit

a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit under § 122.26 within 60 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under § 124.11 or § 124.118 and in any subsequent hearing.

Note: The following form will not appear in the Code of Federal Regulations.

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[FR Doc. 90-26315 Filed 11-9-90; 12:17 pm]

Footnotes

1 Indeed, the DC Circuit has held, in the storm water context, that EPA may not exempt any point source discharges of pollutants from the requirement to obtain an NPDES permit. NRDC v. Costle, 569 F.2d 1369, 1377 (DC Cir. 1977).

2 It should be noted that EPA did not promulgate the required storm water regulations by February, 1989, as contemplated by section 402(p)(4)(A). As discussed below, today's rule generally requires industrial storm water discharges to file a permit application in one year.

3 EPA notes that the legal issue raised by commenters regarding whether industrial storm water would be controlled to BAT if covered by a municipal permit at the MEP level is primarily a theoretical issue. As explained above, the proposal assumed that cities would establish controls on industry very similar to those established in an NPDES permit using best professional judgment. EPA's key concern, rather, is whether cities can, in fact, establish such controls. Thus, today's final rule should not appreciably change the requirements to be imposed on industrial sources, only how those requirements are enforced.

4 The courts in NRDC v. Train, 396 F.Supp. 1393 (D.D.C. 1975) aff'd, NRDC v. Costle, 568 F.2d 1369 (DC Cir. 1977), have acknowledged the administrative burden placed on the Agency by requiring individual permits for a large number of storm water discharges. These courts have recognized EPA's discretion to use certain administrative devices, such as area permits or general permits to help manage its workload. In addition, the courts have recognized flexibility in the type of permit conditions that are established, including requirements for best management practices.

5 The Bureau of Census defines urbanized areas to provide a description of high-density development. Urbanized areas are comprised of a central city (or cities) with a surrounding closely settled area. The population of the entire urbanized area must be greater than 50,000 persons, and the closely settled area outside of the city, the urban fringe, must generally have a population density greater than 1,000 persons per square mile (just over 1.5 persons per acre) to be included.

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ATTACHMENT A-24

61 FR 41698-01, 1996 WL 446384(F.R.)
RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY
40 CFR Part 122
[FRL-5533-7]

Interpretative Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems

Friday, August 9, 1996

***41698** AGENCY: Environmental Protection Agency (EPA).

ACTION: Policy statement; interpretation.

SUMMARY: By today's notice EPA announces federal policy, signed by Robert Perciasepe, Assistant Administrator for Water, on May 17, 1996, regarding application requirements for renewal or reissuance of National Pollutant Discharge Elimination System (NPDES) permits for municipal separate storm sewer systems (MS4s). Today's action responds to requests from municipalities and NPDES permit writers for clarification about regulations which do not appear to address reapplication requirements, i.e., permit reissuance. Today's notice explains that MS4 permit applicants and NPDES permit writers have considerable discretion to customize appropriate and streamlined reapplication requirements on a case-by-case basis, specifically, by using the fourth year annual report as the principal reapplication document.

EFFECTIVE DATE: This policy is effective May 17, 1996.

FOR FURTHER INFORMATION CONTACT: Marilyn Fonseca, Office of Wastewater Management, MC-4203, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, (202)-260-0592, e-mail: Fonseca.Marilyn(A)epamail.epa.gov

SUPPLEMENTARY INFORMATION: The text of this policy is as follows:

Municipal Separate Storm Sewer System Permit Reapplication Policy

The 1987 amendments to the Clean Water Act added Section 402(p) which directed the Environmental Protection Agency to establish regulations governing storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. Early in the program, Congress specifically required NPDES permits for municipal separate storm sewer systems (MS4s) serving populations over 100,000. In response, EPA promulgated regulations in 1990 that established permit application requirements for MS4s that serve populations over 100,000. MS4 permits have since been drafted and finalized for many municipal systems. A number of MS4 permits are due to expire and must be reissued.

EPA is providing this policy memorandum to outline permit reapplication requirements for regulated MS4s. There are three components to EPA's reapplication policy. First, EPA is not requiring that the process used for part 1 and 2 of the initial permit application be repeated in full. Second, EPA has identified basic information that should be included in every reapplication package. Finally, EPA is seeking to improve existing MS4 storm water management programs by using information and experience municipalities have gained during the previous permit term.

Is a Permit Reapplication Necessary?

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Yes. The requirement that all point source discharges authorized by a NPDES permit must reapply is well established at 40 CFR 122.41(b) and 122.46(a):

Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

Duration of permits. NPDES permits shall be effective for a fixed term not to exceed 5 years.

The reapplication requirement is also found at 40 CFR 122.21(d):

Duty to reapply. . . . All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires.

Therefore, all regulated Phase I MS4s need to participate in a permit reapplication process.

Where a complete reapplication package has been submitted as directed by the permit authority, conditions of an expired MS4 permit will continue until the effective date of a new permit, as stated in 40 CFR 122.6(a) and (b):

(a) EPA permits. When EPA is the permit-issuing authority, the conditions of an expired permit continue in force . . . until the effective date of a new permit . . . and (b) Effect. Permits continued under this section remain fully effective and enforceable.

Are Initial MS4 Permit Application Requirements Applicable To Permit Reapplication?

No. The scope of the initial permit application requirements was comprehensive and regulated MS4s invested considerable resources to develop these applications. The initial applications have laid the foundation for the long-term implementation of MS4 storm water management programs. EPA believes reapplications should focus on maintenance and improvement of these programs.

The MS4 permit application requirements at 40 CFR 122.26(d)(1) and (2) apply to the first round permit applications required of large and medium MS4s. The permit application deadline regulations in 40 CFR 122.26(e) (3) & (4) clearly reflect the "one time" nature of the Part I & II application requirements for large and medium MS4s. EPA has not promulgated regulations applicable to reapplication for MS4s. Requirements to demonstrate adequate legal authority, perform source identification (e.g., identify major outfalls and facility inventory), characterize data, and develop a storm water management program should have been addressed in the initial application phase. Therefore, to request the same information again, where it has already been provided and has not changed, would be needlessly redundant. Thus, as a practical matter, most first-time permit application requirements are unnecessary for purposes of second round MS4 permit application.

What Basic Information Must Be Submitted for an MS4 Permit Reapplication?

EPA is committed to allowing permitting authorities to develop flexible reapplication requirements that are site-specific. In the absence of reapplication regulations specific to MS4s, minimum reapplication requirements are drawn from the generic NPDES permit application regulations at 40 CFR 122.21(f). EPA regulations suggest the following basic information be included as part of any permit reapplication:

—name and mailing address(es) of the permittee(s) that operate the MS4, and

—names and titles of the primary administrative and technical contacts for the municipal permittee(s).

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In addition, in the reapplication, municipalities should identify any proposed changes or improvements to the storm water management program and monitoring activities for the upcoming five year term of the permit, if those proposed changes have not already been submitted pursuant to 40 CFR 122.42(c). [A requirement to submit proposed changes to the storm water management program is specified in the annual reporting requirements in 40 CFR 122.42(c)(2).] EPA encourages permitting authorities to make use of the fourth year annual report as the basic permit reapplication package.

***41699** Changes to the storm water management program may be justified due to the availability of new information on the relative magnitude of a problem or new data on water quality impacts of the storm water discharges. Municipalities may also propose to de-emphasize some program components and strengthen others, based on the experience gained under the first permit. Proposed elimination of a program component might be justified upon permit renewal; for example, when a component is no longer a problem area (i.e., all detention basins have been retrofitted) or when a different water quality program would serve the same goals.

The components of the original storm water management program which are found to be effective should be continued and made an ongoing part of the proposed new storm water management program. Such components may include:

—continued emphasis on public education programs, particularly programs on proper disposal of waste oil and household hazardous waste and pesticide application;

—continued, if not greater, emphasis on addressing impacts of new development/construction;

—proper storm design criteria for all new developments;

—retrofitting and/or upgrading of the existing storm sewer system according to a priority system;

—more frequent maintenance of storm sewer systems and storm water treatment systems;

—coordination with adjacent MS4s on monitoring or other efforts; and

—using a watershed approach to storm water management.
The accumulated annual report information as outlined in 40 CFR 122.42(c) should be evaluated and, to the extent applicable, be incorporated by reference into the reapplication package.

To reiterate, MS4s may use the fourth year annual report, which emphasizes proposed changes to the storm water management program, with the additional required basic information, as the MS4 permit reapplication. Changes to the storm water management program should be jointly developed by the permitting authority and the permit applicant. In this regard, we urge permit issuance authorities and permittees to work together to assure that the permit reapplication is complete and addresses all appropriate issues. The permitting agency may request additional technical information be submitted in the reapplication. NPDES permitting authorities, therefore, can exercise their information gathering authority under CWA Section 308, or analogous State provisions to complete the permit reapplication on a case-by case basis, as appropriate.

What Additional Information Should Be Considered for a Reapplication?
EPA also recommends the following information be provided by reapplicants to the permitting authority, as outlined in 40 CFR 122.26(d)(1)(iv)(C):

—identification of any previously unidentified water bodies that receive discharges from the MS4, and

—a summary of any known water quality impacts on the newly identified receiving waters (based on best available data).

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In addition, EPA recommends the following information be provided to the permitting authority as well:

—a description of changes in co-applicants since issuance of initial MS4 permit, and

—identification number of the existing NPDES MS4 permit.

Further, EPA encourages permitting authorities to work with permittees to determine if storm water monitoring efforts are appropriate and useful. For example, during the previous permit term, municipalities may have found that their monitoring program was not fully successful in characterizing the nature and extent of storm water problems. Reapplication is an appropriate time for MS4s to evaluate their monitoring program and propose changes to make the program more appropriate and useful. To accomplish this, municipalities may wish to consider using monitoring techniques other than end-of-the pipe chemical-specific monitoring, including habitat assessments, bioassessments and/or other biological methods.

Permitting authorities should incorporate any such new information, together with assembled materials from the initial application and the existing permit, to form the administrative record for any reissued MS4 permits. Such administrative records should be made publicly available as part of the process to reissue the permit.

Dated: June 28, 1996.

Michael B. Cook,

Director, Office of Wastewater Management.

[FR Doc. 96-20228 Filed 8-8-96; 8:45 am]

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ATTACHMENT A-25

64 FR 68722-01, 1999 WL 1111032(F.R.)
RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY
40 CFR Parts 9, 122 , 123, and 124
[FRL—6470-8]
RIN 2040-AC82

National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges

Wednesday, December 8, 1999

***68722** AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today's regulations (Phase II) expand the existing National Pollutant Discharge Elimination System (NPDES) storm water program (Phase I) to address storm water discharges from small municipal separate storm sewer systems (MS4s) (those serving less than 100,000 persons) and construction sites that disturb one to five acres. Although these sources are automatically designated by today's rule, the rule allows for the exclusion of certain sources from the national program based on a demonstration of the lack of impact on water quality, as well as the inclusion of others based on a higher likelihood of localized adverse impact on water quality. Today's regulations also exclude from the NPDES program storm water discharges from industrial facilities that have “no exposure” of industrial activities or materials to storm water. Finally, today's rule extends from August 7, 2001 until March 10, 2003 the deadline by which certain industrial facilities owned by small MS4s must obtain coverage under an NPDES permit. This rule establishes a cost-effective, flexible approach for reducing environmental harm by storm water discharges from many point sources of storm water that are currently unregulated.

EPA believes that the implementation of the six minimum measures identified for small MS4s should significantly reduce pollutants in urban storm water compared to existing levels in a cost-effective manner. Similarly, EPA believes that implementation of Best Management Practices (BMP) controls at small construction sites will also result in a significant reduction in pollutant discharges and an improvement in surface water quality. EPA believes this rule will result in monetized financial, recreational and health benefits, as well as benefits that EPA has been unable to monetize. Expected benefits include reduced scouring and erosion of streambeds, improved aesthetic quality of waters, reduced eutrophication of aquatic systems, benefit to wildlife and endangered and threatened species, tourism benefits, biodiversity benefits and reduced costs for siting reservoirs. In addition, the costs of industrial storm water controls will decrease due to the exclusion of storm water discharges from facilities where there is “no exposure” of storm water to industrial activities and materials.

DATES: This regulation is effective on February 7, 2000. The incorporation by reference of the rainfall erosivity factor publication listed in the rule is approved by the Director of the Federal Register as of February 7, 2000. For judicial review purposes, this final rule is promulgated as of 1:00 p.m. Eastern Standard Time, on December 22, 1999 as provided in 40 CFR 23.2.

ADDRESSES: The complete administrative record for the final rule and the ICR have been established under docket numbers W-97-12 (rule) and W-97-15 (ICR), and includes supporting documentation as well as printed, paper versions of electronic comments. Copies of information in the record are available upon request. A reasonable fee may be charged for copying. The record is available for inspection and copying from 9 a.m. to 4 p.m., Monday through Friday, excluding

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legal holidays, at the Water Docket, EPA, East Tower Basement, 401 M Street, SW, Washington, DC. For access to docket materials, please call 202/260-3027 to schedule an appointment.

FOR FURTHER INFORMATION CONTACT: George Utting, Office of Wastewater Management, Environmental Protection Agency, Mail Code 4203, 401 M Street, SW, Washington, DC 20460; (202) 260-5816; sw2@epa.gov.

SUPPLEMENTARY INFORMATION: Entities potentially regulated by this action include:

Category	Examples of regulated entities
Federal, State, Tribal, and Local Governments	Operators of small separate storm sewer systems, industrial facilities that discharge storm water associated with industrial activity or construction activity disturbing 1 to 5 acres.
Industry	Operators of industrial facilities that discharge storm water associated with industrial activity.
Construction Activity	Operators of construction activity disturbing 1 to 5 acres.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your facility or company is regulated by this action, you should carefully examine the applicability criteria in §§122.26(b), 122.31, 122.32, and 123.35 of the final rule. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding FOR FURTHER INFORMATION CONTACT section.

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I. Background

A. Proposed Rule and Pre-Proposal Outreach

On January 9, 1998 (63 FR 1536), EPA proposed to expand the National Pollutant Discharge Elimination System (NPDES) storm water program to include storm water discharges from municipal separate storm sewer systems (MS4s) and construction sites that were smaller than those previously included in the program. The proposal also addressed industrial sources that have "no exposure" of industrial activities and materials to storm water. Today, EPA is promulgating a final rule to implement most of the proposed revisions with minor changes based on public comments received on the proposal. Today's final rule also extends the deadline by which certain industrial facilities operated by municipalities of less than 100,000 population must be covered by a NPDES permit; the deadline is changed from August 7, 2001 until March 10, 2003.

In 1972, Congress amended the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act (CWA)) to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. The NPDES program is a program designed to track point sources and require the implementation of the controls necessary to minimize the discharge of pollutants. Initial efforts to improve water quality under the NPDES program primarily focused on reducing pollutants in industrial process wastewater and municipal sewage. These discharge sources were easily identified as responsible for poor, often drastically degraded, water quality conditions.

As pollution control measures for industrial process wastewater and municipal sewage were implemented and refined, it became increasingly evident that more diffuse sources of water pollution were also significant causes of water quality impairment. Specifically, storm water runoff draining large surface areas, such as agricultural and urban land, was found to be a major cause of water quality impairment, including the nonattainment of designated beneficial uses.

In 1987, Congress amended the CWA to require implementation, in two phases, of a comprehensive national program for addressing storm water discharges. The first phase of the program, commonly referred to as "Phase I," was promulgated on November 16, 1990 (55 FR 47990). Phase I requires NPDES permits for storm water discharge from a large number of priority sources including municipal separate storm sewer systems ("MS4s") generally serving populations of 100,000 or more and several categories of industrial activity, including construction sites that disturb five or more acres of land.

Today's rule, which is the second phase of the storm water program, expands the existing program to include discharges of storm water from smaller municipalities in urbanized areas and from construction sites that disturb between one and five acres of land. Today's rule allows certain sources to be excluded from the national program based on a demonstrable lack of impact on water quality. The rule also allows other sources not automatically regulated on a national basis to be designated for inclusion based on increased likelihood for localized adverse impact on water quality. ***68724** Today's rule also conditionally excludes storm water discharges from industrial facilities that have "no exposure" of industrial

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activities or materials to storm water. Today's rule and the effort that led to its development are commonly referred to as "Phase II." On August 7, 1995, EPA promulgated a final rule that required facilities to be regulated under Phase II to apply for a NPDES permit by August 7, 2001, unless the NPDES permitting authority designates them as requiring a permit by an earlier date. (60 FR 40230). That rule is referred to as "the Interim Phase II Rule." Today's rule replaces the Interim Phase II rule.

EPA performed extensive outreach and worked with a variety of stakeholders prior to proposing today's rule. On September 9, 1992, EPA published a notice requesting information and public comment on how to prepare regulations under CWA section 402(p)(6) (see 57 FR 41344). The notice identified three sets of issues associated with developing new NPDES storm water regulations: (1) How should EPA identify unregulated sources of storm water to protect water quality, (2) what types of control strategies should EPA develop for these sources, and (3) what are appropriate deadlines for implementing new requirements. The notice recognized that potential sources for coverage under the section 402(p)(6) regulations would fall into two main categories: municipal separate storm sewer systems and individual (commercial and residential) sources. EPA received more than 130 comments on the September 9, 1992, notice. For further discussion of the comments received, see Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System: Report to Congress (EPA, 1995a), pp. 1-21 to 1-22, and Appendix J (which provides a detailed summary of the comments received as they relate to the specific issues raised in the notice).

In early 1993, the Rensselaerville Institute and EPA held public and expert meetings to assist in developing and analyzing options for identifying unregulated sources and possible controls. The report on the 1993 meetings identified two options that were favored by the various groups that participated. One option was a program that allowed States to select sources to be controlled in a manner consistent with criteria developed by EPA. A second option was a tiered approach under which EPA would select high priority sources for control by NPDES permits and States would select other sources for control under a State water quality program other than the NPDES program. For additional details see the "Report on the EPA Storm Water Management Program (Rensselaerville Study)," Appendix I of Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System: Report to Congress (EPA, 1995a).

EPA also conducted outreach with representatives of small entities in conjunction with the convening of a Small Business Advocacy Review Panel under the Small Business Regulatory Enforcement Fairness Act (SBREFA). This process is discussed in section IV.E of today's preamble. For additional background see the discussion in the preamble to the proposal for today's rule.

To assist EPA by providing advice and recommendations regarding the urban municipal wet weather water pollution control program, EPA established the Urban Wet Weather Flows Federal Advisory Committee (hereinafter, "FACA Committee") under the Federal Advisory Committee Act (FACA). The Office of Management and Budget approved the charter for the FACA Committee on March 10, 1995. The FACA Committee provided a forum for identifying and addressing issues associated with water quality impacts from storm water sources.

The FACA Committee established two subcommittees: the Storm Water Phase II FACA Subcommittee and the Sanitary Sewer Overflows (SSOs) FACA Subcommittee. Consistent with the requirements of FACA, the membership of both the FACA Committee and the subcommittees was balanced among EPA's various outside stakeholder interests, including representatives from municipalities, States, Indian Tribes, EPA, industrial and commercial sectors, agriculture, and environmental and public interest groups.

The Storm Water Phase II FACA Subcommittee ("Subcommittee") met fourteen times between September 1995 and June 1998. The 32 Subcommittee members discussed possible regulatory frameworks at these meetings as well as during numerous other meetings and conference calls. Members of the FACA Committee provided views regarding the development of the "no exposure" provision and other provisions in drafts of the Phase II rule. EPA provided

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Subcommittee members with four successive drafts of the proposed rule and preamble, outlines of the rule, summaries of the written comments received on each draft, and documents identifying the changes made to each draft. In the course of providing input to the Committee, individual Subcommittee members provided significant input and advice that EPA considered in the context of public comments received. Ultimately, the Subcommittee did not provide a written report back to the FACA Committee, and the FACA Committee did not provide written advice and recommendations to EPA. The Agency, therefore, did not rely on group recommendations in developing today's rule, but does consider the process to have resulted in important public outreach.

B. Water Quality Concerns/Environmental Impact Studies and Assessments

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables (U.S. EPA. 1992. Environmental Impacts of Storm Water Discharges: A National Profile. EPA 841-R-92-001. Office of Water. Washington, DC). After a rain, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, wetlands, and oceans. The highest concentrations of these contaminants often are contained in “first flush” discharges, which occur during the first major storm after an extended dry period (Schueler, T.R. 1994. “First Flush of Stormwater Pollutants Investigated in Texas.” Note 28. Watershed Protection Techniques 1(2)). Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction.

Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans. The following sections discuss the studies and data that address and support this finding.

Although water quality problems also can occur from agricultural storm water discharges and return flows from irrigated agriculture, this area of ***68725** concern is statutorily exempted from regulation as a point source under the Clean Water Act and is not discussed here. (See CWA section 502(14)). Other storm water sources not specifically identified in the regulations may be of concern in certain areas and can be addressed on a case-by-case (or category-by-category) basis through the NPDES designation authority preserved by CWA section 402(p)(2)(6), as well as today's rule.

1. Urban Development

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are associated with the activities of dense populations, thus causing an increase in storm water runoff volumes and pollutant loadings in storm water discharged to receiving waterbodies (U.S. EPA, 1992). Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff (U.S. EPA, 1997. Urbanization and Streams: Studies of Hydrologic Impacts. EPA 841-R-97-009. Office of Water. Washington, DC).

Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters. For example, a study in the Puget Sound lowland ecoregion found that when the level of basin development exceeded 5 percent of the total impervious area, the biological integrity and physical habitat conditions that are necessary

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to support natural biological diversity and complexity declined precipitously (May, C.W., E.B. Welch, R.R. Horner, J.R. Karr, and B.W. May. 1997. Quality Indices for Urbanization Effects in Puget Sound Lowland Streams, Technical Report No. 154. University of Washington Water Resources Series). Research conducted in numerous geographical areas, concentrating on various variables and employing widely different methods, has revealed a similar conclusion: stream degradation occurs at relatively low levels of imperviousness, such as 10 to 20 percent (even as low as 5 to 10 percent according to the findings of the Washington study referenced above) (Schueler, T.R. 1994. "The Importance of Imperviousness." Watershed Protection Techniques 1(3); May, C., R.R. Horner, J.R. Karr, B.W. Mar, and E.B. Welch. 1997. "Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion." Watershed Protection Techniques 2(4); Yoder, C.O., R.J. Miltner, and D. White. 1999. "Assessing the Status of Aquatic Life Designated Uses in Urban and Suburban Watersheds." In Proceedings: National Conference on Retrofits Opportunities in Urban Environments. EPA 625-R-99-002, Washington, DC; Yoder, C.O and R.J. Miltner. 1999. "Assessing Biological Quality and Limitations to Biological Potential in Urban and Suburban Watersheds in Ohio." In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers, Auckland, New Zealand). Furthermore, research has indicated that few, if any, urban streams can support diverse benthic communities at imperviousness levels of 25 percent or more. An area of medium density single family homes can be anywhere from 25 percent to nearly 60 percent impervious, depending on the design of the streets and parking (Schueler, 1994).

In addition to impervious areas, urban development creates new pollution sources as population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by, or disposed into, storm water discharges from municipal separate storm sewer systems. A modeling system developed for the Chesapeake Bay indicated that contamination of the Bay and its tributaries from runoff is comparable to, if not greater than, contamination from industrial and sewage sources (Cohn-Lee, R. and D. Cameron. 1992. "Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation." The Environmental Professional, Vol. 14).

a. Large-Scale Studies and Assessments

In support of today's regulatory designation of MS4s in urbanized areas, the Agency relied on broad-based assessments of urban storm water runoff and related water quality impacts, as well as more site-specific studies. The first national assessment of urban runoff characteristics was completed for the Nationwide Urban Runoff Program (NURP) study (U.S. EPA. 1983. Results of the Nationwide Urban Runoff Program, Volume 1—Final Report. Office of Water. Washington, D.C.). The NURP study is the largest nationwide evaluation of storm water discharges, which includes adverse impacts and sources, undertaken to date.

EPA conducted the NURP study to facilitate understanding of the nature of urban runoff from residential, commercial, and industrial areas. One objective of the study was to characterize the water quality of discharges from separate storm sewer systems that drain residential, commercial, and light industrial (industrial parks) sites. Storm water samples from 81 residential and commercial properties in 22 urban/suburban areas nationwide were collected and analyzed during the 5-year period between 1978 and 1983. The majority of samples collected in the study were analyzed for eight conventional pollutants and three heavy metals.

Data collected under the NURP study indicated that discharges from separate storm sewer systems draining runoff from residential, commercial, and light industrial areas carried more than 10 times the annual loadings of total suspended solids (TSS) than discharges from municipal sewage treatment plants that provide secondary treatment. The NURP study also indicated that runoff from residential and commercial areas carried somewhat higher annual loadings of chemical oxygen demand (COD), total lead, and total copper than effluent from secondary treatment plants. Study findings showed that fecal coliform counts in urban runoff typically range from tens to hundreds of thousands per hundred milliliters of runoff during warm weather conditions, with the median for all sites being around 21,000/100

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ml. This is generally consistent with studies that found that fecal coliform mean values range from 1,600 coliform fecal units (CFU)/100 ml to 250,000 cfu/100 ml (Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995. "Urban Storm Water Quality: Summary of Contaminant Data." Critical Reviews in Environmental Science and Technology 25(2):93-139). Makepeace, et al., summarized ranges of contaminants from storm water, including physical contaminants such as total solids (76—36,200 mg/L) and copper (up to 1.41 mg/L); organic chemicals; organic compounds, such as oil and grease (up to 110 mg/L); and microorganisms. ***68726**

Monitoring data summarized in the NURP study provided important information about urban runoff from residential, commercial, and light industrial areas. The study concluded that the quality of urban runoff can be affected adversely by several sources of pollution that were not directly evaluated in the study, including illicit discharges, construction site runoff, and illegal dumping. Data from the NURP study were analyzed further in the U.S. Geological Survey (USGS) Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States study (Driver, N.E., M.H. Mustard, R.B. Rhinesmith, and R.F. Middleburg. 1985. U.S. Geological Survey Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States. Report No. 85-337 USGS. Lakewood, CO). The USGS report summarized additional monitoring data compiled during the mid-1980s, covering 717 storm events at 99 sites in 22 metropolitan areas and documented problems associated with metals and sediment concentrations in urban storm water runoff. More recent reports have confirmed the pollutant concentration data collected in the NURP study (Marsalek, J. 1990. "Evaluation of Pollutant Loads from Urban Nonpoint Sources." Wat. Sci. Tech. 22(10/11):23-30; Makepeace, et al., 1995).

Commenters argued that the NURP study does not support EPA's contention that urban activities significantly jeopardize attainment of water quality standards. One commenter argued that the NURP study and the 1985 USGS study are seriously out of date. Because they were issued 10 years or more before the implementation of the current storm water permit program, the data in those reports do not reflect conditions that exist after implementation of permits issued by authorized States and EPA for storm water from construction sites, large municipalities, and industrial activities.

In response, EPA notes that it is not relying solely on the NURP study to describe current water quality impairment. Rather, EPA is citing NURP as a source of data on typical pollutant concentrations in urban runoff. Recent studies have not found significantly different pollutant concentrations in urban runoff when compared to the original NURP data (see Makepeace, et al., 1995; Marsalek, 1990; and Pitt, et al., 1995).

America's Clean Water—the States' Nonpoint Source Assessment (Association of State and Interstate Water Pollution Control Administrators (ASIWPCA). 1985. America's Clean Water—The States' Nonpoint Source Assessment. Prepared in cooperation with the U.S. EPA, Office of Water, Washington, DC), a comprehensive study of diffuse pollution sources conducted under the sponsorship of the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) and EPA revealed that 38 States reported urban runoff as a major cause of designated beneficial use impairment and 21 States reported storm water runoff from construction sites as a major cause of beneficial use impairment. In addition, the 1996 305(b) Report (U.S. EPA. 1998. The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R-97-008. Office of Water. Washington, DC), provides a national assessment of water quality based on biennial reports submitted by the States as required under CWA section 305(b) of the CWA. In the CWA 305(b) reports, States, Tribes, and Territories assess their individual water quality control programs by examining the attainment or nonattainment of the designated uses assigned to their rivers, lakes, estuaries, wetlands, and ocean shores. A designated use is the legally applicable use specified in a water quality standard for a watershed, waterbody, or segment of a waterbody. The designated use is the desirable use that the water quality should support. Examples of designated uses include drinking water supply, primary contact recreation (swimming), and aquatic life support. Each CWA 305(b) report indicates the assessed fraction of a State's waters that are fully supporting, partially supporting, or not supporting designated beneficial uses.

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In their reports, States, Tribes, and Territories first identified and then assigned the sources of water quality impairment for each impaired waterbody using the following categories: industrial, municipal sewage, combined sewer overflows, urban runoff/storm sewers, agricultural, silvicultural, construction, resource extraction, land disposal, hydrologic modification, and habitat modification. The 1996 Inventory, based on a compilation of 60 individual 305(b) reports submitted by States, Tribes, and Territories, assessed the following percentages of total waters nationwide: 19 percent of river and stream miles; 40 percent of lake, pond, and reservoir acres; 72 percent of estuary square miles; and 6 percent of ocean shoreline waters. The 1996 Inventory indicated that approximately 40 percent of the Nation's assessed rivers, lakes, and estuaries are impaired. Waterbodies deemed as "impaired" are either partially supporting designated uses or not supporting designated uses.

The 1996 Inventory also found urban runoff/discharges from storm sewers to be a major source of water quality impairment nationwide. Urban runoff/storm sewers were found to be a source of pollution in 13 percent of impaired rivers; 21 percent of impaired lakes, ponds, and reservoirs; and 45 percent of impaired estuaries (second only to industrial discharges). In addition, urban runoff was found to be the leading cause of ocean impairment for those ocean miles surveyed.

In addition, a recent USGS study of urban watersheds across the United States has revealed a link between urban development and contamination of local waterbodies. The study found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion of wood, grass, and fossil fuels), in the reservoirs of urbanized watersheds (U.S. Geological Survey (USGS). 1998. Research Reveals Link Between Development and Contamination in Urban Watersheds. USGS news release. USGS National Water-Quality Assessment Program).

Urban storm water also can contribute significant amounts of toxicants to receiving waters. Pitt, et. al. (1993), found heavy metal concentrations in the majority of samples analyzed. Industrial or commercial areas were likely to be the most significant pollutant source areas (Pitt, R., R. Field, M. Lalor, M. Brown 1993. "Urban stormwater toxic pollutants: assessment, sources, and treatability" Water Environment Research, 67(3):260-75).

b. Local and Watershed-Based Studies

In addition to the large-scale nationwide studies and assessments, a number of local and watershed-based studies from across the country have documented the detrimental effects of urban storm water runoff on water quality. A study of urban streams in Milwaukee County, Wisconsin, found local streams to be highly degraded due primarily to urban runoff, while three studies in the Atlanta, Georgia, region were characterized as being "the first documentation in the Southeast of the strong negative relationship between urbanization and stream quality that has been observed in other ecoregions" (Masterson, J. and R. Bannerman. 1994. "Impacts of Storm Water Runoff on Urban Streams in Milwaukee County, Wisconsin." Paper presented at National Symposium on Water Quality: American Water Resources Association; Schueler, T.R. 1997. "Fish Dynamics in Urban Streams Near Atlanta, Georgia." ***68727** Technical Note 94. Watershed Protection Techniques 2(4)). Several other studies, including those performed in Arizona (Maricopa County), California (San Jose's Coyote Creek), Massachusetts (Green River), Virginia (Tuckahoe Creek), and Washington (Puget Sound lowland ecoregion), all had the same finding: runoff from urban areas greatly impair stream ecology and the health of aquatic life; the more heavily developed the area, the more detrimental the effects (Lopes, T. and K. Fossum. 1995. "Selected Chemical Characteristics and Acute Toxicity of Urban Stormwater, Streamflow, and Bed Material, Maricopa County, Arizona." Water Resources Investigations Report 95-4074. USGS; Pitt, R. 1995. "Effects of Urban Runoff on Aquatic Biota." In Handbook of Ecotoxicology; Pratt, J. and R. Coler. 1979. "Ecological Effects of Urban Stormwater Runoff on Benthic Macroinvertebrates Inhabiting the Green River, Massachusetts." Completion Report Project No. A-094. Water Resources Research Center. University of Massachusetts at Amherst.; Schueler, T.R. 1997. "Historical Change in a Warmwater Fish Community in an Urbanizing Watershed." Technical Note 93. Watershed Protection Techniques 2(4); May, C., R. Horner, J. Karr, B. Mar, and E. Welch. 1997. "Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion." Watershed Protection Techniques 2(4)).

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Pitt and others also described the receiving water effects on aquatic organisms associated with urban runoff (Pitt, R.E. 1995. "Biological Effects of Urban Runoff Discharges" In Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment, ed. E.E Herricks, Lewis Publishers; Crunkilton, R., J. Kleist, D. Bierman, J. Ramcheck, and W. DeVita. 1999. "Importance of Toxicity as a Factor Controlling the Distribution of Aquatic Organisms in an Urban Stream." In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers. Auckland, New Zealand).

In Wisconsin, runoff samples were collected from streets, parking lots, roofs, driveways, and lawns. Source areas were broken up into residential, commercial, and industrial. Geometric mean concentration data for residential areas included total solids of about 500-800 mg/L from streets and 600 mg/L from lawns. Fecal coliform data from residential areas ranged from 34,000 to 92,000 cfu/100 mL for streets and driveways. Contaminant concentration data from commercial and industrial source areas were lower for total solids and fecal coliform, but higher for total zinc (Bannerman, R.T., D.W. Owens, R.B. Dods, and N.J. Hornewer. 1993. "Sources of Pollutants in Wisconsin Stormwater." Wat. Sci. Tech. 28(3-5):241-59).

Bannerman, et al. also found that streets contribute higher loads of pollutants to urban storm water than any other residential development source. Two small urban residential watersheds were evaluated to determine that lawns and streets are the largest sources of total and dissolved phosphorus in the basins (Waschbusch, R.J., W.R. Selbig, and R.T. Bannerman. 1999. "Sources of Phosphorus in Stormwater and Street Dirt from Two Urban Residential Basins In Madison, Wisconsin, 1994-95." Water Resources Investigations Report 99-4021. U.S. Geological Survey). A number of other studies have indicated that urban roadways often contain significant quantities of metal elements and solids (Sansalone, J.J. and S.G. Buchberger. 1997. "Partitioning and First Flush of Metals in Urban Roadway Storm Water." ASCE Journal of Environmental Engineering 123(2); Sansalone, J.J., J.M. Koran, J.A. Smithson, and S.G. Buchberger. 1998. "Physical Characteristics of Urban Roadway Solids Transported During Rain Events" ASCE Journal of Environmental Engineering 124(5); Klein, L.A., M. Lang, N. Nash, and S.L. Kirschner. 1974. "Sources of Metals in New York City Wastewater" J. Water Pollution Control Federation 46(12):2653-62; Barrett, M.E, R.D. Zuber, E.R. Collins, J.F. Malina, R.J. Charbeneau, and G.H Ward., 1993. "A Review and Evaluation of Literature Pertaining to the Quantity and Control of Pollution from Highway Runoff and Construction." Research Report 1943-1. Center for Transportation Research, University of Texas, Austin).

c. Beach Closings/Advisories

Urban wet weather flows have been recognized as the primary sources of estuarine pollution in coastal communities. Urban storm water runoff, sanitary sewer overflows, and combined sewer overflows have become the largest causes of beach closings in the United States in the past three years. Storm water discharges from urban areas not only pose a threat to the ecological environment, they also can substantially affect human health. A survey of coastal and Great Lakes communities reports that in 1998, more than 1,500 beach closings and advisories were associated with storm water runoff (Natural Resources Defense Council. 1999. "A Guide to Water Quality at Vacation Beaches" New York, NY). Other reports also document public health, shellfish bed, and habitat impacts from storm water runoff, including more than 823 beach closings/advisories issued in 1995 and more than 407 beach closing/advisories issued in 1996 due to urban runoff (Natural Resources Defense Council. 1996. Testing the Waters Volume VI: Who Knows What You're Getting Into. New York, NY; NRDC. 1997. Testing the Waters Volume VII: How Does Your Vacation Beach Rate. New York, NY; Morton, T. 1997. Draining to the Ocean: The Effects of Stormwater Pollution on Coastal Waters. American Oceans Campaign, Santa Monica, CA). The Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay (Haile, R.W., et. al. 1996. "An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay." Final Report prepared for the Santa Monica Bay Restoration Project) concluded that there is a 57 percent higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains. This and other studies document a relationship between gastrointestinal illness in swimmers and water quality, the latter of which can be heavily compromised by polluted storm water discharges.

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2. Non-Storm Water Discharges Through Municipal Storm Sewers

Studies have shown that discharges from MS4s often include wastes and wastewater from non-storm water sources. Federal regulations (§122.26(b)(2)) define an illicit discharge as "* * * any discharge to an MS4 that is not composed entirely of storm water * * *," with some exceptions. These discharges are "illicit" because municipal storm sewer systems are not designed to accept, process, or discharge such wastes. Sources of illicit discharges include, but are not limited to: sanitary wastewater; effluent from septic tanks; car wash, laundry, and other industrial wastewaters; improper disposal of auto and household toxics, such as used motor oil and pesticides; and spills from roadway and other accidents.

Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, and paint or used oil dumped directly into a drain). The result is untreated discharges that contribute high levels of pollutants, ***68728** including heavy metals, toxics, oil and grease, solvents, nutrients, viruses and bacteria into receiving waterbodies. The NURP study, discussed earlier, found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health. The study noted particular problems with illicit discharges of sanitary wastes, which can be directly linked to high bacterial counts in receiving waters and can be dangerous to public health.

Because illicit discharges to MS4s can create severe widespread contamination and water quality problems, several municipalities and urban counties performed studies to identify and eliminate such discharges. In Michigan, the Ann Arbor and Ypsilanti water quality projects inspected 660 businesses, homes, and other buildings and identified 14 percent of the buildings as having improper storm sewer drain connections. The program assessment revealed that, on average, 60 percent of automobile-related businesses, including service stations, automobile dealerships, car washes, body shops, and light industrial facilities, had illicit connections to storm sewer drains. The program assessment also showed that a majority of the illicit discharges to the storm sewer system resulted from improper plumbing and connections, which had been approved by the municipality when installed (Washtenaw County Statutory Drainage Board. 1987. Huron River Pollution Abatement Program).

In addition, an inspection of urban storm water outfalls draining into Inner Grays, Washington, indicated that 32 percent of these outfalls had dry weather flows. Of these flows, 21 percent were determined to have pollutant levels higher than the pollutant levels expected in typical urban storm water runoff characterized in the NURP study (U.S. EPA. 1993. Investigation of Inappropriate Pollutant Entries Into Storm Drainage Systems—A User's Guide. EPA 600/R-92/238. Office of Research and Development. Washington, DC). That same document reports a study in Toronto, Canada, that found that 59 percent of outfalls from the MS4 had dry-weather flows. Chemical tests revealed that 14 percent of these dry-weather flows were determined to be grossly polluted.

Inflows from aging sanitary sewer collection systems are one of the most serious illicit discharge-related problems. Sanitary sewer systems frequently develop leaks and cracks, resulting in discharges of pollutants to receiving waters through separate storm sewers. These pollutants include sanitary waste and materials from sewer main construction (e.g., asbestos cement, brick, cast iron, vitrified clay). Municipalities have long recognized the reverse problem of storm water infiltration into sanitary sewer collection systems; this type of infiltration often disrupts the operation of the municipal sewage treatment plant.

The improper disposal of materials is another illicit discharge-related problem that can result in contaminated discharges from separate storm sewer systems in two ways. First, materials may be disposed of directly in a catch basin or other storm water conveyance. Second, materials disposed of on the ground may either drain directly to a storm sewer or be washed into a storm sewer during a storm event. Improper disposal of materials to street catch basins and other storm sewer inlets often occurs when people mistakenly believe that disposal to such areas is an environmentally sound practice. Part of the confusion may occur because some areas are served by combined sewer systems, which are part of the sanitary sewer collection system, and people assume that materials discharged to a catch basin will reach a municipal

sewage treatment plant. Materials that are commonly disposed of improperly include used motor oil; household toxic materials; radiator fluids; and litter, such as disposable cups, cans, and fast-food packages. EPA believes that there has been increasing success in addressing these problems through initiatives such as storm drain stenciling and recycling programs, including household hazardous waste special collection days.

Programs that reduce illicit discharges to separate storm sewers have improved water quality in several municipalities. For example, Michigan's Huron River Pollution Abatement Program found the elimination of illicit connections caused a measurable improvement in the water quality of the Washtenaw County storm sewers and the Huron River (Washtenaw County Statutory Drainage Board, 1987). In addition, an illicit detection and remediation program in Houston, Texas, has significantly improved the water quality of Buffalo Bayou. Houston estimated that illicit flows from 132 sources had a flow rate as high as 500 gal/min. Sources of the illicit discharges included broken and plugged sanitary sewer lines, illicit connections from sanitary lines to storm sewer lines, and floor drain connections (Glanton, T., M.T. Garrett, and B. Goloby. 1992. The Illicit Connection: Is It the Problem? Wat. Env. Tech. 4(9):63-8).

3. Construction Site Runoff

Storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical, and physical integrity of the waters may become severely compromised. Water quality impairment results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients (particularly phosphorus), metals, and organic compounds into aquatic systems (Novotny, V. and G. Chesters. 1989. "Delivery of Sediment and Pollutants from Nonpoint Sources: A Water Quality Perspective." Journal of Soil and Water Conservation, 44(6):568-76). Estimates indicate that 80 percent of the phosphorus and 73 percent of the Kjeldahl nitrogen in streams is associated with eroded sediment (U.S. Department of Agriculture. 1989. "The Second RCA Appraisal, Soil, Water and Related Resources on Nonfederal Land in the United States, Analysis of Condition and Trends." Cited in Fennessey, L.A.J., and A.R. Jarrett. 1994. "The Dirt in a Hole: a Review of Sedimentation Basins for Urban Areas and Construction Sites." Journal of Soil and Water Conservation, 49(4):317-23).

In watersheds experiencing intensive construction activity, the localized impacts of water quality may be severe because of high pollutant loads, primarily sediments. Siltation is the largest cause of impaired water quality in rivers and the third largest cause of impaired water quality in lakes (U.S. EPA, 1998). The 1996 305(b) report also found that construction site discharges were a source of pollution in: 6 percent of impaired rivers; 11 percent of impaired lakes, ponds, and reservoirs; and 11 percent of impaired estuaries. Introduction of coarse sediment (coarse sand or larger) or a large amount of fine sediment is also a concern because of the potential of filling lakes and reservoirs (along with the associated remediation costs for dredging), as well as clogging stream channels (e.g., Paterson, R.G., M.I. Luger, E.J. Burby, E.J. Kaiser, H.R. Malcolm, and A.C. Beard. 1993. "Costs and Benefits of Urban Erosion and Sediment Control: North Carolina Experience." Environmental Management 17(2):167-78). Large inputs of coarse sediment into ***68729** stream channels initially will reduce stream depth and minimize habitat complexity by filling in pools (U.S. EPA. 1991. Monitoring Guidelines to Evaluate Effects of Forestry Activities on Streams in the Pacific Northwest and Alaska. EPA 910/9-91-001. Seattle, WA). In addition, studies have shown that stream reaches affected by construction activities often extend well downstream of the construction site. For example, between 4.8 and 5.6 kilometers of stream below construction sites in the Patuxent River watershed were observed to be impacted by sediment inputs (Fox, H.L. 1974. "Effects of Urbanization on the Patuxent River, with Special Emphasis on Sediment Transport, Storage, and Migration." Ph.D. dissertation. Johns Hopkins University, Baltimore, MD. As Cited in Klein, R.D. 1979. "Urbanization and Stream Quality Impairment." Water Resources Bulletin 15(4): 948-63).

A primary concern at most construction sites is the erosion and transport process related to fine sediment because rain splash, rills (i.e., a channel small enough to be removed by normal agricultural practices and typically less than 1-foot deep), and sheetwash encourage the detachment and transport of this material to waterbodies (Storm Water Quality

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Task Force. 1993. California Storm Water Best Management Practice Handbooks—Construction Activity. Oakland, CA: Blue Print Service). Construction sites also can generate other pollutants associated with onsite wastes, such as sanitary wastes or concrete truck washout.

Although streams and rivers naturally carry sediment loads, erosion from construction sites and runoff from developed areas can elevate these loads to levels well above those in undisturbed watersheds. It is generally acknowledged that erosion rates from construction sites are much greater than from almost any other land use (Novotny, V. and H. Olem. 1994. Water Quality: Prevention, Identification, and Management of Diffuse Pollution. New York: Van Nostrand Reinhold). Results from both field studies and erosion models indicate that erosion rates from construction sites are typically an order of magnitude larger than row crops and several orders of magnitude greater than rates from well-vegetated areas, such as forests or pastures (USDA. 1970. "Controlling Erosion on Construction Sites." Agriculture Information Bulletin, Washington, DC; Meyer, L.D., W.H. Wischmeier, and W.H. Daniel. 1971. "Erosion, Runoff and Revegetation of Denuded Construction Sites." Transactions of the ASAE 14(1):138-41; Owen, O.S. 1975. Natural Resource Conservation. New York: MacMillan. As cited in Paterson, et al., 1993).

A recent review of the efficiency of sediment basins indicated that inflows from 12 construction sites had a mean TSS concentration of about 4,500 mg/L (Brown, W.E. 1997. "The Limits of Settling." Technical Note No. 83. Watershed Protection Techniques 2(3)). In Virginia, suspended sediment concentrations from housing construction sites were measured at 500-3,000 mg/L, or about 40 times larger than the concentrations from already-developed urban areas (Kuo, C.Y. 1976. "Evaluation of Sediment Yields Due to Urban Development." Bulletin No. 98. Virginia Water Resources Research Center, Virginia Polytechnic Institute and State University, Blacksburg, VA).

Similar impacts from storm water runoff have been reported in a number of other studies. For example, Daniel, et al., monitored three residential construction sites in southeastern Wisconsin and determined that annual sediment yields were more than 19 times the yields from agricultural areas (Daniel, T.C., D. McGuire, D. Stoffel, and B. Miller. 1979. "Sediment and Nutrient Yield from Residential Construction Sites" Journal of Environmental Quality 8(3):304-08). Daniel, et al., identified total storm runoff, followed by peak storm runoff, as the most influential factors controlling the sediment loadings from residential construction sites. Daniel, et al., also found that suspended sediment concentrations were 15,000-20,000 mg/L in moderate events and up to 60,000 mg/L in larger events.

Wolman and Schick (Wolman, M.G. and A.P. Schick. 1967. "Effects of Construction on Fluvial Sediment, Urban and Suburban Areas of Maryland." Water Resources Research 3(2): 451-64) studied the impacts of development on fluvial systems in Maryland and determined that sediment yields in areas undergoing construction were 1.5 to 75 times greater than detected in natural or agricultural catchments. The authors summarize the potential impacts of construction on sediment yields by stating that "the equivalent of many decades of natural or even agricultural erosion may take place during a single year from areas cleared for construction" (Wolman and Schick, 1967).

A number of studies have examined the effects of road construction on erosion rates and sediment yields. A highway construction project in West Virginia disturbed only 4.2 percent of a 4.72-square-mile basin, but resulted in a three-fold increase in suspended sediment yields (Downs, S.C. and D.H. Appel. 1986. Progress Report on the Effects of Highway Construction on Suspended-Sediment Discharge in the Coal River and Trace Fork, West Virginia, 1975-81. USGS Water Resources Investigations Report 84-4275. Charlestown, WV). During the largest storm event, it was estimated that 80 percent of the sediment in the stream originated from the construction site. As is often the case, the increase in suspended sediment load could not be detected further downstream, where the drainage area was more than 50 times larger (269 square miles).

Another study evaluated the effect of 290 acres of highway construction on watersheds ranging in size from 5 to 38 square miles. Suspended sediment loads in the smallest watershed increased by 250 percent, and the estimated sediment yield from the construction area was 37 tons/acre during a 2-year period (Hainly, R.A. 1980. The Effects of

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Highway Construction on Sediment Discharge into Blockhouse Creek and Stream Valley Run, Pennsylvania. USGS Water Resources Investigations Report 80-68. Harrisburg, PA). A more recent study in Hawaii showed that highway construction increased suspended sediment loads by 56 to 76 percent in three small (1 to 4 square mile) basins (Hill, B.R. 1996. Streamflow and Suspended-Sediment Loads Before and During Highway Construction, North Halawa, Haiku, and Kamooalii Drainage Basins, Oahu, Hawaii, 1983-91. USGS Water Resources Investigations Report 96-4259. Honolulu, HI). A 1970 study determined that sediment yields from construction areas can be as much as 500 times the levels detected in rural areas (National Association of Counties Research Foundation. 1970. Urban Soil Erosion and Sediment Control. Water Pollution Control Research Series, Program #15030 DTL. Federal Water Quality Administration, U.S. Department of Interior. Washington, DC)

Yorke and Herb (Yorke, T.H., and W.J. Herb. 1978. Effects of Urbanization on Streamflow and Sediment Transport in the Rock Creek and Anacostia River Basins, Montgomery County, Maryland, 1962-74. USGS Professional Paper 1003, Washington, DC) evaluated nine subbasins in the Maryland portion of the Anacostia watershed for more than a decade in an effort to define the impacts of changing land use/land cover on sediment in runoff. Average annual suspended sediment yields for construction sites ranged from 7 to 100 tons/acre. Storm water discharges from construction sites that occur when the land area is disturbed (and prior to ***68730** surface stabilization) can significantly impact designated uses. Examples of designated uses include public water supply, recreation, and propagation of fish and wildlife. The siltation process described previously can threaten all three designated uses by (1) depositing high concentrations of pollutants in public water supplies; (2) decreasing the depth of a waterbody, which can reduce the volume of a reservoir or result in limited use of a water body by boaters, swimmers, and other recreational enthusiasts; and (3) directly impairing the habitat of fish and other aquatic species, which can limit their ability to reproduce.

Excess sediment can cause a number of other problems for waterbodies. It is associated with increased turbidity and reduced light penetration in the water column, as well as more long-term effects associated with habitat destruction and increased difficulty in filtering drinking water. Numerous studies have examined the effect that excess sediment has on aquatic ecosystems. For example, sediment from road construction activity in Northern Virginia reduced aquatic insect and fish communities by up to 85 percent and 40 percent, respectively (Reed, J.R. 1997. “Stream Community Responses to Road Construction Sediments.” Bulletin No. 97. Virginia Water Resources Research Center, Virginia Polytechnic Institute, Blacksburg, VA. As cited in Klein, R.D. 1990. A Survey of Quality of Erosion and Sediment Control and Storm Water Management in the Chesapeake Bay Watershed. Annapolis, MD: Chesapeake Bay Foundation). Other studies have shown that fine sediment (fine sand or smaller) adversely affects aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within a streambed, and reducing the intergravel dissolved oxygen by reducing the permeability of the bed material (Everest, F.H., J.C. Beschta, K.V. Scrivener, J.R. Koski, J.R. Sedell, and C.J. Cederholm. 1987. “Fine Sediment and Salmonid Production: A Paradox.” Streamside Management: Forestry and Fishery Interactions, Contract No. 57, Institute of Forest Resources, University of Washington, Seattle, WA). For example, 4.8 and 5.6 kilometers of stream below construction sites in the Patuxent River watershed in Maryland were found to have fine sediment amounts 15 times greater than normal (Fox, 1974. As cited in Klein, 1979). Benthic organisms in the streambed can be smothered by sediment deposits, causing changes in aquatic flora and fauna, such as fish species composition (Wolman and Schick, 1967). In addition, the primary cause of coral reef degradation in coastal areas is attributed to land disturbances and dredging activities due to urban development (Rogers, C.S. 1990. “Responses of Coral Reefs and Reef Organizations to Sedimentation.” Marine Ecology Progress Series, 62:185-202).

EPA believes that the water quality impact from small construction sites is as high as or higher than the impact from larger sites on a per acre basis. The concentration of pollutants in the runoff from smaller sites is similar to the concentrations in the runoff from larger sites. The proportion of sediment that makes it from the construction site to surface waters is likely the same for larger and smaller construction sites in urban areas because the runoff from either site is usually delivered directly to the storm drain network where there is no opportunity for the sediment to be filtered out.

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The expected contribution of total sediment yields from small sites depends, in part, on the extent to which erosion and sedimentation controls are being applied. Because current storm water regulations are more likely to require erosion and sedimentation controls on larger sites in urban areas, smaller construction sites that lack such programs are likely to contribute a disproportionate amount of the total sediment from construction activities (MacDonald, L.H. 1997. Technical Justification for Regulating Construction Sites 1-5 Acres in Size. Unpublished report submitted to U.S. EPA, Washington, DC). Smaller construction sites are less likely to have an effective plan to control erosion and sedimentation, are less likely to properly implement and maintain their plans, and are less likely to be inspected (Brown, W. and D. Caraco. 1997. Controlling Storm Water Runoff Discharges from Small Construction Sites: A National Review. Submitted to Office of Wastewater Management, U.S. EPA, Washington, DC., by the Center for Watershed Protection, Silver Spring, MD). The proportion of sediment that makes it from the construction site to surface waters is likely the same for larger and smaller construction sites in urban areas because the runoff from either site is usually delivered directly to the storm drain network, where there is no opportunity for the sediment to be filtered out.

To confirm its belief that sediment yields from small sites are as high as or higher than the 20 to 150 tons/acre/year measured from larger sites, EPA gave a grant to the Dane County, Wisconsin Land Conservation Department, in cooperation with the USGS, to evaluate sediment runoff from two small construction sites. The first was a 0.34 acre residential lot and the second was a 1.72 acre commercial office development. Runoff from the sites was channeled to a single discharge point for monitoring. Each site was monitored before, during, and after construction.

The Dane County study found that total solids concentrations from these small sites are similar to total solids concentrations from larger construction sites. Results show that for both of the study sites, total solids and suspended solids concentrations were significantly higher during construction than either before or after construction. For example, preconstruction total solids concentrations averaged 642 mg/L during the period when ryegrass was established, active construction total solids concentrations averaged 2,788 mg/L, and post-construction total solids concentrations averaged 132 mg/L (on a pollutant load basis, this equaled 7.4 lbs preconstruction, 35 lbs during construction, and 0.6 lbs post-construction for total solids). While this site was not properly stabilized before construction, after construction was complete and the site was stabilized, post-construction concentrations were more than 20 times less than during construction. The results were even more dramatic for the commercial site. The commercial site had one preconstruction event, which resulted in total solids concentrations of 138 mg/L, while active construction averaged more than 15,000 mg/L and post-construction averaged only 200 mg/L (on a pollutant load basis, this equaled 0.3 lbs preconstruction, 490 lbs during construction, and 13.4 lbs post-construction for total solids). The active construction period resulted in more than 75 times more sediment than either before or after construction (Owens, D.W., P. Jopke, D.W. Hall, J. Balousek and A. Roa. 1999. “Soil Erosion from Small Construction Sites.” Draft USGS Fact Sheet. USGS and Dane County Land Conservation Department, WI). The total solids concentrations from these small sites in Wisconsin are similar to total solids concentrations from larger construction sites. For example, a study evaluating the effects of highway construction in West Virginia found that a small storm produced a sediment concentration of 7,520 mg/L (Downs and Appel, 1986).

One important aspect of small construction sites is the number of small sites relative to larger construction sites ***68731** and total land area within the watershed. Brown and Caraco surveyed 219 local jurisdictions to assess erosion and sediment control (ESC) programs. Seventy respondents provided data on the number of ESC permits for construction sites smaller than 5 acres. In 27 cases (38 percent of the respondents), more than three-quarters of the permits were for sites smaller than 5 acres; in another 18 cases (26 percent), more than half of the permits were for sites smaller than 5 acres.

In addition, data on the total acreage disturbed by smaller construction sites have been collected recently in two States (MacDonald, 1997). The most recent and complete data set is the listing of the disturbed area for each of the 3,831 construction sites permitted in North Carolina for 1994-1995 and 1995-1996. Nearly 61 percent of the sites that were 1 acre or larger were between 1.0 and 4.9 acres in size. This proportion was consistent between years. Data showed that this range of sites accounted for 18 percent of the total area disturbed by construction. The values showed very little

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variation between the 2 years of data. The total disturbed area for all sites over this 2-year period was nearly 33,000 acres, or about 0.1 percent of the total area of North Carolina.

EPA estimates that construction sites disturbing greater than 5 acres disturb 2.1-million acres of land (78.1 percent of the total) while sites disturbing between 1 and 5 acres of land disturb 0.5-million acres of land (19.4 percent). The remaining sites on less than 1 acres of land disturb 0.07-million acres of land (only 2.5 percent of the total). Given the high erosion rates associated with most construction sites, small construction sites can be a significant source of water quality impairment, particularly in small watersheds that are undergoing rapid development. Exempting sites under 1 acre will exclude only about 2.5 percent of acreage from program coverage, but will exclude a far higher number of sites, approximately 25 percent.

Several studies have determined that the most effective construction runoff control programs rely on local plan review and field enforcement (Paterson, R. G. 1994. "Construction Practices: the Good, the Bad, and the Ugly." Watershed Protection Techniques 1(3)). In his review, Paterson suggests that, given the critical importance of field implementation of erosion and sediment control programs and the apparent shortcomings that exist, much more focus should be given to plan implementation.

Several commenters disputed the data presented in the proposed rule for storm water discharges from smaller construction sites. One commenter stated that EPA has not adequately explained the basis for permitting construction activity down to 1 disturbed acre. Another commenter stated that EPA did not present sufficient data on water quality impacts from construction sites disturbing less than 5 acres.

EPA believes that the data presented above sufficiently support nationwide designation of storm water discharges from construction activity disturbing more than 1 acre. Based on total disturbed land area within a watershed, the cumulative effects of numerous small construction sites can have impacts similar to those of larger sites in a particular area. In addition, waivers for storm water discharges from smaller construction activity will exclude sites not expected to impair water quality. EPA will continue to collect water quality data on construction site storm water runoff.

C. Statutory Background

In 1972, Congress enacted the CWA to prohibit the discharge of any pollutant to waters of the United States from a point source unless the discharge is authorized by an NPDES permit. Congress added CWA section 402(p) in 1987 to require implementation of a comprehensive program for addressing storm water discharges. Section 402(p)(1) required EPA or NPDES-authorized States or Tribes to issue NPDES permits for the following five classes of storm water discharges composed entirely of storm water ("storm water discharges") specifically listed under section 402(p)(2):

(A) a discharge subject to an NPDES permit before February 4, 1987

(B) a discharge associated with industrial activity

(C) a discharge from a municipal separate storm sewer system serving a population of 250,000 or more

(D) a discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000

(E) a discharge that an NPDES permitting authority determines to be contributing to a violation of a water quality standard or a significant contributor of pollutants to the waters of the United States.

Section 402(p)(3)(A) requires storm water discharges associated with industrial activity to meet all applicable provisions of section 402 and section 301 of the CWA, including technology-based requirements and any more stringent

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requirements necessary to meet water quality standards. Section 402(p)(3)(B) establishes NPDES permit standards for discharges from municipal separate storm sewer systems, or MS4s. NPDES permits for discharges from MS4s (1) may be issued on a system or jurisdiction-wide basis, (2) must include a requirement to effectively prohibit non-storm water discharges into the storm sewers, and (3) must require controls to reduce pollutant discharges to the maximum extent practicable, including best management practices, and other provisions as the Administrator or the States determine to be appropriate for the control of such pollutants. At this time, EPA determines that water quality-based controls, implemented through the iterative processes described today are appropriate for the control of such pollutants and will result in reasonable further progress towards attainment of water quality standards. See sections II.L and II.H.3 of the preamble.

In CWA section 402(p)(4), Congress established statutory deadlines for the initial steps in implementing the NPDES program for storm water discharges. This section required development of NPDES permit application regulations, submission of NPDES permit applications, issuance of NPDES permits for sources identified in section 402(p)(2), and compliance with NPDES permit conditions. In addition, this section required industrial facilities and large MS4s to submit NPDES permit applications for storm water discharges by February 4, 1990. Medium MS4s were to submit NPDES permit applications by February 4, 1992. EPA and authorized NPDES States were prohibited from requiring an NPDES permit for any other storm water discharges until October 1, 1994.

Section 402(p)(5) required EPA to conduct certain studies and submit a report to Congress. This requirement is discussed in the following section.

Section 402(p)(6) requires EPA, in consultation with States and local officials, to issue regulations for the designation of additional storm water discharges to be regulated to protect water quality. It also requires EPA to extend the existing storm water program to regulate newly designated sources. At a minimum, the extension must establish (1) priorities, (2) requirements for State storm water management programs, and (3) expeditious deadlines. Section 402(p)(6) specifies that the program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as ***68732** appropriate. Today's rule implements this section.

D. EPA's Reports to Congress

Under CWA section 402(p)(5), EPA, in consultation with the States, was required to conduct a study. The study was to identify unregulated sources of storm water discharges, determine the nature and extent of pollutants in such discharges, and establish procedures and methods to mitigate the impacts of such discharges on water quality. Section 402(p)(5) also required EPA to report the results of the first two components of that study to Congress by October 1, 1988, and the final report by October 1, 1989.

In March 1995, EPA submitted to Congress a report that reviewed and analyzed the nature of storm water discharges from municipal and industrialacilities that were not already regulated under the initial NPDES regulations for storm water (U.S. Environmental Protection Agency, Office of Water. 1995. Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program: Report to Congress. Washington, D.C. EPA 833-K-94-002) (“Report”). The Report also analyzed associated pollutant loadings and water quality impacts from these unregulated sources. Based on identification of unregulated municipal sources and analysis of information on impacts of storm water discharges from municipal sources, the Report recommended that the NPDES program for storm water focus on the 405 “urbanized areas” identified by the Bureau of the Census. The Report further found that a number of discharges from unregulated industrial facilities warranted further investigation to determine the need for regulation. It classified these unregulated industrial discharges in two groups: Group A and Group B. Group A comprised sources that may be considered a high priority for inclusion in the NPDES program for storm water because discharges from these sources are similar or identical to already regulated sources. These “look alike” storm water discharge sources were not covered in the initial NPDES regulations for storm water due to the language used to define “associated with industrial activity.” In the initial regulations for storm water, “industrial activity” is identified

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using Standard Industrial Classification (SIC) codes. The use of SIC codes led to incomplete categorization of industrial activities with discharges that needed to be regulated to protect water quality. Group B consisted of 18 industrial sectors, which included sources that EPA expected to contribute to storm water contamination due to the activities conducted and pollutants anticipated onsite (e.g., vehicle maintenance, machinery and electrical repair, and intensive agricultural activities).

EPA reported on the latter component of the section 402(p)(5) study via President Clinton's Clean Water Initiative, which was released on February 1, 1994 (U.S. Environmental Protection Agency, Office of Water. 1994. President Clinton's Clean Water Initiative. Washington, D.C. EPA 800-R-94-001) ("Initiative"). The Initiative addressed a number of issues associated with NPDES requirements for storm water discharges and proposed (1) establishing a phased compliance with a water quality standards approach for discharges from municipal separate storm sewer systems with priority on controlling discharges from municipal growth and development areas, (2) clarifying that the maximum extent practicable standard should be applied in a site-specific, flexible manner, taking into account cost considerations as well as water quality effects, (3) providing an exemption from the NPDES program for storm water discharges from industrial facilities with no activities or significant materials exposed to storm water, (4) providing extensions to the statutory deadlines to complete implementation of the NPDES program for the storm water program, (5) targeting urbanized areas for the requirements in the NPDES program for storm water, and (6) providing control of discharges from inactive and abandoned mines located on Federal lands in a more targeted, flexible manner. Additionally, prior to promulgation of today's rule, section 431 of the Agency's Appropriation Act for FY 2000 (Departments of Veterans Affairs and Housing and Urban Development and Independent Agencies Appropriations Act of 2000, Public Law 106-74, section 432 (1999)) directed EPA to report on certain matters to be covered in today's rule. That report supplements the study required by CWA Section 402(p)(5). EPA is publishing the availability of that report elsewhere in this issue of the Federal Register.

Several commenters asserted that the Report to Congress is an inadequate basis for the designation and regulation of sources covered under today's final rule, specifically the nationwide designation of small municipal separate storm sewer systems within urbanized areas and construction activities disturbing between one and five acres.

EPA believes that it has developed an adequate record for today's regulation both through the Report to Congress and the Clean Water Initiative and through more recent activities, including the FACA Subcommittee process, regulatory notices and evaluation of comments, and recent research and analysis. EPA does not interpret the congressional reporting requirements of CWA section 402(p)(5) to be the sole basis for determining sources to be regulated under today's final rule.

EPA's decision to designate on a national basis small MS4s in urbanized areas is supported by studies that clearly show a direct correlation between urbanization and adverse water quality impacts from storm water discharges. (Schueler, T. 1987. Controlling Urban Runoff: A Practical Manual for Planning & Designing Urban BMPs. Metropolitan Washington Council of Governments). "Urbanized areas"—within which all small MS4s would be covered—represent the most intensely developed and dense areas of the Nation. They constitute only two percent of the land area but 63 percent of the total population. See section I.B.1, Urban Development, above, for studies and assessments of the link between urban development and storm water impacts on water resources.

Commenters argued that the Report to Congress does not address storm water discharges from construction sites. They further argued that the designation of small construction sites per today's final rule goes beyond the President's 1994 Initiative because the Initiative only recommends requiring municipalities to implement a storm water management program to control unregulated storm water sources, "including discharges from construction of less than 5 acres, which are part of growth, development and significant redevelopment activities." They point out that the Initiative provides that unregulated storm water discharges not addressed through a municipal program would not be covered by the NPDES program. Commenters assert that EPA has not developed a record independent of its section 402(p)(5) studies

that demonstrates the necessity of regulating under a separate NPDES permit storm water discharges from smaller construction sites "to protect water quality." EPA disagrees.

EPA evaluated the nature and extent of pollutants from construction site sources in a process that was separate and distinct from the development of the Report to Congress. Today's decision to regulate certain storm water discharges from construction sites disturbing less than 5 acres arose in part ***68733** out of the 9th Circuit remand in NRDC v. EPA, 966 F.2d 1292 (9th Cir. 1992). In that case, the court remanded portions of the Phase I storm water regulations related to discharges from construction sites. Those regulations define "storm water discharges associated with industrial activity" to include only those storm water discharges from construction sites disturbing 5 acres or more of total land area (see 40 CFR 122.26(b)(14)(x)). In its decision, the court concluded that the 5-acre threshold was improper because the Agency had failed to identify information "to support its perception that construction activities on less than 5 acres are non-industrial in nature" (966 F.2d at 1306). The court remanded the below 5 acre exemption to EPA for further proceedings (966 F.2d at 1310).

In a Federal Register notice issued on December 18, 1992, EPA noted that it did not believe that the Court's decision had the effect of automatically subjecting small construction sites to the existing application requirements and deadlines. EPA believed that additional notice and comment were necessary to clarify the status of these sites. The information received during the notice and comment process and additional research, as discussed in section I.B.3 Construction Site Runoff, formed the basis for the designation of construction activity disturbing between one and five acres on a nationwide basis. EPA's objectives in today's proposal include an effort to (1) address the 9th Circuit remand, (2) address water quality concerns associated with construction activities that disturb less than 5 acres of land, and (3) balance conflicting recommendations and concerns of stakeholders.

One commenter noted that EPA's proposal would fail to regulate industrial facilities identified as Group A and Group B in the March 1995 Report to Congress. EPA is relying on the analysis in the Report, which provided that the recommendation for coverage was meant as guidance and was not intended to be an identification of specific categories that must be regulated under Section 402(p)(6). Report to Congress, p. 4-1. The Report recognized the existence of limited data on which to base loadings estimates to support the nationwide designation of individual or categories of sources. Report to Congress, p. 4-44. Furthermore, during FACA Subcommittee discussion, EPA continued to urge stakeholders to provide further data relating to industrial and commercial storm water sources, which EPA did not receive. EPA concluded that, due to insufficient data, these sources were not appropriate for nationwide designation at this time.

E. Industrial Facilities Owned or Operated by Small Municipalities

Congress granted extensions to the NPDES permit application process for selected classes of storm water discharges associated with industrial activity. On December 18, 1991, Congress enacted the Intermodal Surface Transportation Efficiency Act (ISTEA), which postponed NPDES permit application deadlines for most storm water discharges associated with industrial activity at facilities that are owned or operated by small municipalities. EPA and States authorized to administer the NPDES program could not require any municipality with a population of less than 100,000 to apply for or obtain an NPDES permit for any storm water discharge associated with industrial activity prior to October 1, 1992, except for storm water discharges from airports, power plants, or uncontrolled sanitary landfills. See 40 CFR 122.26(e)(1); 57 FR 11524, April 2, 1992 (reservation of NPDES application deadlines for ISTEA facilities).

The facilities exempted by ISTEA discharge storm water in the same manner (and are expected to use identical processes and materials) as the industrial facilities regulated under the 1990 Phase I regulations. Accordingly, these facilities pose similar water quality problems. The extended moratorium for these facilities was necessary to allow municipalities additional time to comply with NPDES requirements. The proposal for today's rule would have maintained the existing deadline for seeking coverage under an NPDES permit (August 7, 2001).

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Today's rule changes the permit application deadline for such municipally owned or operated facilities discharging industrial storm water to make it consistent with the application date for small regulated MS4s. Because EPA missed its March 1999 deadline for promulgating today's rule, and the deadline for MS4s to submit permit applications has been extended to three years and 90 days from the date of this notice, the deadline for permitting ISTEA sources has been similarly extended. The permitting of these sources is discussed below in section "II.I.3. ISTEA Sources."

F. Related Nonpoint Source Programs

Today's rule addresses point source discharges of storm water runoff and non-storm water discharges into MS4s. Many of these sources have been addressed by nonpoint source control programs, which are described briefly below.

In 1987, section 319 was added to the CWA to provide a framework for funding State and local efforts to address pollutants from nonpoint sources not addressed by the NPDES program. To obtain funding, States are required to submit Nonpoint Source Assessment Reports identifying State waters that, without additional control of nonpoint sources of pollution, could not reasonably be expected to attain or maintain applicable water quality standards or other goals and requirements of the CWA. States are also required to prepare and submit for EPA approval a statewide Nonpoint Source Management Program for controlling nonpoint source water pollution to navigable waters within the State and improving the quality of such waters. State program submittals must identify specific best management practices (BMPs) and measures that the State proposes to implement in the first four years after program submission to reduce pollutant loadings from identified nonpoint sources to levels required to achieve the stated water quality objectives.

State nonpoint source programs funded under section 319 can include both regulatory and nonregulatory State and local approaches. Section 319(b)(2)(B) specifies that a combination of "nonregulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects' may be used, as necessary, to achieve implementation of the BMPs or measures identified in the section 319 submittals.

Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990 provides that States with approved coastal zone management programs must develop coastal nonpoint pollution control programs and submit them to EPA and the National Oceanic and Atmospheric Administration (NOAA) for approval. Failure to submit an approvable program will result in a reduction of Federal grants under both the Coastal Zone Management Act and section 319 of the CWA.

State coastal nonpoint pollution control programs under CZARA must include enforceable policies and mechanisms that ensure implementation of the management measures throughout the coastal management area. EPA issued Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters under section 6217(g) in ***68734** January 1993. The guidance identifies management measures for five major categories of nonpoint source pollution. The management measures reflect the greatest degree of pollutant reduction that is economically achievable for each of the listed sources. These management measures provide reference standards for the States to use in developing or refining their coastal nonpoint programs. A few management measures, however, contain quantitative standards that specify pollutant loading reductions. For example, the New Development Management Measure, which is applicable to construction in urban areas, requires (1) that by design or performance the average annual total suspended solid loadings be reduced by 80 percent and (2) to the extent practicable, that the pre-development peak runoff rate and average volume be maintained.

EPA and NOAA published Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance (1993). The document clarifies that States generally must implement management measures for each source category identified in the EPA guidance developed under section 6217(g). Coastal Nonpoint Pollution Control Programs are not required to address sources that are clearly regulated under the NPDES program as point source discharges.

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Specifically, such programs would not need to address small MS4s and construction sites covered under NPDES storm water permits (both general and individual).

II. Description of Program

A. Overview

1. Objectives EPA Seeks To Achieve in Today's Rule

EPA seeks to achieve several objectives in today's final rule. First, EPA is implementing the requirement under CWA section 402(p)(6) to provide a comprehensive storm water program that designates and controls additional sources of storm water discharges to protect water quality. Second, EPA is addressing storm water discharges from the activities exempted under the 1990 storm water permit application regulations that were remanded by the Ninth Circuit Court of Appeals in NRDC v. EPA, 966 F.2d 1292 (9th Circuit, 1992). These are construction activities disturbing less than 5 acres and so-called "light" industrial activities not exposed to storm water (see discussion of "no exposure" below). Third, EPA is providing coverage for the so-called "donut holes" created by the existing NPDES storm water program. Donut holes are geographic gaps in the NPDES storm water program's regulatory scheme. They are MS4s located within areas covered by the existing NPDES storm water program, but not currently addressed by the storm water program because it is based on political jurisdictions. Finally, EPA also is trying to promote watershed planning as a framework for implementing water quality programs where possible.

Although EPA had options for different approaches (see alternatives discussed in the January 9, 1998, proposed regulation), EPA believes it can best achieve its objectives through flexible innovations within the framework of the NPDES program. Unlike the interim section 402(p)(6) storm water regulations EPA promulgated in 1995, EPA no longer designates all of the unregulated storm water discharges for nationwide coverage under the NPDES program for storm water. The framework for today's final rule is one that balances automatic designation on a nationwide basis and locally-based designation and waivers. Nationwide designation applies to those classes or categories of storm water discharges that EPA believes present a high likelihood of having adverse water quality impacts, regardless of location. Specifically, today's rule designates discharges from small MS4s located in urbanized areas and storm water discharges from construction activities that result in land disturbance equal to or greater than one and less than five acres. As noted under Section I.B., Water Quality Concerns/Environmental Impact Studies and Assessments, these two categories of storm water sources, when unregulated, tend to cause significant adverse water quality impacts. Additional sources are not covered on a nationwide basis either because EPA currently lacks information indicating a consistent potential for adverse water quality impact or because EPA believes that the likelihood of adverse impacts on water quality is low, with some localized exceptions. Additional individual sources or categories of storm water discharges could, however, be covered under the program through a local designation process. A permitting authority may designate additional small MS4s after developing designation criteria and applying those criteria to small MS4s located outside of an urbanized area, in particular those with a population of 10,000 or more and a population density of at least 1,000. Exhibit 1 illustrates the designation framework for today's final rule.

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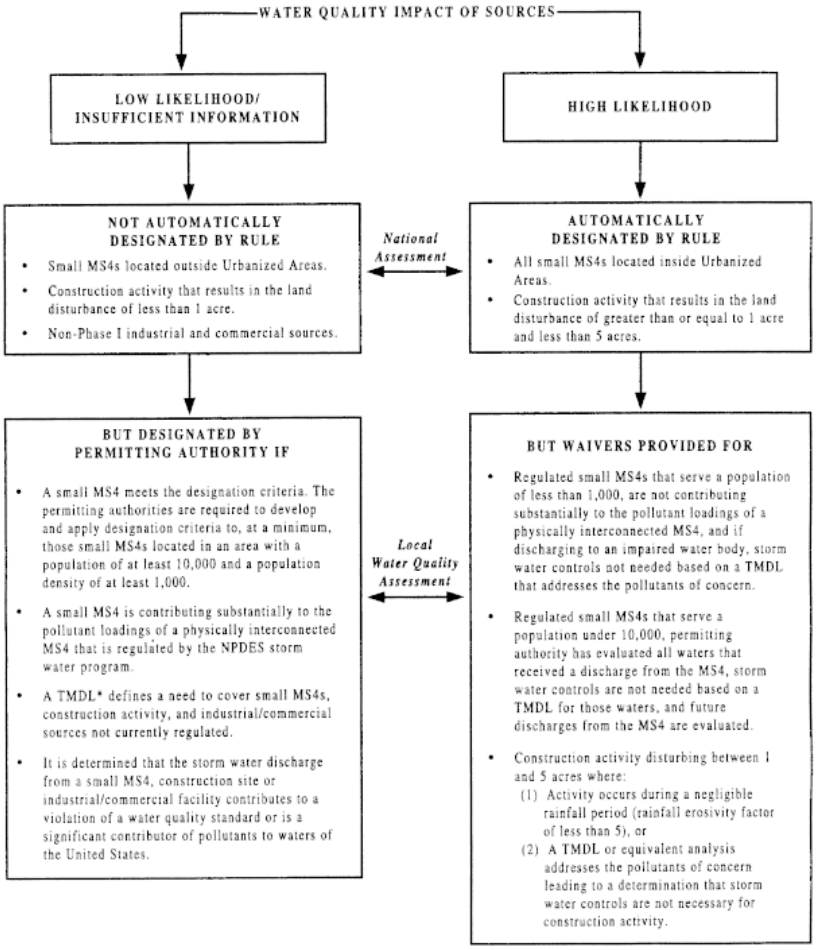
EXHIBIT 1.—PHASE II SOURCE DECISIONS



*EPA will continue to require States to comply with their Total Maximum Daily Load (TMDL) implementation schedules.

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***68736** The designation framework for today's final rule provides a significant degree of flexibility. The proposed provisions for nationwide designation of storm water discharges from construction and from small MS4s in urbanized areas allowed for a waiver of applicable requirements based on appropriate water quality conditions. Today's final rule expands and simplifies those waivers.

The permitting authority may waive the requirement for a permit for any small MS4 serving a jurisdiction with a population of less than 1,000 unless storm water controls are needed because the MS4 is contributing to a water quality impairment. The permitting authority may also waive permit coverage for MS4s serving a jurisdiction with a population of less than 10,000 if all waters that receive a discharge from the MS4 have been evaluated and discharges from the MS4 do not significantly contribute to a water quality impairment or have the potential to cause an impairment. Today's rule also allows States with a watershed permitting approach to phase in coverage for MS4s in jurisdictions with populations under 10,000.

Water quality conditions are also the basis for a waiver of requirements for storm water discharges from construction activities disturbing between one and five acres. For these small construction sources, the rule provides significant flexibility for waiving otherwise applicable regulatory requirements where a permitting authority determines, based on water quality and watershed considerations, that storm water discharge controls are not needed.

Coverage can be extended to municipal and construction sources outside the nationwide designated classes or categories based on watershed and case-by-case assessments. For the municipal storm water program, today's rule provides broad discretion to NPDES permitting authorities to develop and implement criteria for designating storm water discharges from small MS4s outside of urbanized areas. Other storm water discharges from unregulated industrial, commercial, and residential sources will not be subject to the NPDES permit requirements unless a permitting authority determines on a case-by-case basis (or on a categorical basis within identified geographic areas such as a State or watershed) that regulatory controls are needed to protect water quality. EPA believes that the flexibility provided in today's rule facilitates watershed planning.

2. General Requirements for Regulated Entities Under Today's Rule

As previously noted, today's final rule defines additional classes and categories of storm water discharges for coverage under the NPDES program. These designated dischargers are required to seek coverage under an NPDES permit. Furthermore, all NPDES-authorized States and Tribes are required to implement these provisions and make any necessary amendments to current State and Tribal NPDES regulations to ensure consistency with today's final rule. EPA remains the NPDES permitting authority for jurisdictions without NPDES authorization.

Today's final rule includes some new requirements for NPDES permitting authorities implementing the CWA section 402(p)(6) program. EPA has made a significant effort to build flexibility into the program while attempting to maintain an appropriate level of national consistency. Permitting authorities must ensure that NPDES permits issued to MS4s include the minimum control measures established under the program. Permitting authorities also have the ability to make numerous decisions including who is regulated under the program, i.e., case-by-case designations and waivers, and how responsibilities should be allocated between regulated entities.

Today's final rule extends the NPDES program to include discharges from the following: small MS4s within urbanized areas (with the exception of systems waived from the requirements by the NPDES permitting authority); other small MS4s meeting designation criteria to be established by the permitting authority; and any remaining MS4 that contributes substantially to the storm water pollutant loadings of a physically interconnected MS4 already subject to regulation under the NPDES program. Small MS4s include urban storm sewer systems owned by Tribes, States, political subdivisions of States, as well as the United States, and other systems located within an urbanized area that fall within the definition of an MS4. These include, for example, State departments of transportation (DOTs), public universities, and federal military bases.

Today's final rule requires all regulated small MS4s to develop and implement a storm water management program. Program components include, at a minimum, 6 minimum measures to address: public education and outreach; public involvement; illicit discharge detection and elimination; construction site runoff control; post-construction storm water management in new development and redevelopment; and pollution prevention and good housekeeping of municipal operations. These program components will be implemented through NPDES permits. A regulated small MS4 is required to submit to the NPDES permitting authority, either in its notice of intent (NOI) or individual permit application, the BMPs to be implemented and the measurable goals for each of the minimum control measures listed above.

The rule addresses all storm water discharges from construction site activities involving clearing, grading and excavating land equal to or greater than 1 acre and less than 5 acres, unless requirements are otherwise waived by the NPDES permitting authority. Discharges from such sites, as well as construction sites disturbing less than 1 acre of land that are designated by the permitting authority, are required to implement requirements set forth in the NPDES permit, which may reference the requirements of a qualifying local program issued to cover such discharges.

The rule also addresses certain other sources regulated under the existing NPDES program for storm water. For municipally-owned industrial sources required to be regulated under the existing NPDES storm water program but exempted from immediate compliance by the Intermodal Surface Transportation Act of 1991 (ISTEA), the rule revises

the existing deadline for seeking coverage under an NPDES permit (August 7, 2001) to make it consistent with the application date for small regulated MS4s. (See section I.3. below.) The rule also provides relief from NPDES storm water permitting requirements for industrial sources with no exposure of industrial materials and activities to storm water.

3. Integration of Today's Rule With the Existing Storm Water Program

In developing an approach for today's final rule, numerous early interested stakeholders encouraged EPA to seek opportunities to integrate, where possible, the proposed Phase II requirements with existing Phase I requirements, thus facilitating a unified storm water discharge control program. EPA believes that this objective is met by using the NPDES framework. This framework is already applied to regulated storm water discharge sources and is extended to those sources designated under today's rule. This approach facilitates program consistency, public access to information, and program oversight. ***68737**

EPA believes that today's final rule provides consistency in terms of program coverage and requirements for existing and newly designated sources. For example, the rule includes most of the municipal donut holes, those MS4s located in incorporated places, townships or towns with a population under 100,000 that are within Phase I counties. These MS4s are not addressed by the existing NPDES storm water program while MS4s in the surrounding county are currently addressed. In addition, the minimum control measures required in today's rule for regulated small MS4s are very similar to a number of the permit requirements for medium and large MS4s under the existing storm water program. Following today's rule, permit requirements for all regulated MS4s (both those under the existing program and those under today's rule) will require implementation of BMPs. Furthermore, with regard to the development of NPDES permits to protect water quality, EPA intends to apply the August 1, 1996, Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (hereinafter, “Interim Permitting Approach”) (see Section II.L.1. for further description) to all MS4s covered by the NPDES program.

EPA is applying NPDES permit requirements to construction sites below 5 acres that are similar to the existing requirements for those above 5 acres and above. In addition, today's rule allows compliance with qualifying local, Tribal, or State erosion and sediment controls to meet the erosion and sediment control requirements of the general permits for storm water discharges associated with construction, both above and below 5 acres.

4. General Permits

EPA recommends using general permits for all newly regulated storm water sources under today's rule. The use of general permits, instead of individual permits, reduces the administrative burden on permitting authorities, while also limiting the paperwork burden on regulated parties seeking permit authorization. Permitting authorities may, of course, require individual permits in some cases to address specific concerns, including permit non-compliance.

EPA recommends that general permits for MS4s, in particular, be issued on a watershed basis, but recognizes that each permitting authority must decide how to develop its general permit(s). Permit conditions developed to address concerns and conditions of a specific watershed could reflect a watershed plan; such permit conditions must provide for attainment of applicable water quality standards (including designated uses), allocations of pollutant loads established by a TMDL, and timing requirements for implementation of a TMDL. If the permitting authority issues a State-wide general permit, the permitting authority may include separate conditions tailored to individual watersheds or urbanized areas. Of course, for a newly regulated MS4, modification of an existing individual MS4 permit to include the newly regulated MS4 as a “limited co-permittee” also remains an option.

5. Tool Box

During the FACA process, many Storm Water Phase II FACA Subcommittee representatives expressed an interest, which was endorsed by the full Committee, in having EPA develop a “tool box” to assist States, Tribes, municipalities,

and other parties involved in the Phase II program. EPA made a commitment to work with Storm Water Phase II FACA Subcommittee representatives in developing such a tool box, with the expectation that a tool box would facilitate implementation of the storm water program in an effective and cost-efficient manner. EPA has developed a preliminary working tool box (available on EPA's web page at www.epa.gov/owm/sw/toolbox). EPA intends to have the tool box fully developed by the time of the first general permits. EPA also intends to update the tool box as resources and data become available. The tool box will include the following eight main components: fact sheets; guidances; a menu of BMPs for the six MS4 minimum measures; an information clearinghouse; training and outreach efforts; technical research; support for demonstration projects; and compliance monitoring/assistance tools. EPA intends to issue the menu of BMPs, both structural and non-structural, by October 2000. In addition, EPA will issue by October 2000 a "model" permit and will issue by October 2001 guidance materials on the development of measurable goals for municipal programs.

In an attempt to avoid duplication, the Agency has undertaken an effort to identify and coordinate sources of information that relate to the storm water discharge control program from both inside and outside the Agency. Such information includes research and demonstration projects, grants, storm water management-related programs, and compendiums of available documents, including guidances, related directly or indirectly to the comprehensive NPDES storm water program. Based on this effort, EPA is developing a tool box containing fact sheets and guidance documents pertaining to the overall program and rule requirements (e.g., guidance on municipal and construction programs, and permitting authority guidance on designation and waiver criteria); models of current programs aimed at assisting States, Tribes, municipalities, and others in establishing programs; a comprehensive list of reference documents organized according to subject area (e.g., illicit discharges, watersheds, water quality standards attainment, funding sources, and similar types of references); educational materials; technical research data; and demonstration project results. The information collected by EPA will not only provide the background for tool box materials, but will also be made available through an information clearinghouse on the world wide web.

With assistance from EPA, the American Public Works Association (APWA) developed a workbook and series of workshops on the proposed Phase II rule. Ten workshops were held from September 1998 through May 1999. Depending on available funding, these workshops may continue after publication of today's final rule. EPA also intends to provide training to enable regional offices to educate States, Tribes, and municipalities about the storm water program and the availability of the tool box materials.

The CWA currently provides funding mechanisms to support activities related to storm water. These mechanisms will be described in the tool box. Activities funded under grant and loan programs, which could be used to assist in storm water program development, include programs in the nonpoint source area, storm water demonstration projects, source water protection and wastewater construction projects. EPA has already provided funding for numerous research efforts in these areas, including a database of BMP effectiveness studies (described below), an assessment of technologies for storm water management, a study of the effectiveness of storm water BMPs for controlling the impacts of watershed imperviousness, protocols for wet weather monitoring, development of a dynamic model for wet weather flows, and numerous outreach projects.

EPA has entered into a cooperative agreement with the Urban Water Resources Research Council of the American Society of Civil Engineers (ASCE) to develop a scientifically-based management tool for the information ***68738** needed to evaluate the effectiveness of urban storm water runoff BMPs nationwide. The long-term goal of the National Stormwater BMP Database project is to promote technical design improvements for BMPs and to better match their selection and design to the local storm water problems being addressed. The project team has collected and evaluated hundreds of existing published BMP performance studies and created a database covering about 75 test sites. The database includes detailed information on the design of each BMP and its watershed characteristics, as well as its performance. Eventually the database will include the nationwide collection of information on the characteristics of structural and non-structural BMPs, data collection efforts (e.g., sampling and flow gaging equipment), climatological characteristics, watershed characteristics, hydrologic data, and constituent data. The database will continue to grow as

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new BMP data become available. The initial release of the database, which includes data entry and retrieval software, is available on CD-ROM and operates on Windows (R) -compatible personal computers. The ASCE project team envisions that periodic updates to the database will be distributed through the Internet. The team is currently developing a system for Internet retrieval of selected database records, and this system is expected to be available in early 2000.

EPA and ASCE invite BMP designers, owners and operators to participate in the continuing database development effort. To make this effort successful, a large database is essential. Interested persons are encouraged to submit their BMP performance evaluation data and associated BMP watershed characteristics for potential entry into the database. The software included in the CD-ROM allows data providers to enter their BMP data locally, retain and edit the data as needed, and submit them to the ASCE Database Clearinghouse when ready.

To obtain a copy of the database, please contact Jane Clary, Database Clearinghouse Manager, Wright Water Engineers, Inc., 2490 W. 26th Ave., Suite 100A, Denver, CO 80211; Phone 303-480-1700; E-mail clary@wrightwater.com.

In addition, EPA requests that researchers planning to conduct BMP performance evaluations compile and collect BMP reporting information according to the standard format developed by ASCE. The format is provided with the database software and is also available on the ASCE website at www.asce.org/peta/tech/nsbd01.html.

6. Deadlines Established in Today's Action

Exhibit 2 outlines the various deadlines established under today's final rule. EPA believes that the dates allow sufficient time for completion of both the NPDES permitting authority's and the permittee's program responsibilities.

Exhibit 2-Storm Water Phase II Actions Deadlines

Activity	Deadline date
NPDES-authorized States modify NPDES program if no statutory change is required	1 year from date of publication of today's rule in the Federal Register.
NPDES-authorized States modify NPDES program if statutory change is required	2 years from date of publication of today's rule in the Federal Register.
EPA issues a menu of BMPs for regulated small MS4s	October 27, 2000
ISTEA sources submit permit application	3 years and 90 days from date of publication of today's rule in the Federal Register.
Permitting authority issues general permit(s) (if this type of permit coverage is selected)	3 years from date of publication of today's rule in the Federal Register.
Regulated small MS4s submit permit application:	
a. If designated under §122.32(a)(1) unless the permitting authority has established a phasing schedule under §123.35(d)(3)	a. 3 years and 90 days from date of publication of today's rule in the Federal Register.
b. If designated under §122.32(a)(2) or §§122.26(a)(9)(i)(C) or (D)	b. Within 180 days of notice.
Storm water discharges associated with small construction activity submit permit application:	

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a. If designated under §122.26(b)(15)(i)	a. 3 years and 90 days from date of publication of today's rule in the Federal Register
b. If designated under §122.26(b)(15)(ii)	b. Within 180 days of notice.
Permitting authority designates small MS4s under §123.35(b)(2)	3 years from date of publication of today's rule in the Federal Register or 5 years from date of publication of today's rule in the Federal Register if a watershed plan is in place
Regulated small MS4s' program fully developed and implemented	Up to 5 years from date of permit issuance.
Reevaluation of the municipal storm water rules by EPA	13 years from date of publication of today's rule in the Federal Register
Permitting authority determination on a petition	Within 180 days of receipt.
Non-municipal sources designated under §122.26(a)(9)(i)(C) or (D) submit permit application	Within 180 days of notice.
Submission of No Exposure Certification	Every 5 years.

B. Readable Regulations

Today, EPA is finalizing new regulations in a "readable regulation" format. This reader-friendly, plain language approach is a departure from traditional regulatory language and should enhance the rule's readability. These plain language regulations use questions and answers, "you" to identify the person who must comply, and terms like "must" rather than "shall" to identify a mandate. This new format, which minimizes layers of subparagraphs, should also allow the reader to easily locate specific provisions of the regulation.

Some sections of today's final rule are presented in the traditional language and format because these sections amend existing regulations. The readable regulation format was not used in these existing provisions in an attempt to avoid confusion or disruption ***68739** of the readability of the existing regulations.

Most commenters supported EPA's use of plain language and agreed with EPA that the question and answer format makes the rule easier to understand. Three commenters thought that EPA should retain the traditional rule format. The June 1, 1998, Presidential memorandum directs all government agencies to write documents in plain language. Based on the majority of the comments, EPA has retained the plain language format used in the January 9, 1998, proposal in today's final rule.

The proposal to today's final rule included guidance as well as legal requirements. The word "must" indicates a requirement. Words like "should," "could," or "encourage" indicate a recommendation or guidance. In addition, the guidance was set off in parentheses to distinguish it from requirements.

EPA received numerous comments supporting the inclusion of guidance in the text of the Code of Federal Regulations (CFR), as well as comments opposing inclusion of guidance. Supporters stated that preambles and guidance documents are often not accessible when rules are implemented. Any language not included in the CFR is therefore not available when it may be most needed. Commenters that opposed including guidance in the CFR expressed the concern that any language in the rule might be interpreted as a requirement, in spite of any clarifying language. They suggested that guidance be presented in the preamble and additional guidance documents.

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The majority of commenters on this issue thought that the guidance should be retained but the distinction between requirements and guidance should be better clarified. Suggestions included clarifying text, symbols, and a change from use of the word “should” to “EPA recommends” or “EPA suggests”. EPA believes that it is important to include the guidance in the rule and agrees that the distinction between requirements and EPA recommendations must be very clear. In today's final rule, EPA has put the guidance in paragraphs entitled “Guidance” and replaced the word “should” with “EPA recommends.” This is intended to clarify that the recommendations contained in the guidance paragraphs are not legally binding.

C. Program Framework: NPDES Approach

Today's rule regulates Phase II sources using the NPDES permit program. EPA interprets Clean Water Act section 402(p)(6) as authorizing the Agency to develop a storm water program for Phase II sources either as part of the existing NPDES permit program or as a stand alone non-NPDES program such as a self-implementing rule. Under either approach, EPA interprets section 402(p)(6) as directing EPA to publish regulations that “regulate” the remaining unregulated sources, specifically to establish requirements that are federally enforceable under the CWA. Although EPA believes that it has the discretion to not require sources regulated under CWA section 402(p)(6) to be covered by NPDES permits, the Agency has determined, for the reasons discussed below, that it is most appropriate to use NPDES permits in implementing the program to address the sources designated for regulation in today's rule.

As discussed in Section II.A, Overview, EPA sought to achieve certain goals in today's final rule. EPA believes that the NPDES program best achieves EPA's goals for today's final rule for the reasons discussed below.

Requiring Phase II sources to be covered by NPDES permits helps address the consistency problems currently caused by municipal “donut holes.” Donut holes are gaps in program coverage where a small unregulated MS4 is located next to or within a regulated larger MS4 that is subject to an NPDES permit under the Phase I NPDES storm water program. The existence of such “donut holes” creates an equity problem because similar discharges may remain unregulated even though they cause or contribute to the same adverse water quality impacts. Using NPDES permits to regulate the unregulated discharges in these areas is intended to facilitate the development of a seamless regulatory program for the mitigation and control of contaminated storm water discharges in an urbanized area. For example, today's rule allows a newly regulated MS4 to join as a “limited” co-permittee with a regulated MS4 by referencing a common storm water management program. Such cooperation should be further encouraged by the fact that the minimum control measures required in today's rule for regulated small MS4s are very similar to a number of the permit requirements for medium and large MS4s under the Phase I storm water program. The minimum control measures applicable to discharges from smaller MS4s are described with slightly more generality than under the Phase I permit application regulations for larger MS4s, thus enabling maximum flexibility for operators of smaller MS4s to optimize efforts to protect water quality.

Today's rule also applies NPDES permit requirements to construction sites below 5 acres that are similar to the existing requirements for those 5 acres and above. In addition, the rule would allow compliance with qualifying local, Tribal, or State erosion and sediment controls to meet the erosion and sediment control requirements of the general permits for storm water discharges associated with construction, both above and below 5 acres.

Incorporating the CWA section 402(p)(6) program into the NPDES program capitalizes upon the existing governmental infrastructure for administration of the NPDES program. Moreover, much of the regulated community already understands the NPDES program and the way it works.

Another goal of the NPDES program approach is to provide flexibility in order to facilitate and promote watershed planning and sensitivity to local conditions. NPDES permits promote those goals in several ways. NPDES general permits may be used to cover a category of regulated sources on a watershed basis or within political boundaries. The NPDES permitting process provides a mechanism for storm water controls tailored on a case-by-case basis, where necessary. In addition, the NPDES permit requirements of a permittee may be satisfied by another cooperating

entity. Finally, NPDES permits may incorporate the requirements of existing State, Tribal and local programs, thereby accommodating State and Tribes seeking to coordinate the storm water program with other programs, including those that focus on watershed-based nonpoint source regulation.

In promoting the watershed approach to program administration, EPA believes NPDES general permits can cover a category of dischargers within a defined geographic area. Areas can be defined very broadly to include political boundaries (e.g., county), watershed boundaries, or State or Tribal land.

NPDES permits generally require an application or a notice of intent(NOI) to trigger coverage. This information exchange assures communication between the permitting authority and the regulated community. This communication is critical in ensuring that the regulated community is aware of the requirements and the permitting authority is aware of the potential for adverse impacts to water quality from identifiable locations. The NPDES permitting process includes the public as a valuable stakeholder and ensures ***68740** that the public is included and information is made publicly available.

Another concern for EPA and several stakeholders was that the program ensure citizen participation. The NPDES approach ensures opportunities for citizen participation throughout the permit issuance process, as well as in enforcement actions. NPDES permits are also federally enforceable under the CWA.

EPA believes that the use of NPDES permits makes a significant difference in the degree of compliance with regulations in the storm water program. The NPDES program provides for public participation in the development, enforcement and revision of storm water management programs. Citizen suit enforcement has assisted in focusing attention on adverse water quality impacts on a localized, public priority basis. Citizens frequently rely on the NPDES permitting process and the availability of NOIs to track program implementation and help them enforce regulatory requirements.

NPDES permits are also advantageous to the permittee. The NPDES permit informs the permittee about the scope of what it is expected do to be in compliance with the Clean Water Act. As explained more fully in EPA's April 1995 guidance, Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits, compliance with an NPDES permit constitutes compliance with the Clean Water Act (see CWA section 402(k)). In addition, NPDES permittees are excluded from duplicative regulatory regimes under the Resource Conservation and Recovery Act and the Comprehensive Emergency Response, Compensation and Liability Act under RCRA's exclusions to the definition of “solid waste” and CERCLA's exemption for “federally permitted releases.”

EPA considered suggestions that the Agency authorize today's rule to be implemented as a self-implementing rule. This would be a regulation promulgated at the Federal, State, or Tribal level to control some or all of the storm water dischargers regulated under today's rule. Under this approach, a rule would spell out the specific requirements for dischargers and impose the restrictions and conditions that would otherwise be contained in an NPDES permit. It would be effective until modified by EPA, a State, or a Tribe, unlike an NPDES permit which cannot exceed a duration of five years. Some stakeholders believed that this approach would reduce the burden on the regulated community (e.g., by not requiring permit applications), and considerably reduce the amount of additional paperwork, staff time and accounting required to administer the proposed permit requirements.

EPA is sensitive to the interest of some stakeholders in having a streamlined program that minimizes the burden associated with permit administration and maximizes opportunities for field time spent by regulatory authorities. Key provisions in today's rule address some of these concerns by promoting a streamlined approach to permit issuance by, for example, using general permits and allowing the incorporation of existing programs. By adopting the NPDES approach rather than a self-implementing rule, today's rule also allows for consistent regulation between larger MS4s and construction sites regulated under the existing storm water management rule and smaller sources regulated under today's rule.

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EPA believes that it is most appropriate to use NPDES permits to implement a program to address the sources regulated by today's rule. In addition to the reasons discussed above, NPDES permits provide a better mechanism than would a self-implementing rule for tailoring storm water controls on a case-by-case basis, where necessary. One commenter reasoned this concern could be addressed by including provisions in the regulation that allow site-specific BMPs (i.e., case-by-case permits), suggesting storm water discharges that might require site-specific BMPs can be identified during the designation process of the regulatory authority. EPA believes that, in addition to its complexity, the commenter's approach lacks the other advantages of the NPDES permitting process.

A self-implementing rule would not ensure the degree of public participation that the NPDES permit process provides for the development, enforcement and revision of the storm water management program. A self-implementing rule also might not have provided the regulated community the "permit shield" under CWA section 402(k) that is provided by an NPDES permit. Based on all these considerations, EPA declined to adopt a self-implementing rule approach and adopted the NPDES approach.

Some State representatives sought alternative approaches for State implementation of the storm water program for Phase II sources. These State representatives asserted that a non-NPDES alternative approach best facilitated watershed management and avoided duplication and overlapping regulations. These representatives believed the NPDES approach would undercut State programs that had developed storm water controls tailored to local watershed concerns. Finally, a number of commenters expressed the view that States implement a variety of programs not based on the CWA that are effective in controlling storm water, and that EPA should provide incentives for their implementation and improvement in performance.

Throughout the development of the rule, State representatives sought alternatives to the NPDES approach for State implementation of the storm water program for Phase II sources. Discussions focused on an approach whereby States could develop an alternative program that EPA would approve or disapprove based on identified criteria, including that the alternative non-NPDES program would result in "equivalent or better protection of water quality." The State representatives, however, were unable to propose or recommend criteria for gauging whether a program would provide equivalent protection. EPA also did not receive any suggestions for objective, workable criteria in response to the Agency's explicit request for specific criteria (by which EPA could objectively judge such programs) in the preamble to the proposed rule.

EPA evaluated several existing State initiatives to address storm water and found many cases where standards under State programs may be coordinated with the Federal storm water program. Where the NPDES permit is developed in coordination with State standards, there are opportunities to avoid duplication and overlapping requirements. Under today's rule, an NPDES permitting authority may include conditions in the NPDES permit that direct an MS4 to follow the requirements imposed under State standards, rather than the requirements of §122.34(b). This is allowed as long as the State program at a minimum imposes the relevant requirements of §122.34(b). Additional opportunities follow from other provisions in today's rule.

Seeking to further explore the feasibility of a non-NPDES approach, the Agency, after the proposal, had extensive discussions with representatives of a number of States. Discussions related specifically to possible alternatives for regulations of urban storm water discharges and MS4s specifically. The Agency also sought input on these issues from other stakeholders.

As a result of these discussions, many of the commenters provided input on issues such as: whether or not the Agency should require NPDES permits; whether location of MS4s in urbanized ***68741** areas should be the basis for designation or whether designation should be based on other determinations relating to water quality; whether States should be

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allowed to satisfy the conditions of the rule through the use of existing State programs; and issues concerning timing and resources for program implementation.

In response, today's rule still follows the regulatory scheme of the proposed rule, but incorporates additional flexibility to address some of the concerns raised by commenters.

In order to facilitate implementation by States that utilize a watershed permitting approach or similar approach (i.e., based on a State's unified watershed assessments), today's rule allows States to phase in coverage for MS4s in jurisdictions with a population less than 10,000. Under such an approach, States could focus their resources on a rolling basis to assist smaller MS4s in developing storm water programs.

In addition, in response to concerns that the rule should not require permit coverage for MS4s that do not significantly contribute to water quality impairments, today's rule provides options for two waivers for small MS4s. The rule allows permitting authorities to exempt from the requirement for a permit any MS4 serving a jurisdiction with a population less than 1,000, unless the State determines that the MS4 must implement storm water controls because it is significantly contributing to a water quality impairment. A second waiver option applies to MS4s serving a jurisdiction with a population less than 10,000. For those MS4s, the State must determine that discharges from the MS4 do not significantly contribute to a water quality impairment, or have the potential for such an impairment, in order to provide the exemption. The State must review this waiver on a periodic basis no less frequently than once every five years.

Throughout the development of today's rule, commenters questioned whether the Clean Water Act authorized the use of the NPDES permit program, pointing out that the text of CWA 402(p)(6) does not use the word “permit.” Based on the absence of the word “permit” and the express mention of State storm water management programs, the commenters asserted that Congress did not intend for Phase II sources to be regulated using NPDES permits.

EPA disagrees with the commenters' interpretation of section 402(p)(6). Section 402(p)(6) does not preclude use of permits as part of the “comprehensive program” to regulate designated sources. The language provides EPA with broad discretion in the establishment of the “comprehensive program.” Absence of the word “permit” (a term that the statute does not otherwise define) does not preclude use of a permit, which is a familiar and reasonably well understood regulatory implementation vehicle. First, section 402(p)(6) says that EPA must establish a comprehensive program that “shall, at a minimum, establish priorities, establish requirements for State stormwater management programs, and establish expeditious deadlines.” The “at a minimum” language suggests that the Agency may, and perhaps should, develop a comprehensive program that does more than merely attend to these minimum criteria. Use of the term “at a minimum” preserves for the Agency broad discretion to establish a comprehensive program that includes use of NPDES permits.

Further, in the final sentence of the section, Congress included additional language to affirm the Agency's discretion. The final sentence clarifies that the Phase II program “may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.” Under existing CWA programs, performance standards, (effluent limitations) guidelines, management practices, and treatment requirements are typically implemented through NPDES or dredge and fill permits.

Although EPA believes that it had the discretion to not require permits, the Agency has determined that it is reasonable to interpret section 402(p)(6) to authorize permits. Moreover, for the reasons discussed above, the Agency believes that it is appropriate to use NPDES permits in implementing today's rule.

D. Federal Role

Today's final rule describes EPA's approach to expand the existing storm water program under CWA section 402(p)(6). As in all other Federal programs, the Federal government plays an integral role in complying with, developing,

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implementing, overseeing, and enforcing the program. This section describes EPA's role in the revised storm water program.

1. Develop Overall Framework of the Program

The storm water discharge control program under CWA section 402(p)(6) consists of the rule, tool box, and permits. EPA's primary role is to ensure timely development and implementation of all components. Today's rule is a refinement of the first step in developing the program. EPA is fully committed to continuing to work with involved stakeholders on developing the tool box and issuing permits. As noted in today's rule, EPA will assess the municipal storm water program based on (1) evaluations of data from the NPDES municipal storm water program, (2) research concerning water quality impacts on receiving waters from storm water, and (3) research on BMP effectiveness. (Section II.H, Municipal Role, provides a more detailed discussion of this provision.)

EPA is planning to standardize minimum requirements for construction and post-construction BMPs in a new rulemaking under Title III of the CWA. While larger construction sites are already subject to NPDES permits (and smaller sites will be subject to permits pursuant to today's rule), the permits generally do not contain specific requirements for BMP design or performance. The permits require the preparation of storm water pollution prevention plans, but actual BMP selection and design is at the discretion of permittees, in conformance with applicable State and local requirements. Where there are existing State and local requirements specific to BMPs, they vary widely, and many jurisdictions do not have such requirements.

In developing these regulations, EPA intends to evaluate the inclusion of design and maintenance criteria as minimum requirements for a variety of BMPs used for erosion and sediment control at construction sites, as well as for permanent BMPs used to manage post-construction storm water discharges. The Agency plans to consider the merits and performance of all appropriate management practices (both structural and non-structural) that can be used to reduce adverse water quality impacts. EPA does not intend to require the use of particular BMPs at specific sites, but plans to assist builders and developers in BMP selection by publishing data on the performance to be expected by various BMP types. EPA would like to build upon the successes of some of the effective State and local storm water programs currently in place around the country, and to establish nation-wide criteria to support builders and local jurisdictions in appropriate BMP selection.

2. Encourage Consideration of Smart Growth Approaches

In the proposal, EPA invited comment on possible approaches for providing ***68742** incentives for local decision making that would limit the adverse impacts of growth and development on water quality. EPA asked for comments on this "smart growth" approach.

EPA received comments on all sides of this issue. A number of commenters supported the idea of "smart growth" incentives but did not present concrete ideas. Several commenters suggested "smart growth" criteria. States that have adopted "smart growth" laws were worried that EPA's focus on urbanized areas for municipal requirements could encourage development outside of designated growth areas. Today's final rule clearly allows States to expand coverage of their municipal storm water program outside of urbanized areas. In addition, the flexibility of the six municipal minimum measures should avoid encouragement of development into rural rather than urban areas. For example, as part of the post-construction minimum measure, EPA recommends that municipalities consider policies and ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure, in order to meet the measure's intent.

EPA also received several comments expressing concern that incorporating "smart growth" incentives threatened the autonomy of local governments. One commenter was worried that "incentives" could become more onerous than the minimum measures. EPA is very aware of municipal concerns about possible federal interference with local land use

planning. EPA is also cognizant of the difficulty surrounding incentives for "smart growth" activities due to these concerns. However, the Agency believes it has addressed these concerns by proposing a flexible approach and will continue to support the concept of "smart growth" by encouraging policies that limit the adverse impacts of growth and development on water quality.

3. Provide Financial Assistance

Although Congress has not established a fund to fully finance implementation of the proposed extension of the existing NPDES storm water program under CWA section 402(p)(6), numerous federal financing programs (administered by EPA and other federal agencies) can provide some financial assistance. The primary funding mechanism is the Clean Water State Revolving Fund (SRF) program, which provides sources of low-cost financing for a range of water quality infrastructure projects, including storm water. In addition to the SRF, federal financial assistance programs include the Water Quality Cooperative Agreements under CWA section 104(b)(3), Water Pollution Control Program grants to States under CWA section 106, and the Transportation Equity Act for the 21st Century (TEA-21) among others. In addition, Section 319 funds may be used to fund any urban storm water activities that are not specifically required by a draft or final NPDES permit. EPA will develop a list of potential funding sources as part of the tool box implementation effort. EPA anticipates that some of these programs will provide funds to help develop and, in limited circumstances, implement the CWA section 402(p)(6) storm water discharge control program.

EPA received numerous comments that requested additional funding. Congress provided one substantial new source of potential funding for transportation related storm water projects—TEA-21. The Department of Transportation has included a number of water-related provisions in its TEA-21 planning. These include Transportation Enhancements, Environmental Restoration and Pollution Abatement, and Environmental Streamlining. More information on TEA-21 is available at the following internet sites: www.fhwa.dot.gov/tea21/outreach.htm and www.tea21.org.

4. Implement the Program in Jurisdictions Not Authorized To Administer the NPDES Program

Because today's final rule uses the NPDES framework, EPA will be the NPDES permitting authority in several States, Tribal jurisdictions, and Territories. As such, EPA will have the same responsibilities as any other NPDES permitting authority—issuing permits, designating additional sources, and taking appropriate enforcement actions—and will seek to tailor the storm water discharge control program to the specific needs in that State, Tribal jurisdiction, or Territory. EPA also plans to provide support and oversight, including outreach, training, and technical assistance to the regulated communities. Section II.G. of today's preamble provides a separate discussion related to the NPDES permitting authority's responsibilities for today's final rule.

5. Oversee State and Tribal Programs

Under the NPDES program, EPA plays an oversight role for NPDES-approved States and Tribes. In this role, EPA and the State or Tribe work together to implement, enforce, and improve the NPDES program. Part of this oversight role includes working with States and Tribes to modify their programs where programmatic or implementation concerns impede program effectiveness. This role will be vitally important when States and Tribes make adjustments to develop, implement, and enforce today's extension of the existing NPDES storm water discharge control program. In addition, States maintain a continuing planning process (CPP) under CWA section 303(e), which EPA periodically reviews to assess the program's achievements.

In its oversight role, EPA takes action to address States and Tribes who have obtained NPDES authorization but are not fulfilling their obligations under the NPDES program. If an NPDES-authorized State or Tribe fails to implement an adequate NPDES storm water program, for example, EPA typically enters into extensive discussions to resolve outstanding issues. EPA has the authority to withdraw the entire NPDES program when resolution cannot be reached. Partial program withdrawal is not provided for under the CWA except for partial approvals.

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EPA is also working with the States and Tribes to improve nonpoint source management programs and assessments to incorporate key program elements. Key nonpoint source program elements include setting short and long term goals and objectives; establishing public and private partnerships; using a balanced approach incorporating Statewide and watershed-wide abatement of existing impairments; preventing future impairments; developing processes to address both impaired and threatened waters; reviewing and upgrading all program components, including program revisions on a 5-year cycle; addressing federal land management and activities inconsistent with State programs; and managing State nonpoint source management programs effectively.

In particular, EPA works with the States and Tribes to strengthen their nonpoint source pollution programs to address all significant nonpoint sources, including agricultural sources, through the CWA section 319 program. EPA is working with other government agencies, as well as with community groups, to effect voluntary changes regarding watershed protection and reduced nonpoint source pollution.

In addition, EPA and NOAA have published programmatic and technical guidance to address coastal nonpoint source pollution. Under Section 6217 of the CZARA, States are developing and implementing coastal nonpoint pollution control programs approved by EPA and NOAA. ***68743**

6. Comply With Applicable Requirements as a Discharger

Today's final rule covers federally operated facilities in a variety of ways. These facilities are generally areas where people reside, such as a federal prison, hospital, or military base. It also includes federal parkways and road systems with separate storm sewer systems. Today's rule requires federal MS4s to comply with the same application deadlines that apply to regulated small MS4s generally. EPA believes that all federal MS4s serve populations of less than 100,000.

EPA received several comments that asked if individual buildings like post offices are considered to be small MS4s and thereby regulated in today's rule if they are in an urbanized area. Most of these buildings have at most a parking lot with runoff or a storm sewer that connects with a municipality's MS4. EPA does not intend that individual federal buildings be considered to be small MS4s. This is discussed in section II.H.2.b. of today's preamble.

Federal facilities can also be included under requirements addressing storm water discharges associated with small construction activities. In any case, discharges from these facilities will need to comply with all applicable NPDES requirements and any additional water quality-related requirements imposed by a State, Tribal, or local government. Failure to comply can result in enforcement actions. Federal facilities can act as models for municipal and private sector facilities and implement or test state-of-the-art management practices and control measures.

E. State Role

Today's final rule sets forth an NPDES approach for implementing the extension of the existing storm water discharge control program under CWA section 402(p)(6). State assumption of the NPDES program is voluntary, consistent with the principles of federalism. Because most States are approved to implement the NPDES program, they will tailor their storm water discharge control programs to address their water quality needs and objectives. While today's rule establishes the basic framework for the section 402(p)(6) program, States as well as Tribes (see discussion in section II.F) have an important role in fine-tuning the program to address the water quality issues within their jurisdictions. The basic framework allows for adjustments based on factors that vary geographically, including climate patterns and terrain.

Where States do not have NPDES authority, they are not required to implement the storm water discharge control program, but they may still participate in water quality protection through participation in the CWA section 401 certification process (for any permits) and through development of water quality standards and TMDLs.

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1. Develop the Program

In expanding the existing NPDES program for storm water discharges, States must evaluate whether revisions to their NPDES programs are necessary. If so, modifications must be made in accordance with §123.62. Under §123.62, States must revise their NPDES programs within 1 year, or within 2 years if statutory changes are necessary.

Some States and departments of transportation (DOTs) commented that this timeframe is too short, anticipating that the State legislative process and the modification of regulations combined would take beyond 2 years. The deadline language in §123.62 is not new language for the storm water discharge control program; it applies to all NPDES programs. EPA believes the vast majority of States will meet the deadline and will work with States in those cases where there may be difficulty meeting this deadline due to the timing of legislative sessions and the regulatory development process.

An authorized State NPDES program must meet the requirements of CWA section 402(b) and conform to the guidelines issued under CWA section 304(i)(2). Today's final rule under §123.25 adds specific cross references to the storm water discharge control program components to ensure that States adequately address these requirements.

2. Comply With Applicable Requirements as a Discharger

Today's final rule covers State operated separate storm sewer systems in a variety of ways. These systems generally drain areas where people reside, such as a prison, hospital, or other populated facility. These systems are included under the definition of a regulated small MS4, which specifically identifies systems operated by State departments of transportation. Alternatively, storm water discharges from State activities may be regulated under the section addressing storm water discharges associated with small construction activities. In any case, discharges from these facilities must comply with all applicable NPDES requirements. Failure to comply can result in enforcement actions. State facilities can act as models for municipal and private sector facilities and implement or test state-of-the-art management practices and control measures.

3. Communicate With EPA

Under approved NPDES programs, States have an ongoing obligation to share information with EPA. This dialogue is particularly important in the CWA section 402(p)(6) storm water program where these governments continue to develop a great deal of the guidance and outreach related to water quality.

F. Tribal Role

The proposal to today's final rule provides background information on EPA's 1984 Indian Policy and the criteria for treatment of an Indian Tribe in the same manner as a State. Today's final rule extends the existing NPDES program for storm water discharges to two types of dischargers located in Indian country. First, the final rule designates storm water discharges from any regulated small MS4, including Tribal systems. Second, the final rule regulates discharges associated with construction activity disturbing between one and five acres of land, including sites located in Indian country. Operators in each of these categories of regulated activity must apply for coverage under an NPDES permit by 3 years and 90 days from the date of publication of today's final rule. Under existing regulations, however, EPA or an authorized NPDES Tribe may require a specified storm water discharger to apply for NPDES permit coverage before this deadline based on a determination that the discharge is contributing to a violation of a water quality standard (including designated uses) or is a significant contributor of pollutants.

Under today's rule, a Tribal governmental entity may regulate storm water discharges on its reservation in two ways—as either an NPDES-authorized Tribe or as a regulated MS4. If a Tribe is authorized to operate the NPDES program, the Tribe must implement today's final rule for the NPDES program for storm water for covered dischargers located within the EPA recognized boundaries. Otherwise, EPA is generally the permitting/program authority within Indian country.

Discussions about the State Role in the preceding section also apply to NPDES authorized Tribes. For additional information on the role and responsibilities of the permitting authority in the NPDES storm water program, see §123.35 (and Section II.G. of today's preamble) and § 123.25(a). ***68744**

Under today's final rule, if the Indian reservation is located entirely or partially within an "urbanized area," as defined in §122.32(a)(1), the Tribe must obtain an NPDES permit if it operates a small MS4 within the urbanized area portion. Tribal MS4s located outside an urbanized area are not automatically covered, but may be designated by EPA pursuant to §122.32(a)(2) of today's rule or may request designation as a regulated small MS4 from EPA. A Tribe that is a regulated MS4 for NPDES program purposes is required to implement the six minimum control measures to the extent allowable under Federal law.

The Tribal representative on the Storm Water Phase II FACA Subcommittee asked EPA to provide a list of the Tribes located in urbanized areas that would fall within the NPDES storm water program under today's final rule. In December 1996, EPA developed a list of federally recognized American Indian Areas located wholly or partially in Bureau of the Census-designated urbanized areas (see Appendix 1). Appendix 1 not only provides a listing of reservations and individual Tribes, but also the name of the particular urbanized area in which the reservation is located and an indication of whether the urbanized area contains a medium or large MS4 that is already covered by the existing Phase I regulations.

Some of the Tribes listed in Appendix 1 are only partially located in an urbanized area. If the Tribe's MS4 serves less than 1,000 people within an urbanized area, the permitting authority may waive the Tribe's MS4 storm water requirements if it meets the conditions of §122.32(c). EPA does not have information on the Tribal populations within the urbanized areas, so it can not identify the Tribes that are eligible for a waiver. Therefore, a Tribe that believes it qualifies for a waiver should contact its permitting authority.

G. NPDES Permitting Authority's Role for the NPDES Storm Water Small MS4 Program

As noted previously, the NPDES permitting authority can be EPA or an authorized State or an authorized Tribe. The following discussion describes the role of the NPDES permitting authority under today's final rule.

1. Comply With Implementation Requirements

NPDES permitting authorities must perform certain duties to implement the NPDES storm water municipal program.Section 123.35(a) of today's final rule emphasizes that permitting authorities have existing obligations under the NPDES program. Section 123.35 focuses on specific issues related to the role of the NPDES authority to support administration and implementation of the municipal storm water program under CWA section 402(p)(6).

2. Designate Sources

Section 123.35(b) of today's final rule addresses the requirements for the NPDES permitting authority to designate sources of storm water discharges to be regulated under §§122.32 through 122.36. NPDES permitting authorities must develop a process, as well as criteria, to designate small MS4s. They must also have the authority to designate a small MS4 if and when circumstances that support a waiver under §122.32(c) change. EPA may make designations if an NPDES-approved State or Tribe fails to do so.

NPDES permitting authorities must examine geographic jurisdictions that they believe should be included in the storm water discharge control program but are not located in an "urbanized area". Small MS4s in these areas are not designated automatically. Discharges from such areas should be brought into the program if found to have actual or potential exceedances of water quality standards, including impairment of designated uses, or other adverse impacts on water quality, as determined by local conditions or watershed and TMDL assessments. EPA's aim is to address discharges to impaired waters and to protect waters with the potential for problems. EPA encourages NPDES permitting authorities,

local governments, and the interested public to work together in the context of a watershed plan to address water quality issues, including those associated with municipal storm water runoff.

EPA received comments stating that the process of developing criteria and applying it to all MS4s outside an urbanized area serving a population of 10,000 or greater and with a density of 1,000 people per square mile is too time-consuming and resource-intensive. These commenters believe that the permitting authority should decide which MS4s must be brought into the storm water discharge control program and that population and density should not be an overriding criteria. One suggested way of doing so was to only designate MS4s with demonstrated contributions to the impairment of water quality uses as shown by a TMDL. EPA disagrees with this suggestion. The TMDL process is time-consuming. MS4s outside of urbanized areas may cause water quality problems long before a TMDL is completed.

EPA believes that permitting authorities should consider the potential water quality impacts of storm water from all jurisdictions with a population of 10,000 or greater and a density of 1,000 people per square mile. EPA is using data summarized in the NURP study and in the CWA section 305(b) reports to support this approach for targeted designation outside of urbanized areas. EPA is not mandating which criteria are to be used, but has provided examples of criteria that may be useful in evaluating potential water quality impacts. EPA believes that the flexibility provided in this section of today's final rule allows the permitting authority to develop criteria and a designation process that is easy to use and protects water quality. Therefore, the provisions of § 123.35(b) remain as proposed.

a. Develop Designation Criteria

Under §123.35(b), the NPDES permitting authority must establish designation criteria to evaluate whether a storm water discharge results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including adverse habitat and biological impacts.

EPA recommends that NPDES permitting authorities consider, in a balanced manner, certain locally-focused criteria for designating any MS4 located outside of an urbanized area on the basis of significant water quality impacts. EPA recommends consideration of criteria such as discharge to sensitive waters, high growth or growth potential, high population density, contiguity to an urbanized area, significant contribution of pollutants to waters of the United States, and ineffective control of water quality concerns by other programs. These suggested designation criteria are intended to help encourage the permitting authority to use an objective method for identifying and designating, on a local basis, sources that adversely impact water quality. More information about these criteria and the reasons why they are suggested by EPA is included in the January 9, 1998, proposal (63 FR 1561) for today's final rule.

The suggested criteria are meant to be taken in the aggregate, with a great deal of flexibility as to how each should be weighed in order to best account for watershed and other local conditions and to allow for a more tailored case-by-case analysis. The application of criteria is meant to be geographically specific. Furthermore, each criterion does not have to be met in order for a small MS4 ***68745** to qualify for designation, nor should an MS4 necessarily be designated on the basis of one or two criteria alone.

EPA believes that the application of the recommended designation criteria provides an objective indicator of real and potential water quality impacts from urban runoff on both the local and watershed levels. EPA encourages the application of the recommended criteria in a watershed context, thereby allowing for the evaluation of the water quality impacts of the portions of a watershed outside of an urbanized area. For example, situations exist where the urbanized area represents a small portion of a degraded watershed, and the adjacent nonurbanized areas of the watershed have significant cumulative effects on the quality of the receiving waters.

EPA received numerous suggestions of additional criteria that should be added and reasons why some of the criteria in the proposal to today's final rule were not appropriate. EPA developed its suggested designation criteria based on findings of the NURP study and other studies that indicate pollutants of concern, including total suspended solids, chemical oxygen

demand, and temperature. These criteria were the subject of considerable discussion by the Storm Water Phase II FACA Subcommittee. EPA developed them in response to recommendations from the subcommittee during development of the proposed rule. The listed criteria are only suggestions. Permitting authorities are required to develop their own criteria. EPA has not found any reason to change its suggested list of criteria and the suggestions remain as proposed.

b. Apply Designation Criteria

After customizing the designation criteria for local conditions, the permitting authority must apply such criteria, at a minimum, to any MS4 located outside of an urbanized area serving a jurisdiction with a population of at least 10,000 and a population density of 1,000 people per square mile or greater (see §123.35(b)(2)). If the NPDES permitting authority determines that an MS4 meets the criteria, the permitting authority must designate it as a regulated small MS4. This designation must occur within 3 years of publication of today's final rule. Alternatively, the NPDES authority can designate within 5 years from the date of final regulation if the designation criteria are applied on a watershed basis where a comprehensive watershed plan exists (a comprehensive watershed plan is one that includes the equivalents of TMDLs) (see §123.35(b)(3)). The extended 5 year deadline is intended to provide incentives for watershed-based designations. If an NPDES-authorized State or Tribe does not develop and apply designation criteria within this timeframe, then EPA has the opportunity to do so in lieu of the authorized State or Tribe.

NPDES permitting authorities can designate any small MS4, including one below 10,000 in population and 1,000 in density. EPA established the 10,000/1,000 threshold based on the likelihood of adverse water quality impacts at these population and density levels. In addition, the 1,000 persons per square mile threshold is consistent with both the Bureau of the Census definition of an "urbanized area" (see Section II.H.2. below) and stakeholder discussions concerning the definition of a regulated small MS4.

One commenter requested that EPA develop interim deadlines for development of designation criteria. EPA believes that the designation deadline identified in today's final rule at §123.35(b)(3) provides States and Tribes with a flexibility that allows them to develop and apply the criteria locally in a timely fashion, while at the same time establishing an expeditious deadline.

c. Designate Physically Interconnected Small MS4s

In addition to applying criteria on a local basis for potential designation, the NPDES permitting authority must designate any MS4 that contributes substantially to the pollutant loadings of a physically interconnected municipal separate storm sewer that is regulated by the NPDES program for storm water discharges (see §123.35(b)(4)). To be "physically interconnected," the MS4 of one entity, including roads with drainage systems and municipal streets, is physically connected directly to the municipal separate storm sewer of another entity. This provision applies to all MS4s located outside of an urbanized area. EPA added this section in recognition of the concerns of local government stakeholders that a local government should not have to shoulder total responsibility for a storm water program when storm water discharges from another MS4 are also contributing pollutants or adversely affecting water quality. This provision also helps to provide some consistency among MS4 programs and to facilitate watershed planning in the implementation of the NPDES storm water program. EPA recommended physical interconnectedness in the existing NPDES storm water regulations as a factor for consideration in the designation of additional sources.

Today's final rule does not include interim deadlines for identifying physically interconnected MS4s. However, consistent with the deadlines identified in §123.35(b)(3) of today's final rule, EPA encourages the permitting authority to make these determinations within 3 years from the date of publication of the final rule or within 5 years if the permitting authority is implementing a comprehensive watershed plan. Alternatively, the affected jurisdiction could use the petition process under 40 CFR 122.26(f) in seeking to have the permitting authority designate the contributing jurisdiction.

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Several commenters expressed concerns about who could be designated under this provision (§123.35(b)(4)). One commenter requested that the word "substantially" be deleted from the rule because they believe any MS4 that contributes at all to a physically interconnected municipal separate storm sewer should be regulated. EPA believes that the word "substantially" provides necessary flexibility to the permitting authorities. The permitting authority can decide if an MS4 is contributing discharges to another municipal separate storm sewer in a manner that requires regulation. If the operator of a regulated municipal separate storm sewer believes that some of its pollutant loadings are coming from an unregulated MS4, it can petition the permitting authority to designate the unregulated MS4 for regulation.

d. Respond to Public Petitions for Designation

Today's final rule reiterates the existing opportunity for the public to petition the permitting authority for designation of a point source to be regulated to protect water quality. The petition opportunity also appears in existing NPDES regulations at 40 CFR 122.26(f). Any person may petition the permitting authority to require an NPDES permit for a discharge composed entirely of storm water that contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States (see §123.32(b)). The NPDES permitting authority must make a final determination on any petition within 180 days after receiving the petition (see §123.35(c)). EPA believes that a 180 day limit balances the public's need for a timely final determination with the NPDES permitting authority's need to prioritize its workload. If an NPDES-approved State or Tribe fails to act ***68746** within the 180-day timeframe, EPA may make a determination on the petition. EPA believes that public involvement is an important component of the NPDES program for storm water and feels that this provision encourages public participation. Section II.K, Public Involvement/Public Role, further discusses this topic.

3. Provide Waivers

Today's rule provides two opportunities for the NPDES permitting authority to exempt certain small MS4s from the need for a permit based on water quality considerations. See §§122.32(d) and (e). The two waiver opportunities have different size thresholds and take different approaches to considering the water quality impacts of discharges from the MS4.

In the proposal, EPA requested comment on the option of waiving coverage for all MS4s with less than 1,000 people unless the permitting authority determined that the small MS4 should be regulated based on significant adverse water quality impacts. A number of commenters supported this option. They expressed concern that compliance with the rule requirements and certification of one of the waiver provisions were both costly for very small communities. They stated that the permitting authority should identify a water quality problem before requiring compliance. Today's rule essentially adopts this alternative approach for MS4s serving a population under 1,000.

The final rule has expanded the waiver provision that EPA proposed for small MS4s with a population less than 1,000. The proposed rule would have required a small MS4 operator to certify that storm water controls are not needed based on either wasteload allocations that are part of TMDLs that address the pollutants of concern, or a comprehensive watershed plan implemented for the waterbody that includes the equivalents of TMDLs and addresses the pollutant(s) of concern. Commenters noted that the proposed waivers would be unattainable if a TMDL or equivalent analysis was required for every pollutant that could possibly be present in any amount in discharges from an MS4 regardless of whether the pollutant is causing water quality impairment. Commenters asked that EPA identify what constitutes the "pollutant(s) of concern" for which a TMDL or its equivalent must be developed. For example, §122.30(c) indicates that the MS4 program is intended to control "sediment, suspended solids, nutrients, heavy metals, pathogens, toxins, oxygen-demanding substances, and floatables." Commenters asked whether TMDLs or equivalent analyses have to address all of these.

EPA has revised the proposed waiver in response to these concerns. Under today's rule, NPDES permitting authorities may waive the requirements of today's rule for any small MS4 with a population less than 1,000 that does not contribute substantially to the pollutant loadings of a physically interconnected MS4, unless the small MS4 discharges pollutants

that have been identified as a cause of impairment of the waters to which the small MS4 discharges. If the small MS4 does discharge pollutants that have been identified as impairing the water body into which the small MS4 discharges, the NPDES permitting authority may grant a waiver only if it determines that storm water controls are not needed based on an EPA approved or established TMDL that addresses the pollutant(s) of concern.

Unlike the proposed rule, §122.32(d) does not allow the waiver for MS4s serving a population under 1,000 to be based on "the equivalent of a TMDL." Because §122.32(d) requires a pollutant specific analysis only for a pollutant that has been identified as a cause of impairment, a TMDL is required for such pollutant before the waiver may be granted. Once a pollutant has been identified as the cause of impairment of a water body, the State should develop a TMDL for that pollutant for that water body. Thus, §122.32(d) takes a different approach than that taken for the waiver in §122.32(e) for MS4s serving a population under 10,000, which can be based upon an analysis that is "the equivalent of a TMDL." This is because §122.32(d) requires an analysis to support the waiver for MS4s under 1,000 only if a waterbody to which the MS4 discharges has been identified as impaired. The §122.32(e) waiver, on the other hand, would be available for larger MS4s but only after the State affirmatively establishes lack of impairment based upon a comprehensive analysis of smaller urban waters that might not otherwise be evaluated for the purposes of CWA section 303. Since §122.32(e) requires the analysis of waters that have not been identified as impaired, an actual TMDL is not required and an analysis that is the equivalent of a TMDL can suffice to support the waiver.

Where a State is the NPDES permitting authority, the permitting authority is responsible for the development of the TMDLs as well as the assessment of the extent to which a small MS4's discharge contributes pollutants to a neighboring regulated system. In States where EPA is the permitting authority, EPA will use a State's TMDLs to determine whether storm water controls are required for the small MS4s.

The proposed rule would have required the operator of the small MS4 serving a population under 1,000 to certify that its discharge was covered under a TMDL that indicated that discharges from its particular system were not having an adverse impact on water quality (i.e., it was either not assigned wasteload allocations under TMDLs or its discharge is within an assigned allocation). Many commenters expressed concerns that MS4 operators serving less than 1,000 persons may lack the technical capacity to certify that their discharges are not contributing to adverse water quality impacts. These commenters thought that the permitting authority should make such a certification. Today's rule provides flexibility as to how the waiver is administered. Permitting authorities are ultimately responsible for granting the waiver, but are free to determine whether or not to require small MS4 operators that are seeking waivers to submit information or a written certification.

Under §122.32(e) a State may grant a waiver to an MS4 serving a population between 1,000 and 10,000 only if the State has made a comprehensive effort to ensure that the MS4 will not cause or contribute to water quality impairment. To grant a §122.32(e) waiver, the NPDES permitting authority must evaluate all waters of the U.S. that receive a discharge from the MS4 and determine that storm water controls are not needed. The permitting authority's evaluation must be based on wasteload allocations that are part of an EPA approved or established TMDL or, if a TMDL has not been developed or approved, an equivalent analysis that determines sources and allocations for the pollutant(s) of concern. The pollutants of concern that the permitting authority must evaluate include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the MS4. Finally, the permitting authority must have determined that future discharges from the MS4 do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant ***68747** water quality impacts, including habitat and biological impacts.

Although EPA did not propose this specific approach, the Agency did request comment on whether to increase the proposed 1,000 population threshold for a waiver. The §122.32(e) waiver was developed in response to comments, including States' concerns that they needed greater flexibility to focus their efforts on MS4s that were causing water

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quality impairment. Several commenters thought that the threshold should be increased from 1,000 to 5,000 or 10,000. Others suggested additional ways of qualifying for a waiver for MS4s that discharge to waters that are not covered by a TMDL or watershed plan. EPA carefully considered all the options for expanding the waiver provisions and has decided to expand the waiver only in the very narrow circumstances described above where a comprehensive analysis has been undertaken to demonstrate that the MS4 is not causing water quality impairment.

The NPDES permitting authority can, at any time, mandate compliance with program requirements from a previously waived small MS4 if circumstances change. For example, a waiver can be withdrawn in circumstances where the permitting authority later determines that a waived small MS4's storm water discharge to a small stream will cause adverse impacts to water quality or significantly interfere with attainment of water quality standards. A “change in circumstances” could involve receipt of new information. Changed circumstances can also allow a regulated small MS4 operator to request a waiver at any time.

Some commenters expressed concerns about allowing any small MS4 waivers. One commenter stated that storm water pollution prevention plans are necessary to control storm water pollution and should be required from all regulated small MS4s. For the reasons stated in the Background section above, EPA agrees that the discharges from most MS4s in urbanized areas should be addressed by a storm water management program outlined in today's rule. For MS4s serving very small areas, however, the TMDL development process provides an opportunity to determine whether an MS4 serving a population less than 1,000 is having a negative impact on any receiving water that is impaired by a pollutant that the MS4 discharges. MS4s serving populations up to 10,000 may receive a waiver only if a comprehensive analysis of its impact on receiving water has been performed.

Other commenters said that waivers should not be allowed for small MS4s that discharge into another regulated MS4. These commenters stated that the word “substantially” should be removed from §122.32(d)(i) so that a waiver would not be allowed for any system “contributing to the storm water pollutant loadings of a physically interconnected regulated MS4.” As previously mentioned under the designation discussion of section II.G.2.c, EPA believes that the word “substantially” provides needed flexibility to the permitting authorities. It is important to note that this is only one aspect that the permitting authority must consider when deciding on the appropriateness of a waiver.

4. Issue Permits

NPDES permitting authorities have a number of responsibilities regarding the permit process. Sections 123.35(d) through (g) ensure a certain level of consistency for permits, yet provide numerous opportunities for flexibility. NPDES permitting authorities must issue NPDES permits to cover municipal sources to be regulated under §122.32, unless waived under §122.32(c). EPA encourages permitting authorities to use general permits as the vehicle for permitting and regulating small MS4s. The Agency notes, however, that some operators may wish to take advantage of the option to join as a co-permittee with an MS4 regulated under the existing NPDES storm water program.

Today's final rule includes a provision, §123.35(f), that requires NPDES permitting authorities to either include the requirements in §122.34 for NPDES permits issued for regulated small MS4s or to develop permit limits based on a permit application submitted by a small MS4. See Section II.H.3.a, Minimum Control Measures, for more details on the actual §122.34 requirements. See Section II.H.3.c for alternative and joint permitting options.

In an attempt to avoid duplication of effort, §122.34(c) allows NPDES permitting authorities to include permit conditions that direct an MS4 to meet the requirements of a qualifying local, Tribal, or State municipal storm water management program. For a local, Tribal, or State program to “qualify,” it must impose, at a minimum, the relevant requirements of §122.34(b). A regulated small MS4 must still follow the procedural requirements for an NPDES permit (i.e., submit an application, either an individual application or an NOI under a general permit) but will instead follow the substantive pollutant control requirements of the qualifying local, Tribal, or State program.

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Under §122.35(b), NPDES permitting authorities may also recognize existing responsibilities among governmental entities for the minimum control measures in an NPDES small MS4 storm water permit. For example, the permit might acknowledge the existence of a State administered program that addresses construction site runoff and require that the municipalities only develop substantive controls for the remaining minimum control measures. By acknowledging existing programs, this provision is meant to reduce the duplication of efforts and to increase the flexibility of the NPDES storm water program.

Section 123.35(e) of today's final rule requires permitting authorities to specify a time period of up to 5 years from the issuance date of an NPDES permit for regulated small MS4 operators to fully develop and implement their storm water programs. As discussed more fully below, permitting authorities should be providing extensive support to the local governments to assist them in developing and implementing their programs.

In the proposed rule, EPA stated that the permitting authority would develop the menu of BMPs and if they failed to do so, EPA would develop the menu. Commenters felt that EPA should develop a menu of BMPs, rather than just providing guidance. In the settlement agreement for seeking an extension to the deadline for issuing today's rule, EPA committed to developing a menu of BMPs by October 27, 2000. Permitting authorities can adopt EPA's menu or develop their own. The menu itself is not intended to replace more comprehensive BMP guidance materials. As part of the tool box efforts, EPA will provide separate guidance documents that discuss the results from EPA-sponsored nationwide studies on the design, operation and maintenance of BMPs. Additionally, EPA expects that the new rulemaking on construction BMPs may provide more specific design, operation and maintenance criteria.

5. Support and Oversee the Local Programs

NPDES permitting authorities are responsible for supporting and overseeing the local municipal programs. Section 123.35(h) of today's final rule highlights issues associated with these responsibilities.

To the extent possible, NPDES permitting authorities should provide financial assistance to MS4s, which ***68748** often have limited resources, for the development and implementation of local programs. EPA recognizes that funding for programs at the State and Tribal levels may also be limited, but strongly encourages States and Tribes to provide whatever assistance is possible. In lieu of actual dollars, NPDES permitting authorities can provide cost-cutting assistance in a number of ways. For example, NPDES permitting authorities can develop outreach materials for MS4s to distribute or the NPDES permitting authority can actually distribute the materials. Another option is to implement an erosion and sediment control program across an entire State (or Tribal land), thus alleviating the need for the MS4 to implement its own program. The NPDES permitting authority must balance the need for site-specific controls, which are best handled by a local MS4, with its ability to offer financial assistance. EPA, States, Tribes, and MS4s should work as a team in making these kinds of decisions.

NPDES permitting authorities are responsible for overseeing the local programs. Permitting authorities should work with the regulated community and other stakeholders to assist in local program development and implementation. This might include sharing information, analyzing reports, and taking enforcement actions, as necessary. NPDES permitting authorities play a vital role in supporting local programs by providing technical and programmatic assistance, conducting research projects, and monitoring watersheds. The NPDES permitting authority can also assist the MS4 permittee in obtaining adequate legal authority at the local level in order to implement the local component of the CWA section 402(p)(6) program.

NPDES permitting authorities are encouraged to coordinate and utilize the data collected under several programs. States and Tribes address point and nonpoint source storm water discharges through a variety of programs. In developing programs to carry out CWA section 402(p)(6), EPA recommends that States and Tribes coordinate all of their water pollution evaluation and control programs, including the continuing planning process under CWA section 303(e), the existing NPDES program, the CZARA program, and nonpoint source pollution control programs.

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In addition, NPDES permitting authorities are encouraged to provide a brief (e.g., two-page) reporting format to facilitate compilation and analysis of data from reports submitted under §122.34(g)(3). EPA intends to develop a model form for this purpose.

H. Municipal Role

1. Scope of Today's Rule

Today's final rule attempts to establish an equitable and comprehensive four-pronged approach for the designation of municipal sources. First, the approach defines for automatic coverage the municipal systems believed to be of highest threat to water quality. Second, the approach designates municipal systems that meet a set of objective criteria used to measure the potential for water quality impacts. Third, the approach designates on a case-by-case basis municipal systems that "contribute substantially to the pollutant loadings of a physically-interconnected [regulated] MS4." Finally, the approach designates on a case-by-case basis, upon petition, municipal systems that "contribute to a violation of a water quality standard or are a significant contributor of pollutants."

Today's final rule automatically designates for regulation small MS4s located in urbanized areas, and requires that NPDES permitting authorities examine for potential designation, at a minimum, a particular subset of small MS4s located outside of urbanized areas. Today's rule also includes provisions that allow for waivers from the otherwise applicable requirements for the smallest MS4s that are not causing impairment of a receiving water body. Qualifications for the waivers vary depending on whether the MS4 serves a population under 1,000 or a population under 10,000. See §§122.32(d) and (e). These waivers are discussed further in section II.G.3. Any small MS4 automatically designated by the final rule or designated by the permitting authority under today's final rule is defined as a "regulated" small MS4 unless it receives a waiver.

In today's final rule, all regulated small MS4s must establish a storm water discharge control program that meets the requirements of six minimum control measures. These minimum control measures are public education and outreach on storm water impacts, public involvement participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations.

Today's rule allows for a great deal of flexibility in how an operator of a regulated small MS4 is authorized to discharge under an NPDES permit, by providing various options for obtaining permit coverage and satisfying the required minimum control measures. For example, the NPDES permitting authority can incorporate by reference qualifying State, Tribal, or local programs in an NPDES general permit and can recognize existing responsibilities among different governmental entities for the implementation of minimum control measures. In addition, a regulated small MS4 can participate in the storm water management program of an adjoining regulated MS4 and can arrange to have another governmental entity implement a minimum control measure on their behalf.

2. Municipal Definitions

a. Municipal Separate Storm Sewer Systems (MS4s)

The CWA does not define the term "municipal separate storm sewer." EPA defined municipal separate storm sewer in the existing storm water permit application regulations to mean, in part, a conveyance or system of conveyances (including roads with drainage systems and municipal streets) that is "owned or operated by a State, city, town borough, county, parish, district, association, or other public body * * * designed or used for collecting or conveying storm water which is not a combined sewer and which is not part of a Publicly Owned Treatment Works as defined at 40 CFR 122.2" (see §122.26(b)(8)(i)). Section 122.26 contains definitions of medium and large municipal separate storm sewer systems but

no definition of a municipal separate storm sewer system, even though the term MS4 is commonly used. In today's rule, EPA is adding a definition of municipal separate storm sewer system and small municipal separate storm sewer system along with the abbreviations MS4 and small MS4.

The existing municipal permit application regulations define "medium" and "large" MS4s as those located in an incorporated place or county with a population of at least 100,000 (medium) or 250,000 (large) as determined by the latest Decennial Census (see §§122.26(b)(4) and 122.26(b)(7)). In today's final rule, these regulations have been revised to define all medium and large MS4s as those meeting the above population thresholds according to the 1990 Decennial Census.

Today's rule also corrects the titles and contents of Appendices F, G, H,& I to Part 122. EPA is adding those incorporated places and counties whose 1990 population caused them to be defined as a "medium" or "large" MS4. All of these MS4s have applied for ***68749** permit coverage so the effect of this change to the appendices is simply to make them more accurate. They will not need to be revised again because today's rule "freezes" the definition of "medium" and "large" MS4s at those that qualify based on the 1990 census.

EPA received several comments supporting and opposing the proposal to "freeze" the definitions based on the 1990 census. Commenters who disagreed with EPA's position cited the unfairness of municipalities that reach the medium or large threshold at a later date having fewer permitting requirements compared to those that were already at the population thresholds when the existing storm water regulations took effect. EPA recognizes this disparity but does not believe it is unfair, as explained in the proposed rule. The decision was based on the fact that the deadlines from the existing regulations have lapsed, and because the permitting authority can always require more from operators of MS4s serving "newly over 100,000" populations.

b. Small Municipal Separate Storm Sewer Systems

The proposal to today's final rule added "the United States" as a potential owner or operator of a municipal separate storm sewer. This addition was intended to address an omission from existing regulations and to clarify that federal facilities are, in fact, covered by the NPDES program for municipal storm water discharges when the federal facility is like other regulated MS4s. EPA received a comment that this change would cause federal facilities located in Phase 1 areas to be considered Phase 1 dischargers due to the definition of medium and large MS4s. All MS4s located in Phase 1 cities or counties are defined as Phase 1 medium or large MS4s. EPA believes that all federal facilities serve a population of under 100,000 and should be regulated as small MS4s. Therefore, in §122.26(a)(16) of today's final rule, EPA is adding federal facilities to the NPDES storm water discharge control program by changing the proposed definition of small municipal separate storm sewer system. Paragraph (i) of this section restates the definition of municipal separate storm sewer with the addition of "the United States" as a owner or operator of a small municipal separate storm sewer. Paragraph (ii) repeats the proposed language that states that a small MS4 is a municipal separate storm sewer that is not medium or large.

Most commenters agreed that federal facilities should be covered in the same way as other similar MS4s. However, EPA received several comments asking whether individual federal buildings such as post offices or urban offices of the U.S. Park Service must apply for coverage as regulated small MS4s. Most of these buildings have, at most, a parking lot with runoff or a storm sewer that connects with a municipality's MS4. In §122.26(a)(16)(iii), EPA clarifies that the definition of small MS4 does not include individual buildings. These buildings may have a municipal separate storm sewer but they do not have a "system" of conveyances. The minimum measures for small MS4s were written to apply to storm sewer "systems" providing storm water drainage service to human populations and not to individual buildings. This is true of municipal separate storm sewers from State buildings as well as from federal buildings.

There will likely be situations where the permitting authority must decide if a federal or State complex should be regulated as a small MS4. A federal complex of two or three buildings could be treated as a single building and not be required to apply for coverage. In these situations, permitting authorities will have to use their best judgment as to the nature of

the complex and its storm water conveyance system. Permitting authorities should also consider whether the federal or State complex cooperates with its municipality's efforts to implement their storm water management program.

Along with the questions about individual buildings, EPA received many questions about how various provisions of the rule should be interpreted for federal and State facilities. EPA acknowledges that federal and State facilities are different from municipalities. EPA believes, however, that the minimum measures are flexible enough that they can be implemented by these facilities. As an example, DOD commenters asked about how to interpret the term "public" for military installations when implementing the public education measure. EPA agrees with the suggested interpretation of "public" for DOD facilities as "the resident and employee population within the fence line of the facility."

EPA also received many comments from State departments of transportation (DOTs) that suggested the ways in which they are different from municipalities and should therefore be regulated differently. Storm water discharges from State DOTs in Phase 1 areas should already be regulated under Phase I. The preamble to Phase 1 clearly states that "all systems within a geographical area including highways and flood control districts will be covered." Many permitting authorities regulated State DOTs as co-permittees with the Phase 1 municipality in which the highway is located. State DOTs that are already regulated under Phase I are not required to comply with Phase II. State DOTs that are not already regulated have various options for meeting the requirements of today's rule. These options are discussed in Section II.H.3.c.iv below. Several DOTs commented that some of the minimum measures are outside the scope of their mission or that they do not have the legal authority required for implementation. EPA believes that the flexibility of the minimum measures allows them to be implemented by most MS4s, including DOTs. When a DOT does not have the necessary legal authority, EPA encourages the DOT to coordinate their storm water management efforts with the surrounding municipalities and other State agencies. Under today's rule, DOTs can use any of the options of §122.35 to share their storm water management responsibilities. DOTs may also want to work with their permitting authority to develop a State-wide DOT storm water permit.

There are many storm water discharges from State DOTs and other State MS4s located in Phase 1 areas that were not regulated under Phase 1. Today's rule adds many more State facilities as well as all federal facilities located in urbanized areas. All of these State and federal facilities that fit the definition of a small MS4 must be covered by a storm water management program. The individual permitting authorities must decide what type of permit is most applicable.

The existing NPDES storm water program already regulates storm water from federally or State-operated industrial sources. Federal or State facilities that are currently regulated due to their industrial discharges may already be implementing some of today's rule requirements.

EPA received comments that questioned the apparent inconsistency between regulating a federal facility such as a hospital and not regulating a similar private facility. Normally, this type of private facility is regulated by the MS4. EPA believes that federal facilities are subject to local water quality regulations, including storm water requirements, by virtue of the waiver of sovereign immunity in CWA section 313. However, there are special problems faced by MS4s in their efforts to regulate federal facilities that have not been encountered in regulating ***68750** similar private facilities. To ensure comprehensive coverage, today's rule merely clarifies the need for permit coverage for these federal facilities.

i. Combined Sewer Systems (CSS). The definition of small MS4s does not include combined sewer systems. A combined sewer system is a wastewater collection system that conveys sanitary wastewater and storm water through a single set of pipes to a publicly-owned treatment works (POTW) for treatment before discharging to a receiving waterbody. During wet weather events when the capacity of the combined sewer system is exceeded, the system is designed to discharge prior to the POTW treatment plant directly into a receiving waterbody. Such an overflow is a combined sewer overflow or CSO. Combined sewer systems are not subject to existing regulations for municipal storm water discharges, nor will they be subject to today's regulations. EPA addresses combined sewer systems and CSOs in the National Combined Sewer Overflow (CSO) Control Policy issued on April 19, 1994 (59 FR 18688). The CSO Control Policy contains provisions

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for developing appropriate, site-specific NPDES permit requirements for combined sewer systems. CSO discharges are subject to limitations based on the best available technology economically achievable for toxic pollutants and based on the best conventional pollutant control technology for conventional pollutants. MS4s are subject to a different technology standard for all pollutants, specifically to reduce pollutants to the maximum extent practicable.

Some municipalities are served by both separate storm sewer systems and combined sewer systems. If such a municipality is located within an urbanized area, only the separate storm sewer systems within that municipality is included in the NPDES storm water program and subject to today's final rule. If the municipality is not located in an urbanized area, then the NPDES permitting authority has discretion as to whether the discharges from the separate storm sewer system is subject to today's final rule. The NPDES permitting authority will use the same process to designate discharges from portions of an MS4 for permit coverage where the municipality is also served by a combined sewer system.

EPA recognizes that municipalities that have both combined and separate storm sewer systems may wish to find ways to develop a unified program to meet all wet weather water pollution control requirements more efficiently. In the proposal to today's final rule, EPA sought comment on ways to achieve such a unified program. Many municipalities that are served by CSSs and MS4s commented that it is inequitable to force them to comply with Phase II at this time because implementation of the CSO Control Policy through their NPDES permits already imposes a significant financial burden. They requested an extension of the implementation time frame. They did not provide ideas on how to unify the two programs. EPA encourages permitting authorities to work with these municipalities as they develop and begin implementation of their CSO and storm water management programs. If both sets of requirements are carefully coordinated early, a cost-effective wet weather program can be developed that will address both CSO and storm water requirements.

ii. Owners/Operators. Several commenters mentioned the difference between the existing storm water application requirement for municipal operators and the proposed municipal requirement for owners or operators to apply. They felt that this inconsistency is confusing. The preamble to the existing regulations makes numerous references to owner/operator so there was no intent to make a clear distinction between Phase I and Phase II. Section 122.21(b) states that when the owner and operator are different, the operator must obtain the permit. MS4s often have several operators. The owner may be responsible for one part of the system and a regional authority may be responsible for other aspects. EPA proposed the “owner or operator” language to convey this dual responsibility. However, when the owner is responsible for some part of a storm water management plan, it is also an operator.

EPA has revised the regulation language to clarify that “an operator” must apply for a permit. When responsibilities for the MS4 are shared, all operators must apply.

c. Regulated Small MS4s

In today's final rule, all small MS4s located in an urbanized area are automatically designated as “regulated” small MS4s provided that they were not previously designated into the existing storm water program. Unlike medium and large MS4s under the existing storm water regulations, not all small MS4s are designated under today's final rule. Therefore, today's rule distinguishes between “small” MS4s and “regulated small” MS4s.

EPA's definition of “regulated small MS4s” in the proposal to today's rule included mention of incorporated places and counties. Along with the definition, EPA included Appendices 6 and 7 to assist in the identification of areas that would probably require coverage as “automatically designated” (Appendix 6) or “potentially designated” (Appendix 7). The definition and the appendices raised many questions about exactly who was required to comply with the proposed requirements. Commenters raised issues about the definition of “incorporated place” and the status of towns, townships, and other places that are not considered incorporated by the Census Bureau. They also asked about special districts, regional authorities, MS4s already regulated, and other questions in order to clarify the rule's coverage.

EPA has revised §122.32(a) to clarify that discharges are regulated under today's rule if they are from a small MS4 that is in an urbanized area and has not received a waiver or they are designated by the permitting authority. Today's rule does not regulate the county, city, or town. Today's rule regulates the MS4. Therefore, even though a county may be listed in Appendix 6, if that county does not own or operate the municipal storm sewer systems, the county does not have to submit an application or develop a storm water management program. If another entity does own or operate an MS4 within the county, for example, a regional utility district, that other entity needs to submit the application and develop the program.

Some commenters suggested that EPA should change the rule language to specifically allow regional authorities to be the permitted entity and to allow small MS4s to apply as co-permittees. EPA believes that the best way to clarify that regional authorities can be the primary permitted entity is the change to §122.32(a) and the explanation above. Because EPA assumes that today's regulation will be implemented through general permits, MS4s will not be co-permittees under a general permit in the same manner as under individual permits. EPA has added §122.33(a)(4) and made a minor change to §122.35(a) to clarify that small MS4s can work together to share the responsibilities of a storm water management program. This is discussed further in Section II.H.3.c.iv below.

The proposed rule stated that when a county or Federal Indian reservation is only partially included in an urbanized area, only MS4s in the urbanized portion of the county or Federal Indian reservation would be regulated. In the rare cases when an incorporated place is only partially included in the urbanized area, the entire incorporated place would be regulated. EPA received comments asking about towns and ***68751** townships, because they were not considered to be incorporated areas according to the Census Bureau's definition. Would the whole town/township be covered or only the part of the town/township in the urbanized area? States use many different types of systems in their geographical divisions. Some towns are similar to incorporated cities and others are large areas that are more similar to counties. Some commenters thought that the urbanized area boundary was arbitrary, and if part of a town or county was covered, it all should be covered. Other commenters noted that some townships and counties encompass very large areas of which only a small portion is urbanized. Due to the great variety of situations, EPA has decided that for all geographical entities, only MS4s in the urbanized area are automatically designated. The population densities associated with the Census Bureau's designation of urbanized areas provide the basis for designation of these areas to protect water quality. This focused designation provides for consistency and allows for flexibility on the part of the MS4 and the permitting authority. In those situations where an incorporated place or a town is not all in an "urbanized area", there is a good possibility that it is served by more than one MS4. In those cases where the area is served by the same MS4, it makes sense to develop a storm water program for the whole area. Permitting authorities may also decide to designate all MS4s within a county or township, if they believe it is necessary to protect water quality.

Most operators of MS4s will not need to independently determine the status of coverage under today's rule. EPA has revised the proposed Appendices 6 and 7 to include towns and townships. Therefore, these appendices will alert most MS4s as to whether they are likely to be covered under today's rule. However, each permitting authority must make the decision as to who requires coverage. Most likely, an illustrative list of the regulated areas will be published with the general permit. If not, the operator can contact its permitting authority or the Bureau of the Census to find out if their separate storm sewer systems are within an urbanized area.

i. Urbanized Area Description. Under the Bureau of the Census definition of "urbanized area," adopted by EPA for the purposes of today's final rule, "an urbanized area (UA) comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people." The proposal to today's rule provided the full definition and case studies to help explain the census category of "urbanized area." Appendix 2 is a simplified urbanized area illustration to help demonstrate the concept of urbanized areas in relation to today's final rule. The "urbanized area" is the shaded area that includes within its boundaries incorporated places, a portion of a Federal Indian reservation, portions of two counties, an entire town, and portions of another town. All small MS4s located in the shaded area are

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covered by the rule, unless and until waived by the permitting authority. Any small MS4s located outside of the shaded area are subject to potential designation by the permitting authority.

There are 405 urbanized areas in the United States that cover 2 percent of total U.S. land area and contain approximately 63 percent of the nation's population (see Appendix 3 for a listing of urbanized areas of the United States and Puerto Rico). These numbers include U.S. Territories, although Puerto Rico is the only territory to have Census-designated urbanized areas. Urbanized areas constitute the largest and most dense areas of settlement. The purpose of determining an "urbanized area" is to delineate the boundaries of development and map the actual built-up urban area. The Bureau of the Census geographers liken it to flying over an urban area and drawing a line around the boundary of the built-up area as seen from the air.

Using data from the latest decennial census, the Census Bureau applies the urbanized area definition nationwide (including U.S. Tribes and Territories) and determines which places and counties are included within each urbanized area. For each urbanized area, the Bureau provides full listings of who is included, as well as detailed maps and special CD-ROM files for use with computerized mapping systems (such as GIS). Each State's data center receives a copy of the list, and some maps, automatically. The States also have the CD-ROM files and a variety of publications available to them for reference from the Bureau of the Census. In addition, local or regional planning agencies may have urbanized area files already. New listings for urbanized areas based on the 2000 Census will be available by July/August 2001, but the more comprehensive computer files will not be available until late 2001/early 2002.

Additional designations based on subsequent census years will be governed by the Bureau of the Census' definition of an urbanized area in effect for that year. Based on historical trends, EPA expects that any area determined by the Bureau of the Census to be included within an urbanized area as of the 1990 Census will not later be excluded from the urbanized area as of the 2000 Census. However, it is important to note that even if this situation were to occur, for example, due to a possible change in the Bureau of the Census' urbanized area definition, a small MS4 that is automatically designated into the NPDES program for storm water under an urbanized area calculation for any given Census year will remain regulated regardless of the results of subsequent urbanized area calculations.

ii. Rationale for Using Urbanized Areas. EPA is using urbanized areas to automatically designate regulated small MS4s on a nationwide basis for several reasons: (1) studies and data show a high correlation between degree of development/ urbanization and adverse impacts on receiving waters due to storm water (U.S. EPA, 1983; Driver et al., 1985; Pitt, R.E. 1991. "Biological Effects of Urban Runoff Discharges." Presented at the Engineering Foundation Conference: Urban Runoff and Receiving Systems; An Interdisciplinary Analysis of Impact, Monitoring and Management, August 1991. Mt. Crested Butte, CO. American Society of Civil Engineers, New York. 1992.; Pitt, R.E. 1995. "Biological Effects of Urban Runoff Discharges," in Storm water Runoff and Receiving Systems: Impact, Monitoring, and Assessment. Lewis Publishers, New York.; Galli, J. 1990. Thermal Impacts Associated with Urbanization and Storm water Management Best Management Practices. Prepared for the Sediment and Storm water Administration of the Maryland Department of the Environment.; Klein, 1979), (2) the blanket coverage within the urbanized area encourages the watershed approach and addresses the problem of "donut-holes," where unregulated areas are surrounded by areas currently regulated (storm water discharges from donut hole areas present a problem due to their contributing uncontrolled adverse impacts on local waters, as well as by frustrating the attainment of water quality goals of neighboring regulated communities), (3) this approach targets present and future growth areas as a preventative measure to help ensure water quality protection, and (4) the determination of urbanized areas by the Bureau of the Census allows operators of small MS4s to quickly determine whether they are included in the NPDES storm water program as a regulated small MS4.

Urbanized areas have experienced significant growth over the past 50 years. According to EPA calculations ***68752** based on Census data from 1980 to 1990, the national average rate of growth in the United States during that 10-year period was more than 4 percent. For the same period, the average growth within urbanized areas was 15.7 percent and

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the average for outside of urbanized areas was just more than 1 percent. The new development occurring in these growing areas can provide some of the best opportunities for implementing cost-effective storm water management controls.

EPA received many comments on the proposal to designate discharges based on location within urbanized areas. EPA considered numerous other approaches, several of which are discussed in the proposal to today's final rule. Several commenters wanted designation to be based on proven water quality problems rather than inclusion in an urbanized area. One commenter proposed an approach based on the CWA 303(d) listing of impaired waters and the wasteload allocation conducted under the TMDL process. (See section II.L. on the section 303(d) and TMDL process). The commenter's proposal would designate small MS4s on a case-by-case basis, covering only those discharges where receiving streams are shown to have water quality problems, particularly a failure to meet water quality standards, including designated uses. The commenter further described a non-NPDES approach where a State would require cost-effective measures based on a proportionate share under a waste load allocation, equitably allocated among all pollutant contributors. These waste load allocations would be developed with input from all stakeholders, and remedial measures would be implemented in a phased manner based on the probability of results and/or economic feasibility. The States would then periodically reassess the receiving streams to determine whether the remedial measures are working, and if not, require additional control measures using the same procedure used to establish the initial measures. What the commenter describes is almost a TMDL.

EPA considered a remedial approach based on water quality impairment and rejected it for failure to prevent almost certain degradation caused by urban storm water. EPA's main concern in opting not to take a case-by-case approach to designation was that this approach would not provide controls for storm water discharges in receiving streams until after a site-specific demonstration of adverse water quality impact. The commenter's suggestion would do nothing to prevent pollution in waters that may be meeting water quality standards, including supporting designated uses. The approach would also rely on identifying storm water management programs following comprehensive watershed plans and TMDL development. In most States, water quality assessments have traditionally been conducted for principal mainstream rivers and their major tributaries, not all surface waters. The establishment of TMDLs nationwide will take many years, and many States will conduct additional monitoring to determine water quality conditions prior to establishing TMDLs. In addition, a case-by-case approach would not address the problem of “donut holes” within urbanized areas and a lack of consistency among similarly situated municipal systems would remain commonplace. After careful consideration of all comments, EPA still believes that the approach in today's rule is the most appropriate to protect water quality. Protection includes prevention as well as remediation.

d. Municipal Designation by the Permitting Authority

Today's final rule also allows NPDES permitting authorities to designate MS4s that should be included in the storm water program as regulated small MS4s but are not located within urbanized areas. The final rule requires, at a minimum, that a set of designation criteria be applied to all small MS4s within a jurisdiction that serves a population of at least 10,000 and has a population density of at least 1,000. Appendix 7 to this preamble provides an illustrative list of places that the Agency anticipates meet this criteria. In addition, any small MS4 may be the subject of a petition to the NPDES permitting authority for designation. See Section II.G, NPDES Permitting Authority's Role for more details on the designation and petition processes. EPA believes that the approach of combining nationwide and local designation to determine municipal coverage balances the potential for significant adverse impacts on water quality with local watershed protection and planning efforts.

e. Waiving the Requirements for Small MS4s

Today's final rule includes some flexibility in the nationwide coverage of all small MS4s located in urbanized areas by providing the NPDES permitting authority with the discretion to waive the otherwise applicable requirements of the smallest MS4s that are not causing the impairment of a receiving water body. Qualifications for the waiver vary depending on whether the MS4 serves a population under 1,000 or a population between 1,000 and 10,000. Note that

even if a small MS4 has requirements waived, it can subsequently be brought back into the program if circumstances change. See Section II.G, NPDES Permitting Authority's Role, for more details on this process.

3. Municipal Permit Requirements

a. Overview

i. Summary of Permitting Options. Today's rule outlines six minimum control measures that constitute the framework for a storm water discharge control program for regulated small MS4s that, when properly implemented, will reduce pollutants to the maximum extent practicable (MEP). These six minimum control measures are specified in §122.34(b) and are discussed below in section "II.H.3.b, Program Requirements-Minimum Control Measures." All operators of regulated small MS4s are required to obtain coverage under an NPDES permit, unless the requirement is waived by the permitting authority in accordance with today's rule. Implementation of §122.34(b) may be required either through an individual permit or, if the State or EPA makes one available to the facility, through a general permit. The process for issuing and obtaining these permits is discussed below in section "II.H.3.c, Application Requirements."

As an alternative to implementing a program that complies with the requirements of §122.34, today's rule provides operators of regulated small MS4s with the option of applying for an individual permit under §122.26(d). The permit application requirements in §122.26 were originally drafted to apply to medium and large MS4s. Although EPA believes that the requirements of § 122.34 provide a regulatory option that is appropriate for most small MS4s, the operators of some small MS4s may prefer more individualized requirements. This alternative permitting option for regulated small MS4s that wish to develop their own program is discussed below in section "II.H.3.c.iii. Alternative Permit Option." The second alternative permitting option for regulated small MS4s is to become co-permittees with a medium or large MS4 regulated under § 122.26(d), as discussed below in section "II.H.3.c.v. Joint Permit Programs."

ii. Water Quality-Based Requirements. Any NPDES permit issued under today's rule must, at a minimum, require the operator to develop, implement, and ***68753** enforce a storm water management program designed to reduce the discharge of pollutants from a regulated system to the MEP, to protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act (see MEP discussion in the following section). Absent evidence to the contrary, EPA presumes that a small MS4 program that implements the six minimum measures in today's rule does not require more stringent limitations to meet water quality standards. Proper implementation of the measures will significantly improve water quality. As discussed further below, however, small MS4 permittees should modify their programs if and when available information indicates that water quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program. If the program is inadequate to protect water quality, including water quality standards, then the permit will need to be modified to include any more stringent limitations necessary to protect water quality.

Regardless of the basis for the development of the effluent limitations (whether designed to implement the six minimum measures or more stringent or prescriptive limitations to protect water quality), EPA considers narrative effluent limitations requiring implementation of BMPs to be the most appropriate form of effluent limitations for MS4s. CWA section 402(p)(3)(b)(iii) expresses a preference for narrative rather than numeric effluent limits, for example, by reference to "management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." 33 U.S.C. 1342(p)(3)(B)(iii). EPA determines that pollutants from wet weather discharges are most appropriately controlled through management measures rather than end-of-pipe numeric effluent limitations. As explained in the Interim Permitting Policy for Water Quality-Based Effluent Limitations in Storm Water Permits, issued on August 1, 1996 [61 FR 43761 (November 26, 1996), EPA believes that the currently available methodology for derivation of numeric water quality-based effluent limitations is significantly complicated when applied to wet weather discharges from MS4s (compared to continuous or periodic batch discharges from most other types of discharge). Wet weather discharges from MS4s introduce a high degree of variability in the inputs to the models currently available for derivation of water quality based effluent

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limitations, including assumptions about instream and discharge flow rates, as well as effluent characterization. In addition, EPA anticipates that determining compliance with any such numeric limitations may be confounded by practical limitations in sample collection.

In the first two to three rounds of permit issuance, EPA envisions that a BMP-based storm water management program that implements the six minimum measures will be the extent of the NPDES permit requirements for the large majority of regulated small MS4s. Because the six measures represent a significant level of control if properly implemented, EPA anticipates that a permit for a regulated small MS4 operator implementing BMPs to satisfy the six minimum control measures will be sufficiently stringent to protect water quality, including water quality standards, so that additional, more stringent and/or more prescriptive water quality based effluent limitations will be unnecessary.

If a small MS4 operator implements the six minimum control measures in § 122.34(b) and the discharges are determined to cause or contribute to non-attainment of an applicable water quality standard, the operator needs to expand or better tailor its BMPs within the scope of the six minimum control measures. EPA envisions that this process will occur during the first two to three permit terms. After that period, EPA will revisit today's regulations for the municipal separate storm sewer program.

If the permitting authority (rather than the regulated small MS4 operator) needs to impose additional or more specific measures to protect water quality, then that action will most likely be the result of an assessment based on a TMDL or equivalent analysis that determines sources and allocations of pollutant(s) of concern. EPA believes that the small MS4's additional requirements, if any, should be guided by its equitable share based on a variety of considerations, such as cost effectiveness, proportionate contribution of pollutants, and ability to reasonably achieve wasteload reductions. Narrative effluent limitations in the form of BMPs may still be the best means of achieving those reductions.

See Section II.L, Water Quality Issues, for further discussion of this approach to permitting, consistent with EPA's interim permitting guidance. Pursuant to CWA section 510, States implementing their own NPDES programs may develop more stringent or more prescriptive requirements than those in today's rule.

EPA's interpretation of CWA section 402(p)(3)(B)(iii) was recently reviewed by the Ninth Circuit in Defenders of Wildlife, et al v. Browner, No. 98-71080 (September 15, 1999). The Court upheld the Agency's action in issuing five MS4 permits that included water quality-based effluent limitations. The Court did, however, disagree with EPA's interpretation of the relationship between CWA sections 301 and 402(p). The Court reasoned that MS4s are not compelled by section 301(b)(1)(C) to meet all State water quality standards, but rather that the Administrator or the State may rely on section 402(p)(3)(B)(iii) to require such controls. Accordingly, the Defenders of Wildlife decision is consistent with the Agency's 1996 “Interim Permitting Policy for Water Quality-Based Effluent Limitations in Storm Water Permits.”

As noted, the 1996 Policy describes how permits would implement an iterative process using BMPs, assessment, and refocused BMPs, leading toward attainment of water quality standards. The ultimate goal of the iteration would be for water bodies to support their designated uses. EPA believes this iterative approach is consistent with and implements section 301(b)(1)(C), notwithstanding the Ninth Circuit's interpretation. As an alternative to basing these water quality-based requirements on section 301(b)(1)(C), however, EPA also believes the iterative approach toward attainment of water quality standards represents a reasonable interpretation of CWA section 402(p)(3)(B)(iii). For this reason, today's rule specifies that the “compliance target” for the design and implementation of municipal storm water control programs is “to reduce pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the CWA.” The first component, reductions to the MEP, would be realized through implementation of the six minimum measures. The second component, to protect water quality, reflects the overall design objective for municipal programs based on CWA section 402(p)(6). The third component, to implement other applicable water quality requirements of the CWA, recognizes the Agency's specific determination under CWA section 402(p)(3)

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(B)(iii) of the need to achieve reasonable further progress toward attainment of water quality standards according to the iterative BMP process, as well as the determination that State or EPA officials who establish TMDLs could allocate waste loads to ***68754** MS4s, as they would to other point sources.

EPA does not presume that water quality will be protected if a small MS4 elects not to implement all of the six minimum measures and instead applies for alternative permit limits under §122.26(d). Operators of such small MS4s that apply for alternative permit limits under §122.26(d) must supply additional information through individual permit applications so that the permit writer can determine whether the proposed program reduces pollutants to the MEP and whether any other provisions are appropriate to protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act.

iii. Maximum Extent Practicable. Maximum extent practicable (MEP) is the statutory standard that establishes the level of pollutant reductions that operators of regulated MS4s must achieve. The CWA requires that NPDES permits for discharges from MS4s "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods." CWA Section 402(p)(3)(B)(iii). This section also calls for "such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." EPA interprets this standard to apply to all MS4s, including both existing regulated (large and medium) MS4s, as well as the small MS4s regulated under today's rule.

For regulated small MS4s under today's rule, authorization to discharge may be under either a general permit or individual permit, but EPA anticipates and expects that general permits will be the most common permit mechanism. The general permit will explain the steps necessary to obtain permit authorization. Compliance with the conditions of the general permit and the series of steps associated with identification and implementation of the minimum control measures will satisfy the MEP standard. Implementation of the MEP standard under today's rule will typically require the permittee to develop and implement appropriate BMPs to satisfy each of the required six minimum control measures.

In issuing the general permit, the NPDES permitting authority will establish requirements for each of the minimum control measures. Permits typically will require small MS4 permittees to identify in their NOI the BMPs to be performed and to develop the measurable goals by which implementation of the BMPs can be assessed. Upon receipt of the NOI from a small MS4 operator, the NPDES permitting authority will have the opportunity to review the NOI to verify that the identified BMPs and measurable goals are consistent with the requirement to reduce pollutants under the MEP standard, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. If necessary, the NPDES permitting authority may ask the permittee to revise their mix of BMPs, for example, to better reflect the MEP pollution reduction requirement. Where the NPDES permit is not written to implement the minimum control measures specified under §122.34(b), for example in the case of an individual permit under §122.33(b)(2)(ii), the MEP standard will be applied based on the best professional judgment of the permit writer.

Commenters argued that MEP is, as yet, an undefined term and that EPA needs to further clarify the MEP standards by providing a regulatory definition that includes recognition of cost considerations and technical feasibility. Commenters argued that, without a definition, the regulatory community is not adequately on notice regarding the standard with which they need to comply. EPA disagrees that affected MS4 permittees will lack notice of the applicable standard. The framework for the small MS4 permits described in this notice provides EPA's interpretation of the standard and how it should be applied.

EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis. EPA envisions that this evaluative process will consider such factors as conditions of receiving waters, specific local concerns, and other aspects included in a comprehensive watershed plan. Other factors may include MS4 size, climate, implementation

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schedules, current ability to finance the program, beneficial uses of receiving water, hydrology, geology, and capacity to perform operation and maintenance.

The pollutant reductions that represent MEP may be different for each small MS4, given the unique local hydrologic and geologic concerns that may exist and the differing possible pollutant control strategies. Therefore, each permittee will determine appropriate BMPs to satisfy each of the six minimum control measures through an evaluative process. Permit writers may evaluate small MS4 operator's proposed storm water management controls to determine whether reduction of pollutants to the MEP can be achieved with the identified BMPs.

EPA envisions application of the MEP standard as an iterative process. MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. If, after implementing the six minimum control measures there is still water quality impairment associated with discharges from the MS4, after successive permit terms the permittee will need to expand or better tailor its BMPs within the scope of the six minimum control measures for each subsequent permit. EPA envisions that this process may take two to three permit terms.

One commenter observed that MEP is not static and that if the six minimum control measures are not achieving the necessary water quality improvements, then an MS4 should be expected to revise and, if necessary, expand its program. This concept, it is argued, must be clearly part of the definition of MEP and thus incorporated into the binding and operative aspects of the rule. As is explained above, EPA believes that it is. The iterative process described above is intended to be sensitive to water quality concerns. EPA believes that today's rule contains provisions to implement an approach that is consistent with this comment.

b. Program Requirements'Minimum Control Measures

A regulated small MS4 operator must develop and implement a storm water management program designed to reduce the discharge of pollutants from their MS4 to protect water quality. The storm water management program must include the following six minimum measures.

i. Public Education and Outreach on Storm Water Impacts. Under today's final rule, operators of small MS4s must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps to reduce storm water pollution. The public education program should inform individuals and households about the problem and the steps they can take to reduce or prevent storm water pollution.

EPA believes that as the public gains a greater understanding of the storm water program, the MS4 is likely to gain ***68755** more support for the program (including funding initiatives). In addition, compliance with the program will probably be greater if the public understands the personal responsibilities expected of them. Well-informed citizens can act as formal or informal educators to further disseminate information and gather support for the program, thus easing the burden on the municipalities to perform all educational activities.

MS4s are encouraged to enter into partnerships with their States in fulfilling the public education requirement. It may be more cost-effective to utilize a State education program instead of numerous MS4s developing their own programs. MS4 operators are also encouraged to work with other organizations (e.g., environmental, nonprofit and industry organizations) that might be able to assist in fulfilling this requirement.

The public education program should be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities (particularly minority and disadvantaged communities). Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service

announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. Operators of MS4s may use storm water educational information provided by the State, Tribe, EPA, or environmental, public interest, trade organizations, or other MS4s. Examples of successful public education efforts concerning polluted runoff can be found in many State nonpoint source pollution control programs under CWA section 319.

The public education program should inform individuals and households about steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. Additionally, the program could inform individuals and groups on how to become involved in local stream and beach restoration activities as well as activities coordinated by youth service and conservation corps and other citizen groups. Finally, materials or outreach programs should be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, MS4 operators should provide information to restaurants on the impact of grease clogging storm drains and to auto garages on the impacts of used oil discharges.

EPA received comments from representatives of State DOTs and U.S. Department of Defense (DOD) installations seeking exemption from the public education requirement. While today's rule does not exempt DOTs and military bases from the user education requirement, the Agency believes the flexibility inherent in the Rule addresses many of the concerns expressed by these commenters.

Certain DOT representatives commented that if their agencies were not exempt from the user education measure's requirements, they should at least be allowed to count DOT employee education as an adequate substitute. EPA supports the use of existing materials and programs, granted such materials and programs meet the rule's requirement that the MS4 user community (i.e., the public) is also educated concerning the impacts of storm water discharges on water bodies and the steps to reduce storm water pollution.

Finally, certain DOD representatives requested that “public,” as applied to their installations, be defined as the resident and employee populations within the fence line of the facility. EPA agrees that the education effort should be directed toward those individuals who frequent the federally owned land (i.e., residents and individuals who come there to work and use the MS4 facilities).

EPA also received a number of comments from municipalities stating that education would be more thorough and cost effective if accomplished by EPA on the national level. EPA believes that a collaborative State and local approach, in conjunction with significant EPA technical support, will best meet the goal of targeting, and reaching, specific local audiences. EPA technical support will include a tool box which will contain fact sheets, guidance documents, an information clearinghouse, and training and outreach efforts.

Finally, EPA received comments expressing concern that the public education program simply encourages the distribution of printed material. EPA is sensitive to this concern. Upon evaluation, the Agency made changes to the proposal's language for today's rule. The language has been changed to reflect EPA's belief that a successful program is one that includes a variety of strategies locally designed to reach specific audiences.

ii. Public Involvement/Participation. Public involvement is an integral part of the small MS4 storm water program. Accordingly, today's final rule requires that the municipal storm water management program must comply with applicable State and local public notice requirements. Section 122.34(b)(2) recommends a public participation process with efforts to reach out and engage all economic and ethnic groups. EPA believes there are two important reasons why the public should be allowed and encouraged to provide valuable input and assistance to the MS4's program.

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First, early and frequent public involvement can shorten implementation schedules and broaden public support for a program. Opportunities for members of the public to participate in program development and implementation could include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. Moreover, members of the public may be less likely to raise legal challenges to a MS4's storm water program if they have been involved in the decision making process and program development and, therefore, internalize personal responsibility for the program themselves.

Second, public participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments. This is particularly important if the MS4's storm water program is to be implemented on a watershed basis. Interested stakeholders may offer to volunteer in the implementation of all aspects of the program, thus conserving limited municipal resources.

EPA recognizes that there are a number of challenges associated with public involvement. One challenge is in engaging people in the public meeting and program design process. Another challenge is addressing conflicting viewpoints. Nevertheless, EPA strongly believes that these challenges can be addressed by use of an aggressive and inclusive program. Section II.K. provides further discussion on public involvement.

A number of municipalities sought clarification from EPA concerning what the public participation program must ***68756** actually include. In response, the actual requirements are minimal, but the Agency's recommendations are more comprehensive. The public participation program must only comply with applicable State and local public notice requirements. The remainder of the preamble, as well as the Explanatory Note accompanying the regulatory text, provide guidance to the MS4s concerning what elements a successful and inclusive program should include. EPA will provide technical support as part of the tool box (i.e., providing model public involvement programs, conducting public workshops, etc.) to assist MS4 operators meet the intent of this measure.

Finally, the Agency encourages MS4s to seek public participation prior to submitting an NOI. For example, public participation at this stage will allow the MS4 to involve the public in developing the BMPs and measurable goals for their NOI.

iii. Illicit Discharge Detection and Elimination. Discharges from small MS4s often include wastes and wastewater from non-storm water "illicit" discharges. Illicit discharge is defined at 40 CFR 122.26(b)(2) as any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities. As detailed below, other sources of non-storm water, that would otherwise be considered illicit discharges, do not need to be addressed unless the operator of the MS4 identifies one or more of them as a significant source of pollutants into the system. EPA's Nationwide Urban Runoff Program (NURP) indicated that many storm water outfalls still discharge during substantial dry periods. Pollutant levels in these dry weather flows were shown to be high enough to significantly degrade receiving water quality. Results from a 1987 study conducted in Sacramento, California, revealed that slightly less than one-half of the water discharged from a municipal separate storm sewer system was not directly attributable to precipitation runoff (U.S. Environmental Protection Agency, Office of Research and Development. 1993. Investigation of Inappropriate Pollutant Entries Into Storm Drainage Systems—A User's Guide. Washington, DC EPA 600/R-92/238.) A significant portion of these dry weather flows results from illicit and/or inappropriate discharges and connections to the municipal separate storm sewer system. Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the storm drain system or spills collected by drain inlets).

Under the existing NPDES program for storm water, permit applications for large and medium MS4s are to include a program description for effective prohibition against non-storm water discharges into their storm sewers (see 40 CFR

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122.26 (d)(1)(v)(B) and (d)(1)(iv)(B)). Further, EPA believes that in implementing municipal storm water management plans under these permits, large and medium MS4 operators generally found their illicit discharge detection and elimination programs to be cost-effective. Properly implemented programs also significantly improved water quality.

In today's rule, any NPDES permit issued to an operator of a regulated small MS4 must, at a minimum, require the operator to develop, implement and enforce an illicit discharge detection and elimination program. Inclusion of this measure for regulated small MS4s is consistent with the "effective prohibition" requirement for large and medium MS4s. Under today's rule, the NPDES permit will require the operator of a regulated small MS4 to: (1) Develop (if not already completed) a storm sewer system map showing the location of all outfalls, and names and location of all waters of the United States that receive discharges from those outfalls; (2) to the extent allowable under State, Tribal, or local law, effectively prohibit through ordinance, or other regulatory mechanism, illicit discharges into the separate storm sewer system and implement appropriate enforcement procedures and actions as needed; (3) develop and implement a plan to detect and address illicit discharges, including illegal dumping, to the system; and (4) inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

The illicit discharge and elimination program need only address the following categories of non-storm water discharges if the operator of the small MS4 identifies them as significant contributors of pollutants to its small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the definition of illicit discharge and only need to be addressed where they are identified as significant sources of pollutants to waters of the United States). If the operator of the MS4 identifies one or more of these categories of sources to be a significant contributor of pollutants to the system, it could require specific controls for that category of discharge or prohibit the discharges completely.

Several comments were received on the mapping requirements of the proposal. Most comments said that more flexibility should be given to the MS4s to determine their mapping needs, and that resources could be better spent in addressing problems once the illicit discharges are detected. EPA reviewed the mapping requirements in the proposed rule and agrees that some of the information is not necessary in order to begin an illicit discharge detection and elimination program. Today's rule requires a map or set of maps that show the locations of all outfalls and names and locations of receiving waters. Knowing the locations of outfalls and receiving waters are necessary to be able to conduct dry weather field screening for non-storm water flows and to respond to illicit discharge reports from the public. EPA recommends that the operator collect any existing information on outfall locations (e.g., review city records, drainage maps, storm drain maps), and then conduct field surveys to verify the locations. It will probably be necessary to "walk" (i.e. wade small receiving waters or use a boat for larger receiving waters) the streambanks and shorelines, and it may take more than one trip to locate all outfalls. A coding system should be used to mark and identify each outfall. MS4 operators have the flexibility to determine the type (e.g. topographic, GIS, hand or computer drafted) and size of maps which best meet their needs. The map scale should be such that the outfalls can be accurately located. Once an illicit discharge is detected at an outfall, it may be necessary to map that portion of the storm sewer system leading to the outfall in order to locate the source of the discharge.

Several comments requested clarification of the requirement to develop and implement a plan to detect and eliminate illicit discharges. EPA recommends that plans include procedures for the following: locating priority areas; tracing the source of an illicit discharge; removing the source of the discharge; and program evaluation ***68757** and assessment. EPA recommends that MS4 operators identify priority areas (i.e., problems areas) for more detailed screening of their system based on higher likelihood of illicit connections (e.g., areas with older sanitary sewer lines), or by conducting ambient sampling to locate impacted reaches. Once priority areas are identified, EPA recommends

visually screening outfalls during dry weather and conducting field tests, where flow is occurring, of selected chemical parameters as indicators of the discharge source. EPA's manual for investigation of inappropriate pollutant entries into the storm drainage system (EPA, 1993) suggests the following parameter list: specific conductivity, fluoride and/or hardness concentration, ammonia and/or potassium concentration, surfactant and/or fluorescence concentration, chlorine concentration, pH and other chemicals indicative of industrial sources. The manual explains why each parameter is a good indicator and how the information can be used to determine the type of source flow. The Agency is not recommending that fluoride and chlorine, generally used to locate potable water discharges, be addressed under this program, therefore a short list of parameters may include conductivity, ammonia, surfactant and pH. Some MS4s have found it useful to measure for fecal coliform or E. coli in their testing program. Observations of physical characteristics of the discharge are also helpful such as flow rate, temperature, odor, color, turbidity, floatable matter, deposits and stains, and vegetation.

The implementation plan should also include procedures for tracing the source of an illicit discharge. Once an illicit discharge is detected and field tests provide source characteristics, the next step is to determine the actual location of the source. Techniques for tracing the discharge to its place of origin may include: following the flow up the storm drainage system via observations and/or chemical testing in manholes or in open channels; televising storm sewers; using infrared and thermal photography; conducting smoke or dye tests.

The implementation plan should also include procedures for removing the source of the illicit discharge. The first step may be to notify the property owner and specify a length of time for eliminating the discharge. Additional notifications and escalating legal actions should also be described in this part of the plan.

Finally, the implementation plan should include procedures for program evaluation and assessment. Procedures could include documentation of actions taken to locate and eliminate illicit discharges such as: number of outfalls screened, complaints received and corrected, feet of storm sewers televised, numbers of discharges and quantities of flow eliminated, number of dye or smoke tests conducted. Appropriate records of such actions should be kept and should be submitted as part of the annual reports for the first permit term, as specified by the permitting authority (reports only need to be submitted in years 2 and 4 in later permits). For more on reporting requirements, see § 122.34(g).

EPA received comments regarding an MS4's legal authority beyond its jurisdictional boundaries to inspect or take enforcement against illicit discharges. EPA recognizes that illicit flows may originate in one jurisdiction and cross into one or more jurisdictions before being discharged at an outfall. In such instances, EPA expects the MS4 that detects the illicit flow to trace it to the point where it leaves their jurisdiction and notify the adjoining MS4 of the flow, and any other physical or chemical information. The adjoining MS4 should then trace it to the source or to the location where it enters their jurisdiction. The process of notifying the adjoining MS4 should continue until the source is located and eliminated. In addition, because any non-storm water discharge to waters of the U.S. through an MS4 is subject to the prohibition against unpermitted discharges pursuant to CWA section 301 (a), remedies are available under the federal enforcement provisions of CWA sections 309 and 505.

EPA requested and received comments regarding the prohibition and enforcement provision for this minimum measure. Commenters specifically questioned the proposal that the operator only has to implement the appropriate prohibition and enforcement procedures “to the extent allowable under State or Tribal law.” They raised concerns that by qualifying prohibition and enforcement procedures in this manner, the operator could altogether ignore this minimum measure where affirmative legal authority did not exist. Comments suggested that EPA require States to grant authority to those municipalities where it did not exist. Other comments, however, stated that municipalities cannot exercise legal authority not granted to them under State law, which varies considerably from one State to another. EPA has no intention of directing State legislatures on how to allocate authority and responsibility under State law. As noted above, there is at least one remedy (the federal CWA) to control non-storm water discharges through MS4s. If State law prevents political

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subdivisions from controlling discharges through storm sewers, EPA anticipates common sense will prevail to provide those MS4 operators with the ability to meet the requirements applicable for their discharges.

One comment reinforced the importance of public information and education to the success of this measure. EPA agrees and suggests that MS4 operators consider a variety of ways to inform and educate the public which could include storm drain stenciling; a program to promote, publicize, and facilitate public reporting of illicit connections or discharges; and distribution of visual and/or printed outreach materials. Recycling and other public outreach programs could be developed to address potential sources of illicit discharges, including used motor oil, antifreeze, pesticides, herbicides, and fertilizers.

EPA received comments that State DOT's lack authority to implement this measure. EPA believes that most DOTs can implement most parts of this measure. If a DOT does not have the necessary legal authority to implement any part of this measure, EPA encourages them to coordinate their storm water management efforts with the surrounding MS4s and other State agencies. Many DOTs that are regulated under Phase I of this program are co-permittees with the local regulated MS4. Under today's rule, DOTs can use any of the options of §122.35 to share their storm water management responsibilities.

EPA received comments requesting clarification of various terms such as "outfall" and "illicit discharge." One comment asked EPA to reinforce the point that a "ditch" could be considered an outfall. The term "outfall" is defined at 40 CFR 122.26(b)(9) as "a point source at the point where a municipal separate storm sewer discharges to waters of the United States * * *". The term municipal separate storm sewer is defined at 40 CFR § 122.26(b)(8) as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) * * *". Following the logic of these definitions, a "ditch" may be part of the municipal separate storm sewer, and at the point where the ditch discharges to waters of the United States, it would be an outfall. As with any determination about jurisdictional provisions of the CWA, however, final decisions require case specific evaluations of fact. ***68758**

One commenter specifically requested clarification on the relationship between the term "illicit discharge" and non-storm water discharges from fire fighting. The comment suggested that it would be impractical to attempt to determine whether the flow from a specific fire (i.e., during a fire) is a significant source of pollution. EPA intends that MS4s will address all allowable non-storm water flows categorically rather than individually. If an MS4 is concerned that flows from fire fighting are, as a category, contributing substantial amounts of pollutants to their system, they could develop a program to address those flows prospectively. The program may include an analysis of the flow from several sources, steps to minimize the pollutant contribution, and a plan to work with the sources of the discharge to minimize any adverse impact on water quality. During the development of such a program, the MS4 may determine that only certain types of flows within a particular category are a concern, for example, fire fighting flows at industrial sites where large quantities of chemicals are present. In this example, a review of existing procedures with the fire department and/or hazardous materials team may reveal weaknesses or strengths previously unknown to the MS4 operator.

EPA received comments requesting modifications to the rule to include on-site sewage disposal systems (i.e., septic systems) in the scope of the illicit discharge program. On-site sewage disposal systems that flow into storm drainage systems are within the definition of illicit discharge as defined by the regulations. Where they are found to be the source of an illicit discharge, they need to be eliminated similar to any other illicit discharge source. Today's rule was not modified to include discharges from on-site sewage disposal systems specifically because those sources are already within the scope of the existing definition of illicit discharge.

iv. Construction Site Storm Water Runoff Control. Over a short period of time, storm water runoff from construction site activity can contribute more pollutants, including sediment, to a receiving stream than had been deposited over several decades (see section I.B.3). Storm water runoff from construction sites can include pollutants other than sediment,

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such as phosphorus and nitrogen, pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed. Generally, properly implemented and enforced construction site ordinances effectively reduce these pollutants. In many areas, however, the effectiveness of ordinances in reducing pollutants is limited due to inadequate enforcement or incomplete compliance with such local ordinances by construction site operators (Paterson, R.G. 1994. "Construction Practices: The Good, the Bad, and the Ugly." Watershed Protection Techniques 1(2)).

Today's rule requires operators of regulated small MS4s to develop, implement, and enforce a pollutant control program to reduce pollutants in any storm water runoff from construction activities that result in land disturbance of 1 or more acres (see §122.34(b)(4)). Construction activity on sites disturbing less than one acre must be included in the program if the construction activity is part of a larger common plan of development or sale that would disturb one acre or more.

The construction runoff control program of the regulated small MS4 must include an ordinance or other regulatory mechanism to require erosion and sediment controls to the extent practicable and allowable under State, Tribal or local law. The program also must include sanctions to ensure compliance (for example, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance). The program must also include, at a minimum: requirements for construction site operators to implement appropriate erosion and sediment control BMPS, such as silt fences, temporary detention ponds and diversions; procedures for site plan review by the small MS4 which incorporate consideration of potential water quality impacts; requirements to control other waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may adversely impact water quality; procedures for receipt and consideration of information submitted by the public to the MS4; and procedures for site inspection and enforcement of control measures by the small MS4.

Today's rule provides flexibility for regulated small MS4s by allowing them to exclude from their construction pollutant control program runoff from those construction sites for which the NPDES permitting authority has waived NPDES storm water small construction permit requirements. For example, if the NPDES permitting authority waives permit coverage for storm water discharges from construction sites less than 5 acres in areas where the rainfall erosivity factor is less than 5, then the regulated small MS4 does not have to include these sites in its storm water management program. Even if requirements for a discharge from a given construction site are waived by the NPDES permitting authority, however, the regulated small MS4 may still chose to control those discharges under the MS4's construction pollutant control program, particularly where such discharges may cause siltation problems in storm sewers. See Section II.I.1.b for more information on construction waivers by the permitting authority.

Some commenters suggested that the proposed construction minimum measure requirements went beyond the permit application requirements concerning construction for medium and large MS4s. In response, EPA has made changes to the proposed measure so that it more closely resembles the MS4 permit application requirements in existing regulations. For example, as described below, the Agency revised the proposed requirements for "pre-construction review of site management plans" to require "procedures for site plan review."

One commenter expressed concerns that addressing runoff from construction sites within urbanized areas (through the small MS4 program) differently from construction sites outside urbanized areas (which will not be covered by the small MS4 program) will encourage urban sprawl. Today's rule, together with the existing requirements, requires all construction greater than or equal to 1 acre, unless waived, to be covered by an NPDES permit whether it is located inside or outside of an urbanized area (see §122.26(b)(15)). Today's rule does not require small MS4s to control runoff from construction sites more stringently or prescriptively than is required for construction site runoff outside urbanized areas. Therefore, today's rule imposes no substantively different onsite controls on runoff of storm water from construction sites in urbanized areas than from construction sites outside of urbanized areas.

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One commenter recommended that the small MS4 construction site storm water runoff control program address all storm water runoff from construction sites, not just the runoff into the MS4. The commenter also believed that MS4s should provide clear, objective standards for all construction sites. EPA agrees. Because today's rule only regulates discharges from the MS4, the construction pollutant control measure only requires small MS4 operators to control runoff into its system. As a practical matter, however, EPA anticipates that MS4 operators will find that regulation of all construction site ***68759** runoff, whether they runoff into the MS4 or not, will prove to be the most simple and efficient program. The Agency may provide more specific criteria for construction site BMPs in the forthcoming rule being developed under CWA section 402(m). See section II.D.1 of today's rule.

One commenter stated that there is no need for penalties at the local level by the small MS4 because the CWA already imposes sufficient penalties to ensure compliance. EPA disagrees and believes that enforcement and compliance at the local level is both necessary and preferable. Examples of sanctions, some not available under the CWA, include non-monetary penalties, monetary fines, bonding requirements, and denial of future or other local permits.

One commenter recommended that EPA should not include the requirement to control pollutants other than sediment from construction sites in this measure. EPA disagrees with this comment. The requirement is to control waste that "may cause adverse impacts on water quality." Such wastes may include discarded building materials, concrete truck washout, chemicals, pesticides, herbicides, litter, and sanitary waste. These wastes, when exposed to and mobilized by storm water, can contribute to water quality impairment.

The proposed rule required "procedures for pre-construction review of site management plans." EPA requested comment on expanding this provision to require both review and approval of construction site storm water plans. Many commenters expressed the concern that review and approval of site plans is not only costly and time intensive, but may unnecessarily delay construction projects and unduly burden staff who administer the local program. In addition, some commenters expressed confusion whether EPA proposed pre-construction review for all site management plans or only higher priority sites. To address these comments, and be consistent with the permit application requirements for larger MS4s, EPA changed "procedures for pre-construction review of site management plans" to "procedures for site plan review." Today's rule requires the small MS4 to develop procedures for site plan review so as to incorporate consideration of adverse potential water quality impacts. Procedures should include review of site erosion and sediment control plans, preferably before construction activity begins on a site. The objective is for the small MS4 operator and the construction site operator to address storm water runoff from construction activity early in the project design process so that potential consequences to the aquatic environment can be assessed and adverse water quality impacts can be minimized or eliminated.

One commenter requested that EPA delete the requirement for "procedures for receipt and consideration of information submitted by the public" because it went beyond existing storm water requirements. Another commenter stated that establishing a separate process to respond to public inquiries on a project is a burden to small communities, especially if the project has gone through an environmental review. One commenter requested clarification of this provision. EPA has retained this requirement in today's final rule to require some formality in the process for addressing public inquiries regarding storm water runoff from construction activities. EPA does not intend that small MS4s develop a separate, burdensome process to respond to every public inquiry. A small MS4 could, for example, simply log public complaints on existing storm water runoff problems from construction sites and pass that information on to local inspectors. The inspectors could then investigate complaints based on the severity of the violation and/or priority area.

One commenter believed that the proposed requirement of "regular inspections during construction" would require every construction project to be inspected more than once by the small MS4 during the term of a construction project. EPA has deleted the reference to "regular inspections." Instead, the small MS4 will be required to "develop procedures for site inspection and enforcement of control measures." Procedures could include steps to identify priority sites for inspection

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and enforcement based on the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality.

In order to avoid duplication of small MS4 construction requirements with NPDES construction permit requirements, today's rule adds §122.44(s) to recognize that the NPDES permitting authority can incorporate qualifying State, Tribal, or local erosion and sediment control requirements in NPDES permits for construction site discharges. For example, a construction site operator who complies with MS4 construction pollutant control programs that are referenced in the NPDES construction permit would satisfy the requirements of the NPDES permit. See section II.I.1.d for more information on incorporating qualifying programs by reference into NPDES construction permits. This provision has no impact on, or direct relation to, the small MS4 operator's responsibilities under the construction site storm water runoff control minimum measure. Conversely, under §122.35(b), the permitting authority may recognize in the MS4's permit that another governmental entity, or the permitting authority itself, is responsible for implementing one or more of the minimum measures (including construction site storm water runoff control), and not include this measure in the small MS4's permit. In this case, the other governmental entity's program must satisfy all of the requirements of the omitted measure.

v. Post-Construction Storm Water Management in New Development and Redevelopment. The NURP study and more recent investigations indicate that prior planning and designing for the minimization of pollutants in storm water discharges is the most cost-effective approach to storm water quality management. Reducing pollutant concentrations in storm water after the discharge enters a storm sewer system is often more expensive and less efficient than preventing or reducing pollutants at the source. Increased human activity associated with development often results in increased pollutant loading from storm water discharges. If potential adverse water quality impacts are considered from the beginning stages of a project, new development and redevelopment provides more opportunities for water quality protection. For example, minimization of impervious areas, maintenance or restoration of natural infiltration, wetland protection, use of vegetated drainage ways, and use of riparian buffers have been shown to reduce pollutant loadings in storm water runoff from developed areas. EPA encourages operators of regulated small MS4s to identify specific problem areas within their jurisdictions and initiate innovative solutions and designs to focus attention on those areas through local planning.

In today's rule at §122.34(b)(5), NPDES permits issued to an operator of a regulated small MS4 will require the operator to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that result in land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. Specifically, the NPDES permit will require the operator of a regulated small MS4 to: (1) Develop and implement ***68760** strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community; (2) use an ordinance, or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; (3) ensure adequate long-term operation and maintenance of BMPs; and (4) ensure that controls are in place that would minimize water quality impacts. EPA intends the term “redevelopment” to refer to alterations of a property that change the “footprint” of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls.

EPA received comments requesting guidance and clarification of the rule requirements. The scope of the comments ranged from general requests for more details on how MS4 operators should accomplish the four requirements listed above, to specific requests for information regarding transfer of ownership for structural controls, as well as ongoing responsibility for operation and maintenance. By the term “combination” of BMPs, EPA intends a combination of structural and/or non-structural BMPs. For this requirement, the term “combination” is meant to emphasize that multiple BMPs should be considered and adopted for use in the community. A single BMP generally cannot significantly

reduce pollutant loads because pollutants come from many sources within a community. The BMPs chosen should: (1) Be appropriate for the local community; (2) minimize water quality impacts; and (3) attempt to maintain pre-development runoff conditions. In choosing appropriate BMPs, EPA encourages small MS4 operators to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders. Each new development and redevelopment project should have a BMP component. If an approach is chosen that primarily focuses on regional or non-structural BMPs, however, then the BMPs may be located away from the actual development site (e.g., a regional water quality pond).

Non-structural BMPs are preventative actions that involve management and source controls such as: (1) Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; (2) policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure; (3) education programs for developers and the public about project designs that minimize water quality impacts; and (4) other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention. Detailed examples of non-structural BMPs follow.

Preserving open space may help to protect water quality as well as provide other benefits such as recharging groundwater supplies, detaining storm water, supporting wildlife and providing recreational opportunities. Although securing funding for open space acquisition may be difficult, various funding mechanisms have been used. New Jersey uses a portion of their State sales tax (voter approved for a ten year period) as a stable source of funding to finance the preservation of historic sites, open space and farmland. Colorado uses part of the proceeds from the State lottery to acquire and manage open space. Some local municipalities use a percentage of the local sales tax revenue to pay for open space acquisition (e.g., Jefferson County, CO has had an open space program in place since 1977 funded by a 0.50 percent sales tax). Open space can be acquired in the form of: fee simple purchase; easements; development rights; purchase and sellback or leaseback arrangements; purchase options; private land trusts; impact fees; and land dedication requirements. Generally, fee simple purchases provide the highest level of development control and certainty of preservation, whereas the other forms of acquisition may provide less control, though they would also generally be less costly.

Cluster development, while allowing housing densities comparable to conventional zoning practice, concentrates housing units in a portion of the total site area which provides for greater open space, recreation, stream protection and storm water control. This type of development, by reducing lot sizes, can protect sensitive areas and result in less impervious surface, as well as reduce the cost for roads and other infrastructure.

Minimizing directly connected impervious areas (DCIAs) is a drainage strategy that seeks to reduce paved areas and directs storm water runoff to landscaped areas or to structural controls such as grass swales or buffer strips. This strategy can slow the rate of runoff, reduce runoff volumes, attenuate peak flows, and encourage filtering and infiltration of storm water. It can be made an integral part of drainage planning for any development (Urban Drainage and Flood Control District, Denver, CO. 1992. Urban Storm Drainage Criteria Manual, Volume 3—Best Management Practices). The Urban Drainage and Flood Control District manual describes three levels for minimizing DCIAs. At Level 1 all impervious surfaces are made to drain over grass-covered areas before reaching a storm water conveyance system. Level 2 adds to Level 1 and replaces street curb and gutter systems with low-velocity grass-lined swales and pervious street shoulders. In addition to Levels 1 and 2, Level 3 over-sizes swales and configures driveway and street crossing culverts to use grass-lined swales as elongated detention basins.

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Structural BMPs include: (1) Storage practices such as wet ponds and extended-detention outlet structures; (2) filtration practices such as grassed swales, sand filters and filter strips; and (3) infiltration practices such as infiltration basins and infiltration trenches.

EPA recommends that small MS4 operators ensure the appropriate implementation of the structural BMPs by considering some or all of the following: (1) Pre-construction review of BMP designs; (2) inspections during construction to verify BMPs are built as designed; (3) post-construction inspection and maintenance of BMPs; and (4) sanctions to ensure compliance with design, construction or operation and maintenance (O&M) requirements of the program.

EPA cautions that certain infiltration systems such as dry wells, bored wells or tile drainage fields may be subject to Underground Injection Control (UIC) program requirements (see 40 CFR Part 144.12.). To find out more about these requirements, contact your state UIC Program, or call EPA's Safe Drinking Water Hotline at 1-800-426-4791.

In order to meet the third post-construction requirement (ensuring adequate long-term O&M of BMPs), EPA recommends that small MS4 operators evaluate various O&M management agreement options. The most common options are agreements between the ***68761** MS4 operator and another party such as post-development landowners (e.g., homeowners' associations, office park owners, other government departments or entities), or regional authorities (e.g., flood control districts, councils of government). These agreements typically require the post-construction property owner to be responsible for the O&M and may include conditions which: allow the MS4 operator to be reimbursed for O&M performed by the MS4 operator that is the responsibility of the property owner but is not performed; allow the MS4 operator to enter the property for inspection purposes; and in some cases specify that the property owner submit periodic reports.

In providing the guidance above, EPA intends the requirements in today's rule to be consistent with the permit application requirements for large MS4s for post-construction controls for new development and redevelopment. MS4 operators have significant flexibility both to develop this measure as appropriate to address local concerns, and to apply new control technologies as they become available. Storm water pollution control technologies are constantly being improved. EPA recommends that MS4s be responsive to these changes, developments or improvements in control technologies. EPA will provide more detailed guidance addressing the responsibility for long-term O&M of storm water controls in guidance materials. The guidance will also provide information on appropriate planning considerations, structural controls and non-structural controls. EPA also intends to develop a broad menu of BMPs as guidance to ensure flexibility to accommodate local conditions.

EPA received comments suggesting that requirements for new development be treated separately from redevelopment in the rule. The comment stressed that new development on raw land presents fewer obstacles and more opportunities to incorporate elements for preventing water quality impacts, whereas redevelopment projects are constrained by space limitations and existing infrastructure. Another comment suggested allowing waivers from the redevelopment requirements if the redevelopment does not result in additional adverse water quality impacts, and where BMPs are not technologically or economically feasible. EPA recognizes that redevelopment projects may have more site constraints which narrow the range of appropriate BMPs. Today's rule provides small MS4 operators with the flexibility to develop requirements that may be different for redevelopment projects, and may also include allowances for alternate or off-site BMPs at certain redevelopment projects. Non-structural BMPs may be the most appropriate approach for smaller redevelopment projects.

EPA received comments requesting clarification on what is meant by “pre-development” conditions within the context of redevelopment. Pre-development refers to runoff conditions that exist onsite immediately before the planned development activities occur. Pre-development is not intended to be interpreted as that period before any human-induced land disturbance activity has occurred.

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EPA received comments on the guidance language in the proposed rule and preamble which suggest that implementation of this measure should "attempt to maintain pre-development runoff conditions" and that "post-development conditions should not be different than pre-development conditions in a way that adversely affects water quality." Many comments expressed concern that maintaining pre-development runoff conditions is impossible and cost-prohibitive, and objected to any reference to "flow" or increase in volume of runoff. Other comments support the inclusion of this language in the final rule. Similar references in today's rule relating to pre-development runoff conditions are intended as recommendations to attempt to maintain pre-development runoff conditions. With these recommendations, EPA intends to prevent water quality impacts resulting from increased discharges of pollutants, which may result from increased volume of runoff. In many cases, consideration of the increased flow rate, velocity and energy of storm water discharges following development unavoidably must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards and to prevent degradation of receiving streams. EPA recommends that municipalities consider these factors when developing their post-construction storm water management program.

Some comments said that the quoted phrases in the paragraph above are directives that imply federal land use control, which they argue is beyond the authority of the CWA. EPA recognizes that land use planning is within the authority of local governments.

EPA disagrees, however, with the implication that today's rule dictates any such land use decisions. The requirement for small MS4 operators to develop a program to address discharges resulting from new development and redevelopment is essentially a pollution prevention measure. The Rule provides the MS4 operator with flexibility to determine the appropriate BMPs to address local water quality concerns. EPA recognizes that these program goals may not be applied to every site, and expects that MS4s will develop an appropriate combination of BMPs to be applied on a site-by-site, regional or watershed basis.

vi. Pollution Prevention/Good Housekeeping for Municipal Operations. Under today's final rule, operators of MS4s must develop and implement an operation and maintenance program ("program") that includes a training component and has the ultimate goal of preventing or reducing storm water from municipal operations (in addition to those that constitute storm water discharges associated with industrial activity). This measure's emphasis on proper O&M of MS4s and employee training, as opposed to requiring the MS4 to undertake major new activities, is meant to ensure that municipal activities are performed in the most efficient way to minimize contamination of storm water discharges.

The program must include government employee training that addresses prevention measures pertaining to municipal operations such as: parks, golf courses and open space maintenance; fleet maintenance; new construction or land disturbance; building oversight; planning; and storm water system maintenance. The program can use existing storm water pollution prevention training materials provided by the State, Tribe, EPA, or environmental, public interest, or trade organizations.

EPA also encourages operators of MS4s to consider the following in developing a program: (1) Implement maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewers; (2) implement controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas operated by the MS4; (3) adopt procedures for the proper disposal of waste removed from the separate storm sewer systems and areas listed above in (2), including dredge ***68762** spoil, accumulated sediments, floatables, and other debris; and (4) adopt procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices. Ultimately, the effective performance of the program measure depends on the proper maintenance of the BMPs, both structural and non-structural. Without proper maintenance, BMP performance declines significantly over time. Additionally, BMP neglect may produce health and safety threats, such as structural failure

leading to flooding, undesirable animal and insect breeding, and odors. Maintenance of structural BMPs could include: replacing upper levels of gravel; dredging of detention ponds; and repairing of retention basin outlet structure integrity. Maintenance of non-structural BMPs could include updating educational materials periodically.

EPA emphasizes that programs should identify and incorporate existing storm water practices and training, as well as non-storm water practices or programs that have storm water pollution prevention benefits, as a means to avoid duplication of efforts and reduce overall costs. EPA recommends that MS4s incorporate these new obligations into their existing programs to the greatest extent feasible and urges States to evaluate MS4 programs with programmatic efficiency in mind. EPA designed this minimum control measure as a modified version of the permit application requirements for medium and large MS4s described at 40 CFR 122.26(d)(2)(iv), in order to provide more flexibility for these smaller MS4s. Today's requirements provide for a consistent approach to control pollutants from O&M among medium, large, and regulated small MS4s.

By properly implementing a program, operators of MS4s serve as a model for the rest of the regulated community. Furthermore, the establishment of a long-term program could result in cost savings by minimizing possible damage to the system from floatables and other debris and, consequently, reducing the need for repairs.

EPA received comments requesting clarification of what this measure requires. Certain municipalities expressed concern that the measure has the potential to impose significant costs associated with EPA's requirement that operators of MS4s consider implementing controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, and salt/sand storage locations and snow disposal areas operated by the municipality. EPA disagrees that a requirement to consider such controls will impose considerable costs.

One commenter objected to the preamble language from the proposal suggesting that EPA does not expect the MS4 to undertake new activity. While it remains the Agency's expectation that major new activity will not be required, the MEP process should drive MS4s to incorporate the measure's obligations into their existing programs to achieve the pollutant reductions to the maximum extent practicable.

Certain commenters requested a definition for “municipal operations.” EPA has revised the language to more clearly define municipal operations. Questions may remain concerning whether discharges from specific municipal activities constitute discharges associated with industrial activities (requiring NPDES permit authorization according to the requirements for industrial storm water that apply in that State) or from municipal operations (subject only to the controls developed in the MS4 control program). Even though there may be different substantive requirements that apply depending on the source of the discharge, EPA has modified the deadlines for permit coverage so that all the regulated municipally owned and operated sources become subject to permit requirements on the same date. The deadline is the same for permit coverage for this minimum measure as for permit coverage for municipally owned/operated industrial sources.

c. Application Requirements

An NPDES permit that authorizes the discharge from a regulated small MS4 may take the form of either an individual permit issued to one or more facilities as co-permittees or a general permit that applies to a group of MS4s. For reasons of administrative efficiency and to reduce the paperwork burden on permittees, EPA expects that most discharges from regulated small MS4s will be authorized under general permits. These NPDES general permits will provide specific instructions on how to obtain coverage, including application requirements. Typically, such application requirements will be satisfied by the submission of a Notice of Intent (NOI) to be covered by the general permit. In this section, EPA explains the small MS4 operator's application requirements for obtaining coverage under a NPDES permit for storm water.

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i. Best Management Practices and Measurable Goals, Section 122.34(d) of today's rule requires the operator of a regulated small MS4 that wishes to implement a program under §122.34 to identify and submit to the NPDES permitting authority a list of the best management practices ("BMPs") that will be implemented for each minimum control measure in their storm water management program. They also must submit measurable goals for the development and implementation of each BMP. The BMPs and the measurable goals must be included either in an NOI to be covered under a general permit or in an individual permit application.

The operator's submission must identify, as appropriate, the months and years in which the operator will undertake actions required to implement each of the minimum control measures, including interim milestones and the frequency of periodic actions. The Agency revised references to "starting and completing" actions from the proposed rule because many actions will be repetitive or ongoing. The submission also must identify the person or persons responsible for implementing or coordinating the small MS4 storm water program. See § 122.34(d). The submitted BMPs and measurable goals become enforceable according to the terms of the permit. The first permit can allow the permittee up to five years to fully implement the storm water management program.

Several commenters opposed making the measurable goals enforceable permit conditions. Some suggested that a permittee should be able to change its goals so that BMPs that are not functioning as intended can be replaced. EPA agrees that a permittee should be free to switch its BMPs and corresponding goals to others that accomplish the minimum measure or measures. The permittee is required to implement BMPs that address the minimum measures in §122.34(b). If the permittee determines that its original combination of BMPs are not adequate to achieve the objectives of the municipal program, the MS4 should revise its program to implement BMPs that are adequate and submit to the permitting authority a revised list of BMPs and measurable goals. EPA suggests that permits describe the process for revising BMPs and measurable goals, such as whether the permittee should follow the same procedures as were required for the submission of the original NOI and whether the permitting authority's approval is necessary prior to the permittee implementing the revised ***68763** BMPs. The permittee should indicate on its periodic report whether any BMPs and measurable goals have been revised since the last periodic report.

Some commenters expressed concern that making the measurable goals enforceable would encourage the development of easily attained goals and, conversely, discourage the setting of ambitious goals. Others noted that it is often difficult to determine the pollutant reduction that can be achieved by BMPs until several years after implementation. Much of the opposition to the enforceability of measurable goals appears to have been based on a mistaken understanding that measurable goals must consist of pollutant reduction targets to be achieved by the corresponding BMPs.

Today's rule requires the operator to submit either measurable goals that serve as BMP design objectives or goals that quantify the progress of implementation of the actions or performance of the permittee's BMPs. At a minimum, the required measurable goals should describe specific actions taken by the permittee to implement each BMP and the frequency and the dates for such actions. Although the operator may choose to do so, it is not required to submit goals that measure whether a BMP or combination of BMPs is effective in achieving a specific result in terms of storm water discharge quality. For example, a measurable goal might involve a commitment to inspect a given number of drainage areas of the collection system for illicit connections by a certain date. The measurable goal need not commit to achieving a specific amount of pollutant reduction through the elimination of illicit connections. Other measurable goals could include the date by which public education materials would be developed, a certain percentage of the community participating in a clean-up campaign, the development of a mechanism to address construction site runoff, and a reduction in the percentage of imperviousness associated with new development projects.

To reduce the risk that permittees will develop inadequate BMPs, EPA intends to develop a menu of BMPs to assist the operators of regulated small MS4s with the development of municipal programs. States may also develop a menu of BMPs. Today's rule provides that the measurable goals that demonstrate compliance with the minimum control measures in §§122.34 (b)(3) through (b)(6) do not have to be met if the State or EPA has not issued a menu of BMPs at

the time the MS4 submits its NOI. Commenters pointed out that the proposed rule would have made the measurable goals unenforceable if the menu of BMPs was not available, but the proposal was silent as to the enforceability of the implementation of BMPs. Today's rule clarifies that the operators are not free to do nothing prior to the issuance of a menu of BMPs; they still must make a good faith effort to implement the BMPs designed to comply with each measure. See §122.34(d)(2). The operators would not, however, be liable for failure to meet its measurable goals if a menu of BMPs was not available at the time they submit their NOI.

The proposed rule provision in §123.35 stated that the "[f]ailure to issue the menu of BMPs would not affect the legal status of the general permit." This concept is included in the final rule in §122.34(d)(2)'s clarification that the permittee still must comply with other requirements of the general permit.

Unlike the proposed rule, today's rule does not require that each BMP in the menu developed by the State or EPA be regionally appropriate, cost-effective and field-tested. Various commenters criticized those criteria as unworkable, and one described them as "ripe for ambiguity and abuse." Other commenters feared that the operators of regulated small MS4s would never be required to achieve their goals until menus were developed that were cost-effective, field-tested and appropriate for every conceivable subregion.

While some municipal commenters supported the requirement that a menu of BMPs be made available that included BMPs that had been determined to be regionally appropriate, field-tested and cost-effective, others raised concerns that they would be restricted to a limited menu. Some commenters supported such a detailed menu because they thought they would only be able to select BMPs that were on the menu, while others thought that it was the permitting authority's responsibility to develop BMPs narrowly tailored to their situation. In response, EPA notes that the operators will not be restricted to implementing only, or all of, the BMPs included on the menu. Since the menu does not require permittees to implement the BMPs included on the menu, it is also not necessary to apply the public notice and other procedures that some commenters thought should be applied to the development of the menu of BMPs.

The purpose of the BMP menu is to provide guidance to assist the operators of regulated small MS4s with the development and refinement of their local program, not to limit their options. Permittees may implement BMPs other than those on the menu unless a State restricts its permittees to specific BMPs. To the extent possible, EPA will develop a menu of BMPs that describes the appropriateness of BMPs to specific regions, whether the BMPs have been field-tested, and their approximate costs. The menu, however, is not intended to relieve permittees of the need to implement BMPs that are appropriate for their specific circumstances.

If there are no known relevant BMPs for a specific circumstance, a permittee has the option of developing and implementing pilot BMPs that may be better suited to their circumstances. Where BMPs are experimental, the permittee should consider committing to measurable goals that address its schedule for implementing its selected BMPs rather than goals of achieving specific pollutant reductions. If the BMPs implemented by the permittee do not achieve the desired objective, the permittee may be required to commit to different or revised BMPs.

As stated in §123.35(g), EPA is committed to issuing a menu of BMPs prior to the deadline for the issuance of permits. This menu would serve as guidance for all operators of regulated small MS4s nationwide. After developing the initial menu of BMPs, EPA intends to periodically modify, update, and supplement the menu of BMPs based on the assessments of the MS4 storm water program and research. States may rely on EPA's menu of BMPs or issue their own. If States develop their own menus, they would constitute additional guidance (or perhaps requirements in some States) for the operators to follow. Several commenters were confused by the proposed rule language that stated that States must provide or issue a menu of BMPs and, if they fail to do so, EPA "may" do so. Some read this language as not requiring either EPA or the State to develop the menu. EPA had intended that it would develop a menu and that States could either provide the EPA developed menu or one developed by the State.

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EPA has dropped the proposed language that States "must" develop the menu of BMPs. Some commenters thought that it was inappropriate to require States to issue guidance. A menu of BMPs issued by either EPA or a permittee's State will satisfy the condition in §122.34(d) that a regulatory authority provide a menu of BMPs. A State could require its permittees to follow its menu of BMPs provided that they are adequate to implement §122.34(b).

Several commenters raised concerns that operators of small MS4s could be ***68764** required to submit their BMPs and measurable goals before EPA or the State has issued a menu of BMPs. EPA has assumed primary responsibility for developing a menu of BMPs to minimize the possibility of this occurring. Should a general permit be issued before a menu of BMPs is available, the permit writer would have the option of delaying the date by which the identification of the BMPs and measurable goals must be submitted to the permitting authority until some time after a menu of BMPs is available.

Several municipal commenters raised concerns that they would begin to develop a program only to be later told by the permitting authority or challenged in a citizen suit that their BMPs were inadequate. They expressed a need for certainty regarding what their permit required. Several commenters suggested that EPA require permitting authorities to approve or disapprove the submitted BMPs and measurable goals. EPA disagrees that formal approval or disapproval by the permitting authority is needed.

EPA acknowledges that the lack of a formal approval process does place on the permittee some responsibility for designing and determining the adequacy of its BMPs. Once the permittee has submitted its BMPs to the permitting authority as part of its NOI, it must implement them in order to achieve the corresponding measurable goals. EPA does not believe that this results in the uncertainty to the extent expressed by some commenters or unduly expose the permittee to the risk of citizen suit. If the permit is very specific regarding what the permittee must do, then the uncertainty is eliminated. If the permit is less prescriptive, the permittee has greater latitude in determining for itself what constitutes an adequate program. A citizen suit could impose liability on the permittee only if the program that it develops and implements clearly does not satisfy the requirements of the general permit. EPA believes today's approach strikes a balance between the competing goals of providing certainty as to what constitutes an adequate program and providing flexibility to the permittees.

Commenters were divided on whether five years was a reasonable and expeditious schedule for a MS4 to implement its program. Some thought that it was an appropriate amount of time to allow for the development and implementation of adequate programs. One questioned whether the permittee had to be implementing all of its program within that time, and suggested that there may be cases where a permitting authority would need flexibility to allow more time. One commenter suggested that five years is too long and would amount to a relaxation of implementation in their area. EPA believes it will take considerable time to complete the tasks of initially developing a program, commencing to implement it, and achieving results. EPA notes, however, that full implementation of an appropriate program must occur as expeditiously as possible, and not later than five years.

EPA solicited comment on how an NOI form might best be formatted to allow for measurable goal information (e.g., through the use of check boxes or narrative descriptions) while taking into account the Agency's intention to facilitate computer tracking. All commenters supported the development of a checklist NOI, but most noted that there would need to be room for additional information to cover unusual situations. One noted that, while a summary of measurable goals might be reduced to one sheet, attachments that more fully described the program and the planned BMPs would be necessary. EPA agrees that in most cases a "checklist" will not be able to capture the information on what BMPs a permittee intends to implement and its measurable goals for their implementation. EPA will continue to consider whether to develop a model NOI form and make it available for permitting authorities that choose to use it. What will be required on an MS4's NOI, however, is more extensive than what is usually required on an NOI, so a "form" NOI for MS4s may be impractical.

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ii. Individual Permit Application for a §122.34(b) program. In some cases, an operator of a regulated small MS4s may seek coverage under an individual NPDES permit, either because it chooses to do so or because the NPDES permitting authority has not made the general permit option available to that source. For small MS4s that are to implement a §122.34(b) program in today's rule, EPA is promulgating simplified individual permit application requirements at § 122.33(b)(2)(i). Under the simplified individual permit application requirements, the operator submits an application to the NPDES permitting authority that includes the information required under §122.21(f) and an estimate of square mileage served by the small MS4. They are also required to supply the BMP and measurable goal information required under §122.34(d). Consistent with CWA section 308 and analogous State law, the permitting authority could request any additional information to gain a better understanding of the system and the areas draining into the system.

Commenters suggested that the requirements of §122.21(f) are not necessarily applicable to a small MS4. One suggested that it was not appropriate to require the following information: a description of the activities conducted by the applicant which require it to obtain an NPDES permit; the name, mailing address, and location of the facility; and up to four Standard Industrial Classification ("SIC") codes which best reflect the principal products or services provided by the facility. In response, EPA notes that the requirements in §122.21(f) are generic application requirements applicable to NPDES applicants. With the exception of the SIC code requirement, EPA believes that they are applicable to MS4s. In the SIC code portion of the standard application, the applicant may simply put "not applicable."

One commenter asked that EPA clarify whether §122.21(f)(5)'s requirement to indicate "whether the facility is located on Indian lands," referred to tribal lands, Indian country, or Indian reservations. For some local governments this is a complex issue with no easy "yes" or "no" answer. See the discussion in the Section II.F in the proposal to today's rule regarding what tribal lands are subject to the federal trust responsibility for purposes of the NPDES program.

One commenter suggested that the application should not have to list the permits and approvals required under §122.21(f)(6). EPA notes that the applicant must only list the environmental permits that the applicant has received that cover the small MS4. The applicant is not required to list permits for other operations conducted by the small MS4 operator (e.g., for an operation of an airport or landfill). Again, in most cases the applicant could respond "not applicable" to this portion of the application.

One commenter suggested that the topographic map requirement of §122.21(f)(7) was completely different from, and significantly more onerous than, the mapping requirement outlined in the proposed rule at §122.34(b)(3)(i). EPA agrees and has modified the final rule to clarify that a map that satisfies the requirements of §122.34(b)(3)(i) also satisfies the map requirements for MS4 applicants seeking individual permits under §122.33(b)(2)(i).

EPA is adding a new paragraph to §122.44(k) to clarify that requirements to implement BMPs developed pursuant to CWA 402(p) are appropriate permit ***68765** conditions. While such conditions could be included under the existing provision in §122.44(k)(3) for "practices reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA," EPA believes it is clearer to specifically list in § 122.44(k) BMPs that implement storm water programs in light of the frequency with which they are used as effluent limitations.

iii. Alternative Permit Options/Tenth Amendment. As an alternative to implementing a program that addresses each of the six minimum measures according to the requirements of §122.34(b), today's rule provides the operators of regulated small MS4s with the option of applying for an individual permit under existing §122.26(d). See §122.33(b)(2)(ii). If a system operator does not want to be held accountable for implementation of each of the minimum measures, an individual permit option under §122.33(b)(2)(ii) remains available. (As explained in the next section of this preamble, §122.35(b) also provides an opportunity for relief from permit obligations for some of the minimum measures, but that relief exists within the framework of the minimum measures.)

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EPA originally drafted the individual permit application requirements in § 122.26(d) to apply to medium and large MS4s. Today's rule abbreviates the individual permit application requirements for small MS4s. Although EPA believes that the storm water management program requirements of §122.34, including the minimum measures, provide the most appropriate means to control pollutants from most small MS4s, the Agency does recognize that the operators of some small MS4s may prefer more individualized permit requirements. Among other possible reasons, an operator may seek to avoid having to "regulate" third parties discharging into the separate storm sewer system. Alternatively, an operator may determine that structural controls, such as constructed wetlands, are more appropriate or effective to address the discharges that would otherwise be addressed under the construction and/or development/redevelopment measures.

Some MS4s commenters alleged that an absolute requirement to implement the minimum measures violates the Tenth Amendment to the U.S. Constitution. While EPA disagrees that requiring MS4s to implement the minimum measures would violate the Constitution, today's rule does provide small MS4s with the option of developing more individualized measures to reduce the pollutants and pollution associated with urban storm water that will be regulated under today's rule.

Some commenters specifically objected that §122.34's minimum measures for small MS4s violate the Tenth Amendment insofar as they require the operators of MS4s to regulate third parties. The minimum measures include requirements for small MS4 operators to prohibit certain non-storm water discharges, control storm water discharges from construction greater than one acre, and take other actions to control third party sources of storm water discharges into their MS4s. Commenters also argued that it was inappropriate for EPA to require local governments to enact ordinances that will consume local revenues and put local governments in the position of bearing the political responsibility for implementing the program. One commenter argued that EPA was prohibited from conditioning the issuance of an NPDES permit upon the small MS4 operators waiving their constitutional right to be free from such requirements to regulate third parties. The Agency replies to each comment in turn.

Because the rule does rely on local governments—who operate municipal separate storm sewer systems—to regulate discharges from third parties into storm sewers, EPA acknowledges that the rule implicates the Tenth Amendment and constitutional principles of federalism. EPA disagrees, however, that today's rule is inconsistent with federalism principles. [As political subdivisions of States, municipalities enjoy the same protections as States under the Tenth Amendment.]

The Supreme Court has interpreted the Tenth Amendment to preclude federal actions that compel States or their political subdivisions to enact or administer a federal regulatory program. See New York v. United States, 505 U.S. 144 (1992); Printz v. United States, 117 S.Ct. 2365 (1997). The Printz case, however, did acknowledge that the restriction does not apply when federal requirements of general applicability—requirements that regulate all parties engaging in a particular activity—do not excessively interfere with the functioning of State governments when those requirements are applied to States (or their political subdivisions). See Printz, 117 S.Ct. at 2383.

Today's rule imposes a federal requirement of general applicability, namely, the requirement to obtain and comply with an NPDES permit, on municipalities that operate a municipal separate storm sewer system. By virtue of this rule, the permit will require the municipality/storm sewer operator to develop a storm water control program. The rule specifies the components of the control program, which are primarily "management'-type controls, for example, municipal regulation of third party storm water discharges associated with construction, as well as development and redevelopment, when those discharges would enter the municipal system.

Unlike the circumstances reviewed in the New York and Printz cases, today's rule merely applies a generally applicable requirement (the CWA permit requirement) to municipal point sources. The CWA establishes a generally applicable requirement to obtain an NPDES permit to authorize point source discharge to waters of the United States. Because municipalities own and operate separate storm sewers, including storm sewers into which third parties may discharge

pollutants, NPDES permits may require municipalities to control the discharge of pollutants into the storm sewers in the first instance. Because NPDES permits can impose end-of-pipe numeric effluent limits, narrative effluent limits in the form of "management" program requirements are also within the scope of Clean Water Act authority. As noted above, however, EPA believes that such narrative limitations are the most appropriate form of effluent limitation for these types of permits. For municipal separate storm sewer permits, CWA section 402(p)(3)(B)(iii) specifically authorizes "controls to reduce pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

The Agency did not design the minimum measures in §122.34 to "commandeer" state regulatory mechanisms, but rather to reduce pollutant discharges from small MS4s. The permit requirement in CWA section 402 is a requirement of general applicability. The operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts "title" for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties. Section 122.34 requires the operator of a regulated small MS4 to control a third ***68766** party only to the extent that the MS4 collection system receives pollutants from that third party and discharges it to the waters of the United States. The operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties. The Agency concedes that administration of a municipal program will consume limited local revenues for implementation; but those consequences stem from the municipal operator's identity as a permitted sewer system operator. The Tenth Amendment does not create a blanket municipal immunity from generally applicable requirements. Development of a program based on the minimum measures and implementation of that program should not "excessively interfere" with the functioning of municipal government, especially given the "practicability" threshold under CWA section 402(p)(3)(B)(iii).

As noted above, today's rule also allows regulated small MS4s to opt out of the minimum measures approach. The individual permit option provides for greater flexibility in program implementation and also responds to the comment about requiring a municipal permit applicant's waiver of any arguable constitutional rights. The individual permit option responds to questions about the rule's alleged unconstitutionality by more specifically focusing on the pollutants discharged from municipal point sources. Today's rule gives operators of MS4s the option to seek an individual permit that varies from the minimum measures/management approach that is otherwise specified in today's rule. Even if the minimum measures approach was constitutionally suspect, a requirement that standing alone would violate constitutional principles of federalism does not raise concerns if the entity subject to the requirement may opt for an alternative action that does not raise a federalism issue.

For municipal system operators who seek to avoid third party regulation according to all or some of the minimum measures, §122.26(d) requires the operator to submit a narrative description of its storm water sewer system and any existing storm water control program, as well as the monitoring data to enable the permit writer to develop appropriate permit conditions. The permit writer can then develop permit conditions and limitations that vary from the six minimum measures prescribed in today's rule. The information will enable the permit writer to develop an NPDES permit that will result in pollutant reduction to the maximum extent practicable. See NRDC v. EPA, 966 F.2d at 1308, n17. If determined appropriate under CWA section 402(p)(3)(B)(iii), for example BMPs to meet water quality standards, the permit could also incorporate any more stringent or prescriptive effluent limits based on the individual permit application information.

For small MS4 operators seeking an individual permit, both Part 1 and Part 2 of the application requirements in §122.26(d)(1) and (2) are required to be submitted within 3 years and 90 days of the date of publication of this Federal Register notice. Some of the information required in Part 1 will necessarily have to be developed by the permit applicant prior to the development of Part 2 of the application. The permit applicant should coordinate with its permitting authority regarding the timing of review of the information.

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The operators of regulated small MS4s that apply under §122.26(d) may apply to implement certain of the §122.34(b) minimum control measures, and thereby focus the necessary evaluation for additional limitations on alternative controls to the §122.34(b) measures that the small MS4 will not implement. The permit writer may determine "equivalency" for some or all of the minimum measures by developing a rough estimate of the pollutant reduction that would be achieved if the MS4 implemented the §122.34 minimum measure and to incorporate that pollutant reduction estimate in the small MS4's individual permit as an effluent limitation. The Agency recognizes that, based on current information, any such estimates will probably have a wide range. Anticipation of this wide range is one of the reasons EPA believes MS4 operators need flexibility in determining the mix of BMPs (under the minimum measures) to achieve water quality objectives. Therefore, for example, if a system operator seeks to employ an alternative that involves structural controls, wide ranges will probably be associated with gross pollutant reduction estimates. Permit writers will undoubtedly develop other ways to ensure that permit limits ensure reduction of pollutants to the maximum extent practicable.

Small MS4 operators that pursue this individual permit option do not need to submit details about their future program requirements (e.g., the MS4's future plans to obtain legal authority required by §§122.26(d)(1)(ii) and (d)(2)). A small MS4 operator might elect to supply such information if it intends for the permit writer to take those plans into account when developing the small MS4's permit conditions.

Several operators of small MS4s commented that they currently lacked the authority they would need to implement one or more of the minimum measures in §122.34(b). Today's rule recognizes that the operators of some small MS4s might not have the authority under State law to implement one or more of the measures using, for example, an ordinance or other regulatory mechanism. To address these situations, each minimum measure in §122.34(b) that would require the small MS4 operator to develop an ordinance or other regulatory mechanism states that the operator is only required to implement that requirement to "the extent allowable under State, Tribal or local law." See § 122.34(b)(3)(ii) (illicit discharge elimination), § 122.34(b)(4)(ii) (construction runoff control) and §122.34(b)(5)(ii) (post-construction storm water management). This regulatory language does not mean that a operator of a small MS4 with ordinance making authority can simply fail to pass an ordinance necessary for a §122.34(b) program. The reference to "the extent allowable under * * * local law" refers to the local laws of other political subdivisions to which the MS4 operator is subject. Rather, a small MS4 operator that seeks to implement a program under section §122.34(b) may omit a requirement to develop an ordinance or other regulatory mechanism only to the extent its municipal charter, State constitution or other legal authority prevents the operator from exercising the necessary authority. Where the operator cannot obtain the authority to implement any activity that is only required to "the extent allowable under State, Tribal or local law," the operator may satisfy today's rule by administering the remaining §122.34(b) requirements.

Finally, although today's rule provides operators of small MS4s with an option of applying for a permit under §122.26(d), States authorized to administer the NPDES program are not required to provide this option. NPDES-authorized States could require all regulated small MS4s to be permitted under the minimum measures management approach in §122.34 as a matter of State law. Such an approach would be deemed to be equally or more stringent than what is required by today's rule. See 40 CFR 123.2(i). The federalism concerns discussed above do not apply to requirements imposed by a State on its political subdivisions.

iv. Satisfaction of Minimum Measure Obligations by Another Entity. An operator of a regulated small MS4 may ***68767** satisfy the requirement to implement one or more of the six minimum measures in §122.34(b) by having a third party implement the measure or measures. Today's rule provides a variety of means for small MS4 operators to share responsibility for different aspects of their storm water management program. The means by which the operators of various MS4s share responsibility may affect who is ultimately responsible for performance of the minimum measure and who files the periodic reports on the implementation of the minimum measure. Section 122.35 addresses these issues. The rule describes two different variants on third party implementation with different consequences if the third party fails to implement the measure.

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If the permit covering the discharge from a regulated small MS4 identifies the operator as the entity responsible for a particular minimum control measure, then the operator-permittee remains responsible for the implementation of that measure even if another entity has agreed to implement the control measure. Section 122.35(a). Another party may satisfy the operator-permittee's responsibility by implementing the minimum control measure in a manner at least as stringent or prescriptive as the corresponding NPDES permit requirement. If the third party fails to do so, the operator-permittee remains responsible for its performance. The operator of the MS4 should consider entering into an agreement with the third party that acknowledges the responsibility to implement the minimum measure. The operator-permittee's NOI and its annual §122.34(f)(3) reports submitted to the NPDES permitting authority must identify the third party that is satisfying one or more of the permit obligations. This requirement ensures that the permitting authority is aware which entity is supposed to implement which minimum measures.

If, on the other hand, the regulated small MS4's permit recognizes that an NPDES permittee other than the operator-permittee is responsible for a particular minimum control measure, then the operator-permittee is relieved from the responsibility for implementing that measure. The operator-permittee is also relieved from the responsibility for implementing any measure that the operator's permit indicates will be performed by the NPDES permitting authority. Section 122.35(b). The MS4 operator-permittee would be responsible for implementing the remaining minimum measures.

Today's final rule differs from the proposed version of §122.35(b), which stated that, even if the third party's responsibility is recognized in the permit, the MS4 operator-permittee remained responsible for performance if the third party failed to perform the measure consistent with §122.34(b). Under today's rule, the operator-permittee is relieved from responsibility for performance of a measure if the third party is an NPDES permittee whose permit makes it responsible for performance of the measure (including, for example, a State agency other than the State agency that issues NPDES permits) or if the third party is the NPDES permitting authority itself. Because the permitting authority is acknowledging the third party's responsibility in the permit, commenters thought that the MS4 operator-permittee should not be responsible for ensuring that the other entity is implementing the control measure properly. EPA agrees that the operator-permittee should not be conditionally responsible when the requirements are enforceable against some other NPDES permittee. If the third party fails to perform the minimum measure, the requirements will be enforceable against the third party. In addition, the NPDES permitting authority could reopen the operator-permittee's permit under § 122.62 and modify the permit to make the operator responsible for implementing the measure. A new paragraph has been added to §122.62 to clarify that the permit may be reopened in such circumstances.

Today's rule also provides that the operator-permittee is not conditionally responsible where it is the State NPDES permitting authority itself that fails to implement the measure. The permitting authority does not need to issue a permit to itself (i.e., to the same State agency that issues the permit) for the sole purpose of relieving the small MS4 from responsibility in the event the State agency does not satisfy its obligation to implement a measure. EPA does not believe that the small MS4 should be responsible in the situation where the NPDES permit issued to the small MS4 operator recognizes that the State agency that issues the permit is responsible for implementing a measure. If the State does fail to implement the measure, the State agency could be held accountable for its commitment in the permit to implement the measure. Where the State does not fulfill its responsibility to implement a measure, a citizen also could petition for withdrawal of the State's NPDES program or it could petition to have the MS4's permit reopened to require the MS4 operator to implement the measure.

EPA notes that not every State program that addresses erosion and sediment control from construction sites will be adequate to satisfy the requirement that each regulated small MS4 have a program to the extent required by § 122.34(b)(4). For example, although all NPDES States are required to issue NPDES permits for construction activity that disturbs greater than one acre, the State's NPDES permit program will not necessarily be extensive enough to satisfy a regulated small MS4's obligation under §122.34(b)(4). NPDES States will not necessarily be implementing all of the required elements of that minimum measure, such as procedures for site plan review in each jurisdiction required to develop a

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program and procedures for receipt and consideration of information submitted by the public on individual construction sites. In order for a State erosion and sediment control program to satisfy a small MS4 operator's obligation to implement §122.34(b)(4), the State program would have to include all of the elements of that minimum measure.

Where the operator-permittee is itself performing one or more of the minimum measures, the operator-permittee remains responsible for all of the reporting requirements under §122.34(f)(3). The operator-permittee's reports should identify each entity that is performing the control measures within the geographic jurisdiction of the regulated small MS4. If the other entity also operates a regulated MS4 and files reports on the progress of implementation of the measures within the geographic jurisdiction of the MS4, then the operator-permittee need not include that same information in its own reports.

If the other entity operates a regulated MS4 and is performing all of the minimum measures for the permittee, the permittee is not required to file the reports required by §122.34(f)(3). This relief from reporting is specified in §122.35(a).

Section 122.35 addresses the concerns of some commenters who sought relief for governmental facilities that are classified as small MS4s under today's rule. These facilities frequently discharge storm water through another regulated MS4 and could be regulated by that MS4's program. For example, a State owned office complex that operates its storm sewer system in an urbanized area will be regulated as an MS4 under today's rule even though its system may be subject to the storm water controls of the municipality in ***68768** which it is located. Today's rule specifically revised the definition of MS4 to recognize that different levels of government often operate MS4s and that each such separate entity (including the federal government) should be responsible for its discharges. If both MS4s agree, the downstream MS4 can develop a storm water management program that regulates the discharge from both MS4s. The upstream small MS4 operator still must submit an NOI that identifies the entity on which the upstream small MS4 operator is relying to satisfy its permit obligations. No reports are required from the upstream small MS4 operator, but the upstream operator must remain in compliance with the downstream MS4 operator's storm water management program. This option allows small MS4s to work together to develop one storm water management program that satisfies the permit obligations of both. If they cannot agree, the upstream small MS4 operator must develop its own program.

As mentioned previously, comments from federal facilities and State organizations that operate MS4s requested that their permit requirements differ from those of MS4s that are political subdivisions of States (cities, towns, counties, etc.). EPA acknowledges that there are differences; e.g., many federal and State facilities do not serve a resident population and thus might require a different approach to public education. EPA believes, however, that MS4s owned by State and federal governments can develop storm water management plans that address the minimum measures. Federal and State owned small MS4s may choose to work with adjacent municipally owned MS4s to develop a unified plan that addresses all of the required measures within the jurisdiction of all of the contiguous MS4s. The options in §122.35 minimize the burden on small MS4s that are covered by another MS4's program.

One commenter recommended that if one MS4 discharges into a second MS4, the operator of the upstream MS4 should have to provide a copy of its NOI or permit application to the operator of the receiving MS4. EPA did not adopt this recommendation because the NOI and permit application will be publicly available; but EPA does recommend that NPDES permitting authorities consider it as a possible permit requirement. The commenter also suggested that monitoring data should be collected by the upstream MS4 and provided to the downstream MS4. EPA is not adopting such a uniform monitoring requirement because EPA believes it is more appropriate to let the MS4 operators work out the need for such data. If necessary, the downstream MS4s might want to make such data a condition to allowing the upstream MS4 to connect to its system.

v. Joint Permit Programs. Many commenters supported allowing the operators of small MS4s to apply as co-permittees so they each would not have to develop their own storm water management program. Today's rule specifically allows

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regulated small MS4s to join with either other small MS4s regulated under §122.34(d) or with medium and large MS4s regulated under §122.26(d).

As is discussed in the previous section, regulated small MS4s may indicate in their NOIs that another entity is performing one or more of its required minimum control measures. Today's rule under §122.33(b)(1) also specifically allows the operators of regulated small MS4s to jointly submit an NOI. The joint NOI must clearly indicate which entity is required to implement which control measure in each geographic jurisdiction within the service area of the entire small MS4. The operator of each regulated small MS4 remains responsible for the implementation of each minimum measure for its MS4 (unless, as is discussed in the previous section above, the permit recognizes that another entity is responsible for completing the measure.) The joint NOI, therefore, is legally equivalent to each entity submitting its own NOI. EPA is, however, revising the rule language to specifically authorize the joint submission of NOIs in response to comments that suggested that such explicit authorization might encourage programs to be coordinated on a watershed basis.

Section 122.33(b)(2)(iii) authorizes regulated small MS4s to jointly apply for an individual permit to implement today's rule, where allowed by an NPDES permitting authority. The permit application should contain sufficient information to allow the permitting authority to allocate responsibility among the parties under one of the two permitting options in §§122.33(b)(2)(i) and (ii).

Section 122.33(b)(3) of today's rule also allows an operator of a regulated small MS4 to join as a co-permittee in an existing NPDES permit issued to an adjoining medium or large MS4 or source designated under the existing storm water program. This co-permittee option applies only with the agreement of all co-permittees. Under this co-permittee arrangement, the operator of the regulated small MS4 must comply with the terms and conditions of the applicable permit rather than the permit condition requirements of §122.34 of today's rule. The regulated small MS4 that wishes to be a co-permittee must comply with the applicable requirements of §122.26(d), but would not be required to fulfill all the permit application requirements applicable to medium and large MS4s. Specifically, the regulated small MS4 is not required to comply with the application requirements of §122.26(d)(1)(iii) }(Part 1 source identification), §122.26 (d)(1)(iv) (Part 1 discharge characterization), and § 122.26(d)(2)(iii) (Part 2 discharge characterization data). Furthermore, the regulated small MS4 operator could satisfy the requirements in § 122.26(d)(1)(v) (Part 1 management programs) and §122.26(d)(2)(iv) (Part 2 proposed management program) by referring to the adjoining MS4 operator's existing plan. An operator pursuing this option must describe in the permit modification request how the adjoining MS4's storm water program addresses or needs to be supplemented in order to adequately address discharges from the MS4. The request must also explain the role of the small MS4 operator in coordinating local storm water activities and describe the resources available to accomplish the storm water management plan.

EPA sought comments regarding the appropriateness of the application requirements in these subsections of §122.26(d). One commenter stated that newly regulated smaller MS4s should not be required to meet the existing regulations' Part II application requirements under §122.26(d) regarding the control of storm water discharges from industrial activity. EPA disagrees. The smaller MS4 operators designated for regulation in today's rule may satisfy this requirement by referencing the legal authority of the already regulated MS4 program to the extent the newly regulated MS4 will rely on such legal authority to satisfy its permit requirements. If the smaller MS4 operator plans to rely on its own legal authorities, it must identify it in the application. If the smaller MS4 operator does not elect to use its own legal authority, they may file an individual permit application for an alternate program under §122.33(b)(2)(ii).

The explanatory language in §122.33(b)(3) recommends that the smaller MS4s designated under today's rule identify how an existing plan "would need to be supplemented in order to adequately address your discharges." One commenter suggested that this must be regulatory language and not guidance. EPA disagrees that this needs to be mandatory language. ***68769** Since many of the smaller MS4s designated today are "donut holes" within the geographic jurisdiction of an already regulated MS4, the larger MS4's program generally will be adequate to address the newly regulated MS4's discharges. The small MS4 applicant should consider the adequacy of the existing MS4's program to address the smaller

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MS4's water quality needs, but EPA is not imposing specific requirements. Where circumstances suggest that the existing program is inadequate with respect to the newly designated MS4 and the applicant does not address the issue, the NPDES permitting authority must require that the existing program be supplemented.

Commenters recommended that the application deadline for smaller MS4s designated today be extended so that existing regulated MS4s would not have to modify their permit in the middle of their permit term, provided that permit renewal would occur within a reasonable time (12 to 18 months) of the deadline. In response, EPA notes that today's rule allows operators of newly designated small MS4s up to three years and 90 days from the promulgation of today's rule to submit an application to be covered under the permit issued to an already regulated MS4. The permitting authority has a reasonable time after receipt of the application to modify the existing permit to include the newly designated source. If an existing MS4's permit is up for renewal in the near future, the operator of a newly designated small MS4 may take that into account when timing its application and the NPDES permitting authority may take that into account when processing the application.

Another commenter suggested that the rule should include a provision to allow permit application requirements for smaller MS4s designated today to be determined by the permitting authority to account for the particular needs/wants of an already regulated MS4 operator. EPA does not believe that the regulations should specifically require this approach. When negotiating whether to include a newly designated MS4 in its program, the already regulated MS4 operator may require the newly designated MS4's operator to provide any information that is necessary.

The co-permitting approach allows small MS4s to take advantage of existing programs to ease the burden of creating their own programs. The operators of regulated small MS4s, however, may find it simpler to apply for a program under today's rule, and to identify the medium or large MS4 operator that is implementing portions of its §122.34(b) minimum measures.

d. Evaluation and Assessment

Under today's rule, operators of regulated small MS4s are required to evaluate the appropriateness of their identified BMPs and progress toward achieving their identified measurable goals. The purpose of this evaluation is to determine whether or not the MS4 is meeting the requirements of the minimum control measures. The NPDES permitting authority is responsible for determining whether and what types of monitoring needs to be conducted and may require monitoring in accordance with State/Tribe monitoring plans appropriate to the watershed. EPA does not encourage requirements for “end-of-pipe” monitoring for regulated small MS4s. Rather, EPA encourages permitting authorities to carefully examine existing ambient water quality and assess data needs. Permitting authorities should consider a combination of physical, chemical, and biological monitoring or the use of other environmental indicators such as exceedance frequencies of water quality standards, impacted dry weather flows, and increased flooding frequency. (Claytor, R. and W. Brown. 1996. Environmental Indicators to Assess Storm Water Control Programs and Practices. Center for Watershed Protection, Silver Spring, MD.) Section II.L., Water Quality Issues, discusses monitoring in greater detail.

As recommended by the Intergovernmental Task Force on Monitoring Water Quality (ITFM), the NPDES permitting authority is encouraged to consider the following watershed objectives in determining monitoring requirements: (1) To characterize water quality and ecosystem health in a watershed over time, (2) to determine causes of existing and future water quality and ecosystem health problems in a watershed and develop a watershed management program, (3) to assess progress of watershed management program or effectiveness of pollution prevention and control practices, and (4) to support documentation of compliance with permit conditions and/or water quality standards. With these objectives in mind, the Agency encourages participation in group monitoring programs that can take advantage of existing monitoring programs undertaken by a variety of governmental and nongovernental entities. Many States may already have a monitoring program in effect on a watershed basis. The ITFM report is included in the docket for today's rule (Intergovernmental Task Force on Monitoring Water Quality. 1995. The Strategy for Improving Water-Quality

Monitoring in the United States: Final Report of the Intergovernmental Task Force on Monitoring Water Quality. Copies can be obtained from: U.S. Geological Survey, Reston, VA.).

EPA expects that many types of entities will have a role in supporting group monitoring activities—including federal agencies, State agencies, the public, and various classes or categories of point source dischargers. Some regulated small MS4s might be required to contribute to such monitoring efforts. EPA expects, however, that their participation in monitoring activities will be relatively limited. For purposes of today's rule, EPA recommends that, in general, NPDES permits for small MS4s should not require the conduct of any additional monitoring beyond monitoring that the small MS4 may be already performing. In the second and subsequent permit terms, EPA expects that some limited ambient monitoring might be appropriately required for perhaps half of the regulated small MS4s. EPA expects that such monitoring will only be done in identified locations for relatively few pollutants of concern. EPA does not anticipate "end-of-pipe" monitoring requirements for regulated small MS4s.

EPA received a wide range of comments on this section of the rule. Some commenters believe that EPA should require monitoring; others want a strong statement that the newly regulated small MS4s should not be required to monitor. Many commenters raised questions about exactly what EPA expects MS4s to do to evaluate and assess their BMPs. EPA has intentionally written today's rule to provide flexibility to both MS4s and permitting authorities regarding appropriate evaluation and assessment. Permitting authorities can specify monitoring or other means of evaluation when writing permits. If additional requirements are not specified, MS4s can decide what they believe is the most appropriate way to evaluate their storm water management program. As mentioned above, EPA expects that the necessity for monitoring and its extent may change from permit cycle to permit cycle. This is another reason for making the evaluation and assessment rule requirements very flexible.

i. Recordkeeping. The NPDES permitting authority is required to include at least the minimum appropriate recordkeeping conditions in each permit. Additionally, the NPDES permitting authority can specify that permittees develop, maintain, and/or ***68770** submit other records to determine compliance with permit conditions. The MS4 operator must keep these records for at least 3 years but is not required to submit records to the NPDES permitting authority unless specifically directed to do so. The MS4 operator must make the records, including the storm water management program, available to the public at reasonable times during regular business hours (see 40 CFR 122.7 for confidentiality provision). The MS4 operator is also able to assess a reasonable charge for copying and to establish advance notice requirements for members of the public.

EPA received a comment that questioned EPA's authority to require MS4s to make their records available to the public. EPA disagrees with the commenter and believes that the CWA does give EPA the authority to require that MS4 records be available. It is also more practical for the public to request records directly from the MS4 than to request them from EPA who would then make the request to the MS4. Based on comments, EPA revised the proposed rule so as not to limit the time for advance notice requirements to 2 business days.

ii. Reporting. Under today's rule, the operator of a regulated small MS4 is required to submit annual reports to the NPDES permitting authority for the first permit term. For subsequent permit terms, the MS4 operator must submit reports in years 2 and 4 unless the NPDES permitting authority requires more frequent reports. EPA received several comments supporting this timing for report submittal. Other commenters suggested that annual reports during the first permit cycle are too burdensome and not necessary. EPA believes that annual reports are needed during the first 5-year permit term to help permitting authorities track and assess the development of MS4 programs, which should be established by the end of the initial term. Information contained in these reports can also be used to respond to public inquiries.

The report must include (1) the status of compliance with permit conditions, an assessment of the appropriateness of identified BMPs and progress toward achieving measurable goals for each of the minimum control measures, (2) results

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of information collected and analyzed, including monitoring data, if any, during the reporting period, (3) a summary of what storm water activities the permittee plans to undertake during the next reporting cycle, and (4) a change in any identified measurable goal(s) that apply to the program elements.

The NPDES permitting authority is encouraged to provide a brief two-page reporting format to facilitate compiling and analyzing the data from submitted reports. EPA does not believe that submittal of a brief annual report of this nature is overly burdensome, and has not changed the required reporting time frame from the proposal. The permitting authority will use the reports in evaluating compliance with permit conditions and, where necessary, will modify the permit conditions to address changed conditions.

iii. Permit-As-A-Shield. Section 122.36 describes the scope of authorization (i.e. "permit-as-a-shield") under an NPDES permit as provided by section 402(k) of the CWA. Section 402(k) provides that compliance with an NPDES permit is deemed compliance, for purposes of enforcement under CWA sections 309 and 505, with CWA sections 301, 302, 306, 307, and 403, except for any standard imposed under section 307 for toxic pollutants injurious to human health.

EPA's Policy Statement on Scope of Discharge Authorization and Shield Associated with NPDES Permits, originally issued on July 1, 1994, and revised on April 11, 1995, provides additional information on this matter.

e. Other Applicable NPDES Requirements

Any NPDES permit issued to an operator of a regulated small MS4 must also include other applicable NPDES permit requirements and standard conditions, specifically the applicable requirements and conditions at 40 CFR 122.41 through 122.49. Reporting requirements for regulated small MS4s are governed by §122.34 and not the existing requirements for medium and large MS4s at § 122.42(c). In addition, the NPDES permitting authority is encouraged to consult the Interim Permitting Approach, issued on August 1, 1996. The discussion on the Interim Permitting Approach in Section II.L.1, Water Quality Based Effluent Limits, provides more information. The provisions of §§122.41 through 122.49 establish permit conditions and limitations that are broadly applicable to the entire range of NPDES permits. These provisions should be interpreted in a manner that is consistent with provisions that address specific classes or categories of discharges. For example, §122.44(d) is a general requirement that each NPDES permit shall include conditions to meet water quality standards. This requirement will be met by the specific approach outlined in today's rule for the implementation of BMPs. BMPs are the most appropriate form of effluent limitations to satisfy technology requirements and water quality-based requirements in MS4 permits (see the introduction to Section II.H.3, Municipal Permit Requirements, Section II.H.3.h, Reevaluation of Rule, and the discussion of the Interim Permitting Policy in Section II.L.1. below).

f. Enforceability

NPDES permits are federally enforceable. Violators may be subject to the enforcement actions and penalties described in CWA sections 309, 504, and 505 or under similar water pollution enforcement provisions of State, tribal or local law. Compliance with a permit issued pursuant to section 402 of the Clean Water Act is deemed compliance, for purposes of sections 309 and 505, with sections 301, 302, 306, 307, and 403 (except any standard imposed under section 307 for toxic pollutants injurious to human health).

g. Deadlines

Today's final rule includes "expeditious deadlines" as directed by CWA section 402(p)(6). In proposed §122.26(e), the permit application for the "ISTEA" facilities was maintained as August 7, 2001 and the permit application deadline for storm water discharges associated with other construction activity was established as 3 years and 90 days from the final rule date. In proposed § 122.33(c)(1), operators of regulated small MS4s were required to seek permit coverage within 3 years and 90 days from the date of publication of the final rule. In proposed §122.33(c)(2), operators of regulated small

MS4s designated by the NPDES permitting authority on a local basis under §122.32(a)(2) must seek coverage under an NPDES permit within 60 days of notice, unless the NPDES permitting authority specifies a later date.

In order to increase the clarity of today's final rule, EPA has changed the location of some of the above requirements. All application deadlines for both Phase I and Phase II are now listed or referenced in §122.26(e). Section 122.26(e)(1) contains the deadlines for storm water associated with industrial activity. Paragraph (i) has been changed to correct a typographical error. Paragraph (ii) has been revised to reflect the changed application date for "ISTEA" facilities. (See discussion in section I.3, ISTEA Sources). The application deadline for storm water discharges associated with other construction activity is now in a new §122.26(e)(8). The application deadline for regulated small MS4s ***68771** remains in §122.33(c) because this section is written in "readable regulation" format, but it is also described in a new § 122.26(e)(9).

Under today's rule, permitting authorities are allowed up to 3 years to issue a general permit and MS4s designated under §122.32(a)(1) are allowed up to 3 years and 90 days to submit a permit application. Operators of regulated small MS4s that choose to be a co-permittee with an adjoining MS4 with an existing NPDES storm water permit must apply for a modification of that permit within the same time frame. Several commenters stated that 90 days was not adequate time to submit an NOI. This might be true if facilities did not start developing their storm water program until publication of their general permit. In fact, municipalities should start developing their storm water program upon publication of today's final rule, if they have not already done so. Municipalities that are uncertain if they fall within the urbanized area should ask their permitting authority. EPA believes that municipalities should not automatically take three years and 90 days to develop a program and submit their NOI. Three years is the maximum amount of time to issue a general permit. MS4s that are automatically designated under today's rule may have less than 3 years and 90 days if the permitting authority issues a permit that requires submission of NOIs before that time. EPA encourages States to modify their NPDES program to include storm water and issue their permits as soon as possible. It is important for permitting authorities to keep their municipalities informed of their progress in developing or modifying their NPDES storm water requirements.

EPA recognizes that MS4s brought into the program due to the 2000 Census calculations do not have as much time to develop a program as those already designated from the 1990 Census. However, the official Bureau of the Census urbanized area calculation for the 2000 Census is expected to be published in the Federal Register in the spring of 2002, which should give the potentially affected MS4s adequate time to prepare for compliance under the applicable permit. However, if the publication of this information is delayed, MS4s in newly designated urbanized areas will have 180 days from the time the new designations are published to submit an NOI, consistent with the time frame for other regulated MS4s that are designated after promulgation of the rule.

The proposed application deadline for MS4s designated under §122.32(a)(2) was within 60 days of notice. Many commenters stated that 60 days does not provide adequate time for the preparation of an NOI or permit application. EPA agrees that newly designated MS4s may not be aware that they might be designated since the permitting authority could take several years to develop designation criteria. EPA has decided that the application time frame for these facilities should be consistent with the 180 days allowed for facilities designated under §§122.26(a)(9)(i)(C) and (D). Section 122.33(c)(2) of today's final rule contains the modified time frame of 180 days to apply for coverage.

h. Reevaluation of Rule

The municipal caucus of the Storm Water Phase II FACA Subcommittee asked EPA to demonstrate its commitment to revisit the municipal requirements of today's rule and make changes where necessary after evaluating the storm water program and researching the effectiveness of municipal BMPs. In §122.37 of today's final rule, EPA commits to revisiting the regulations for the municipal storm water discharge control program after completion of the first two permit terms. EPA intends to use this time to work closely with stakeholders on research efforts. Gathering and analyzing data related to the storm water program, including data regarding the effectiveness of BMPs, is critical to EPA's storm water program evaluation. EPA does not intend to change today's NPDES municipal storm water program until the end of this period, except under the following circumstances: a court decision requires changes; a technical change is

necessary for implementation; or the CWA is modified, thereby requiring changes. After careful analysis, EPA might also consider changes from consensus-based stakeholder requests regarding requirements applicable to newly regulated MS4s. EPA will apply the August 1, 1996, Interim Permitting Approach to today's program during this interim period and encourages all permitting authorities to use this approach in municipal storm water permits for newly regulated MS4s and in determining MS4 permit requirements under a TMDL approach. After careful consideration of the data, EPA will make modifications as necessary.

EPA received comments that supported waiting two permit cycles before re-evaluating the rule and other comments that requested re-evaluation much sooner. EPA anticipates two full permit cycles are necessary to obtain enough data to significantly evaluate the rule. The re-evaluation time frame of 13 years from today remains as proposed.

I. Other Designated Storm Water Discharges

1. Discharges Associated with Small Construction Activity

Section 122.26(b)(15) of today's rule designates certain construction activities for regulation as "storm water discharges associated with small construction activity." Specifically, storm water discharges from construction activity equal to or greater than 1 acre and less than 5 acres are automatically designated except in those circumstances where the operator (i.e., person responsible for discharges that might occur) certifies to the permitting authority that one of two specific waiver circumstances (described in section b. below) applies. Sites below one acre may be designated under § 122.26(b)(15)(ii) where necessary to protect water quality.

Today's rule regulates these construction-related storm water sources under CWA section 402(p)(6) to protect water quality rather than under CWA section 402(p)(2). Designation under 402(p)(6) gives States and EPA the flexibility to waive the permit requirement for construction activity that is not likely to impair water quality, and to designate additional sources below one acre that are likely to cause water quality impairment. Thus, the one acre threshold of today's rule is not an absolute threshold like the five acre threshold that applies under the existing storm water rule.

Today's rule regulating certain storm water discharges from construction activity disturbing less than 5 acres is consistent with the 9th Circuit remand in NRDC v. EPA, 966 F.2d 1292 (9th Cir. 1992). In that case, the court remanded portions of the existing storm water regulations related to discharges from construction sites. The existing Phase I regulations define "storm water discharges associated with industrial activity" to include storm water discharges from construction sites disturbing 5 acres or more of total land area (see 40 CFR 122.26(b)(14)(x)). In its decision, the court concluded that the 5-acre threshold was improper because the Agency had failed to identify information "to support its perception that construction activities on less than 5 acres are non-industrial in nature" (966 F.2d at 1306). The court remanded the exemption to EPA for further proceedings (966 F.2d at 1310). EPA's objectives in today's action include an effort to (1) address the 9th Circuit ***68772** remand to reconsider regulation of storm water discharges from construction activities that disturb less than 5 acres of land, (2) address water quality concerns associated with such activities, and (3) balance conflicting recommendations and concerns of stakeholders in the regulation of additional construction activity.

EPA responded to the Ninth Circuit's decision by designating discharges from construction activities that disturb between 1 and 5 acres as "discharges associated with small construction activity" under CWA section 402(p)(6), rather than as "discharges associated with industrial activity" under CWA section 402(p)(2)(B). Although a size criterion alone may be an indicator of whether runoff from construction sites between 1 and 5 acres is "associated with industrial activity," the Agency is instead relying on a size threshold in tandem with provisions that allow for designations and waivers based on potential for "predicted water quality impairments" to regulate construction sites between 1 and 5 acres under CWA section 402(p)(6). This approach was chosen by the Agency for the sake of simplicity and certainty and, most importantly, to protect water quality consistent with the mandate of CWA section 402(p)(6). Today's rule also includes extended application deadlines for this new category of dischargers under the authority of CWA section 402(p)(6) (see §122.26(e)(8) of today's rule).

In today's rule, EPA is regulating storm water discharges from additional construction sites to better protect the Nation's waters, while remaining sensitive to a concern that the Agency should not regulate discharges from construction sites that might not or do not have adverse water quality impacts. EPA believes that today's rule will successfully accomplish this objective by establishing a 1-acre threshold nationwide that includes the flexibility to allow the permitting authority to both waive requirements for discharges from sites that are not expected to cause adverse water quality impacts and to designate discharges from sites below 1-acre based on adverse water quality impacts.

In addition to the diminishing water quality benefits of regulating all sites below one acre, the Agency relied on practical considerations in establishing a one acre threshold and not setting a lower threshold. Regardless of the threshold established by EPA, a NPDES permit can only be required if a construction site has a point source discharge. A point source discharge means that pollutants are added to waters of the United States through a discernible, confined, discrete conveyance. “Sheet flow” runoff from a small construction site would not result in a point source discharge unless and until it channelized. As the amount of disturbed land surface decreases, precipitation is less likely to channelize and create a “point source” discharge (assuming the absence of steep slopes or other factors that lead to increased channelization). Categorical designation of very small sites may create confusion about applicability of the NPDES permitting program to those sites. EPA's one acre threshold reflects, in part, the need to recognize that smaller sites are less likely to result in point source discharges. Of course, the NPDES permitting authority could designate smaller sites (below one acre, assuming point source discharges occur from the smaller designated sites) for regulation if a watershed or other local assessment indicated the need to do so. The Phase II rule includes this designation authority at 40 CFR 122.26(a)(9)(i)(D) and (b)(15)(ii).

The one acre threshold also provides an administrative tool for more easily identifying those sites that are identified for coverage by the rule (but may receive a waiver) and those that are not automatically covered (but may be designated for inclusion). Although all construction sites less than five acres could have a significant water quality impact cumulatively, EPA is automatically designating for permit coverage only those storm water discharges from construction sites that disturb land equal to or greater than one acre. Categorical regulation of discharges from construction below this one acre threshold would overwhelm the resources of permitting authorities and might not yield corresponding water quality benefits. Construction activities that disturb less than one acre make up, in total, a very small percentage of the total land disturbance from construction nationwide. The one acre threshold is reasonable for accomplishing the water quality goals of CWA section 402(p)(6) because it results in 97.5% of the total acreage disturbed by construction being designated for coverage by the NPDES storm water program, while excluding from automatic coverage the numerous smaller sites that represent 24.7% of the total number of construction sites.

Some commenters believed that EPA has not adequately identified water quality problems associated with storm water discharges from construction activity disturbing less than five acres. Other commenters believed that storm water discharges from small construction activity is a significant water quality problem nationwide. Section I.B.3, Construction Site Runoff, provides a detailed discussion of adverse water quality impacts resulting from construction site storm water discharges. EPA is regulating storm water discharges from construction activity disturbing between 1 and 5 acres because the cumulative impact of many sources, and not just a single identified source, is typically the cause for water quality impairments, particularly for sediment-related water quality standards.

Several commenters requested that EPA regulate discharges from small construction activity as “discharges associated with industrial activity” under CWA 402(p)(4) and not, as proposed, as “storm water discharges associated with other activity” under CWA 402(p)(6). EPA is regulating discharges from small construction sites as “small construction activity” under the authority of CWA section 402(p)(6), rather than section 402(p)(4), to ensure that regulation of these sources is water quality-sensitive. CWA section 402(p)(6) affords the opportunity for designations and waivers of sources based on potential for “predicted water quality impairments.” Regulation of storm water “associated with industrial activity” does not necessarily focus regulation to protect water quality.

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a. Scope

The definition of "storm water discharges associated with small construction activity" includes discharges from construction activities, such as clearing, grading, and excavating activities, that result in the disturbance of equal to or greater than 1 acre and less than 5 acres (see §122.26(b)(15)(i)). Such activities could include: road building; construction of residential houses, office buildings, or industrial buildings; or demolition activity. The definition of "storm water discharges associated with small construction activity" also includes any other construction activity, regardless of size, designated based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States (§122.26(b)(15)(ii)). This designation is made by the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator.

For the purposes of today's rule, the definition of "storm water discharges associated with small construction activity" includes discharges from activities disturbing less than 1 acre if that construction activity is part of a ***68773** "larger common plan of development or sale" with a planned disturbance of equal to or greater than 1 acre of land. A "larger common plan of development or sale" means a contiguous area where multiple separate and distinct construction activities are planned to occur at different times on different schedules under one plan, e.g., a housing development of five ¼ acre lots (§122.26(b)(15)(i)).

In addition to the regulatory text for smaller construction, the Agency is also revising the existing text of §122.26(b)(14)(x) to clarify EPA's intention regarding construction projects involving a larger common plan of development or sale ultimately disturbing 5 or more acres. Operators of such sites are required to seek coverage under an NPDES permit regardless of the number of lots in the larger plan because designation for permit coverage is based on the total amount of land area to be disturbed under the common plan. This designation attempts to address the potential cumulative effects of numerous construction activities concentrated in a given area.

Several commenters asked that EPA allow the permitting authority to set the appropriate size threshold based on water quality studies. While EPA agrees that location-specific water quality studies provide an ideal information base from which to make regulatory decisions, today's rule establishes a default standard for regulation in the absence of location-specific studies. The rule does allow for deviation from the default standard through additional designations and waivers, however, when supported by location-specific water quality information. The rule codifies the ability of permitting authorities to provide waivers for sites greater than or equal to one acre (the default standard) and designate additional discharges from small sites below one acre when location-specific information suggests that the default 1 acre standard is either unnecessary (waivers) or too limited (designations) to protect water quality.

Some commenters wanted EPA to base the regulation of storm water discharges from construction sites not only on size, but also on the duration and intensity of activity occurring on the site. EPA believes that a national 1-acre threshold, in combination with waivers and additional designations, is the most effective and simplest way to address adverse water quality impacts from storm water from small construction sites. Moreover, as discussed below, the waiver for rainfall erosivity does account for projects of limited duration. EPA believes, however, that the intensity of activity occurring on-site would be a very difficult condition to quantify.

Many commenters requested that EPA maintain the 5 acre threshold from the existing regulations, which include opportunities for site-specific designation, as the regulatory scope for regulating storm water from construction sites, i.e., that the Agency not automatically regulate storm water discharges from sites less than 5 acres. Several commenters wanted construction requirements to be applied to sites smaller than 1 acre, while some commenters suggested alternative thresholds of 2 or 3 acres. The rest of the commenters supported the 1 acre threshold. None of the commenters presented any data or rationales to support a specific size threshold.

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EPA examined alternative size thresholds, including 0.5 acre, 1 acre, 2 acres and 5 acres. EPA had difficulty evaluating the alternative size thresholds because, while directly proportional to the size of the disturbed site, the water quality threat posed by discharges from construction sites of differing sizes varies nationwide, depending on the local climatological, geological, geographical, and hydrological influences. In order to ensure improvements in water quality nationwide, however, today's rule does not allow various permitting authorities to establish different size thresholds except based on the waiver and designation provisions of the rule. EPA believes that the water quality impact from small construction sites is as high as or higher than the impact from larger sites on a per acre basis. By selecting the 1 acre size threshold and coupling it with waivers and additional designations, EPA is seeking to standardize improvement of water quality on a national basis while providing permitting authorities with the opportunity to designate those unregulated activities causing water quality impairments regardless of site size, as well as to waive requirements when information demonstrates that regulation is unnecessary.

EPA recognizes that the size criterion alone may not be the most ideal predictor of the need for regulation, but effective protection of water quality depends as much on simplicity in implementation as it does on the scientific information underlying the regulatory criteria. The default size criterion of 1 acre will ensure protection against adverse water quality impacts from storm water from small construction sites while not overburdening the resources of permitting authorities and the construction industry to implement the program to protect water quality in the first place.

One commenter stated a need to clarify whether routine road maintenance is considered construction activity for the purpose of today's rule. The NPDES general permit for discharges from construction sites larger than 5 acres defined “commencement of construction” as the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities (63 FR 7913). For construction sites disturbing less than 5 acres, EPA does not consider construction activity to include routine maintenance performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

Two commenters believed that the Multi-Sector General Permit for storm water discharges from industrial activities (MSGP) (60 FR 50804) already applies to storm water discharges from construction activities at oil and gas exploration and production sites and asked for a clarification on this issue. Commenters also requested a single general permit to authorize both industrial storm water discharges and construction site discharges which occur at the same industrial site.

Currently, when construction activity disturbing more than 5 acres occurs on an industrial site covered by the MSGP, authorization under a separate NPDES construction permit is needed because the MSGP does not include the “construction” industrial sector. While the MSGP does address sediment and erosion control, it is not as specific as the NPDES general permit for storm water discharges from construction activities disturbing more than 5 acres. Though permitting authorities could conceivably develop a single general permit to authorize storm water discharges associated with construction activity at these industrial facilities, the commenter's request is not addressed by today's rulemaking. When today's rule is implemented through general permits (to be issued later), the permitting authority will have discretion whether or not to incorporate the permit requirements for both the industrial storm water discharges and construction site storm water discharges into a single general permit. This type of request should be addressed to the permitting authority.

One commenter suggested that discharges from small construction sites should be regulated through a “self-implementing rule” approach. While today's rule is not a self-implementing rule, it does add §122.28(b)(2)(v), which ***68774** gives the permitting authority the discretion to authorize a construction general permit for sites less than 5 acres without submitting a notice of intent. Such non-registration general permits function similarly to self-implementing rules, but are, in fact, permits. Today's rule will be implemented through NPDES permits rather than self-implementing regulations to capitalize on the compliance, tracking, enforcement, and public participation associated with NPDES permits (see discussion in section II.C).

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Other commenters believed that only the permitting authority should regulate construction site storm water discharges (under a NPDES permit) and that a small MS4 operator's regulation of storm water discharges associated with construction (under the small MS4 NPDES storm water program) is redundant. EPA disagrees that control measure implementation by the NPDES authority and the small MS4 operator is redundant. To the extent the two efforts overlap, today's rule provides for consolidation and coordination of substantive requirements via incorporation by reference permitting. Small MS4s operators may choose to impose more prescriptive requirements than an NPDES permitting authority based on localized water quality needs. In those cases, EPA intends that the substantive requirements from the small MS4 program should apply as the NPDES permit requirements for the construction site discharger. In cases where a small MS4 program does not prioritize and focus on storm water from construction sites (beyond the small MS4 minimum control measure in today's rule, which does not require the small MS4 operator to control construction site discharges in a manner as prescriptive as is expected for discharges regulated under NPDES permits), the Agency intends that the NPDES general permit will provide the substantive standards applicable to the construction site discharge. EPA does anticipate, however, that implementation of MS4 programs to address construction site runoff within their jurisdiction will enhance overall NPDES compliance by construction site dischargers. EPA also notes that under §122.35(b), the permitting authority may recognize its own program to control storm water discharges from construction sites in lieu of requiring such a program in an MS4's NPDES permit, provided that the permitting authority's program satisfies the requirements of §122.34(b)(4), including, for example, procedures for site plan reviews and consideration of information submitted by the public on individual construction sites in each jurisdiction required to be covered by the program.

b. Waivers

Under §122.26(b)(15)(i) of today's rule, NPDES permitting authorities may waive today's requirement for construction site operators to obtain a permit in two circumstances. The first waiver is intended to apply where little or no rainfall is expected during the period of construction. The second waiver may be granted when a TMDL or equivalent analysis indicates that controls on construction site discharges are not needed to protect water quality.

The first waiver is based on “low predicted rainfall erosivity” which can be found using tables of rainfall-runoff erosivity (R) values published for each region in the U.S. R factors are published in the U.S. Department of Agriculture (USDA) Agricultural Handbook 703 (Renard, K.G., Foster, G.R., Weesies, G.A., McCool, D.K., and D.C. Yoder. 1997. Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE). U.S. Department of Agriculture Handbook 703). The R factor varies based on the time during the year when construction activity occurs, where in the country it occurs, and how long the construction activity lasts. The permitting authority may determine, using Handbook 703, which times of year, if any, the waiver opportunity is available for construction activity. EPA will provide assistance either through computer programs or the World Wide Web on how to determine whether this waiver applies for a particular geographic area and time period. Application of this waiver for regulatory purposes will be determined by the authorized NPDES authority. This waiver is discussed further in the following section titled Rainfall-Erosivity Waiver.

The second waiver is based on a consideration of ambient water quality. This waiver is available after a State or EPA develops and implements TMDLs for the pollutant(s) of concern from storm water discharges associated with construction activity. This waiver is also available for sites discharging to non-impaired waters that do not require TMDLs, when an equivalent analysis has determined allocations for small construction sites for the pollutant(s) of concern or determined that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The Agency envisions an equivalent analysis that would demonstrate that water quality is not threatened by storm water discharges from small construction activity. This waiver is discussed further below in the sections titled TMDL Waiver and Water Quality Issues.

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The proposed rule included a waiver based on "low predicted soil loss." This waiver provision would have been applicable on a case-by-case basis where the annual soil loss rate for the period of construction for a site, using the Revised Universal Soil Loss Equation (RUSLE), would be less than 2 tons/acre/year. The annual soil loss rate of less than 2 tons/acre/year would be calculated through the use of the RUSLE equation, assuming the constants of no ground cover and no runoff controls in place.

Several commenters found the low soil loss waiver too complex and impractical, and stated that expertise is not available at the local level to prepare and evaluate eligibility for the waiver. Another commenter questioned whether two tons/acre/year was an appropriate threshold for predicting adverse water quality impacts. Two other commenters said that RUSLE was never intended to predict off-site impacts and is not an indicator of potential harm to water quality. EPA agrees with the commenters on the difficulty associated with determining and implementing this waiver. Most construction site operators are not familiar with the RUSLE program, and the potential burden on the permitting authority, construction industry, USDA's Natural Resources Conservation Service and conservation districts probably would have been significant. The Agency has not included this waiver in the final rule.

Two commenters asked that EPA allow States the flexibility to develop their own waiver criteria but did not suggest how the Agency (or affected stakeholders) could evaluate the acceptability of alternative State waiver criteria. Therefore, the final rule does not provide for any such alternative waivers. If a State does seek to develop alternate waiver criteria, then EPA procedures afford the opportunity for subsequent actions, for example, under the Project XL Program in EPA's Office of Reinvention, which seeks cleaner, smarter, and cheaper solutions to environmental problems. Many commenters suggested that EPA extend these waivers to existing industrial storm water regulations for construction activity greater than 5 acres. These construction site discharges are ***68775** regulated as industrial storm water discharges under CWA 402(p)(2) and are not eligible for such water quality-based waivers.

Two commenters were concerned that waivers would create a potential for significant degradation of small streams. EPA disagrees. If small streams are threatened, the permitting authority would choose not to provide any waivers. In addition, permitting authorities may protect small streams by designating discharges from small construction activity based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the U.S.

Two commenters asked that the waiver options be eliminated. They felt it would create a gross inequity within the construction community if some projects will not be subject to the requirements of today's rule. While the comments may be valid, EPA disagrees that waivers should be disallowed on this basis. Construction site discharges that qualify for a waiver from permitting requirements are not expected to present a threat to water quality, which is the basis for designation and regulation under today's rule.

A number of commenters suggested additional waivers in cases where new development will result in no additional adverse impacts to water quality as compared to the existing development it replaces. EPA believes these waivers are either unworkable or unnecessary. It would be very difficult for most construction operators to determine, as well as for other stakeholders to verify, on a site-by-site basis, that there is no potential for adverse impact to water quality compared to the replaced development.

Other commenters proposed waivers in cases where a local erosion and sediment control program covers the project or a separate waiver for small linear utility projects. Instead of waivers, today's rule addresses the first suggestion through the qualifying program provision described in the section titled Cross-Referencing State/Local Erosion and Sediment Control Programs below. Today's rule provides waivers for small linear projects in so far as they satisfy conditions for low rainfall erosivity. (See § 122.26(b)(15)(i)(A).)

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Other commenters suggested waivers based on distance to water body, existence of vegetated buffer around water body, slope of disturbed land, or if discharging to very large bodies of water. As a result of public outreach, EPA believes that these proposed waivers would be generally unworkable for construction site dischargers and permitting authorities because of the difficulty in applying them to all small sites.

One commenter mentioned that waivers for the R factor (rainfall-erosivity) and soil loss are effluent standards that have not been developed in accordance with sections 301 and 304 of the CWA. EPA disagrees that these sections are relevant to the designation of sources in today's rule. The waiver provisions in this section of the rule are jurisdictional because they affect the scope of the universe of entities subject to the NPDES program. Therefore, the waiver provisions are not themselves substantive control standards implemented through NPDES permits, and thus, not subject to the statutory criteria in sections 301 and 304.

Another commenter stated that waivers would allow exemptions to the technology based requirements and would thus be inconsistent with the two-fold approach of the CWA (a technology based minimum and a water quality based overlay). EPA acknowledges that the CWA does not generally provide for waivers for the Act's technology-based requirements. The waiver provisions do not create exemptions from technology-based standards that apply to NPDES dischargers; they provide exemption from the underlying requirement for an NPDES permit in the first place. Protection of water quality is the reason these smaller sites are designated for regulation under NPDES. The Act's two fold approach imposes more stringent water quality based effluent limitations when technology-based limitations applicable to regulated dischargers are insufficient to meet water quality standards. Under today's rule, water quality protection is the basis for determining which of the unregulated sources should be regulated at all. Thus, today's rule is entirely consistent with the Act's two fold approach.

i. Rainfall-Erosivity Waiver. The rainfall-erosivity waiver under § 122.26(b)(15)(i)(A) is intended to exempt the requirements for a permit when and where negligible rainfall/runoff-erosivity is expected. In the development of the Universal Soil Loss Equation, analysis of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy times the maximum 30 minute intensity. The average annual sum of the storm energy and intensity values for an area comprise the R factor—the rainfall erosivity index. A detailed explanation of the R factor can be found in Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE) (USDA, 1997).

This waiver is time-sensitive and is dependent on when during the year a construction activity takes place, how long it lasts, and the expected rainfall and intensity during that time. R factors vary based on location. EPA anticipates that this waiver opportunity responds to concerns about the requirement for a permit when it is not expected to rain, especially in the arid areas of the U.S. Under today's rule, the permitting authority could waive the requirements for a permit for time periods when the rainfall-erosivity factor (“R” in RUSLE) is less than five during the period of construction. For the purposes of calculating this waiver, the period of construction activity starts at the time of initial disturbance and ends with the time of final stabilization. The operator must submit a written certification to the Director in order to apply for such a waiver. EPA believes that those areas receiving negligible rainfall during certain times of the year are unlikely to have storm events causing discharges that could adversely impact receiving streams. Consequently, BMPs would not be necessary on those smaller sites. This waiver is most applicable to projects of short duration and to the arid regions of the country where the occurrence of rainfall follows a cyclic pattern—between no rain and extremely heavy rain. EPA review of rainfall records for these areas indicates that, during periods of the year when the number of events and quantity of rain are low, storm water discharges from the smaller construction sites regulated under today's rule should be minimal.

Some commenters supported the use of the R factor as a waiver, while others felt that a waiver based on rainfall statistics ignores the fact that it may rain on any given day and it is the cumulative effect of wet weather discharges which cause water quality impairments. A commenter also asked what happens in “El Nin6*o*” years when significantly more rainfall than normal occurs. Another commenter also expressed concern that this waiver was not based on a measured water

quality impact, but instead on an indicator of potential impact. In response to the previous comments, EPA notes that, under CWA 402(p)(6), sources are designated on their potential for adverse impact. Designation under the section is prospective, not retrospective or remedial only. For that reason, the waivers under today's rule also operate prospectively. EPA wanted to waive requirements for sites with little ***68776** potential to impair water quality, and the R factor is the most straightforward way to do this. The permitting authority, if electing to use waivers, could always suspend the use of waivers in certain areas or during certain times. In addition, the permitting authority may choose to use a lower R factor threshold than the one set by EPA. Application of this waiver is at the discretion of the permitting authority, subject only to the limitation that R factors cannot exceed 5.

One commenter expressed the need for EPA to provide a justification for the threshold value used for the R factor. None of the commenters included any data to show that EPA's proposed R factor of 2 was either too high or too low. EPA is using the R factor as an indicator of the potential to impact water quality. In an effort to determine which R threshold should be used, EPA conducted additional analysis of the rainfall/runoff erosivity factor for 134 sites across the country. For an R factor threshold of 5, approximately 12% of sites would be waived if the project period lasted 6 months, 27% for 3 months, 47% for 1 month, and 60% of sites would be waived if the project lasted for only 15 days. None of the 134 sites would be waived if the project lasted an entire year. For an R factor threshold of 2, approximately 9% of sites would be waived if the project period lasted 6 months, 15% for 3 months, 31% for 1 month, and 43% for 15 days. For an R factor threshold of 10, approximately 22~~f sites would be waived if the project period lasted 6 months, 37% for 3 months, 60% for 1 month, and 78% for 15 days. EPA believes that an R factor of 5 is an adequate threshold to waive requirements for sites because they would not reasonably be expected to impair water quality.~~

EPA will develop, as part of the tool box described in section II.A.5, guidance materials and computer or web-accessible programs to assist permitting authorities and construction site discharges in determining if any resulting storm water discharges from specific projects are eligible for this waiver.

ii. Water Quality Waiver. The water quality waiver under § 122.26(b)(15)(i)(B) is available where storm water controls are not needed based on a comprehensive, location-specific evaluation of water quality needs. The waiver is available based on either an EPA-approved "total maximum daily load" (TMDL) under section 303(d) of the CWA that addresses the pollutant(s) of concern or, for sites discharging to non-impaired waters that do not require TMDLs, an equivalent analysis that has either determined allocations for small construction sites for the pollutant(s) of concern or determined that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The pollutants of concern that must be addressed include sediment or a parameter that addresses sediment (such as total suspended solids (TSS), turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the NPDES permitting authority that the construction activity will take place, and storm water discharges will occur, within the applicable drainage area evaluated in the TMDLs or equivalent analyses.

Today's rule modifies the approach in the proposed rule. EPA proposed to allow a waiver of permit requirements for small construction if storm water controls were determined to be unnecessary based on "wasteload allocations that are part of 'total maximum daily loads' (TMDLs) that address the pollutants of concern," or "a comprehensive watershed plan, implemented for the water body, that includes the equivalents of TMDLs, and addresses the pollutants of concern."

Commenters asked for clarification of the terms "comprehensive watershed plans" and "equivalent of TMDLs." EPA intended that both terms would include a comprehensive analysis that determines that controls on small construction sites are not needed based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. Today's rule makes this clarification.

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One commenter pointed out that there are no water quality standards for suspended solids, the major pollutant expected in discharges from construction activity. The commenter asserted that no waiver would ever be available. Another commenter noted that there are no sediment criteria developed for streams, also making this waiver useless. EPA notes that a number of States and Tribes have water quality standards that address TSS, which are narrative in form, and that may serve as a basis for water quality-based effluent limits. As efforts to identify impairments and improve water quality progress, some States may yet develop water quality standards for suspended solids. Although several TMDLs for sediment and related parameters have been established, EPA does recognize that currently it is extremely difficult to develop TMDLs for sediment. EPA is partially addressing this concern by clarifying in today's rule that the waivers may be based on a TMDL or equivalent analyses for sediment or one of the various pollutant parameters that are a proxy for sediment. These include TSS, turbidity and siltation.

Other commenters noted that this waiver was unattainable if a TMDL or equivalent analysis must be available for every pollutant that could possibly be present in any amount in discharges from small construction sites regardless of whether the pollutant is causing water quality impairment. Commenters asked that EPA identify what constitutes the "pollutants of concern" for which a TMDL or its equivalent must be developed. EPA has revised the proposed rule in response to these concerns.

In order for discharges from construction sites under five acres to qualify for the water quality waiver of today's rule, the construction site operator must demonstrate that storm water controls are not necessary for sediment or a parameter that addresses sediment (such as TSS, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. Even if the water body is not currently impaired for sediment, today's rule requires an analysis of the potential impacts of sediment because the storm water discharges from the construction activity will be a new source of loading to the water body that could constitute a new impairment. Because the water body will not necessarily have been included on a "303(d) list" and a TMDL will not necessarily be required, the rule continues to allow an analysis that is the equivalent of a TMDL. The designation of storm water discharges from small construction activity for regulation in today's rule is intended to control pollutants other than sediment. This waiver provision requires a TMDL or equivalent analysis for a pollutant other than gross particulates (i.e., sediment and other particulate-focused pollutant parameters) only if the receiving water is currently impaired for that pollutant.

One commenter expressed the concern that construction operators will not know if they are in a watershed covered by a TMDL. To the extent this is an operator's concern, he or she could contact their NPDES permitting ***68777** authority before applying for permit coverage to determine if receiving water is subject to a TMDL. Alternatively, the permitting authority could identify the TMDL (or equivalent analysis) areas in the general permit or another operator-accessible information source.

Another commenter expressed the concern that a TMDL waiver is likely to be ineffective because the TMDL list is submitted only once every 2 years. By the time a water is listed, the activity may have been completed and stabilized. The commenter argued that, if a watershed is impaired due to sediment from construction, then storm water controls will still be needed, because small construction can only be waived when it is not identified as a source of impairment. In response, EPA notes that an analysis that is the equivalent of a TMDL (specifically, equivalent to the component of a TMDL that comprehensively analyses existing ambient conditions against the applicable water quality standards) may also provide a basis for waiver from the default 1 acre designation. Also, even if a water has been identified as impaired for sediment, it is possible that a site or category of sites may receive an allocation that is sufficiently high enough to allow discharges without storm water controls.

c. Permit Process and Administration

The operator of the construction site, as with any operator of a point source discharge, is responsible for obtaining coverage under a NPDES permit as required by §122.21(b). The "operator" of the construction site, as explained in the

current NPDES construction general permit, is typically the party or parties that either individually or collectively meet the following two criteria: (1) Operational control over the site specifications, including the ability to make modifications in the specifications; and (2) day-to-day operational control of those activities at the site necessary to ensure compliance with permit conditions (63 FR 7859). If more than one party meets these criteria, then each party involved would typically be a co-permittee with any other operators. The operator could be the owner, the developer, the general contractor, or individual contractor. When responsibility for operational control is shared, all operators must apply.

In today's rule, EPA is not requiring an NOI for NPDES general permits for storm water discharges from construction activities regulated by §122.26(b)(15) if the NPDES permitting authority finds that the use of NOIs would be inappropriate (see §122.28(b)(2)(v)). Under this approach, the NPDES permitting authority will have the discretion to decide whether or not to require NOIs for discharges from construction activity less than 5 acres. Compared to the existing storm water regulation, the permitting authority thus has increased flexibility in program implementation. EPA does recommend the use of NOIs, however because NOIs track permit coverage and provide a useful information source to prioritize inspections or enforcement. Requiring an NOI allows for greater accountability by, and tracking of, dischargers. This simple permit application and reporting mechanism also allows for better outreach to the regulated community, uses an existing and familiar mechanism, and is consistent with the existing requirements for storm water discharges from larger construction activities. Today's rule does not amend the requirement for NOIs in general permits for storm water discharges from construction activity disturbing 5 acres for more. See §122.28(b)(2)(v).

EPA expects that the vast majority of discharges of storm water associated with small construction activity identified in §122.26(b)(15) will be regulated through general permits. In the event that an NPDES permitting authority decides to issue an individual construction permit, however, individual application requirements for these construction site discharges are found at § 122.26(c)(1)(ii). For any discharges of storm water associated with small construction activity identified in §122.26(b)(15) that are not authorized by a general permit, a permit application made pursuant to §122.26(c) must be submitted to the Director by 3 years and 90 days after publication of the final rule.

Some commenters expressed concern that linear construction projects (e.g., roads, highways, pipelines) that cross several jurisdictions will have to comply with multiple sets of requirements from various jurisdictions, including multiple local governments and States. EPA is limited in its options to address these concerns because the Agency cannot issue NPDES permits in States authorized to implement the NPDES program nor preempt other more stringent local and State requirements. EPA believes, however, that the option for incorporating by reference the State, Tribal or local requirements (see discussion in Section II.I.2.d., Cross-Referencing State/Local Erosion and Sediment Control Programs) should limit the administrative burden on the operator responsible for discharges from linear construction projects. If the operator were to implement the most comprehensive of the various requirements for the whole project, it could avoid confusion due to differing requirements for different sections of the project. In addition, linear utility projects, which usually have a shorter project period, are more likely to be eligible for the rainfall erosivity waiver.

One commenter stated there was no reason to delay the application period for regulated storm water discharges from small construction activities. The commenter requested that the newly regulated construction site discharges should be required to seek permit coverage within 90 days, as opposed to 3 years, of the effective date of the rule. The Agency does not accept this request. EPA anticipates that NPDES permitting authorities will need one to two years to develop adequate legal authority to implement a program to address this new category of discharges, as well as to develop and issue general permits. Moreover, to ensure effective implementation to protect water quality, regulatory authorities will need additional time to inform small construction site operators of requirements and provide guidance and training on these requirements.

Finally, EPA received a comment requesting that the three year file retention requirement be deleted for discharges from small construction sites. While EPA recognizes that the three year record retention schedule may be unnecessary for

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certain construction projects, the Agency has determined it is necessary to retain files after the completion of the project to ensure permit compliance, including applicable construction site stabilization enabling permit termination for such sites.

d. Cross-Referencing State, Tribal or Local Erosion and Sediment Control Programs

In developing the NPDES permit requirements for construction sites less than 5 acres, members of the Storm Water Phase II FACA Subcommittee asked EPA to try to minimize redundancy in the construction permit requirements. In response, today's rule at §122.44(s) provides for incorporation of qualifying State, Tribal or local erosion and sediment control program requirements by reference into the NPDES permit authorizing storm water discharges from construction sites (described under §§122.26(b)(15) and (b)(14)(x)). The incorporation by reference approach applies not only to the newly regulated storm water discharges (from construction activity disturbing between 1 and 5 acres, including designated sites, but ***68778** excluding waived sites) but also to discharges from construction activity disturbing 5 or more acres already covered by the existing storm water regulations. For this latter category of discharges from construction activity disturbing 5 or more acres, the incorporation by reference approach requires that the pollutant control requirements from the incorporated program also satisfy the statutory standard for limitations representing application of the best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT).

For permits issued for discharges from small construction activity defined under §122.26(b)(15), a qualifying State, Tribal, or local erosion and sediment control program is one that includes the program elements described under § 122.44(s)(1). These elements include requirements for construction site operators to implement appropriate erosion and sediment control BMPs, requirements to control waste, a requirement to develop a storm water pollution prevention plan, and requirements to submit a site plan for review. A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges. The construction site's permit would require it to follow the requirements of the qualifying local program rather than require it to follow two different sets of requirements. If a partially-qualifying program does not have all of the elements described under §122.44(s)(1), then the NPDES permitting authority may still incorporate language in the small construction site discharge's permit that requires the construction site operator to follow the program, but the construction site discharge permit also must incorporate the missing required elements in order to satisfy CWA requirements.

The term “local” refers to the geographic area of applicability, not the form of government that develops and administers the program. Thus, a qualifying federal erosion and control program, such as certain programs developed and administered by the federal Bureau of Land Management, could be a qualifying local program.

As a result of this provision, local requirements will, in effect, provide the substantive construction site erosion and sediment control requirements for the NPDES permit authorization. Therefore, by following one set of erosion and sediment control requirements, construction site operators satisfy both local and NPDES permit requirements without duplicative effort. At the same time, noncompliance with the referenced local requirements will be considered noncompliance with the NPDES permit which is federally enforceable. The NPDES permitting authority will, of course, retain the discretion to decide whether to include the alternative requirements in the general permit. EPA believes that this approach will best balance the need for consideration of specific local requirements and local implementation with the need for federal and citizen oversight, and will extend supplemental NPDES requirements to control storm water discharges from construction sites.

EPA developed the “incorporation by reference” approach based on implementation efforts designed by the State of Michigan. Michigan relies on localities to develop substantive controls for storm water discharges associated with construction activities on a localized basis. Localities, however, are not required to do so. In areas where the local authority does not choose to participate, the State administers the sedimentation and erosion control requirements. The State agency, as the NPDES permitting authority, receives an NOI (termed “notice of coverage” by Michigan) under the general permit and tracks and exercises oversight, as appropriate, over the activity causing the storm water discharge.

Michigan's goal under these procedures is to utilize the existing erosion and sediment control program infrastructure authorized under State law for storm water discharge regulation. (See U.S. Environmental Protection Agency, Office of Water. January 7, 1994. Memo: From Michael B. Cook, Director OWEC, to Water Management Division Directors, Regarding the "Approach Taken by Michigan to Regulate Storm Water Discharges from Construction Activities.")

Most commenters supported the general concept of incorporating by reference qualifying programs. Two commenters expressed concern that different local construction requirements will create an impossible regulatory scheme for builders who work in different localities. EPA believes that allowing States to incorporate qualifying programs by reference will minimize the differences for builders who work in different areas of the State. These differences already exist, however, not only for erosion and sediment controls, but also other aspects of construction. In any event, the criteria for qualification for localized programs should provide a certain degree of standardization for various localities' requirements. EPA expects that the new rule for construction and post-construction BMPs being developed under CWA section 304(m) will also encourage standardization of local requirements. (See discussion of this new rulemaking in section II.D.1, Federal Role of this preamble).

Two commenters requested that an "incorporation by reference" should include permission, in writing, from the qualifying local program administrator because of a perceived extra burden on the referenced program. Any program requirements incorporated by reference in NPDES permits should already apply to construction site dischargers in the applicable area and therefore should not add any additional burden to the referenced program. EPA has left to the discretion of the permitting authority the decision on whether to seek permission from the qualifying program before cross-referencing it in an NPDES permit.

One commenter stated that a qualifying local program should require a SWPPP. The proposed rule defined the qualifying local program as a program the meets the minimum program requirements established in the proposed construction minimum control measure for small MS4s. To ensure consistency in the controls for storm water discharges between the larger, already regulated construction sites and the discharges from smaller sites that will be regulated as a result of today's rule, EPA has made a change to define a qualifying local program as one that includes the elements described in §122.44(s)(1). Section 122.44(s)(1) requires the development and implementation of a storm water pollution prevention plan as a criterion for qualification of local programs for incorporation by reference. As noted above, if a qualifying program does not include all the elements in §122.44(s)(1) then the permitting authority will need to specify the missing elements in order to rely on the incorporation by reference approach.

One commenter asked what happens in regard to the use of qualifying programs when a construction site operator is also the qualifying local program operator. The provision for incorporation by reference applies in this situation also. The local program operator will be required to comply with requirements it has established for others. ***68779**

e. Alternative Approaches

EPA received a number of comments on alternative permitting approaches. Several commenters supported regulating discharges only from those construction sites within urbanized areas. Other commenters opposed this approach. EPA chose to address storm water discharges from construction sites located both within and outside urbanized areas because of the potential for adverse water quality impact from storm water discharges from smaller sites in all areas. Regulating only those sites within urbanized areas would have excluded a large number of potential contributors to water quality impairment and would not address large areas of new development occurring on the outer fringes of urbanized areas. In fact, designating only small construction discharges within urbanized areas might create a perverse incentive for building only outside urbanized areas. Such an incentive would be inconsistent with the Agency's intention behind designating to protect water quality. The Agency intends that designation to protect water quality in today's rule should be both remedial and preventive.

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A number of commenters encouraged EPA to cover municipal construction activities under the small MS4 general permit, instead of issuing a separate NPDES construction permit to these municipal construction projects. Similarly, a number of commenters supported EPA giving industrial facilities the option of having storm water from construction activities on the site covered by the industrial storm water permit. Several other commenters found that combining multiple permit types under one general permit introduced a degree of complexity which was confusing to permittees. Permitting authorities have the option of combining MS4 and construction permits or industrial and construction permits, however, specific requirements for each would still need to be included in the permit issued. EPA agrees that this would probably result in a more complex and confusing permit compared to the existing component permits.

Several commenters supported an alternative for regulated small MS4s where a local qualified program alone, without an NPDES permit, is sufficient to enforce compliance with construction site discharge requirements. On the other hand, one commenter stated that linking the local construction erosion and sediment control program to the existing NPDES program for storm water from larger construction has driven improvements in many local programs. Another commenter stated that the potential fines under the NPDES program will encourage compliance and will be much stronger than any fines a local program may have. EPA agrees that the NPDES program is the best approach to address water quality impacts from construction sites and provides benefits such as accountability and federal enforcement.

A number of commenters supported issuing one permit for each construction company, instead of a permit for each individual construction activity (also requested for storm water discharges from the larger, already regulated construction sites). Other commenters found that a 'licensing' program for construction site operators would have many problems, including identifying who to permit and tracking information on active sites. EPA is regulating only the storm water discharges associated with construction activity from small sites, not the construction activity itself. Separate NPDES permits (either individual or general permit coverage) for construction site discharges avoid potential problems in tracking sites and operator accountability. Section 122.28(b)(2)(v) gives permitting authorities the option to issue a general permit without requiring an NOI. If an NOI is not required for each activity, permitting authorities could pursue other options such as a company-wide NOI, license instead of an NOI, or another mechanism.

2. Other Sources

In the Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program, Report to Congress, March 1995, ("Report") submitted by EPA pursuant to CWA section 402(p)(5), EPA examined the remaining unregulated point sources of storm water for the potential to adversely affect water quality. Due to very limited national data on which to estimate pollutant loadings on the basis of discharge categories, the discussion of the extent of unregulated storm water discharges is limited to an analysis of the number and geographic distribution of the unregulated storm water discharges. Therefore, EPA is not designating any additional unregulated point sources of storm water on a nationwide, categorical basis. Instead, the remainder of the sources will be regulated based on case-by-case post-promulgation designations by the NPDES permitting authority.

EPA did, however, evaluate a variety of categories of discharges for potential designation in the Report. EPA's efforts to identify sources and categories of unregulated storm water discharges for potential designation for regulation in today's rule started with an examination of approximately 7.7 million commercial, retail, industrial, and institutional facilities identified as "unregulated." In general, the distribution of these facilities follows the distribution of population, with a large percentage of facilities concentrated within urbanized areas (see page 4-35 of the Report). This examination resulted in identification of two general classes of facilities with the potential for discharging pollutants to waters of the United States through storm water point sources.

The first group (Group A) included sources that are very similar, or identical, to regulated "storm water discharges associated with industrial activity" but that were not included in the existing storm water regulations because EPA used SIC codes in defining the universe of regulated industrial activities. By relying on SIC codes, a classification system created to identify industries rather than environmental impacts from these industries discharges, some types of storm

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water discharges that might otherwise be considered "industrial" were not included in the existing NPDES storm water program. The second general class of facilities (Group B) was identified on the basis of potential for activities and pollutants that could contribute to storm water contamination.

EPA estimates that Group A has approximately 100,000 facilities. Discharges from facilities in this group, which may be of high priority due to their similarity to regulated storm water discharges from industrial facilities, include, for example, auxiliary facilities or secondary activities (e.g., maintenance of construction equipment and vehicles, local trucking for an unregulated facility such as a grocery store) and facilities intentionally omitted from existing storm water regulations (e.g., publicly owned treatment works with a design flow of less than 1 million gallons per day, landfills that have not received industrial waste).

Group B consists of nearly one million facilities. EPA organized Group B sources into 18 sectors for the purposes of the Report. The automobile service sector (e.g., gas/service stations, general automobile repair, new and used car dealerships, car and truck rental) makes up more than one-third of the total number of facilities identified in all 18 sectors.

EPA conducted a geographical analysis of the industrial and commercial facilities in Groups A and ***68780** B. The geographical analysis shows that the majority are located in urbanized areas (see Section 4.2.2, Geographic Extent of Facilities, in the Report). In general, about 61 percent of Group A facilities and 56 percent of Group B facilities are located in urbanized areas. The analysis also showed that nearly twice as many industrial facilities are found in all urbanized areas as are found in large and medium municipalities alone. Notable exceptions to this generalization included lawn/garden establishments, small unregulated animal feedlots, wholesale livestock, farm and garden machinery repair, bulk petroleum wholesale, farm supplies, lumber and building materials, agricultural chemical dealers, and petroleum pipelines, which can frequently be located in smaller municipalities or rural areas.

In identifying potential categories of sources for designation in today's notice, EPA considered designation of discharges from Group A and Group B facilities. EPA applied three criteria to each potential category in both groups to determine the need for designation: (1) The likelihood for exposure of pollutant sources included in that category, (2) whether such sources were adequately addressed by other environmental programs, and (3) whether sufficient data were available at this time on which to make a determination of potential adverse water quality impacts for the category of sources. As discussed previously, EPA searched for applicable nationwide data on the water quality impacts of such categories of facilities.

By application of the first criterion, the likelihood for exposure, EPA considered the nature of potential pollutant sources in exposed portions of such sites. As precipitation contacts industrial materials or activities, the resultant runoff is likely to mobilize and become contaminated by pollutants. As the size of these exposed areas increases, EPA expects a proportional increase in the pollutant loadings leaving the site. If EPA concluded that a category of sources has a high potential for exposure of raw materials, intermediate products, final products, waste materials, byproducts, industrial machinery, or industrial activity to rainfall, the Agency rated that category of sources as having "high" potential for adverse water quality impact. EPA's application of the first criterion showed that a number of Group A and B sources have a high likelihood of exposure of pollutants.

Through application of the second criterion, EPA assessed the likelihood that pollutant sources are regulated in a comprehensive fashion under other environmental protection programs, such as programs under the Resource Conservation and Recovery Act (RCRA) or the Occupational Health and Safety Act (OSHA). If EPA concluded that the category of sources was sufficiently addressed under another program, the Agency rated that source category as having "low" potential for adverse water quality impact. Application of the second criterion showed that some categories were likely to be adequately addressed by other programs.

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After application of the third criterion, availability of nationwide data on the various storm water discharge categories, EPA concluded that available data would not support any such nationwide designations. While such data could exist on a regional or local basis, EPA believes that permitting authorities should have flexibility to regulate only those categories of sources contributing to localized water quality impairments.

EPA received comments requesting designation of additional industrial, commercial and retail sources (e.g. industrial activity "look-alikes", roads, commercial facilities and institutions, and vehicle maintenance facilities) in the final rule, because the commenters believe that the data exist to support national designation of some of these sources. Other comments were received opposing designation of any additional sources. Today's rule does not designate any additional industrial or commercial category of sources either because EPA currently lacks information indicating a consistent potential for adverse water quality impact or because of EPA's belief that the likelihood of adverse impacts on water quality is low, with some possible exceptions on a more local basis. Since the time the Agency submitted the Report, EPA has continued to seek additional data and has requested available data from the FACA members. If sufficient regional or nationwide data become available in the future, the permitting authority could at that time designate a category of sources or individual sources on a case-by-case basis. Therefore, today's rule encourages control of storm water discharges from Groups A and B through self-initiated, voluntary BMPs, unless the discharge (or category of discharges) is designated for permitting by the permitting authority. See discussion in section I.D., EPA's Reports to Congress.

3. ISTEA Sources

Provisions within the Intermodal Surface Transportation and Efficiency Act (ISTEA) of 1991 temporarily exempted storm water discharges associated with industrial activity that are owned or operated by municipalities serving populations less than 100,000 people (except for airports, power plants, and uncontrolled sanitary landfills) from the need to apply for or obtain a storm water discharge permit (section 1068(c) of ISTEA). Congress extended the NPDES permitting moratorium for these facilities to allow small municipalities additional time to comply with NPDES requirements for certain sources of industrial storm water. The August 7, 1995 storm water final rule (60 FR 40230) further extended this moratorium until August 7, 2001. However, today's rule changes this deadline so that previously exempted industrial facilities owned or operated by municipalities serving populations less than 100,000 people, must now submit an application for a permit within 3 years and 90 days from date of publication of today's rule.

EPA received comments recommending that permit requirements for municipally owned or operated industrial storm water discharges, including those previously exempt under ISTEA, be included in a single NPDES permit for all MS4 storm water discharges. The existing NPDES regulations already provide permitting authorities the ability to issue a single "combination" permit for MS4 discharges. However, if the permitting authorities chose to issue this type of permit, they must make sure that in doing so, they are not creating a double standard for industrial facilities covered under the combination permit versus those covered under separate general or individual permits. In order to avoid this double standard, combination permits would have to contain requirements that are the same or very similar to the requirements found in separate MS4 and industrial permits, i.e., the minimum measures and other necessary requirements of an MS4 permit, and the SWPPP, monitoring and reporting requirements, and other necessary requirements of an industrial permit. If such a combined MS4 general permit were issued, the regulations require that each discharger submit NOIs for their respective discharges, except for discharges from small construction activities. Flexibility exists in developing a combination NOI which could reduce the need to submit duplicative information, e.g. owner/operator name and address. The combination NOI would still need to require specific information for each separate municipally owned or operated industrial location, including ***68781** construction projects disturbing 5 or more acres. The regulations at §122.28(b)(2)(ii) list the necessary contents of an NOI, which require: the facility name, facility address, type of facility or discharge and receiving stream for each industrial discharge location. When viewed in its entirety, a combination permit, which by necessity would need to contain all elements of otherwise separate industrial and MS4 permit requirements, and require NOI information for each separate industrial activity, may have few advantages when compared to obtaining separate MS4 and industrial general permit coverage.

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In order to allow the permitting authority to issue a single storm water permit for the MS4 and all municipally owned or operated industrial facilities, including those previously exempt under ISTEA, today's rule requires applications for ISTEA sources within 3 yrs and 90 days from date of publication of today's rule. The permitting authority has the ultimate decision to determine whether or not a single all-encompassing MS4 permit is appropriate.

4. Residual Designation Authority

The NPDES permitting authority's existing designation authority, as well as the petition provisions are being retained. Today's rule contains two provisions related to designation authority at §§122.26(a)(9)(i)(C) and (D). Subsection (C) adds designation authority where storm water controls are needed for the discharge based upon wasteload allocations that are part of TMDLs that address the pollutant(s) of concern. EPA intends that the NPDES permitting authority have discretion in the matter of designations based on TMDLs under subsection (C). Subsection (D) carries forward residual designation authority under former §122.26(g), and has been modified to provide clarification on categorical designation. Under today's rule, EPA and authorized States continue to exercise the authority to designate remaining unregulated discharges composed entirely of storm water for regulation on a case-by-case basis (including §123.35). Individual sources are subject to regulation if EPA or the State, as the case may be, determines that the storm water discharge from the source contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This standard is based on the text of section CWA 402(p). In today's rule, EPA believes, as Congress did in drafting section CWA 402(p)(2)(E), that individual instances of storm water discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today's rule preserves the regulatory authority to subsequently address a source (or category of sources) of storm water discharges of concern on a localized or regional basis. For example, as States and EPA implement TMDLs, permitting authorities may need to designate some point source discharges of storm water on a categorical basis either locally or regionally in order to assure progress toward compliance with water quality standards in the watershed.

EPA received comments asking that §122.26(a)(9)(i)(D) as proposed be modified to include specific language clarifying the permitting authority's ability to designate additional sources on a categorical basis as explained in the preamble to the proposed rule. One comment requested that the designation language include “categories of sources on a Statewide basis.” EPA agrees that the intent of the language may not have been clear regarding categorical designation. Today's rule modifies subsection (D) to clarify that the designation authority can be applied within different geographic areas to any single discharge (i.e., a specific facility), or category of discharges that are contributing to a violation of a water quality standard or are significant contributors of pollutants to waters of the United States. The added term “within a geographic area” allows “State-wide” or “watershed-wide” designation within the meaning of the terms.

One commenter questioned the Agency's legal authority to provide for such residual designation authority. The stakeholder argued that the lapse of the October 1, 1994, permitting moratorium under CWA section 402(p)(1) eliminated the significance of the CWA section 402(p)(2) exceptions to the moratorium, including the exception for discharges of storm water determined to be contributing to a violation of a water quality standard or a significant contributor of pollutants under CWA section 402(p)(2)(E). The stakeholder further argued that EPA's authority to designate sources for regulation under CWA section 402(p)(6) is limited to storm water discharges other than those described under CWA section 402(p)(2). Because CWA section 402(p)(2)(E) describes individually designated discharges, the stakeholder concluded that regulations under CWA section 402(p)(6) cannot provide for post-promulgation designation of individual sources. EPA disagrees.

First, as explained previously, EPA anticipates that NPDES permitting authorities may yet determine that individual unregulated point sources of storm water discharges require regulation on a case-by-case basis. This conclusion is consistent with the Congress' recognition of the potential need for such designation under the first phase of storm water regulation as described in CWA section 402(p)(2)(E). Under CWA section 402(p)(2)(E), Congress recognized the need for both EPA and the State to retain authority to regulate unregulated point sources of storm water under the NPDES permit program. Second, to the extent that CWA section 402(p)(6) requires designation of a “category” of sources,

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the permitting authority may designate such (as yet unidentified) sources as a category that should be regulated to protect water quality. Though such sources may exist and discharge today, if neither EPA nor the State/Tribal NPDES permitting authority has designated the source for regulation under CWA section 402(p)(2)(E) to date, then CWA section 402(p)(6) provides the authority to designate such sources.

The Agency can designate a category of "not yet identified" sources to be regulated, based on local concerns, even if data do not exist to support nationwide regulation of such sources. EPA does not interpret the language in CWA section 402(p) to preclude States from exercising designation authority under these provisions because such designation (and subsequent regulation of designated sources) is within the "scope" of the NPDES program.

EPA also believes that sources regulated pursuant to a State designation are part of (and regulated under) a federally approved State NPDES program, and thus subject to enforcement under CWA sections 309 and 505. Under existing NPDES State program regulations, State programs that are "greater in scope of coverage" are not part of the federally-approved program. By contrast, any such State regulation of sources in this "reserved category" will be within the scope of the federal program because today's rule recognizes the need for such post promulgation designations of unregulated point sources of storm water. Such regulation will be "more stringent" than the federal program rather than "greater in scope of coverage" (40 CFR 123.1(h)).

EPA does not interpret the congressional direction in CWA section 402(p)(6) to preclude regulation of point sources of storm water that should be regulated to protect water quality. Under CWA section 510, Congress expressly recognized and preserved the authority of States to adopt and enforce ***68782** more stringent regulation of point sources, as well as any requirement respecting the control or abatement of pollution. Section 510 applies, "except as expressly provided" in the CWA. CWA section 502(14) does expressly provide affirmative limitations on the regulation of certain pollutant sources through the point source control program, the NPDES permitting program. Section 502(14) excludes agricultural storm water and return flows from irrigated agriculture from the definition of point source, and section 402(l) limits applicability of the section 402 permit program for return flows from irrigated agriculture, as well as for storm water runoff from certain oil, gas, and mining operations. Unlike sections 502(14) and 402(l), EPA does not interpret CWA section 402(p)(6) as an express provision limiting the authority to designate point sources of storm water for regulation on a case-by-case basis after the promulgation of final regulations. Any source of storm water discharge is encouraged to assess its potential for storm water contamination and take preventive measures against contamination. Such proactive actions could result in the avoidance of future regulation.

One comment was received requesting clarification of the term "non-municipal" in §122.26(a)(9)(ii). The commenter is concerned that the term "non-municipal," in this context, implies that municipally owned or operated facilities cannot be designated. The term "non-municipal" in this context refers to the universe of unregulated industrial and commercial facilities that could potentially be designated according to §122.26(a)(9)(i) authority. There is no exemption for municipally owned or operated facilities under these designation provisions.

Finally, EPA received comments and evaluated the proposal under which operators of regulated small, medium, and large MS4s would be responsible for controlling discharges from industrial and other facilities into their systems in lieu of requiring NPDES permit coverage for such facilities. EPA did not adopt this framework due to concerns with administrative and technical burden on the MS4 operators, as well as concerns about such an intergovernmental mandate.

J. Conditional Exclusion for "No Exposure" of Industrial Activities and Materials to Storm Water

1. Background

In 1992, the Ninth Circuit court remanded to EPA for further rulemaking, a portion of the definition of "storm water discharge associated with industrial activity" that excluded the category of industrial activity identified as "light industry"

when industrial materials and/or activities were not exposed to storm water. See NRDC v. EPA, 966 F.2d 1292, 1305 (9th Cir. 1992). Today's final rule responds to that remand. In the 1990 storm water regulations, EPA excluded the light industry category from the requirement for an NPDES permit if the industrial materials and/or activities were not "exposed" to storm water (see §122.26(b)(14)). The Agency had reasoned that most of the activity at these types of facilities takes place indoors and that emissions from stacks, use of unhoused manufacturing equipment, outside material storage or disposal, and generation of large amounts of dust or particles would be atypical (55 FR 48008, November 16, 1990).

The Ninth Circuit determined that the exemption was arbitrary and capricious for two reasons. First, the court found that EPA had not established a record to support its assumption that light industry that was not exposed to storm water was not "associated with industrial activity," particularly when other types of industrial activity not exposed to storm water remained "associated with industrial activity." The court specifically found that "[t]o exempt these industries from the normal permitting process based on an unsubstantiated assumption about this group of facilities is arbitrary and capricious." Second, the court concluded that the exemption impermissibly "altered the statutory scheme" for permitting because the exemption relied on the unverified judgment of the light industrial facility operator to determine non-applicability of the permit application requirements. In other words, the court was critical that the operator would determine for itself that there was "no exposure" and then simply not apply for a permit without any further action. Without a basis for ensuring the effective operation of the permitting scheme—either that facilities would self-report actual exposure or that EPA would be required to inspect and monitor such facilities—the court vacated and remanded the rule to EPA for further rulemaking.

One of the major concerns expressed by the FACA Committee, was that EPA streamline and reinvent certain troublesome or problematic aspects of the existing permitting program for storm water discharges. One area identified was the mandatory applicability of the permitting program to all industrial facilities, even those "light industrial" activities that are of very low risk or of no risk to storm water contamination. Such dischargers may not have any industrial sources of storm water contamination on the plant site, yet they are still required to apply for an NPDES storm water permit and meet all permitting requirements. Examples of such facilities are a soap manufacturing plant (SIC Code 28) or hazardous waste treatment and disposal facility, where all industrial activities, even loading docks, are inside a building or under a roof.

Although they did not provide a written report, the FACA Committee members advised EPA that the existing storm water program should be revised to allow such facilities to seek an exclusion from the NPDES storm water permitting requirements. The Committee agreed that such an exclusion should also provide a strong incentive for other industrial facilities that conduct industrial activities outdoors to move the activities under cover or into buildings to prevent contamination of rainfall and storm water runoff. The committee believed that such a "no exposure" permit exclusion could be a valuable incentive for storm water pollution prevention.

In today's final rule, the Agency responds to both of the bases for the court's remand. The exclusion from permitting based on "no exposure" applies to all industrial categories listed in the existing storm water regulations except construction. The court's opinion rejected EPA's distinction between light industry and other industry, but it did not preclude an interpretation that treats all "non-exposed" industrial facilities in the same fashion. Presuming that an industrial facility adequately prevents exposure of industrial materials and activities to storm water, today's rule treats discharges from "non-exposed" industrial facilities in a manner similar to the way Congress intended for discharges from administrative buildings and parking lots. Specifically, permits will not be required for storm water discharges from these facilities on a categorical basis.

To assure that discharges from industrial facilities really are similar to discharges from administrative buildings and parking lots, and to respond to the second basis for the court's remand, the permitting exclusion is "conditional". The person responsible for a point source discharge from a "no exposure" industrial source must meet the conditions of

the exclusion, and complete, sign and submit the certification to the permitting authority for tracking and ***68783** accountability purposes. EPA believes today's rule, therefore, is fully consistent with the direction provided by the court.

EPA relied upon the "no exposure" concept discussed by the FACA Committee in developing the "no exposure" provisions of today's rule. EPA is deleting the sentence regarding "no exposure" for the facilities in §122.26(b)(14)(xi) and adding a new §122.26(g) titled "Conditional Exclusion for No Exposure of Industrial Activities to Storm Water." The "no exposure" provision will make storm water discharges from all classes of industrial facilities eligible for exclusion, except storm water discharges from regulated construction activities. Regulated construction activities cannot claim "no exposure" because the main pollutants of concern (e.g., sediment) generally cannot entirely be sheltered from storm water.

Today's rule represents a significant expansion in the scope of the "no exposure" provision originally promulgated in the 1990 rule, which was only for storm water discharges from light industry. The intent of today's "no exposure" provision is to provide a simplified method for complying with the CWA to all industrial facilities that are entirely indoors. This includes facilities that are located within a large office building, or at which the only items permanently exposed to precipitation are roofs, parking lots, vegetated areas, and other non-industrial areas or activities.

EPA received several comments related to storm water runoff from parking lots, roof tops, lawns, and other non-industrial areas of an industrial facility. Storm water discharges from these areas, which may contain pollutants or which may result in additional storm water flows, are not directly regulated under the existing storm water permitting program because they are not "storm water discharges associated with industrial activity". Many comments on this issue supported maintaining the exclusion from the existing regulations for storm water permitting for discharges from administrative buildings, parking lots, and other non-industrial areas. Other comments opposed allowing the continued exclusion for discharges from non-industrial areas of the site because discharges from these areas are potentially a significant cause of receiving water impairment. These comments urged that such discharges should not be excluded from NPDES permit coverage. Today's rule does not require permit coverage for discharges from a facility's exposed areas that are separate from industrial activities such as runoff from office buildings and accompanying parking lots, lawns and other non-industrial areas. This approach is consistent with the existing storm water rules which were based on Congress's intent to exclude non-industrial areas such as "parking lots and administrative and employee buildings." 133 Cong. Rec. 985 (1987). EPA also lacks data indicating that discharges from these areas at an industrial facility cause significant receiving water impairments. Therefore, the non-industrial areas at a facility do not need to be assessed as part of the "no exposure" certification.

EPA received comments related to industrial facilities that achieve "no exposure" by constructing large amounts of impervious surfaces, such as roofs, where previously there were pervious or porous surfaces into which storm water could infiltrate. Some commenters made the point that large amounts of impervious area may cause a significant increase in storm water volume flowing off the industrial facility, and thus may cause adverse receiving water impacts simply due to the increased quantity of storm water flow. Some commenters said that storm water discharges from impervious areas at an industrial facility are generally more frequent, and often larger, than discharges from the pre-existing natural surfaces. They believe that these discharges will contain pollutants typical of commercial areas and roads and are an equal threat to direct human uses of the water and can cause equal damage to aquatic life and its habitat. Other commenters believe that if Congress or EPA addresses the issue of flow, it should be addressed on a broader scale than merely through the "no exposure" exclusion, and that EPA has no authority under any existing legal framework to regulate flow directly. Some commenters stated that developing federal parameters for the control of water quantity, i.e. flow, would result in federal intrusion into land use planning, an authority that they claim is solely within the purview of State governments and their political subdivisions.

EPA is not attempting to regulate flow via the "no exposure" provisions. EPA does agree, however, that increases in impervious surfaces can result in increased runoff volumes from the site which in turn may increase pollutant loading. In

addition, the Agency notes that in some States water quality standards include water quality criteria for flow or turbidity. Therefore, in order to provide a minimal amount of information on possible impacts from increased pollutant loading and runoff volume, EPA's "no exposure" certification form (see Appendix 4) asks the discharger to indicate if they have paved or roofed over a formerly exposed, pervious area in order to qualify for the "no exposure" exclusion. If the answer is yes, the discharger must indicate, by choosing from three possible responses, approximately how much impervious area was created to achieve "no exposure". The choices are: (1) less than 1 acre, (2) 1 to 5 acres, and (3) more than 5 acres. This requirement provides additional information that will aid in determining if discharges from the facility are causing adverse receiving water impacts. EPA intends to prevent water quality impacts resulting from increased discharges of pollutants, which may result from increased volume of runoff. In many cases, consideration of the increased flow rate, velocity and energy of storm water discharges, following construction of large amounts of impervious surfaces, must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards and to prevent degradation of receiving streams. EPA recommends that dischargers consider these factors when making modifications to their site in order to qualify for the "no exposure" exclusion.

2. Today's Rule

In order to claim relief under the "no exposure" provision, the discharger of an otherwise regulated facility must submit a no exposure certification that incorporates the questions of §122.26(g)(4)(iii) to the NPDES permitting authority once every 5 years. This provision applies across all categories of industrial activity covered by the existing program, except discharges from construction activities.

In addition to submitting a "no exposure" certification every 5 years, the facility must allow the NPDES permitting authority or operator of an MS4 (where there is a storm water discharge to the MS4) to inspect the facility and to make such inspection reports publicly available upon request. Also, upon request, the facility must submit a copy of the "no exposure" certification to the operator of the MS4 into which the facility discharges (if applicable). All "no exposure" certifications must be signed in accordance with the signatory requirements of §122.22. The "no exposure" certification is non-transferable. In the event that the facility operator changes, the new discharger must submit a new "no exposure" certification. ***68784**

Members of the FACA Committee urged that EPA not allow dischargers certifying "no exposure" to take actions to qualify for this provision that result in a net environmental detriment. In developing a regulatory implementation mechanism, however, EPA found that the phrase "no net environmental detriment," was too imprecise to use within this context. Therefore, today's rule addresses this issue by requiring information that should help the permitting authority to determine whether actions taken to qualify for the exclusion interfere with the attainment or maintenance of water quality standards, including designated uses. Permitting authorities will be able, where necessary, to make a determination by evaluating the activities that changed at the industrial site to achieve "no exposure", and assess whether these changes cause an adverse impact on, or have the reasonable potential to cause an instream excursion of, water quality standards, including designated uses. EPA anticipates that many efforts to achieve "no exposure" will employ simple good housekeeping and contaminant cleanup activities. Other efforts may involve moving materials and industrial activities indoors into existing buildings or structures.

In very limited cases, industrial operators may make major changes at a site to achieve "no exposure". These efforts may include constructing a new building or cover to eliminate exposure or constructing structures to prevent run-on and storm water contact with industrial materials or activities. Where major changes to achieve "no exposure" increase the impervious area of the site, the facility operator must provide this information on the "no exposure" certification form as discussed above. Using this and other available data and information, permitting authorities should be able to assess whether any major change has resulted in increased pollutant concentrations or loadings, toxicity of the storm water runoff, or a change in natural hydrological patterns that would interfere with the attainment and maintenance of water quality standards, including designated uses or appropriate narrative, chemical, biological, or habitat criteria where such State or Tribal water quality standards exist. In these instances, the facility operator and their NPDES permitting

authority should take appropriate actions to ensure that attainment or maintenance of water quality standards can be achieved. The NPDES permitting authority should decide if the facility must obtain coverage under an individual or general permit to ensure that appropriate actions are taken to address adverse water quality impacts.

While the intent of today's "no exposure" provision is to reduce the regulatory burdens on industrial facilities and government agencies, the FACA Committee suggested that the NPDES permitting authority consider a compliance assessment program to ensure that facilities that have availed themselves of this "no exposure" option meet the applicable requirements. Inspections could be conducted at the discretion of the NPDES authority and be coordinated with other facility inspections. EPA expects, however, that the permitting authority will conduct inspections when it becomes aware of potential water quality impacts possibly caused by the facility's storm water discharges or when requested to do so by adversely affected members of the public. The intent of this provision is that the 5 year "no exposure" certification be fully available to, and enforceable by, appropriate federal and State authorities under the CWA. Private citizens can enforce against facilities for discharges of storm water that are inconsistent with a "no exposure" certification if storm water discharges from such facilities are not otherwise permitted and in compliance with applicable requirements.

EPA received comments from owners, operators and representatives of Phase I facilities classified as "light industry" as defined by the regulations at § 122.26(b)(14)(xi). The comments recommended maintaining the approach of the existing regulations which does not require the discharger to submit any supporting documentation to the permitting authority in order to claim the "no exposure" exclusion from permitting. As discussed previously, the "no exposure" concept was developed in response to the Ninth Circuit court's remand of part of the existing rules back to EPA. The court found that EPA cannot rely on the "unverified judgment" of the facility. The comments opposing documentation did not address the "unverified judgment" concern.

Today's rule is a "conditional" exclusion from permitting which requires all categories, including the "light industrial" facilities that have no exposure of materials to storm water, to submit a certification to the permitting authority. Upon receipt of a complete certification, the permitting authority can review the information, or call, or inspect the facility if there are doubts about the facility's "no exposure" claim. Also, if the facility discharges into an MS4, the operator of the MS4 can request a copy of the certification, and can inspect the facility. The public can request a copy of the certification and/or inspection reports. In adopting these conditional "no exposure" provisions, the Agency addressed the Ninth Circuit court's ruling regarding the discharger's unverified judgment.

EPA received one comment requesting clarification on whether the anti-backsliding provisions in the regulations at §122.44(l) apply to industrial facilities that are currently covered under an NPDES storm water permit, and whether such facilities could qualify for the "no exposure" exclusion under today's rule. The anti-backsliding provisions will not prevent most industrial facilities that can certify "no exposure" under today's rule from qualifying for an exclusion from permitting. The anti-backsliding provisions contain 5 exceptions that allow permits to be renewed, reissued or modified with less stringent conditions. One exception at §122.44(l)(2)(A) allows less stringent conditions if "material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation." Section 122.44(l)(B)(1) also allows less stringent requirements if "information is available which was not available at the time of permit issuance and which would have justified the application of less stringent effluent limitations at the time of permit issuance." Facility's operators who certify "no exposure" and submit the required information once every 5 years will have provided the permitting authority "information that was not available at the time of permit issuance." Also, some facilities may, in order to achieve "no exposure", make "material and substantial alterations or additions to the permitted facility." Therefore, most facilities covered under existing NPDES general permits for storm water (e.g., EPA's Multi-Sector General Permit) will be eligible for the conditional "no exposure" exclusion from permitting without concern about the anti-backsliding provisions. Such dischargers will have met one or both of the anti-backsliding exceptions detailed above. Facilities that are covered under individual permits containing numeric limitations for storm water should consult with their permitting authority to determine whether the

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anti-backsliding provisions will prevent them from qualifying for the exclusion from permitting (for that discharge point) based on a certification of "no exposure".

***68785** EPA received several comments regarding the timing of when the "no exposure" certification should be submitted. The proposed rule said that the "no exposure" certification notice must be submitted "at the beginning of each permit term or prior to commencing discharges during a permit term." Some commenters interpreted this statement to mean that existing facilities can only submit the certification at the time a permit is being issued or renewed. EPA intended the phrase "at the beginning of each permit term" to mean "once every 5 years" and today's rule reflects this clarification. EPA envisions that the NPDES storm water program will be implemented primarily through general permits which are issued for a 5 year term. Likewise the "no exposure" certification term is 5 years. The NPDES permitting authority will maintain a simple registration list that should impose only a minor administrative burden on the permitting authority. The registration list will allow for tracking of industrial facilities claiming the exclusion. This change allows a facility to submit a "no exposure" certification at any time during the term of the permit, provided that a new certification is submitted every 5 years from the time it is first submitted (assuming that the facility maintains a "no exposure" status). Once a discharger has established that the facility meets the definition of "no exposure", and submits the necessary "no exposure" certification, the discharger must maintain their "no exposure" status. Failure to maintain "no exposure" at their facility could result in the unauthorized discharge of pollutants to waters of the United States and enforcement for violation of the CWA. Where a discharger believes that exposure could occur in the future due to some anticipated change at the facility, the discharger should submit an application and obtain coverage under an NPDES permit prior to such discharge to avoid penalties.

Where EPA is the permitting authority, dischargers may submit a "no exposure" certification at any time after the effective date of today's rule. Where EPA is not the permitting authority, dischargers may not be able to submit the certification until the non-federal permitting authority completes any necessary statutory or regulatory changes to adopt this "no exposure" provision. EPA recommends that the discharger contact the permitting authority for guidance on when the "no exposure" certification should be submitted.

EPA received comments on the proposed rule requirement that the discharger "must comply immediately with all the requirements of the storm water program including applying for and obtaining coverage under an NPDES permit," if changes occur at the facility which cause exposure of industrial activities or materials to storm water. The comments expressed the difficultly of immediate compliance. EPA expects that most facility changes can be anticipated, therefore dischargers should apply for and obtain NPDES permit coverage in advance of changes that result in exposure to industrial activities or materials. Permitting authorities may grant additional time, on a case-by-case basis, for preparation and implementation of a storm water pollution prevention plan.

Finally, today's rule at §122.26(g)(4) includes the information which must be included on the "no exposure" certification. Authorized States, Tribes or U.S. Territories may develop their own form which includes this required information, at a minimum. EPA adopted the requirements (with modification) from the draft "No Exposure Certification Form" published as an appendix to the proposed rule. Modifications were made to the draft form to address comments received and to streamline the required information. EPA included these certification requirements in today's rule in order to preserve its integrity. Dischargers in areas where EPA is the permitting authority should use the "No Exposure Certification" form included in Appendix 4.

3. Definition of "No Exposure"

For purposes of this section, "no exposure" means that all industrial materials or activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. However,

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storm resistant shelter is not required for: (1) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak; (2) adequately maintained vehicles used in material handling; and (3) final products, other than products that would be mobilized in storm water discharge (e.g., rock salt). Each of these three exceptions to the no exposure definition are discussed in more detail below.

EPA intends the term "storm resistant shelter" to include completely roofed and walled buildings or structures, as well as structures with only a top cover but no side coverings, provided material under the structure is not otherwise subject to any run-on and subsequent runoff of storm water. While the Agency intends that this provision promote permanent "no exposure", EPA understands that certain vehicles could pass between buildings and, during passage, be exposed to rain and snow. Adequately maintained vehicles such as trucks, automobiles, forklifts, or other such general purpose vehicles at the industrial site that are not industrial machinery, and that are not leaking contaminants or are not otherwise a source of industrial pollutants, could be exposed to precipitation or runoff. Such activities alone does not prevent a discharger from being able to certify no exposure under this provision. Similarly, trucks or other vehicles awaiting maintenance at vehicle maintenance facilities, as defined at §122.26(b)(14)(viii), that are not leaking contaminants or are not otherwise a source of industrial pollutants, are not considered exposed.

In addition, EPA recognizes that there are circumstances where permanent "no exposure" of industrial activities or materials is not possible. Under such conditions, materials and activities may be sheltered with temporary covers, such as tarps, between periods of permanent enclosure. The final rule does not specify every such situation. EPA intends that permitting authorities will address this issue on a case-by-case basis. Permitting authorities can determine the circumstances under which temporary structures will or will not meet the requirements of this section. Until permitting authorities specifically determine otherwise, EPA recommends application of the "no exposure" exclusion for temporary sheltering of industrial materials or activities only during facility renovation or construction, provided that the temporary shelter achieves the intent of this section. Moreover, "exposure" that results from a leak in protective covering would only be considered "exposure" if not corrected prior to the next storm water discharge event. EPA received one comment requesting that this allowance for temporary shelter be limited to facility renovation or construction directly related to the industrial activity requiring temporary shelter, and be scheduled to minimize the use of temporary shelter. Another comment suggested placing time limits ***68786** on the use of temporary shelter. The commenter did not recommend a specific time period, rather the comment said that renovation in some instances may take years, and that EPA should not allow temporary shelter over prolonged periods. EPA agrees that the use of temporary shelter must be related to the renovation or construction at the site, and be scheduled or designed to minimize the use of temporary shelter. Further, EPA agrees that the use of temporary shelter should be limited in duration, but does not intend to define "temporary" or "prolonged period".

Many final products are intended for outdoor use and pose little risk of storm water contamination, such as new cars. Therefore, final products, except those that can be mobilized in storm water discharge, can be "exposed" and still allow the discharge to certify "no exposure". EPA intends the term "final products" to mean those products that are not used in producing another product. Any product that can be used to make another product is considered an "intermediate product." For example, a facility that makes horse trailers can store the finished trailers outdoors as a final product. The storage of those final products does not prevent eligibility to claim "no exposure". However, any facility that makes parts for the horse trailers (e.g., metal tubing, sheet metal, paint) is not eligible for the "no exposure" exclusion from permitting if those "intermediate products" are stored outdoors (i.e., "exposed").

EPA received comments related to materials in drums, barrels, tanks and similar containers. Some comments objected to the language in the preamble to the proposed rule that would have recommended that the "exposure" determination for drums and barrels be based on the "potential to leak." Those comments said that all drums and barrels have the potential to leak, thereby making certification impossible. They recommended allowing outdoor storage of drums and barrels except for those that "are leaking" at the time of certification. Other comments suggested allowing drums and barrels to be stored outside only if the drums and barrels: are empty; have secondary containment; or there is a spill

contingency plan in place. Opposing comments suggested that allowing outdoor exposure of drums and barrels, based on existing integrity and condition, is inconsistent with the "however packaged" proposed rule language, and also would not satisfy the Ninth Circuit remand. The comments point out that the former rule was invalidated by the court in part because it relied on the "unverified judgment" of the light industrial facility operator to determine the non-applicability of the permit requirements, and that allowing the facility operator to determine the condition of their drums and barrels would result in the same flaw.

In response, EPA believes that drums and barrels that are stored outdoors pose little risk of storm water contamination unless they are open, deteriorated or leaking. The Agency has modified today's rule accordingly. EPA intends the term "open" to mean any container that is not tightly sealed and "sealed" to mean banded or otherwise secured and without operational taps or valves. Drums, barrels, tanks, and similar containers may only be stored outdoors under this conditional exclusion. The addition of material to or withdrawing of material from these containers while outside is deemed "exposure". Moving the containers while outside does not create "exposure" provided that the containers are not open, deteriorated or leaking. In order to complete the "no exposure" certification, a facility operator must inspect all drums, barrels, tanks or other containers stored outside to ensure that they are not open, deteriorated, or leaking. EPA recommends that the discharger designate someone at the facility to conduct frequent inspections to verify that the drums, barrels, tanks or other containers remain in a condition such that they are not open, deteriorated or leaking. Drums, barrels, tanks or other containers stored outside that have valves which are used to put material in or take material out of the container, and that have dripped or may drip, are considered to be "leaking" and must be under a storm resistant shelter in order to qualify for the no exposure exclusion. Likewise, leaking pipes containing contaminants exposed to storm water are deemed "exposed." If at any time drums, barrels, tanks or similar containers are opened, deteriorated or leaking, the discharger should take immediate actions to close or replace the container. Any resulting unpermitted discharge would violate the CWA. The Director, the operator of the MS4, or the municipality may inspect the facility to verify that all of the applicable areas meet the "no exposure" conditions as specified in the rule language. In requiring submission of the conditional "no exposure" certification and allowing the permitting authority and the operator of the MS4 to inspect the facility, today's rule does not rely on the unverified judgment of the facility to determine that the no exposure provision is being met.

EPA received several comments related to trash dumpsters that are located outside. The preamble to the proposed rule listed dumpsters in the same grouping as drums and barrels, which based exposure on the "potential to leak". Today's rule distinguishes between dumpsters and drums/barrels. In the Phase I Question and Answer document (volume 1, question 52) the Agency noted that a covered dumpster containing waste material that is kept outside is not considered "exposed" as long as "the container is completely covered and nothing can drain out holes in the bottom, or is lost in loading onto a garbage truck." EPA affirms this approach today. Industrial refuse and industrial trash that is left uncovered is deemed "exposed."

For purposes of this provision, particulate matter emissions from roof stacks/vents that are regulated and in compliance under other environmental protection programs, such as air quality control programs, and that do not cause storm water contamination, are considered "not exposed." EPA received comments on the phrase in the draft "no exposure" certification form that asked whether "particulate emissions from roof stacks/vents not otherwise regulated, and in quantities detectable in the storm water outflow," are exposed to precipitation. One comment expressed concern that the phrase "in quantities detectable in the storm water outflow" implies that the facility must conduct monitoring prior to completing the checklist, and must continue to monitor after receiving the no exposure exclusion, in order to be able to verify compliance with the no exposure provision. Another comment said that current measurement technology allows detection of pollutants at levels that may not cause environmental harm. EPA does not intend to require monitoring of runoff from facilities with roof stacks/vents prior to or after completing and submitting the no exposure certification. EPA has thus replaced the phrase "in quantities detectable" with "evident" to convey the message that emissions from some roof stacks/vents have the potential to contaminate storm water discharges in quantities that are considered significant or that cause or contribute to a water quality standards violation. In those instances where the permitting

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authority determines that particulate emissions from facility roof stacks/vents are a significant contributor of pollutants or contributing to water quality violations, the permitting authority may require the discharger to apply for and obtain coverage under a ***68787** permit. Visible deposits of residuals (e.g., particulate matter) near roof or side vents are considered "exposed". Likewise, visible "track out" (i.e., pollutants carried on the tires of vehicles) or windblown raw materials are deemed "exposed."

EPA received a comment requesting an allowance under the "no exposure" provision for industrial facilities with several outfalls at a site where some, but not all of the outfalls drain non-exposed areas. The commenter provided an example of an industrial facility that has 5 outfalls draining different areas of the site, where two of those outfalls drain areas where industrial activities or materials are not exposed to storm water. The comment requested that the facility in this example be allowed to submit a "no exposure" certification in order to be relieved of permitting obligations for discharges from those two outfalls.

EPA agrees, but the comment would be implemented on an outfall-by-outfall basis in the permitting process, not through the "no exposure" exclusion. The "no exposure" provision was developed to allow exclusion from permitting of discharges from entire industrial facilities (except construction), based on a claim of "no exposure" for all areas of the facility where industrial materials or activities occur. Where exposure to industrial materials or activities exist at some but not all areas of the facility, the "no exposure" exclusion from permitting is not allowed because permit coverage is still required for storm water discharges from the exposed areas. Relief from permit requirements for outfalls draining non-exposed areas should be addressed through the permit process, in coordination with the permitting authority. Most NPDES general permits for storm water discharge provide enough flexibility to allow minimal or no requirements for non-exposed areas at industrial facilities. If the permitting authority determines that additional flexibility is needed for this scenario, the permits could be modified as necessary.

K. Public Involvement/Public Role

The Phase II FACA Subcommittee discussed the appropriate role of the public in successful implementation of a municipal storm water program. EPA believes that an educated and actively involved public is essential to a successful municipal storm water program. An educated public increases program compliance from residents and businesses as they realize their individual and collective responsibility for protecting water resources (e.g., the residents and businesses could be subject to a local ordinance that prohibits dumping used oil down storm sewers). Finally, the program is also more likely to receive public support and participation when the public is actively involved from the program's inception and allowed to participate in the decision making process.

In a time of limited staff and financial resources, public volunteers offer diverse backgrounds and expertise that may be used to plan, develop, and implement a program that is tailored to local needs (e.g., participate in public meetings and other opportunities for input, perform lawful volunteer monitoring, assist in program coordination with other preexisting and related programs, aid in the development and distribution of educational materials, and provide public training activities). The public's participation is also useful in the areas of information dissemination/education and reporting of violators, where large numbers of community members can be more effective than a few regulators.

The public can also petition the NPDES permitting authority to require an NPDES permit for a discharge composed entirely of storm water that contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. In evaluating such a petition, the NPDES permitting authority is encouraged to consider the set of designation criteria developed for the evaluation of small MS4s located outside of an urbanized area in places with a population of at least 10,000 and a population density of 1,000 or more. Furthermore, any person can protect water bodies by taking civil action under section 505 of the CWA against any person who is alleged to be in violation of an effluent standard or permit condition. If civil action is taken, EPA encourages citizen plaintiffs to resolve any disagreements or concerns directly with the parties involved, either informally or through any available alternative dispute resolution process.

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EPA recognizes that public involvement and participation pose challenges. It requires a substantial initial investment of staff and financial resources, which could be very limited. Even with this investment, the public might not be interested in participating. In addition, public participation could slow down the decision making process. However, the benefits are numerous.

EPA encourages members of the public to contact the NPDES permitting authority or local MS4s operator for information on the municipal storm water program and ways to participate. Such information may also be available from local environmental, nonprofit and industry groups.

Some commenters stressed the need to suggest to the public that they have a responsibility to fund the municipal storm water program. While EPA believes it is important that the program be adequately funded, today's rule does not address appropriate mechanisms or levels for such funding.

EPA received comments expressing concern that considerable public involvement requirements could result in increased litigation. EPA is not convinced there is a correlation between meaningful public education programs and any increased probability of litigation.

Finally, EPA received comments stating that the Agency should not en courage volunteer monitoring unless proper procedures are followed. EPA agrees. EPA encourages only lawful monitoring, i.e., obtaining the necessary approval if there is any question about lawful access to sites. Moreover, as a matter of good practice and to enhance the validity and usefulness of the results, any party, public or private, conducting water quality monitoring is encouraged to use appropriate quality control procedures and approved sampling and analytic methods.

L. Water Quality Issues

1. Water Quality Based Effluent Limits

In addition to technology based requirements, all point source discharges of industrial storm water are subject to more stringent NPDES permitting requirements when necessary to meet water quality standards. CWA sections 402(p)(3)(A) and 301(b)(1)(C). For municipal separate storm sewers, EPA or the State may determine that other permit provisions (e.g. one of the minimum measures) are appropriate to protect water quality and, for discharges to impaired waters, to achieve reasonable further progress toward attainment of water quality standards pending implementation of a TMDL. CWA section 402(p)(3)(B)(iii). See Defenders of Wildlife, et al. Browner, No. 98-71080 (9th cir., August 11, 1999). Discharges of storm water also must comply with applicable antidegradation policies and implementation methods to maintain and protect water quality. 40 CFR 131.12. Section 122.34(a) emphasizes this point by specifically noting that a storm water management program designed to reduce the discharge of pollutants from the storm sewer system "to the maximum extent practicable" is also designed to protect water quality. ***68788** Permits issued to non-municipal sources of storm water must include water quality-based effluent limits where necessary to meet water quality standards.

Commenters challenged EPA's interpretation of the CWA as requiring water quality-based effluent limits for MS4s when necessary to protect water quality. Commenters asserted that CWA 402(p)(3)(B), which addresses permit requirements for municipal discharges, limits the scope of municipal program requirements to an effective prohibition on non-storm water discharges to a separate storm sewer and to controls which reduce pollutants to the "maximum extent practicable, including management practices, control techniques and system design and engineering methods." They asserted that the final rule should clarify that neither numeric nor narrative water quality-based limits are appropriate or authorized for MS4s.

EPA disagrees that section 402(p)(3) divests permitting authorities of the tools necessary to issue permits to meet water quality standards. Section 402(p)(3)(B)(iii) specifically preserves the authority for EPA or the State to include other

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provisions determined appropriate to reduce pollutants in order to protect water quality. Defenders of Wildlife, slip op. at 11688. Small MS4s regulated under today's rule are designated under CWA 402(p)(6) “to protect water quality.”

Commenters argued that water quality standards, particularly numeric criteria, were not designed to address storm water discharges. The episodic nature and magnitude of storm water events, they argue, make it impossible to apply the “end of pipe” compliance assessment approach, for example, in the development of water quality based effluent limits.

EPA's disagrees with the commenters arguments about the inability of water quality criteria to address high flow conditions. Today's final rule does, however, address the concern that numeric effluent limits will necessitate end of pipe treatment and the need to provide a workable alternative.

Today's rule was developed under the approach outlined in the Interim Permitting Policy for Water Quality-Based Effluent Limitations in Storm Water Permits, issued on August 1, 1996. 61 FR 43761 (November 26, 1996) (the “Interim Permitting Policy”). EPA intends to issue NPDES permits consistent with the Interim Permitting Policy, which provides as follows:

In response to recent questions regarding the type of water quality-based effluent limitations that are most appropriate for NPDES storm water permits, EPA is adopting an interim permitting approach for regulating wet weather storm water discharges. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES storm water permits.

“The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate. This interim permitting approach is not intended to affect those storm water permits that already include appropriately derived numeric water quality-based effluent limitations. Since the interim permitting approach only addresses water quality-based effluent limitations, it also does not affect technology-based effluent limitations, such as those based on effluent limitations guidelines or developed using best professional judgment, that are incorporated into storm water permits.

“Each storm water permit should include a coordinated and cost-effective monitoring program to gather necessary information to determine the extent to which the permit provides for attainment of applicable water quality standards and to determine the appropriate conditions or limitations of subsequent permits. Such a monitoring program may include ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information.

“This interim permitting approach applies only to EPA; however, EPA also encourages authorized States and Tribes to adopt similar policies for storm water permits. This interim permitting approach provides time, where necessary, to more fully assess the range of issues and possible options for the control of storm water discharges for the protection of water quality. This interim permitting approach may be modified as a result of the ongoing Urban Wet Weather Flows Federal Advisory Committee policy dialogue on this subject.”

One commenter challenged the Interim Permitting Policy on a procedural basis, arguing that it was published without opportunity for public notice and comment. In response, EPA notes that the Policy was included verbatim and made available for public comment in the proposal to today's final rule. Prior to that proposal, the Agency defended the application of the Policy on a case-by-case basis in individual permit proceedings. Moreover, the essential elements of the Policy—that narrative effluent limitations are the most appropriate form of effluent limitations for storm water

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dischargers from municipal sources—was inherent in §122.34(a) of the proposed rule, and was the subject of extensive public comment. In any event, the Policy does not constitute a binding obligation. It is policy, not regulation.

Consistent with the recognition of data needs underlying the Policy, EPA will evaluate the small MS4 storm water regulations after the second round of permit issuance. Section 122.34(e)(2) of today's rule expressly provides that for the interim ten-year period, "EPA strongly recommends that until the evaluation of the storm water program in §122.37, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality." This approach addresses the concern for protecting water resources from the threat posed by storm water discharges with the important qualification that there must be adequate information on the watershed or a specific site as a basis for requiring tailored storm water controls beyond the minimum control measures. As indicated, the Interim Permitting Policy has several important limitations—it does not apply to technology-based controls or to sources that already have numeric end of pipe effluent limitations. EPA encourages authorized States and Tribes to adopt policies similar to the Interim Permitting Policy when developing storm water discharge programs. For a discussion of appropriate monitoring activities, see Section H.3.d., Evaluation and Assessment.

Where a water quality analysis indicates there is a need and basis for deriving water quality-based effluent limits in NPDES permits for storm water discharges regulated under today's rule, EPA believes that most of these cases would be satisfied by narrative effluent ***68789** limitations that require the implementation of BMPs. NPDES permit limits will in most cases continue to be based on the specific approach outlined in today's rule for the implementation of BMPs as the most appropriate form of effluent limitation to satisfy technology and water quality-based requirements. See §122.34(a). For storm water management plans with existing BMPs, this may require further tailoring of BMPs to address the pollutant(s) of concern, the nature of the discharge and the receiving water. If the permitting authority determines that, through implementation of appropriate BMPs required by the NPDES storm water permit, the discharge has the necessary controls to provide for attainment of water quality standards, additional controls are not needed in the permit. Conversely, if a discharger (MS4, industrial or construction) fails to adopt and implement adequate BMPs, the permittee and/or the permitting authority should consider a different mix of BMPs or more specific conditions to ensure water quality protection.

Some commenters observed that there was no evidence from the experience of storm water dischargers regulated under the existing NPDES storm water program, or from studies or reports that allegedly support EPA's position, that implementation of BMPs to satisfy the six minimum control measures would meet applicable water quality standards for a regulated small MS4. In response, EPA acknowledges that the six minimum measures are intended to implement the statutory requirement to control discharges to the maximum extent practicable, and they may not result in the attainment of water quality standards in all cases. The control measures do, however, focus on and address well-documented threats to water quality associated with storm water discharges. Based on the collective expertise of the FACA Sub-committee, EPA believes that implementation of the six minimum measures will, for most regulated small MS4s, be adequate to protect water quality, and for other regulated small MS4s will substantially reduce the adverse impacts of their discharges on water quality.

Some commenters asserted that analyses of existing water quality criteria suggest that numeric criteria for aquatic life may be overprotective if applied to storm water discharges. These comments maintained that an approach that prohibits exceedance of applicable water quality criteria is unworkable. Various commenters recommended wet weather specific criteria, variances to the criteria during wet weather events, and seasonal designated uses. Other commenters noted that water quality-based effluent limits in NPDES permits have traditionally been developed based on dry weather flow conditions (e.g., assuming critical low-flow conditions in the receiving water to ensure protection of aquatic life and human health). Wet weather discharges, however, typically occur under high-flow conditions in the receiving water. Assumptions regarding mass balance equations and size of mixing zones may also not be pertinent during wet weather.

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EPA acknowledges the need to devise a regulatory program that is both flexible enough to accommodate the episodic nature, variability and volume of wet weather discharges and prescriptive enough to ensure protection of the water resource. EPA believes that wet weather discharges can be adequately addressed in the existing regulations through refining designated uses and assigning criteria that are tailored to the level of water quality protection described by the refined designated use.

EPA believes that lack of precision in assigning designated uses and corresponding criteria by States and Tribes, in many cases may result in application of water quality criteria that may not appropriately match the intended condition of the water body. States and Tribes have frequently designated uses without regard to site-specific wet weather conditions. Because certain uses (swimming, for example) might not exist during high-intensity storm events or in the winter, States may factor such climatic conditions and seasonal uses into their use designations with appropriate analyses. This would acknowledge that a lower level of control, at lower compliance cost, would be appropriate to protect that use. Before modifying any designated use, however, States would need to evaluate the effect of less stringent water quality criteria on protecting other uses, including any threatened or endangered species, drinking water supplies and downstream uses. EPA will further evaluate these issues in the context of the Water Quality Standards Regulation, Advance Notice of Proposed Rule Making (ANPRM), 63 FR, 36742, July 7, 1998.

One of the major themes presented by EPA in the ANPRM is that refinement in use designations and tailoring of water quality criteria to match refined use designations is an important future direction of the water quality standards program. In assigning criteria to protect general use classifications, a State or Tribe must ensure that the criteria are sufficiently protective to safeguard the full range of waters of the State, i.e., criteria would be based on the most sensitive use. This approach has been disputed, especially for aquatic life uses, where evidence suggests that the general use criteria will require controls more stringent than needed to protect the existing or potential aquatic life community for a specific water body. EPA recognizes that there is a growing need to more precisely tailor use descriptions and criteria to match site-specific conditions, ensuring that uses and criteria provide an appropriate level of protection, which, to the extent possible, are not overprotective. EPA is engaged in an ongoing evaluation of its regulations in this area through the ANPRM effort. At the same time, EPA continues to encourage States and Tribes to review the applicability of the designated uses and associated criteria using existing provisions in the water quality standards regulation.

2. Total Maximum Daily Loads and Analysis To Determine the Need for Water Quality-Based Limitations

The development and implementation of total maximum daily loads (TMDLs) provide a link between water quality standards and effluent limitations. CWA section 303(d) requires States to develop TMDLs to provide more stringent water quality-based controls when technology-based controls are inadequate to achieve applicable water quality standards. A TMDL is the sum of the individual wasteload allocations for point sources and load allocations for nonpoint sources, with consideration for natural background conditions. A TMDL quantifies the maximum allowable loading of a pollutant to a water body and allocates this maximum load to contributing point and nonpoint sources so that water quality criteria will not be exceeded and designated uses will be protected. A TMDL also includes a margin of safety to account for uncertainty about the relationship between pollutant loads and water quality.

Today's final rule refers to TMDLs in several provisions. For the purpose of today's rule, EPA relies on the component of the TMDL that evaluates existing conditions and allocates loads. For discharges to waters that are not impaired and for which a TMDL has not been developed, today's rule also refers to an "equivalent analysis." The discussion that follows uses the term "TMDL" for both.

Under revised §122.26(a)(9)(i)(C), the permitting authority may designate ***68790** storm water discharges that require NPDES permits based on TMDLs that address the pollutants of concern. For storm water discharges associated with small construction activity, §122.26(b)(15)(i)(B) provides a waiver provision where it may be determined that storm water controls are not needed based on TMDLs that address sediment and any other pollutants of concern. The NPDES

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permitting authority may waive requirements under the program for certain small MS4s within urbanized areas serving less than 1,000 persons provided that, if the small MS4 discharges any pollutant that has been identified as a cause of impairment of a water body into which it discharges, the discharge is in compliance with a wasteload allocation in a TMDL for the pollutant of concern. The permitting authority may also waive requirements for MS4s in urbanized areas serving between 1,000 and 10,000 persons, if the permitting authority determines that storm water controls are not needed, as provided in §123.35(d)(2). See §122.32(c).

Under CWA section 303(d), States identify which of their water bodies need TMDLs and rank them in order of priority. Generally, once a TMDL has been completed for one or more pollutants in a water body, a wasteload allocation for each point source discharging the pollutant(s) is implemented as an enforceable condition in the NPDES permit. Regulated small MS4s are essentially like other point source discharges for purposes of the TMDL process.

A TMDL and the resulting wasteload allocations for pollutant(s) of concern in a water body may not be available because the water body is not on the State's 303(d) list, the TMDL has not yet been completed, or the TMDL did not include specific pollutants of concern. In these cases, the permitting authority must determine whether point sources discharge pollutant(s) in amounts that cause, have the reasonable potential to cause, or contribute to excursions above State water quality standards, including narrative water quality criteria. This so-called “reasonable potential” analysis is intended to determine whether and for what pollutants water quality based effluent limits are required. The analysis is, in effect, a substitute for a similar determination that would be made as part of a TMDL, where necessary. When “reasonable potential” exists, regulations at §122.44(d) require a water quality-based effluent limit for the pollutant(s) of concern in NPDES permits. The water quality-based effluent limits may be narrative requirements to implement BMPs or, where necessary, may be numeric pollutant effluent limitations.

Commenters, generally from the regulated community, objected that, due to references to the need to develop a program “to protect water quality” and to additional NPDES permit requirements beyond the minimum control measures based on TMDLs or their equivalent, regulated small MS4s will be subject to uncertain permit limitations beyond the six minimum control measures. Commenters also asserted that through the imposition of a wasteload allocation under a TMDL in impaired water bodies, there is a likelihood that unattainable, yet enforceable narrative and numeric standards will be imposed on regulated small MS4s.

As is discussed in the preceding section, NPDES permits must include any more stringent limitations when necessary to meet water quality standards. However, even if a regulated small MS4 is subject to water quality based effluent limits, such limits may be in the form of narrative effluent limitations that require the implementation of BMPs. As discussed earlier, EPA has adopted the Interim Permitting Policy and incorporated it in the development of today's rule to recognize the appropriateness of BMP-based limits developed on a case-by-case basis.

EPA formed a Federal Advisory Committee to provide advice to EPA on identifying water quality-limited water bodies, establishing TMDLs for them as appropriate, and developing appropriate watershed protection programs for these impaired waters in accordance with CWA section 303(d). Operating under the auspices of the National Advisory Council for Environmental Policy and Technology (NACEPT), the committee produced its Report of the Federal Advisory Committee on the Total Maximum Daily Load (TMDL) Program (July 1998). EPA recently published a proposed rule to implement the Report's recommendations (64 FR 46012, August 23, 1999).

3. Anti-Backsliding

In general, the term “anti-backsliding” refers to statutory provisions at CWA sections 303(d)(4) and 402(o) and regulatory provisions at 40 CFR 122.44(l). These provisions prohibit the renewal, reissuance, or modification of an existing NPDES permit that contain effluent limits, permit terms, limitations and conditions, or standards that are less stringent than those established in the previous permit. There are also exceptions to this prohibition known as “antibacksliding exceptions.”

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The issue of backsliding from prior permit limits, standards, or conditions is not expected to initially apply to most storm water dischargers designated under today's proposal because they generally have not been previously authorized by an NPDES permit. However, the backsliding prohibition would apply if a storm water discharge was previously covered under another NPDES permit. Also, the backsliding prohibition could apply when an NPDES storm water permit is reissued, renewed, or modified. In most cases, however, EPA does not believe that these provisions would restrict revisions to storm water NPDES permits.

One commenter questioned whether, if BMPs implemented by a regulated small MS4 operator fail to produce results in removal of pollutants and the permittee attempts to substitute a more effective BMP, the small MS4 operator could be accused of violating the anti-backsliding provisions and also be exposed to citizen lawsuits. In response, EPA notes that in such circumstances the MS4's permit has not changed and, therefore, the prohibition against backsliding is not applicable. Further, any change in the mix of BMPs that was intended to be more effective at controlling pollutants would not be considered backsliding, even if it did not include all of the previously implemented BMPs.

4. Water Quality-Based Waivers and Designations

Several sections of today's final rule refer to water quality standards in identifying those storm water discharges that are and are not required to be permitted under today's rule. As noted in §122.30 of today's rule, CWA section 402(p)(6) requires the designation of municipal storm water sources that need to be regulated to protect water quality and the establishment of a comprehensive storm water program to regulate these sources. Requirements applicable to certain municipal sources may be waived based on the absence of demonstrable water quality impacts. Section 122.32(c). The section 402(p)(6) mandate to protect water quality also provides the basis for regulating discharges associated with small construction. See also §122.26(b)(15)(i). Further, today's rule carries forward the existing authority for the permitting authority to designate sources of storm water discharges based upon water quality considerations. Section 122.26(a)(9)(i)(C) and (D).

As is discussed above in sections II.H.2.e (for small MS4s) and II.I.1.b.ii ***68791** (for small construction), the requirements of today's rule may be waived based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutants of concern or, in the case of small construction and municipalities serving between 1,000 and 10,000 persons, the equivalents of TMDLs. One commenter stated that waivers would allow exemptions to the technology based requirements and would thus be inconsistent with the two-fold approach of the CWA (a technology based minimum and a water quality based overlay). EPA acknowledges that waivers are not allowed for other technology-based requirements under the CWA. A more flexible approach is allowed, however, for sources designated for regulation under 402(p)(6) to protect water quality. For such sources EPA may allow a waiver where it is demonstrated that an individual source does not present the threat to water quality that was the basis for EPA's designation.

III. Cost-Benefit Analysis

EPA has determined that the range of the rule's benefits exceeds the range of regulatory costs. The estimated rule costs range from $847.6 million to $981.3 million annually with corresponding estimated monetized annual benefits which range from $671.5 million to $1.628 billion, expected to exceed costs.

The rule's cost and benefit estimates are based on an annual comparison of costs and benefits for a representative year (1998) in which the rule is implemented. This differs from the approach used for the proposed rule which projected cost and benefits over three permit terms. EPA has chosen to use the current approach because it determined that the ratio of annual benefits and costs would not change significantly over time. Moreover, because there is not an initial outlay of capital costs with benefits accruing in the future (i.e., benefits and costs are almost immediately at a steady state), it is not necessary to discount costs in order to account for a time differential.

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EPA developed detailed estimates of the costs and benefits of complying with each of the incremental requirements imposed by the rule. The Agency used two approaches, a national water quality model and national water quality assessment, to estimate the potential benefits of the rule. Both approaches show that the benefits are likely to exceed costs.

These estimates, including descriptions of the methodology and assumptions used, are described in detail in the Economic Analysis of the Final Phase II Rule, which is included in the record of this rule making. Exhibit 3 summarizes costs and benefits associated with the basic elements of today's rule.

Exhibit 3.—Comparison of Annual Compliance Cost and Benefit Estimates [1]

Monetized benefits	National water quality model (millions of 1998 dollars)	National water quality assessment (millions of 1998 dollars)
Municipal Minimum Measures	.....	$131.0-$410.2
Controls for Construction Sites	.....	$540.5-$686.0
Total Annual Benefits	$1,628.5	$671.5-$1,096.2

Costs	Millions of 1998 dollars [2]
Municipal Minimum Measures	$297.3
Controls/Waivers for Construction Sites	$545.0-$678.7
Federal/State Administrative Costs	$5.3
Total Annual Costs	$847.6-$981.31

A. Costs

1. Municipal Costs

Initially, to determine municipal costs for the proposed rule, EPA used anticipated expenditure data included in permit applications from a sample of 21 Phase I MS4s. Certain commenters criticized the Agency for using anticipated expenditures because they could be significantly different from the actual expenditures. These commenters suggested that the Agency use the actual cost incurred by the Phase I MS4s. Other comments stated that because the Phase I MS4s, in general, are large municipalities, they may not be representative of the Phase II MS4s for estimating regulatory costs. Finally, one commenter noted that the sample of 21 municipalities used to project cost was relatively small.

To address the concerns of the commenters, EPA utilized a National Association of Flood and Stormwater Management Agencies (NAFSMA) survey of the Phase II community to obtain incremental cost estimates for Phase II municipalities. Using the list of potential Phase II designees published in the Federal Register (63 FR 1616), NAFSMA contacted more than 1,600 jurisdictions. The goal of the survey was to solicit information from those communities about the proposed Phase II NPDES storm water program. Several of the survey questions corresponded directly to the minimum measures required by the Phase II rule. One hundred twenty-one surveys were returned to NAFSMA and were used to develop municipal costs.

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Using the NAFSMA information, EPA estimated average annual per household program costs for automatically designated municipalities. EPA also estimated an average annual per household administrative cost for municipalities to address application, record keeping, and reporting requirements of the Rule. The total average per household cost of the rule is expected to $9.16 per household.

To determine potential national level costs for municipalities, EPA multiplied the number of households (32.5 million) by the per household cost ($9.16). EPA estimates the annual cost of the Phase II municipal program at $298 million.

As an alternative method, and point of comparison, to the NAFSMA-based approach, EPA reviewed actual expenditures reported from 35 Phase I MS4s. The Agency targeted these 35 Phase I MS4s because they had participated in the NPDES program for ***68792** nearly one permit term, were smaller in size and had detailed data reflecting their actual program implementation costs. Of the 35 MS4s, appropriate cost data was only available for 26 of those MS4s. EPA analyzed the expenditure data and identified the relevant expenditures, excluding costs presented in the annual reports unrelated to the requirements of the Rule. The cost range and annual per household program costs of $9.08 are similar to those found using the NAFSMA survey data.

2. Construction Costs

In order to estimate the rule's construction-related cost on a national level (the soil and erosion controls (SEC) requirements of the rule and the potential impacts of the post-construction municipal measure on construction), EPA estimated a per site cost for sites of one, three, and five acres and multiplied these costs by the total number of estimated Phase II construction starts across these size categories.

To estimate the percentage of starts subject to the soil and erosion control requirements between 1 and 5 acres, with respect to each category of building permits (residential, commercial, etc.), EPA initially used data from Prince George's County (PGC), Maryland, and applied these percentages to national totals. In the proposal, EPA recognized that the PGC data may not be representative of the entire country and requested data that could be used to develop better estimates of the number of construction sites between 1 and 5 acres. EPA did not receive any substantiated national data from commenters.

In view of the unavailability of national data from commenters, EPA made extensive efforts to collect construction site data around the country. The Agency contacted more than 75 municipalities. EPA determined that 14 of the contacted municipalities had useable construction site data. Using data from these 14 municipalities, EPA developed an estimate of the percentage of construction starts on one to five acres. EPA then multiplied this percentage by the number of building permits issued nationwide to determine the total number of construction starts occurring on one to five acres. Finally, to isolate the number of construction starts incrementally regulated by Phase II, EPA subtracted the number of activities regulated under equivalent programs (e.g., areas covered by the Coastal Zone Act Reauthorization Amendments of 1990, and areas covered by equivalent State level soil and erosion control requirements). Ultimately, EPA estimated that 110,223 construction starts would be incrementally covered by the rule annually.

EPA then used standard cost estimates from Building Construction Cost Data and Site Work Landscape Cost Data (R.S. Means, 1997a and 1997b) to estimate construction BMP costs for 27 model sites in a variety of typical site conditions across the United States. The model sites included three different site sizes (one, three and five acres), three slope variations (3%, 7%, and 12%), and three soil erosivity conditions (low, medium, and high). EPA chose BMP combinations appropriate to the model site conditions. Based on the assumption that any combination of site factors is equally likely to occur in a given site, EPA developed average cost of sediment and erosion control for all model sites. EPA estimated that, on average, BMPs for a 1 acre site will cost $1,206, for a 3 acre site $4,598 and for a 5 acre site $8,709.

EPA then estimated administrative costs per construction site for the following elements required under the rule: Submittal of a notice of intent for permit coverage; notification to municipalities; development of a storm water

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pollution prevention plan; record retention; and submittal of a notice of termination. EPA estimated the average total administrative cost per site to be $937.

EPA also considered the cost implications of NPDES permit authorities waiving the applicability of requirements to storm water discharges from small construction sites based on two different criteria involving water quality impact and low rainfall. EPA received comments stating that a waiver would require a significant investment in training or acquisition of a consultant. Based on comments received, EPA eliminated one of the waiver conditions involving low soil loss threshold because it necessitated use of the Revised Universal Soil Loss Equation which could require extensive technical expertise.

Based on the opinions of construction industry experts, EPA estimates that 15 percent of the construction sites that would otherwise be covered by today's rule will be eligible to receive waivers. Therefore, the Agency has excluded 15 percent of the construction sites when deriving costs of sediment and erosion control. The average cost for sites to qualify for the waiver is expected to be $34 per site. The construction cost analysis for the proposed rule did not include any costs for the preparation and submission of waiver applications because EPA believed those costs would be negligible. However, in response to public comments, EPA has estimated these potential costs.

EPA has also estimated the potential costs for construction site operators to implement the post-construction minimum measure. These are costs that may be incurred by construction site operators if the MS4 chooses to meet the post-construction minimum measure by requiring on-site structural, site-by-site control of post-construction runoff. Municipalities may select from an array of structural and non-structural options in implementing this measure, so the potential costs to construction operators is uncertain. Nonetheless, EPA developed average annual BMP costs for sites of one, three, five and seven acres. EPA's analysis accounted for varying levels of imperviousness that characterize residential, commercial, and institutional land uses. Nationwide, these costs are expected to range from $44 million to $178 million annually.

Finally, to establish national incremental annual costs for Phase II construction starts, EPA multiplied the total costs of compliance for the chosen site size categories by the total number of Phase II construction starts and added post-construction costs. EPA estimates the annual compliance cost to range from $545 million to $678.7 million.

B. Quantitative Benefits

In the Economic Analysis for the proposed rule, a “top-down” approach was used to estimate economic benefits. Under this approach, the combined economic benefits for wet weather programs were estimated first, and then were divided among various water programs on the basis of expert opinion. As a result, the benefits estimates for an individual program were rather uncertain. Moreover, this approach was inconsistent with the approach used to estimate the cost of the proposed storm water rule, which was developed using municipal-based and cost-based data to develop “bottom-up” costs. Therefore, EPA decided to use a “bottom-up” approach for estimating benefits of the Phase II rule. To adequately reflect the quantifiable benefits of the rule, EPA used two different methods: (1) National Water Quality Model and (2) National Water Quality Assessment.

To monetize benefits in both approaches, the Agency applied Carson and Mitchell's (1993) estimates of household willingness-to-pay (WTP) for water quality improvement to estimates of waters impaired by storm water discharges. Carson and Mitchell's 1993 study reports the results of their 1983 national survey of WTP for incremental ***68793** improvements in fresh water quality. Carson and Mitchell estimate the WTP for three minimum levels of fresh water quality: boatable, fishable, and sizable. EPA adjusted the WTP amounts to account for inflation, growth in real per capita income, and increased attitudes towards pollution control. The adjusted WTP amounts for improvements in fresh water quality are $210 for boatable, $158 for fishable, and $177 for sizable. A brief summary of the national water quality model and national water quality assessment approaches follow.

1. National Water Quality Model

One approach EPA used to estimate the benefits of the Phase II municipal and construction site controls was the National Water Pollution Control Assessment Model (NWPCAM). NWPCAM estimates benefits of the storm water program at the national level, including the impact on small streams. This model estimates water quality and the resultant use support for the 632,000 miles of rivers and streams in the USEPA Reach File Version 1 (RF1), which covers the continental United States. The model analyzes water quality changes by stream reach. The parameters modeled in the NWPCAM are biological oxygen demand (BOD), total suspended solids (TSS), dissolved oxygen (DO), and fecal coliforms (FC).

The model projects changes in water quality due to the Phase II municipal and construction site controls. To calculate the economic benefits of change in water quality, the number of households in the proximity of the stream reach are determined, by overlaying the model results on the 1990 Census of Populated Places and Minor Civil Divisions, and updating the population to 1998. Economic benefits are calculated using the Carson and Mitchell WTP values. The benefits are separately estimated for local and non-local waters on the basis of WTP values and proximity to water quality changes.

The value of the change in use support for local waters is greater than the value of the non-local waters because of the opportunity to use local waters by the local population. This model assumes that if improvement occurs in waters that are not close to population centers the economic value is lower. Therefore, benefits are estimated for local and non-local waters separately. This assumption is based on Carson and Mitchell's survey which asked respondents to apportion each of their stated WTP values between achieving the water quality goals in their own State and achieving those goals in the nation as a whole. On average, respondents allocated 67% of their values to achieving in-State water quality goals and the remainder to the nation as a whole. Carson and Mitchell argue that for valuing local water quality changes 67% is a reasonable upper bound for the local multiplier and 33% for the non-local water quality changes. For the purposes of this analysis, the locality is defined as urban sites and associated populations linked into the NWPCAM framework. Using this methodology, the total monetized benefits of Phase II control of urban and construction site runoff is estimated to be $1.628 billion per year. The local and non-local benefits due to Phase II controls are presented in Exhibit 4.

Exhibit 4.—Local and Non-local Benefits Estimates Due to Phase II Controls National Water Quality Model Estimate

Use support	Local benefits ($million/yr)	Non-local benefits [1] ($million/yr)	Total benefits ($million/yr)
Swimming, Fishing, and Boating	306.20	60.60	366.80
Fishing and Boating	395.10	51.90	447.00
Boating	700.10	114.60	814.70
Total	1401.40	227.10	1628.50

While the numbers of miles that are estimated to change their use support are small, the benefits estimates are quite significant. This is because urban runoff and, to a large extent, construction activity occurs where the people actually reside and the water quality changes mostly occur close to these population centers. NWPCAM indicates that changes in pollution loads have the most effect immediately downstream of pollution changes. As a result, the aggregate WTP is large because large numbers of households in these population centers are associated with the local waters that reflect improvement in designated use support.

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2. National Water Quality Assessment

EPA also estimated benefits of the Phase II Storm Water program using the 1998 National Water Quality Inventory (305(b)) Report to Congress, rather than the NWPCAM as a basis for estimating impairment addressed by the rule. The Water Quality Assessment method separately estimates benefits associated with improvements to fresh water, marine water and construction site controls, and then aggregates these separate categories into an estimate of total annual benefits.

a. Municipal Measures

i. Fresh Waters Benefits

In order to develop estimates for the potential value of the municipal measures (except storm water runoff controls for construction sites), EPA applied Carson & Mitchell WTP values to estimated existing and projected future fresh water impairment. Carson & Mitchell did not evaluate marine waters, so only fresh water values were available from their research. Even though the Carson and Mitchell estimates apply to all fresh water, it is not clear how these values would be apportioned among rivers, lakes, and the Great Lakes. The 305(b) data indicate that lakes are the most impaired by urban runoff/storm sewers, followed closely by the Great Lakes, and then rivers. Therefore, EPA applied the WTP values to the categories separately and assumed that the higher resulting value for lakes represents the high end of the range (i.e., assuming that lake impairment is more indicative of national fresh water impairment) and that the lower resulting value for impaired rivers represents the low end of a value range for all fresh waters (i.e., assuming that river impairment is more indicative of national fresh water impairment). In addition, EPA estimated that the post-construction runoff ***68794** requirements of the municipal program might result in benefits of at least $16.8 million annually from avoided future runoff. The post-construction estimate significantly underestimates potential program benefits because it does not account for avoided hydrologic changes and resulting water quality impairment associated with increases in imperviousness from development and redevelopment. Summing the benefits across the water quality use support levels yields an estimate of benefits ranging from approximately $121.9 million to $378.2 million per year.

ii. Marine Waters Benefits

In addition to the fresh water benefits captured by the Carson and Mitchell study, EPA anticipates benefits as a result of improvements to marine waters. Sufficient methods have not been developed to quantify national-level benefits for commercial or recreational fishing. EPA used beach closure data and visitation estimates from its Beach Watch Program to estimate potential reductions in marine swimming visits due to storm water runoff contamination events in 1997. The estimated 86,100 trips that did not occur because of beach closures in coastal Phase II communities is a lower bound because it represents only those beaches that report both closures and visitation data. EPA estimates potential swimming benefits from the rule to be at least $2.1 million annually.

EPA developed an analysis of potential benefits associated with avoided health impacts from exposure to contaminants in storm sewer effluent. Based on a study of incremental illnesses found among people who swam within one yard of storm drains in Santa Monica Bay, EPA estimated a range of incremental illnesses (Haile et al., 1996). Depending on assumptions made about number of exposures to contaminants and contaminant concentrations, benefits ranged from $7.0 million to $29.9 million annually.

b. Construction Benefits

The major pollutant resulting from construction activities is sediment. However, in addition to sediment, construction activities also yield pollutants such as pesticides, petroleum products, and solvents. Because circumstances will vary considerably from site to site, data is not available with which to develop estimates of benefits for each site and aggregate to obtain a national-level estimate.

In the proposed rule, EPA estimated the combined benefits of all wet weather programs, and then used expert opinions to allocate them to different individual programs. To eliminate the possible overlap between the benefits of the soil and erosion control requirements, municipal measures, and other wet weather storm water programs, EPA chose to use an approach in today's final rule that directly estimates the benefits of soil and erosion requirements.

A survey of North Carolina residents (Paterson et al., 1993) indicated that households are willing to pay for erosion and sediment controls similar to those in today's rule. Based on income and other indicators, the values derived from the study are expected to be similar to values held in the rest of the country. Using the mean value of the willingness to pay of $25 per household, EPA projects annual benefits of the soil and erosion requirements to range from $540.5-$686 million.

c. Summary of Benefits From the National Water Quality Assessment

Total benefits from municipal measures and construction site controls are expected to range from $671.5 million to $1.1 billion per year, including benefits of approximately $13.7 million per year associated with small stream improvements. A summary of the potential benefits is presented in Exhibit 5.

As shown in Exhibit 5, it was not possible to monetize all categories of benefits using the WTP estimates. In particular, benefits for improving marine water quality such as fishing and passive use benefits are not included in the values used to estimate the potential benefits of the municipal minimum measures (excluding construction sites controls), and they are not estimated separately, because information is not currently available.

Exhibit 5.—Potential Annual Benefits of the Phase II Storm Water Rule National Water Quality Assessment Estimate

Benefit category	Annual WTP
Municipal Minimum Measures [1]	
Fresh Water Use and Passive Use [2]	$121.9-$378.2
Marine Recreational Swimming	$2.1
Human Health (Marine Waters)	$7.0-$29.9
Other Marine Use and Passive Use	+
Erosion and Sediment Controls for Construction Sites	
Fresh Water and Marine Use and Passive Use [3]	$540.5-$686
Total Phase II Program	
Total Use & Passive Use (Fresh Water and Marine)	>$671.5->$1,096.2

C. Qualitative Benefits

There are additional benefits to storm water control that cannot be quantified or monetized. Thus, the current estimate of monetized benefits may understate the true value of storm water controls because it omits many ways in which society is likely to benefit from reduced storm water pollution, such as improved ***68795** aesthetic quality of waters, benefits to wildlife and to threatened and endangered species, cultural values, and biodiversity benefits.

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A benefit that EPA did not monetize completely is the flood control benefits attributable to municipal storm water controls reducing downstream flooding, although flood control benefits associated with sediment and erosion control are already reflected to some extent in the construction benefits. Similarly, the Agency could not value the benefits from increased property value due to storm water controls reflected in the rule, even though a commenter suggested inclusion of these benefits in the estimates.

Moreover, while a number of commenters requested that EPA include ecological benefits, the Agency was not able to fully monetize these benefits. Urbanization usually increases the amount of sediment, nutrients, metals and other pollutants associated with land disturbance and development. Development usually not only results in a dramatic increase in the volume of water runoff, but also in a substantial decrease in that water's quality due to stream scour, runoff and dispersion of toxic pollutants, and oversiltation. These kinds of secondary benefits could not be fully reflected in the monetized benefits. EPA was able to only monetize the aquatic life support benefits for waters assumed to be impaired. Thus, only the aquatic life support benefits attributable to municipal controls, reflected through human satisfaction, are taken into account.

Reduced nutrient level is another benefit of the storm water control which is not fully captured by the economic analysis. High nutrient levels often lead to eutrophication of the aquatic system. The quality change in ecological sources as the result of storm water controls to reduce pollutants is not fully reflected in the present benefits.

D. National Economic Impact

Finally, the Agency determined that the rule will have minimal impacts on the economy or employment. This is because the final rule regulates small MS4s and construction sites under 5 acres, not the typical industrial plants or other non-construction activities that could directly impact production and thus those sectors of the economy.

Discussions with representatives within the construction industry indicate that construction costs will likely be passed on to buyers, thus not seriously affecting the housing industry directly. One commenter argued that the rule will have a negative employment effect because the builders will build fewer homes requiring less building materials as a result of the declining demand induced by the cost of the soil and erosion controls. EPA disagrees with this argument because the cost of the controls, as the percentage of the price of a median home, is negligible and will be passed on to final buyers.

Flexibility within the rule allows MS4s to tailor the storm water program requirements to their needs and financial position, minimizing impacts. For sedimentation and erosion controls on construction sites, the rule contemplates application of commonly used BMPs to reduce costs for the construction industry. Thus, the rule attempts to use existing practices to prevent pollution, which should minimize impacts on States, Tribes, municipalities and the construction industry.

Thus, EPA concludes that the effect of the rule, if any, on the national economy will be minimal. The benefits of today's rule more than offset any cost impacts on the national economy.

IV. Regulatory Requirements

A. Paperwork Reduction Act

The Office of Management and Budget (OMB) has approved some of the information collection requirements contained in this final rule (i.e. those found in 40 CFR 122.26(g) and 123.35(b)) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2040-0211.

The burden and costs described below are for the information collection, reporting, and record keeping requirements for the three year period beginning with the effective date of today's rule. Additional information collection requirements

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for regulated small MS4s and small construction sites will occur after this initial three year period and will be counted in a subsequent information collection requirement. The total burden of the information collection requirements for the first three years of this rule is estimated at 56,369 hours with a corresponding cost of $2,151,305 million annually. This burden and cost is for industrial facilities to complete and submit the no exposure certification, for NPDES-authorized States to process and review the no exposure certification, and for the NPDES-authorized States to develop designation criteria and assess additional MS4s outside of urbanized areas. Compliance with the applicable information collection requirements imposed under this rule are mandatory, pursuant to CWA section 402.

Exhibit 6 presents average annual burden and cost estimates for Phase II respondents for the first three years. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust existing ways for complying with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

Exhibit 6.—Average Annual Burden and Cost Estimates for Phase II Respondents

Information collection activity	A	B	(A)x(B)=C	D	(C)x(D)=E
	Respondents per year (projected) [1]	Burden hours per respondent per year (predicted)	Annual respondent burden hours (projected)	Respondent labor cost ($/hr) (1998 $)	Annual Cost ($) (projected)
Ind. No Expos. Facilities: [2]					
No Expos. Certification	36,377	1.0	36,377	44.35	1,613,320
Annual Subtotal			36,377		1,613,320
NPDES-Authorized States: [3]					
Designation of Addit. MS4s [4]	15	332.8	4,892	26.91	131,644
No Exp. Cert. Proc. & Rev	30,200	0.5	15,100	26.91	406,341
Annual Subtotal			19,992		537,985
Annual Totals			56,369		2,151,305

***68796** Given the requirements of today's regulation, EPA believes there will be no capital startup and no operation and maintenance costs associated with information collection requirements of the rule.

The government burden associated with today's rule will impact State, Tribal, and Territorial governments (NPDES-authorized governmental entities) that have storm water program authority, as well as the federal government (i.e., EPA), where it is the NPDES permitting authority. As of March 1999, 43 States and the Virgin Islands had NPDES authority.

The annual burden imposed upon authorized governmental entities (delegated States and the Virgin Islands) and the federal government for the next three years is estimated to be 19,992 hours ($537,985) and 4,087 hours ($115,948) respectively, for a total of 24,079 hours ($653,933). This estimate is based on the average time that governments will expend to carry out the following activities: designate additional MS4s (332.8 hours) and process and review “no exposure” certificates from industrial dischargers (0.5 hour).

Under the existing rule, storm water discharges from light industrial activities identified under §122.26(b)(14)(xi) were exempted from the permit application requirements if they were not exposed to storm water. Today's rule expands the applicability of the “no exposure” exclusion to include all industrial activity regulated under §122.26(b)(14) (except category (x), construction). The “no exposure” provision is applied through the use of a written certification process, thus representing a slight reporting burden increase for “light” industries with “no exposure'.

In addition to the information collection, reporting, and record keeping burden for the next three years, today's rule contains information collection requirements that will not begin until three years or more from the effective date of today's rule. These information collection requirements were not included in the information collection request approved by OMB. EPA will submit these burden estimates for OMB approval when it submits ICR 2040-0211 to OMB for renewal in three years. The rule burdens for regulated small MS4s and small construction sites that will be included in the ICR renewal fall into three areas: application for an NPDES permit or submittal of waiver information, record keeping of storm water management activities, and submittal of reports to the permitting authority. There will also be an additional burden for the permitting authority to review this information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15. EPA is amending the table in 40 CFR Part 9 of currently approved ICR control numbers issued by OMB for various regulations to list the first three years of information requirements contained in this final rule.

B. Executive Order 12866

Under Executive Order 12866, [58 FR 51,735 (October 4, 1993)] the Agency must determine whether the regulatory action is “significant” and therefore subject to OMB review and the requirements of the Executive Order. The Order defines “significant regulatory action” as one that is likely to result in a rule that may:

(1) have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is a "significant regulatory action". As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

C. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a ***68797** written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted.

EPA has determined that today's rule contains a Federal mandate that may result in expenditures of $100 million or more in any one year for both State, local, and tribal governments, in the aggregate, and the private sector. Accordingly, EPA has prepared under section 202 of the UMRA a written statement which is summarized below.

1. Summary of UMRA Section 202 Written Statement

EPA promulgates today's storm water regulation pursuant to the specific mandate of Clean Water Act section 402(p)(6), as well as sections 301, 308, 402, and 501. (33 U.S.C. sections 1342(p)(6), 1311, 1318, 1342, 1361.) Section 402(p)(6) of the CWA requires that EPA designate sources to be regulated to protect water quality and establish a comprehensive program to regulate those sources.

In the Economic Analysis of the Final Phase II Rule (EA), EPA describes the qualitative and monetized benefits associated with today's rule and then compares the monetized benefits with the estimated costs for the rule. EPA developed detailed estimates of the costs and benefits of complying with each of the incremental requirements imposed by the rule. These estimates, including descriptions of the methodology and assumptions used, are described in detail in the EA. The Agency used two approaches, a national water quality model and national water quality assessment, to estimate the potential benefits of the rule. Both approaches show that the benefits are likely to exceed costs. Exhibit 3 in section III of this preamble summarizes the costs and benefits associated with the basic elements of today's rule.

There are additional benefits to storm water control that cannot be quantified or monetized. Thus, the current estimate of monetized benefits may understate the true value of storm water controls because it omits many ways by which society is likely to benefit from reduced storm water pollution, such as improved aesthetic quality of waters, benefits to wildlife and to threatened and endangered species, cultural values, and biodiversity benefits.

Several commenters asserted that today's rule is an unfunded mandate and that, without funding, the monitoring of the already existing pollution control programs would suffer. In section II.D.3 of the preamble, EPA lists some of the programs that EPA anticipates may provide funds to help develop and, in limited circumstances, implement storm water management programs.

In the EA, EPA reviewed the expected effect of today's rule on the national economy. The Agency determined that the rule will have minimal impacts on the economy or employment. This is because the final rule regulates small MS4s and

construction sites under 5 acres, not the typical industrial plants or other non-construction activities that could directly impact production and thus those sectors of the economy.

Discussions with representatives within the construction industry indicate that construction costs will likely be passed on to buyers, thus not seriously affecting the housing industry directly. Flexibility within the rule allows MS4s to tailor the storm water program requirements to their needs and financial position, minimizing impacts. For sedimentation and erosion controls on construction sites, the rule contemplates application of commonly used BMPs to reduce costs for the construction industry. Thus, the rule attempts to use existing practices to prevent pollution, which should minimize impacts on States, Tribes, municipalities and the construction industry.

Thus, EPA concludes that the effect of the rule, if any, on the national economy would be minimal. The benefits of today's rule more than offset any cost impacts on the national economy.

Consistent with the intergovernmental consultation provisions of section 204 of the UMRA and Executive Order 12875, "Enhancing the Intergovernmental Partnership," EPA consulted with the governmental entities affected by this rule.

First, EPA provided States, Tribal and local governments with the opportunity to comment on draft alternative approaches for the proposed rule through publishing a notice requesting information and public comment in the Federal Register on September 9, 1992 (57 FR 41344). This notice presented a full range of regulatory alternatives. At that time, EPA received more than 130 comments, including approximately 43 percent from municipalities and 24 percent from State or Federal agencies. These comments were the genesis of many of the provisions in the today's rule, including reliance on the NPDES program framework (including general permits), providing State and local governments flexibility in selecting additional sources requiring regulation, and focusing on high priority polluters. These comments helped to focus on pollution prevention, watershed-based concerns and BMPs. They also led to certain exemptions for facilities that do not pollute national waters.

In early 1993, EPA, in conjunction with the Rensselaerville Institute, held public and expert meetings to assist in developing and analyzing options for identifying unregulated storm water sources and possible controls. These meetings provided participants an additional opportunity to provide input into the CWA section 402(p)(6) program development process. The final rule addresses several of the key concerns identified in these groups, including provisions that provide flexibility to the States to select sources to be controlled and types of permits to be issued, and flexibility to MS4s in selecting BMPs.

EPA also conducted outreach with representatives of small entities, including small government representatives, in conjunction with the convening of a Small Business Advocacy Review Panel under SBREFA which is discussed in section IV.E. of the preamble.

In addition, EPA established the Urban Wet Weather Flows Advisory Committee under the Federal Advisory Committee Act (FACA). The Urban Wet Weather Flows Advisory Committee, in turn established the Storm Water Phase II Subcommittee. Consistent with FACA, the membership of the Committee and the Storm Water Phase II Subcommittee was balanced among EPA's various outside stakeholder interests, including representatives from State governments, municipal governments (both elected officials and appointed officials) and Tribal governments, as well as industrial and commercial sectors, agriculture, environmental and public interest groups.

In general, municipal and Tribal government representatives supported the NPDES approach in today's rule for the following reasons: It will be uniformly applied on a nationwide basis; it provides flexibility to allow incorporation of State and local programs; it resolves the problem of donut holes that cause water quality impacts in urbanized areas; and it allows co-permitting of small regulated ***68798** MS4s with those regulated under the existing storm water program.

In contrast, State representatives sought alternative approaches for State implementation of the storm water program for Phase II sources. State representatives asserted that a non-NPDES alternative approach best facilitated watershed management and avoided duplication and overlapping regulations. These representatives pointed out that there are a variety of State programs—not based on the CWA—implementing effective storm water controls, and that EPA should provide incentives for their implementation and improvement in performance. EPA continues to believe that an NPDES approach is the best approach in order to adequately protect water quality. However, EPA has worked with States on an alternative approach that provides flexibility within the NPDES framework. The final rule allows States with a watershed permitting approach to phase in permit coverage for MS4s in jurisdictions with a population less than 10,000 and provides two waivers from coverage for small MS4s. This issue is discussed in section II.C of the preamble, Program Framework: NPDES Approach.

Some municipal governments objected that the rule's minimum measures for small MS4s violate the Tenth Amendment insofar as they require the operators of MS4s to regulate third parties according to the "minimum measures" for municipal storm water management programs. EPA disagrees that today's rule is inconsistent with Tenth Amendment principles. Permits issued under today's rule will not compel political subdivisions of States to regulate in their sovereign capacities, but rather to effectively control discharges out of their storm sewer systems in their owner/operator capacities. For MS4s that do not accept this "default" minimum measures-based approach (to control discharges out of the storm sewer system by exercising local powers to control discharges into the storm sewer system), today's rule allows for alternative permits through individual permit applications. EPA made revisions to the rule to allow regulated small MS4s to opt out of the minimum measures approach and instead apply for an individual permit. This issue is discussed in section II.H.3.c.iii of the preamble, Alternative Permit Option/Tenth Amendment.

2. Selection of the Least Costly, Most Cost-Effective or Least Burdensome Alternative That Achieves the Objectives of the Statute

Today's rule evolved over time and incorporated aspects of alternatives that responded to concerns presented by the various stakeholders. A primary characteristic of today's rule is the flexibility it offers both the permitting authority and the regulated sources (small MS4s and small construction sites), by the use of general permits, implementation of BMPs suited to specific locations, and allowing MS4s to develop their own program goals.

In the administrative record supporting the proposed rule, EPA estimated ranges of costs associated with six different options, including a no action option, the proposed option, and four other options that considered various combinations of the following: Covering all the unregulated construction sites below 5 acres, all small MS4s, certain industrial and commercial activities, and all point sources. EPA developed detailed cost estimates for the incremental requirements imposed under the final regulation, and for each of the alternatives, and applied these estimates to the remaining unregulated point sources of storm water. The Agency compared the estimated annual range of costs imposed under today's rule and other major options considered. The range of values for each option included the costs for compliance, including paperwork requirements for the operators of small construction sites, industrial facilities, and MS4s and administrative costs for State and Federal NPDES permitting authorities.

Today's rule reflects the least costly option that achieves the objectives of the statute, thus meeting the requirements of section 205. EPA did not consider "no regulation" to be an "option" because it would not achieve the objectives of CWA section 402(p)(6). A portion of currently unregulated point sources of storm water need to reduce pollutants to protect water quality.

Today's rule is estimated to range in cost from $847.6 million to $981.3 million annually, although the cost estimate for the proposed rule was reported as a range of $138 to $869 million annually. That range reflected a unit cost range for the municipal minimum measures and a cost range per construction site for soil erosion control. EPA has since revised its cost analysis to allow it to report the current estimate, which is toward the high end of the original cost range. The

four other regulatory options considered at proposal involved higher regulatory costs and, therefore, were not selected. These four options and their estimated costs are as follows:

(1) An option based on the August 7, 1995 direct final rule was estimated to cost between $2.2 billion and $78.9 billion per year.

(2) A “Plan B” option was estimated to cost between $0.6 billion and $3.2 billion per year.

(3) An option based on the September 30, 1996 draft proposed rule was estimated to cost between $0.2 billion and $3.7 billion per year.

(4) An option based on the February 13, 1997 draft proposed rule, was estimated to cost between $0.2 billion and $3.5 billion.

There are three reasons why the costs for these four options exceeded the estimated cost range for the proposed rule. The first two options regulated substantially more municipal governments. The first, third, and fourth options required industrial facilities to apply for permits. Finally, the first three options applied permit requirements to construction sites below 1 acre. Consequently, these options would be more costly than today's rule even with the revised analysis methods used to estimate costs.

3. Effects on Small Governments

Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements. EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. Although today's rule expands the NPDES program (with modifications) to certain MS4s serving populations below 100,000 and although many MS4s are owned by small governments, EPA does not believe today's rule significantly or uniquely affects small governments. As explained in section IV.E. of the preamble, EPA today certifies that the rule will not have a significant impact on small governmental jurisdictions. In addition, the rule will not have a unique impact on small governments because the rule will affect small governments in ***68799** to the same extent as (or to a lesser extent than) larger governments that are already covered by the existing storm water rules. Thus, today's rule is not subject to the requirements of section 203 of UMRA.

Notwithstanding this finding, in developing today's rule, EPA provided notice of the requirements to potentially affected small governments; enabled officials of affected small governments to provide meaningful and timely input in the development of regulatory proposals; and informed, educated and advised small governments on compliance with the requirements.

Concerning notice, EPA provided States, local, and Tribal governments with the opportunity to comment on alternative approaches for an early draft of the proposed rule by publishing a notice requesting information and public comment in the Federal Register on September 9, 1992 (57 FR 41344). This notice presented a full range of regulatory alternatives. At that time, EPA received more than 130 comments, including approximately 43 percent from municipalities and 24 percent from State or Federal agencies.

The Agency also provided, through the SBREFA panel process and the FACA process, the opportunity for elected officials of small governments (and their representatives) to meaningfully participate in the development of the rule. Through such participation and exchange, EPA not only notified potentially affected small governments of requirements

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of the developing rule, but also allowed officials of affected small governments to have meaningful and timely input into the development of regulatory proposals.

In addition to involving municipalities in the development of the rule, EPA also continues to inform, educate, and advise small governments on compliance with the requirements of today's rule. For example, EPA supported 10 workshops, presented by the American Public Works Association from September 1998 through May 1999, designed to educate local governments on the implementation of the rule. The workshop curriculum included information on a variety of key issues such as anticipated regulatory requirements, agency reporting, best management practices, construction site controls, post construction management for new and redeveloped sites, public education and public involvement strategies, detection and control of illicit discharges, and good housekeeping practices. Moreover, EPA has prepared a series of fact sheets, available on the EPA website at www.epa.gov/owm/sw/toolbox, that explains the rule in detail.

Finally, to assist small governments in implementing the Phase II program, EPA is committed to the following: (1) developing a tool box of implementation strategies; (2) providing written technical assistance, including guidance on developing BMPs and measurable goals; and (3) compiling a comprehensive evaluation of the NPDES municipal storm water Phase II program over the next 13 years.

D. Executive Order 13132

Executive Order 13132, entitled “Federalism” (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, Executive Order 13132 requires EPA to provide to the Office of Management and Budget (OMB), in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. For final rules subject to Executive Order 13132, EPA also must submit to OMB a statement from the agency's Federalism Official certifying that EPA has fulfilled the Executive Order's requirements.

EPA has concluded that this final rule may have federalism implications. As discussed above in section IV.C., the rule contains a Federal mandate that may result in the expenditure by State, local and tribal governments, in the aggregate, of $100 million or more in any one year. Accordingly, the rule may have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Moreover, the rule will impose substantial direct compliance costs on State or local governments. Accordingly, EPA provides the following FSIS under section 6(b) of Executive Order 13132.

1. Description of the Extent of the Agency's Prior Consultation with State and Local Governments

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Although this rule was proposed long before the November 2, 1999 effective date of Executive Order 13132, EPA consulted extensively with affected State and local governments pursuant to the intergovernmental consultation provisions of Executive Order 12875, "Enhancing the Intergovernmental Partnership" (now revoked by Executive Order 13132) and section 204 of UMRA.

First, EPA provided State and local governments the opportunity to comment on draft alternative approaches for the proposed rule through publishing a notice requesting information and public comment in the Federal Register on September 9, 1992 (57 FR 41344). This notice presented a full range of regulatory alternatives. At that time, EPA received more than 130 comments, including approximately 43 percent from municipalities and 24 percent from State or Federal agencies. These comments were the genesis of many of the provisions in the today's rule, including reliance on the NPDES program framework (including general permits), providing State and local governments flexibility in selecting additional sources requiring regulation, and focusing on high priority polluters. These comments helped to focus on pollution prevention, watershed-based concerns and BMPs. They also led to certain exemptions for facilities that do not pollute national waters.

In early 1993, EPA, in conjunction with the Rensselaerville Institute, held public and expert meetings to assist in developing and analyzing options for identifying unregulated storm water sources and possible controls. These meetings provided participants an additional opportunity to provide input into the CWA section 402(p)(6) program ***68800** development process. The final rule addresses several of the key concerns identified in these groups, including provisions that provide flexibility to the States to select sources to be controlled and types of permits to be issued, and flexibility to MS4s in selecting BMPs.

EPA also conducted outreach with representatives of small entities, including small governments, in conjunction with the convening of a Small Business Advocacy Review Panel under SBREFA which is discussed in section III.F. of the preamble.

In addition, EPA established the Urban Wet Weather Flows Advisory Committee (FACA), which in turn established the Storm Water Phase II Subcommittee. Consistent with the Federal Advisory Committee Act, the membership of the Committee and the Storm Water Phase II Subcommittee was balanced among EPA's various outside stakeholder interests, including representatives from State governments, municipal governments (both elected officials and appointed officials) and Tribal governments, as well as industrial and commercial sectors, agriculture, environmental and public interest groups.

2. Summary of Nature of State and Local Government Concerns, and Statement of the Extent to Which Those Concerns Have Been Met

In general, municipal government representatives supported the NPDES approach in today's rule for the following reasons: it will be uniformly applied on a nationwide basis; it provides flexibility to allow incorporation of State and local programs; it resolves the problem of donut holes that cause water quality impacts in urbanized areas; and it allows co-permitting of small regulated MS4s with those regulated under the existing storm water program.

In contrast, State representatives sought alternative approaches for State implementation of the storm water program for Phase II sources. State representatives asserted that a non-NPDES alternative approach best facilitated watershed management and avoided duplication and overlapping regulations. These representatives pointed out that there are a variety of State programs—not based on the CWA—implementing effective storm water controls, and that EPA should provide incentives for their implementation and improvement in performance. EPA continues to believe that an NPDES approach is the best approach in order to adequately protect water quality. However, EPA has worked with States on an alternative approach that provides flexibility within the NPDES framework. The final rule allows States with a watershed permitting approach to phase in permit coverage for MS4s in jurisdictions with a population less than 10,000

and provides two waivers from coverage for small MS4s. This issue is discussed in section II.C of the preamble, Program Framework: NPDES Approach.

Some municipal governments objected that the rule's minimum measures for small MS4s violate the Tenth Amendment insofar as they require the operators of MS4s to regulate third parties according to the "minimum measures" for municipal storm water management programs. EPA disagrees that today's rule is inconsistent with Tenth Amendment principles. Permits issued under today's rule will not compel political subdivisions of States to regulate in their sovereign capacities, but rather to effectively control discharges out of their storm sewer systems in their owner/operator capacities. For MS4s that do not accept this "default" minimum measures-based approach (to control discharges out of the storm sewer system by exercising local powers to control discharges into the storm sewer system), today's rule allows for alternative permits through individual permit applications. EPA made revisions to the rule to allow regulated small MS4s to opt out of the minimum measures approach and instead apply for an individual permit. This issue is discussed in section II.H.3.c.iii of the preamble, Alternative Permit Option/Tenth Amendment.

3. Summary of the Agency's Position Supporting the Need To Issue the Regulation

As discussed more fully in section I.B. above, today's rule is needed because uncontrolled storm water discharges from areas of urban development and construction activity have been shown to have negative impacts on receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and people. As discussed in section II.C., the NPDES approach in today's rule is needed to ensure uniform application on a nationwide basis, to provide flexibility to allow incorporation of State and local programs, to resolve the problem of donut holes that cause water quality impacts in urbanized areas, and to allow co-permitting of small regulated MS4s with those regulated under the existing storm water program.

The draft final rule was transmitted to OMB on July 6, 1999. Because transmittal occurred before the November 2, 1999 effective date of Executive Order 13132, certification under section 8 of the Executive Order is not required.

E. Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an Agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impact of today's rule on small entities, small entity is defined as: (1) a building contractor (SIC 15) with up to $17.0 million in annual revenue; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities.

Although this final rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities.

For purposes of evaluating the economic impact of this rule on small governmental jurisdictions, EPA compared annual compliance costs with annual government revenues obtained from the 1992 Census of Governments, using state-specific estimates of annual revenue per capita for municipalities in three population size categories (fewer than 10,000, 10,000-25,000, and 25,000-50,000).

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In order to estimate the annual compliance cost for small governmental jurisdictions, EPA used the mean variable municipal cost of $8.93 per household as calculated in a 1998 study of 121 municipalities conducted by the national Association of Flood and Stormwater Management Agencies (NAFSMA). In addition, EPA used the estimated fixed administrative costs of $1,545 per municipality for reporting, ***68801** recordkeeping, and application requirements for today's rule.

In evaluating the economic impact of this rule on small governmental jurisdictions, EPA determined that compliance costs represent more than 1 percent of estimated revenues for only 10 percent of small governments and more than 3 percent of the revenue for 0.7 percent of these entities. In both absolute and relative terms, EPA does not consider this a significant economic impact on a substantial number of small entities.

EPA normally uses the “sales test” for determining the economic impact on small businesses. Under a sales test, annual compliance costs are compared with the small business's total annual sales. However, the direct application of the sales test is not suitable in this case, because of the uncertainty associated with estimating the number of units an “average” developer/contractor develops or builds in a typical year. For this rule, EPA has approximated the sales test by estimating compliance costs for three sizes of construction sites and comparing them with a representative sale price for three building categories. Although EPA's analysis is not exactly a “sales test,” it is similar to the sales test, producing comparable results.

For small building contractors, EPA estimated administrative compliance costs of $870 per site for applying for coverage, reporting, record keeping, monitoring and preparing a storm water pollution prevention plan. EPA estimated compliance costs for installing soil and erosion controls as ranging from $1,206 to $8,709 per site. EPA compliance cost estimates are based on 27 theoretical model construction sites designed to mimic the mostly likely used best management practices around the country.

In evaluating the economic impact on small building contractors, EPA divided the revised compliance costs per construction start by the appropriate homes-to-site ratio for each of the three sizes of construction sites. The average compliance cost per home ranges from approximately $450 to $650. EPA concluded that compliance costs are roughly 0.22 to 0.43 percent of both the mean, $181,300, and median, $151,000, sale price of a home.

The absence of data to specifically assess annual compliance costs for building contractors as a percentage of annual sales (i.e., a very direct estimate of the impact on potentially affected small businesses) led EPA to perform additional market analysis to examine the ability of potentially affected firms to pass along regulatory costs to buyers for single-family homes constructed subject to today's rule. If the small building contractors covered by the rule are able to pass on the costs of compliance, either completely or partially, to their purchasers, then the rule's impact on these small business entities is significantly reduced. The market analysis shows that demand for homes is not overly sensitive to small changes in price, therefore builders should be able to pass on at least a significant fraction of the compliance costs to buyers.

EPA also assessed the effect of the building contractors' costs on average monthly mortgage rates and on the demand for new homes. Based on that screening analysis, EPA concludes that the costs to building contractors, and the potential changes in housing prices and monthly mortgage payments for single-family home buyers, are not expected to have a significant impact on the market for single-family houses. In both absolute and relative terms, EPA does not consider this a significant economic impact on a substantial number of small entities.

EPA also certified this rule at proposal. Even though the Agency was not required to, we convened a Small Business Advocacy Review Panel (“Panel”) in June 1997. A number of small entity representatives had already been actively involved with EPA through the FACA process, and were, therefore, broadly knowledgeable about the development of the proposed and final rules. Prior to convening the Panel, EPA consulted with the Small Business Administration to

identify a group of small entity representatives to advise the Panel. The Agency distributed a briefing package describing its preliminary analysis under the RFA to the small entity representatives (as well as to representatives from OMB and SBA) and conducted two telephone conference calls and an all-day meeting at EPA Headquarters in May of 1997 with small entity representatives. With this preliminary work complete, in June 1997, EPA formally convened the SBREFA Panel, comprising representatives from OMB, SBA, EPA's Office of Water and EPA's Small Business Advocacy Chair. The Panel received written comments from small entity representatives based on their involvement in the earlier meetings, and invited additional comments.

Consistent with requirements of the RFA, the Panel evaluated the assembled materials and small-entity comments on issues related to: (1) a description and the number of small entities that would be regulated; (2) a description of the projected record keeping, reporting and other compliance requirements applicable to small entities; (3) identification of other Federal rules that may duplicate, overlap, or conflict with the proposal to the final rule; and (4) regulatory alternatives that would minimize any significant economic impact of the rule on small entities while accomplishing the stated objectives of the CWA section 402(p)(6).

On August 7, 1997, the Panel provided a Final Report (hereinafter, "Report") to the EPA Administrator. A copy of the Report is included in the docket for the rule. The Panel acknowledged and commended EPA's efforts to work with stakeholders, including small entities, through the FACA process. The SBREFA Panel stated that, because of EPA's extensive outreach and responsiveness in addressing stakeholder concerns, commenters during the SBREFA process raised fewer concerns than might otherwise have been expected. Based on the advice and recommendations of the Panel, today's rule includes a number of provisions designed to minimize any significant impact on small entities. (See Appendix 5).

F. National Technology Transfer And Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law 104-113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standard bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not mandate the use of any particular technical standards, although in designing appropriate BMPs regulated small MS4s and small construction sites are encouraged to use any voluntary consensus standards that may be applicable and appropriate. Because no specific technical standards are included in the rule, section 12(d) of the NTTAA is not applicable.

G. Executive Order 13045

Executive Order 13045: "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be "economically ***68802** significant" as defined under E.O. 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This final rule is not subject to E.O. 13045 because it does not concern an environmental health or safety risk that may have a disproportionate effect on children. The rule expands the scope of the existing NPDES permitting program to require small municipalities and small construction sites to regulate their storm water discharges. The rule does not itself, however, establish standards or criteria that would be included in permits for those sources. Such standards or criteria

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will be developed through other actions, for example, in the establishment of water quality standards or subsequently in the issuance of permits themselves. As such, today's action does not concern an environmental health or safety risk that may have a disproportionate effect on children. To the extent it does address a risk that may have a disproportionate effect on children, expanding the scope of the permitting program will have a corresponding disproportionate benefit to children to protect them from such risk.

H. Executive Order 13084

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the Tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected Tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian Tribal governments "to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities."

Today's rule does not significantly or uniquely affect the communities of Indian Tribal governments. Even though the Agency is not required to address Tribes under the Regulatory Flexibility Act, EPA used the same revenue test that was used for municipalities to assess the impact of the rule on communities of Tribal governments and determine that they will not be significantly affected. In addition, the rule will not have a unique impact on the communities of Tribal governments because small municipal governments are also covered by this rule and larger municipal governments are already covered by the existing storm water rules. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

I. Congressional Review Act

The Congressional Review Act, 5 U.S.C. section 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This rule is a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective on February 7, 2000.

List of Subjects

40 CFR Part 9

Environmental protection, Reporting and recordkeeping requirements.

40 CFR Part 122

Administrative practice and procedure, Confidential business information, Environmental protection, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements, Sewage disposal, Waste treatment and disposal, Water pollution control.

40 CFR Part 123

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Administrative practice and procedure, Confidential business information, Hazardous materials, Indians—lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Sewage disposal, Waste treatment and disposal, Water pollution control, Penalties.

40 CFR Part 124

Administrative practice and procedure, Air pollution control, Hazardous waste, Indians—lands, Reporting and recordkeeping requirements, Water pollution control, Water supply.

Dated: October 29, 1999.

Carol M. Browner,

Administrator.

Appendices to the Preamble

Appendix 1 to Preamble—Federally-Recognized American Indian Areas Located Fully or Partially in Bureau of the Census Urbanized Areas

[Based on 1990 Census data]

State	American Indian Area	Urbanized Area
AZ	Pascua Yacqui Reservation (pt.): Pascua Yacqui Tribe of Arizona	Tucson, AZ (Phase I).
AZ	Salt River Reservation (pt.): Salt River Pima-Maricopa Indian Community of the Salt River Reservation, California	Phoenix, AZ (Phase I).
AZ	San Xavier Reservation (pt.): Tohono O'odham Nation of Arizona (formerly known as the Papago Tribe of the Sells, Gila Bend & San Xavier Reservation)	Tucson, AZ (Phase I).
CA	Augustine Reservation: Augustine Band of Cahuilla Mission of Indians of the Augustine Reservation, CA	Indio- Coachella, CA (Phase I).
CA	Cabazon Reservation: Cabazon Band of Cahuilla Mission Indians of the Cabazon Reservation, CA	Indio- Coachella, CA (Phase I).
CA	Fort Yuma (Quechan) (pt.): Quechan Tribe of the Fort Yuma Indian Reservation, California & Arizona	Yuma, AZ-CA.
CA	Redding Rancheria: Redding Rancheria of California	Redding, CA.
FL	Hollywood Reservation: Seminole Tribe	Fort Lauderdale, FL (Phase I).

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FL	Seminole Trust Lands: Seminole Tribe of Florida, Dania, Big Cypress & Brighton Reservations	Fort Lauderdale, FL (Phase I).
ID	Fort Hall Reservation and Trust Lands: Shosone-Bannock Tribes of the Fort Hall Reservation of Idaho	Pocatello, ID.
ME	Penobscot Reservation and Trust Lands (pt.): Penobscot Tribe of Maine	Bangor, ME.
MN	Shakopee Community: Shakopee Mdewakanton Sioux Community of Minnesota (Prior Lake)	Minneapolis-St. Paul, MN (Phase I).
NM	Sandia Pueblo (pt.): Pueblo of Sandia, New Mexico	Albuquerque, NM (Phase I).
NV	Las Vegas Colony: Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada	Las Vegas, NV (Phase I).
NV	Reno-Sparks Colony: Reno-Sparks Indian Colony, Nevada	Reno, NV (Phase I).
OK	Osage Reservation (pt.): Osage Nation of Oklahoma	Tulsa, OK (Phase I).
OK	Absentee Shawnee-Citizens Band of Potawatomi TJSA (pt.): Absentee-Shawnee Tribe of Indians of Oklahoma; Citizen Potawatomi Nation, Oklahoma	Oklahoma City, OK (Phase I).
OK	Cherokee TJSA 9 (pt.): Cherokee Nation of Oklahoma; United Keetoowah Band of Cherokee Indians of Oklahoma	Ft. Smith, AR-OK; Tulsa, OK (Phase I).
OK	Cheyenne-Arapaho TJSA (pt.): Cheyenne-Arapaho Tribes of Oklahoma	Oklahoma City, OK (Phase I).
OK	Choctaw TJSA (pt.): Choctaw Nation of Oklahoma	Ft. Smith, AR-OK (Phase I).
OK	Creek TJSA (pt.): Alabama-Quassarte Tribal Town of the Creek Nation of Oklahoma; Kialegee Tribal Town of the Creek Indian Nation of Oklahoma; Muscogee (Creek) Nation of Oklahoma; Thlopthlocco Tribal Town of the Creek Nation of Oklahoma	Tulsa, OK (Phase I).
OK	Kiowa-Comanche-Apache-Ft. Sill Apache: Apache Tribe of Oklahoma; Comanche Indian Tribe, Oklahoma; Fort Sill Apache Tribe of Oklahoma; Kiowa Indian Tribe of Oklahoma	Lawton, OK.
TX	Ysleta del Sur Reservation: Ysleta Del Sur Pueblo of Texas	El Paso, TX-NM (Phase I).
WA	Muckleshoot Reservation and Trust Lands (pt.): Muckleshoot Indian Tribe of the Muckleshoot Reservation	Seattle, WA (Phase I).

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WA	Puyallup Reservation and Trust Lands (pt.): Puyallup Tribe of the Puyallup Reservation, WA	Tacoma, WA (Phase I).
WA	Yakima Reservation (pt.): Confederated Tribes and Bands of the Yakama Indian Nation of the Yakama Reservation, WA	Yakima, WA.
WI	Oneida (West) (pt.): Oneida Tribe of Wisconsin	Green Bay, WI.

***68803 Please Note**

"(pt.)" indicates that the American Indian Area (AIA) listed is only partially located within the referenced urbanized area.

The first line under "American Indian Area" is the name of the federally-recognized reservation/colony/rancheria or trust land as it appears in the Bureau of the Census data. After this first line, the names of the tribes included in the AIA are listed as they appear in the Bureau of Indian Affairs' list of Federally Recognized Indian Tribes. [Federal Register: Nov. 13, 1996, Vol. 66, No. 220, pgs. 58211-58216]

"TJSAs" are Tribal Jurisdiction Statistical Areas in Oklahoma that are defined in conjunction with the federally-recognized tribes in Oklahoma who have definite land areas under their jurisdiction, but do not have reservation status.

"(Phase I)" indicates that the referenced urbanized area includes a medium or large MS4 currently regulated under the existing NPDES storm water program (i.e., Phase I). Any Tribally operated MS4 within these such urban areas would not automatically have been covered under Phase I, however.

Sources

Michael Ratcliffe, Geographic Concepts Division, Bureau of the Census, U.S. Department of Commerce.

1990 Census of Population and Housing, Summary Population and Housing Characteristics, United States. Tables 9 & 10. [1990 CPH-1-1]. Bureau of the Census, U.S. Department of Commerce.

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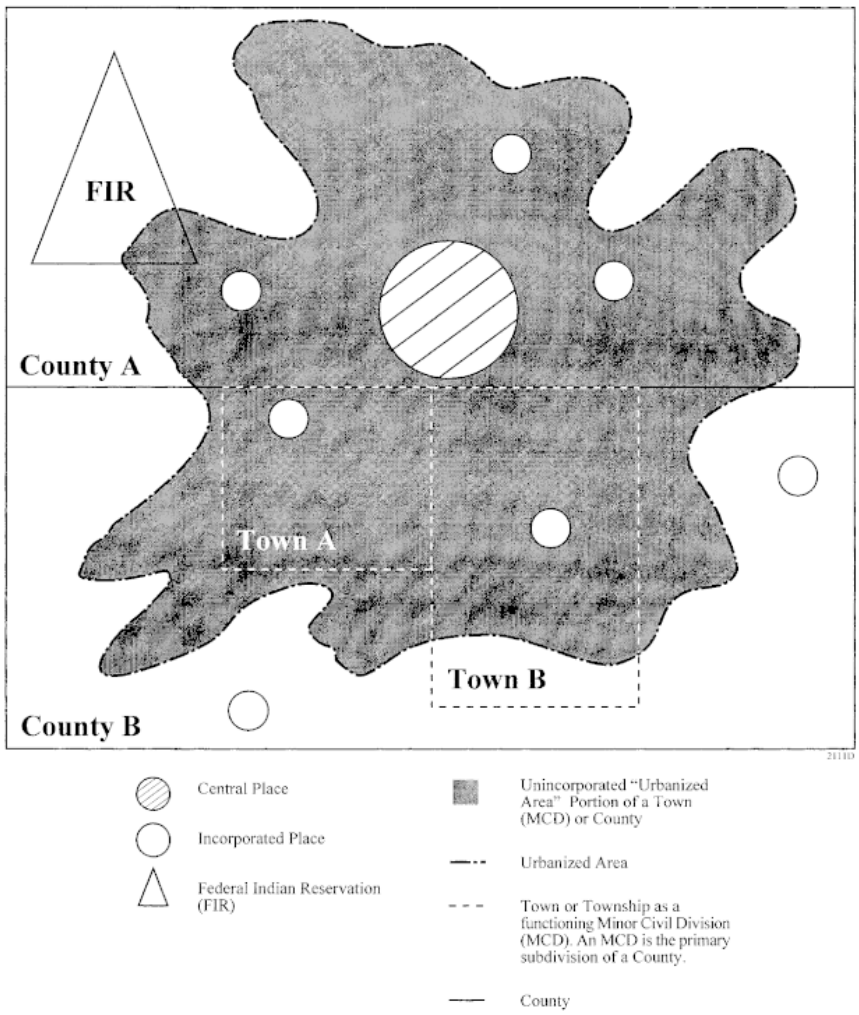
APPENDIX 2 TO PREAMBLE—URBANIZED AREA ILLUSTRATION



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***68805 Appendix 3 to the Preamble—Urbanized Areas of the United States and Puerto Rico**

(Source: 1990 Census of Population and Housing, U.S. Bureau of the Census—This list is subject to change with the Decennial Census)

Alabama

Anniston

Auburn-Opelika

Birmingham

Columbus, GA-AL

Decatur

Dothan

Florence

Gadsden

Huntsville

Mobile

Montgomery

Tuscaloosa

Alaska

Anchorage

Arizona

Phoenix

Tucson

Yuma, AZ-CA

Arkansas

Fayetteville-Springdale

Fort Smith, AR-OK

Little Rock-North Little Rock

Memphis, TN-AR-MS

Pine Bluff

Texarkana, AR-TX

California

Antioch-Pittsburgh

Bakersfield

Chico

Davis

Fairfield

Fresno

Hemet-San Jacinto

Hesperia-Apple Valley-Victorville

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Indio-Coachella

Lancaster-Palmdale

Lodi

Lompoc

Los Angeles

Merced

Modesto

Napa

Oxnard-Ventura

Palm Springs

Redding

Riverside-San Bernardino

Sacramento

Salinas

San Diego

San Francisco-Oakland

San Jose

San Luis Obispo

Santa Barbara

Santa Cruz

Santa Maria

Santa Rosa

Seaside-Monterey

Simi Valley

Stockton

Vacaville

Visalia

Watsonville

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Yuba City

Yuma

Colorado

Boulder

Colorado Springs

Denver

Fort Collins

Grand Junction

Greeley

Longmont

Pueblo

Connecticut

Bridgeport-Milford

Bristol

Danbury, CT-NY

Hartford-Middletown

New Britain

New Haven-Meriden

New London-Norwich

Norwalk

Springfield, MA-CT

Stamford, CT-NY

Waterbury

Worcester, MA-CT

Delaware

Dover

Wilmington, DE-NJ-MD-PA

District of Columbia

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Washington, DC-MD-VA

Florida

Daytona Beach

Deltona

Fort Lauderdale-Hollywood-Pompano Beach

Fort Myers-Cape Coral

Fort Pierce

Fort Walton Beach

Gainesville

Jacksonville

Kissimmee

Lakeland

Melbourne-Palm Bay

Miami-Hialeah

Naples

Ocala

Orlando

Panama City

Pensacola

Punta Gorda

Sarasota-Bradenton

Spring Hill

Stuart

Tallahassee

Tampa-St. Petersburg-Clearwater

Titusville

Vero Beach

West Palm Beach-Boca Raton-Delray Beach

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Winter Haven

Georgia

Albany

Athens

Atlanta

Augusta

Brunswick

Chattanooga

Columbus

Macon

Rome

Savannah

Warner Robins

Hawaii

Honolulu

Kailua

Idaho

Boise City

Idaho Falls

Pocatello

Illinois

Alton

Aurora

Beloit, WI-IL

Bloomington-Normal

Champaign-Urbana

Chicago, IL-Northwestern IN

Crystal Lake

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Davenport-Rock Island-Moline, IA-IL

Decatur

Dubuque

Elgin

Joliet

Kankakee

Peoria

Rockford

Round Lake Beach-McHenry, IL-WI

St. Louis, MO-IL

Springfield

Indiana

Anderson

Bloomington

Chicago, IL-Northwestern IN

Elkhart-Goshen

Evansville, IN-KY

Fort Wayne

Indianapolis

Kokomo

Lafayette-West Lafayette

Louisville, KY-IN

Muncie

South Bend-Mishawaka, IN-MI

Terre Haute

Iowa

Cedar Rapids

Davenport-Rock Island-Moline, IA-IL

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Des Moines

Dubuque, IA-IL-WI

Iowa City

Omaha, NE-IA

Sioux City, IA-NE-SD

Waterloo-Cedar Falls

Kansas

Kansas City, MO-KS

Lawrence

St. Joseph, MO-KS

Topeka

Wichita

Kentucky

Cincinnati, OH-KY

Clarksville, TN-KY

Evansville, IN-KY

Huntington-Ashland, WV-KY-OH

Lexington-Fayette

Louisville, KY-IN

Owensboro

Louisiana

Alexandria

Baton Rouge

Houma

Lafayette

Lake Charles

Monroe

New Orleans

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Shreveport ***68806**

Slidell

Maine

Bangor

Lewiston-Auburn

Portland

Portsmouth-Dover-Rochester, NH-ME

Maryland

Annapolis

Baltimore

Cumberland

Frederick

Hagerstown, MD-PA-WV

Washington, DC-MD-VA

Wilmington, DE-NJ-MD-PA

Massachusetts

Boston

Brockton

Fall River, MA-RI

Fitchburg-Leominster

Hyannis

Lawrence-Haverhill, MA-NH

Lowell, MA-NH

New Bedford

Pittsfield

Providence-Pawtucket, RI-MA

Springfield, MA-CT

Taunton

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Worcester, MA-CT

Michigan

Ann Arbor

Battle Creek

Bay City

Benton Harbor

Detroit

Flint

Grand Rapids

Holland

Jackson

Kalamazoo

Lansing-East Lansing

Muskegon

Port Huron

Saginaw

South Bend-Mishawaka, IN-MI

Toledo, OH-MI

Minnesota

Duluth, MN-WI

Fargo-Moorhead, ND-MN

Grand Forks, ND-MN

La Crosse, WI-MN

Minneapolis-St.Paul

Rochester

St. Cloud

Mississippi

Biloxi-Gulfport

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Hattiesburg

Jackson

Memphis, TN-AR-MS

Pascagoula

Missouri

Columbia

Joplin

Kansas City, MO-KS

St. Joseph, MO-KS

St. Louis, MO-IL

Springfield

Montana

Billings

Great Falls

Missoula

Nebraska

Lincoln

Omaha, NE-IA

Sioux City, IA-NE-SD

Nevada

Las Vegas

Reno

New Hampshire

Lawrence-Haverhill, MA-NH

Lowell, MA-NH

Manchester

Nashua

Portsmouth-Dover-Rochester, NH-ME

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New Jersey

Allentown-Bethlehem-Easton, PA-NJ

Atlantic City

New York, NY-Northeastern NJ

Philadelphia, PA-NJ

Trenton, NJ-PA

Vineland-Millville

Wilmington, DE-NJ-MD-PA

New Mexico

Albuquerque

El Paso

Las Cruces

Santa Fe

New York

Albany-Schenectady-Troy

Binghamton

Buffalo-Niagara Falls

Danbury, CT-NY

Elmira

Glens Falls

Ithaca

Newburgh

New York, NY-Northeastern NJ

Poughkeepsie

Rochester

Stamford, CT-NY

Syracuse

Utica-Rome

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North Carolina

Asheville

Burlington

Charlotte

Durham

Fayetteville

Gastonia

Goldsboro

Greensboro

Greenville

Hickory

High Point

Jacksonville

Kannapolis

Raleigh

Rocky Mount

Wilmington

Winston-Salem

North Dakota

Bismark

Fargo-Moorhead, ND-MN

Grand Forks, ND-MN

Ohio

Akron

Canton

Cincinnati, OH-KY

Cleveland

Columbus

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Dayton

Hamilton

Huntington-Ashland, WV-KY-OH

Lima

Lorain-Elyria

Mansfield

Middletown

Newark

Parkersburg, WV-OH

Sharon, PA-OH

Springfield

Steubenville-Weirton, OH-WV-PA

Toledo, OH-MI

Wheeling, WV-OH

Youngstown-Warren

Oklahoma

Fort Smith, AR-OK

Lawton

Oklahoma City

Tulsa

Oregon

Eugene-Springfield

Longview

Medford

Portland-Vancouver, OR-WA

Salem

Pennsylvania

Allentown-Bethlehem-Easton, PA-NJ

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Altoona

Erie

Hagerstown, MD-PA-WV

Harrisburg

Johnstown

Lancaster

Monessen

Philadelphia, PA-NJ

Pittsburgh

Pottstown

Reading

Scranton-Wilkes-Barre

Sharon, PA-OH

State College

Steubenville-Weirton, OH-WV-PA

Trenton, NJ-PA

Williamsport

Wilmington, DE-NJ-MD-PA

York

Rhode Island

Fall River, MA-RI

Newport

Providence-Pawtucket, RI-MA

South Carolina

Anderson

Augusta, GA-SC

Charleston

Columbia

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Florence

Greenville

Myrtle Beach

Rock Hill

Spartanburg

Sumter

South Dakota

Rapid City

Sioux City, IA-NE-SD

Sioux Falls

Tennessee

Bristol, TN-Bristol, VA ***68807**

Chattanooga, TN-GA

Clarksville, TN-KY

Jackson

Johnson City

Kingsport, TN-VA

Knoxville

Memphis, TN-AR-MS

Nashville

Texas

Abilene

Amarillo

Austin

Beaumont

Brownsville

Bryan-College Station

Corpus Christi

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Dallas-Fort Worth

Denton

El Paso, TX-NM

Galveston

Harlingen

Houston

Killeen

Laredo

Lewisville

Longview

Lubbock

McAllen-Edinburg-Mission

Midland

Odessa

Port Arthur

San Angelo

San Antonio

Sherman-Denison

Temple

Texarkana, TX-Texarkana, AR

Texas City

Tyler

Victoria

Waco

Wichita Falls

Utah

Logan

Ogden

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Provo-Orem

Salt Lake City

Vermont

Burlington

Virginia

Bristol, TN-Bristol, VA

Charlottesville

Danville

Fredericksburg

Kingsport, TN-VA

Lynchburg

Norfolk-Virginia Beach-Newport News

Petersburg

Richmond

Roanoke

Washington, DC-MD-VA

Washington

Bellingham

Bremerton

Longview, WA-OR

Olympia

Portland-Vancouver, OR-WA

Richland-Kennewick-Pasco

Seattle

Spokane

Tacoma

Yakima

West Virginia

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Charleston

Cumberland, MD-WV

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Parkersburg, WV-OH

Steubenville-Weirton, OH-WV-PA

Wheeling, WV-OH

Wisconsin

Appleton-Neenah

Beloit, WI-IL

Duluth, MN-WI

Eau Claire

Green Bay

Janesville

Kenosha

La Crosse, WI-MN

Madison

Milwaukee

Oshkosh

Racine

Round Lake Beach-McHenry, IL-WI

Sheboygan

Wausau

Wyoming

Casper

Cheyenne

Puerto Rico

Aquadilla

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Arecibo

Caguas

Cayey

Humacao

Mayaguez

Ponce

San Juan

Vega Baja-Manati
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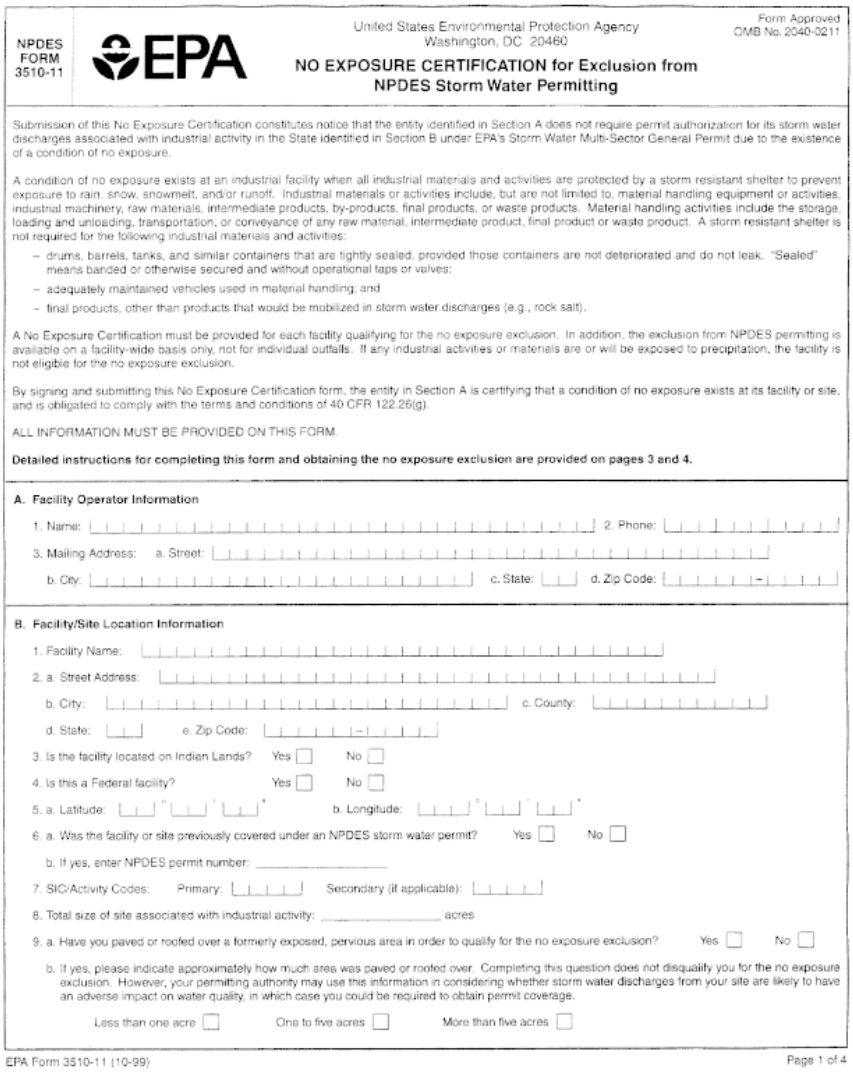
***68808 Appendix 4 to the Preamble—No Exposure Certification Form**



NPDES FORM 3510-11

EPA

United States Environmental Protection Agency
Washington, DC 20460

Form Approved
OMB No. 2040-0211

NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting

Submission of this No Exposure Certification constitutes notice that the entity identified in Section A does not require permit authorization for its storm water discharges associated with industrial activity in the State identified in Section B under EPA's Storm Water Multi-Sector General Permit due to the existence of a condition of no exposure.

A condition of no exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the no exposure exclusion. In addition, the exclusion from NPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the no exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity in Section A is certifying that a condition of no exposure exists at its facility or site, and is obligated to comply with the terms and conditions of 40 CFR 122.26(g).

ALL INFORMATION MUST BE PROVIDED ON THIS FORM.

Detailed instructions for completing this form and obtaining the no exposure exclusion are provided on pages 3 and 4.

A. Facility Operator Information

1. Name: 2. Phone:
3. Mailing Address: a. Street:
b. City: c. State: d. Zip Code:

B. Facility/Site Location Information

1. Facility Name:
2. a. Street Address:
b. City: c. County:
d. State: e. Zip Code:
3. Is the facility located on Indian Lands? Yes ☐ No ☐
4. Is this a Federal facility? Yes ☐ No ☐
5. a. Latitude: ° ' " b. Longitude: ° ' "
6. a. Was the facility or site previously covered under an NPDES storm water permit? Yes ☐ No ☐
b. If yes, enter NPDES permit number: _____
7. SIC/Activity Codes: Primary: Secondary (if applicable):
8. Total size of site associated with industrial activity: _____ acres
9. a. Have you paved or roofed over a formerly exposed, pervious area in order to qualify for the no exposure exclusion? Yes ☐ No ☐
b. If yes, please indicate aproximately how much area was paved or roofed over. Completing this question does not disqualify you for the no exposure exclusion. However, your permitting authority may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.
Less than one acre ☐ One to five acres ☐ More than five acres ☐

EPA Form 3510-11 (10-99) Page 1 of 4

NPDES FORM 3510-11 | EPA

NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting

Form Approved OMB No. 2040-0211

C. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) **If you answer "Yes" to any of these questions (1) through (11), you are not eligible for the no exposure exclusion.**

	Yes	No
1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	☐	☐
2. Materials or residuals on the ground or in storm water inlets from spills/leaks	☐	☐
3. Materials or products from past industrial activity	☐	☐
4. Material handling equipment (except adequately maintained vehicles)	☐	☐
5. Materials or products during loading/unloading or transporting activities	☐	☐
6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	☐	☐
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	☐	☐
8. Materials or products handled/stored on roads or railways owned or maintained by the discharger	☐	☐
9. Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])	☐	☐
10. Application or disposal of process wastewater (unless otherwise permitted)	☐	☐
11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	☐	☐

D. Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES storm water permitting.

I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under 40 CFR 122.26(g)(2)).

I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility.

Additionally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: _____

Print Title: _____

Signature: _____

Date: _____

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Instructions for the NO EXPOSURE CERTIFICATION for Exclusion from NPDES Storm Water Permitting

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Who May File a No Exposure Certification

Federal law at 40 CFR Part 122.26 prohibits point source discharges of storm water associated with industrial activity to waters of the U.S. without a National Pollutant Discharge Elimination System (NPDES) permit. However, NPDES permit coverage is not required for discharges of storm water associated with industrial activities identified at 40 CFR 122.26(b)(14)(i)-(ix) and (xi) if the discharger can certify that a condition of "no exposure" exists at the industrial facility or site.

Storm water discharges from construction activities identified in 40 CFR 122.26(b)(14)(x) and (b)(15) are not eligible for the no exposure exclusion.

Obtaining and Maintaining the No Exposure Exclusion

This form is used to certify that a condition of no exposure exists at the industrial facility or site described herein. This certification is only applicable in jurisdictions where EPA is the NPDES permitting authority and must be re-submitted at least once every five years.

The industrial facility operator must maintain a condition of no exposure at its facility or site in order for the no exposure exclusion to remain applicable. If conditions change resulting in the exposure of materials and activities to storm water, the facility operator must obtain coverage under an NPDES storm water permit immediately.

Where to File the No Exposure Certification Form

Mail the completed no exposure certification form to:

Storm Water No Exposure Certification (4203)
USEPA
401 M Street, SW
Washington, D.C. 20460

Completing the Form

You must type or print, using uppercase letters, in appropriate areas only. Enter only one character per space (i.e., between the marks). Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words. One form must be completed for each facility or site for which you are seeking to certify a condition of no exposure. Additional guidance on completing this form can be accessed through EPA's web site at www.epa.gov/owm/sw. Please make sure you have addressed all applicable questions and have made a photocopy for your records before sending the completed form to the above address.

Section A. Facility Operator Information

1. Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this certification. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility's operation, rather than the plant or site manager.

2. Provide the telephone number of the facility operator.

3. Provide the mailing address of the operator (P.O. Box numbers may be used). Include the city, state, and zip code. All correspondence will be sent to this address.

Section B. Facility/Site Location Information

1. Enter the official or legal name of the facility or site.

2. Enter the complete street address (if no street address exists, provide a geographic description (e.g., Intersection of Routes 9 and 55)), city, county, state, and zip code. Do not use a P.O. Box number.

3. Indicate whether the facility is located on Indian Lands.

4. Indicate whether the industrial facility is operated by a department or agency of the Federal Government (see also Section 313 of the Clean Water Act).

5. Enter the latitude and longitude of the approximate center of the facility or site in degrees/minutes/seconds. Latitude and longitude can be obtained from United States Geological Survey (USGS) quadrangle or topographic maps, by calling 1-(888) ASK-USGS, or by accessing EPA's web site at http://www.epa.gov/owm/sw/industry/index.htm and selecting Latitude and Longitude Finders under the Resources/Permit section.

   Latitude and longitude for a facility in decimal form must be converted to degrees (°), minutes (′), and seconds (″) for proper entry on the certification form. To convert decimal latitude or longitude to degrees/minutes/seconds, follow the steps in the following example.

   Example: Convert decimal latitude 45.1234567 to degrees (°), minutes (′), and seconds (″).

   a) The numbers to the left of the decimal point are the degrees: 45°.

   b) To obtain minutes, multiply the first four numbers to the right of the decimal point by 0.006: 1234 x 0.006 = 7.404.

   c) The numbers to the left of the decimal point in the result obtained in (b) are the minutes: 7′.

   d) To obtain seconds, multiply the remaining three numbers to the right of the decimal from the result obtained in (b) by 0.06: 404 x 0.06 = 24.24. Since the numbers to the right of the decimal point are not used, the result is 24″.

   e) The conversion for 45.1234567 = 45° 7′ 24″.

6. Indicate whether the facility was previously covered under an NPDES storm water permit. If so, include the permit number.

7. Enter the 4-digit SIC code which identifies the facility's primary activity, and second 4-digit SIC code identifying the facility's secondary activity, if applicable. SIC codes can be obtained from the Standard Industrial Classification Manual, 1987.

8. Enter the total size of the site associated with industrial activity in acres. Acreage may be determined by dividing square footage by 43,560, as demonstrated in the following example.

   Example: Convert 54,450 ft^2 to acres

   Divide 54,450 ft^2 by 43,560 square feet per acre:
   54,450 ft^2 ÷ 43,560 ft^2/acre = 1.25 acres.

9. Check "Yes" or "No" as appropriate to indicate whether you have paved or roofed over a formerly exposed, pervious area (i.e., lawn, meadow, dirt or gravel road/parking lot) in order to qualify for no exposure. If yes, also indicate approximately how much area was paved or roofed over and is now impervious area.

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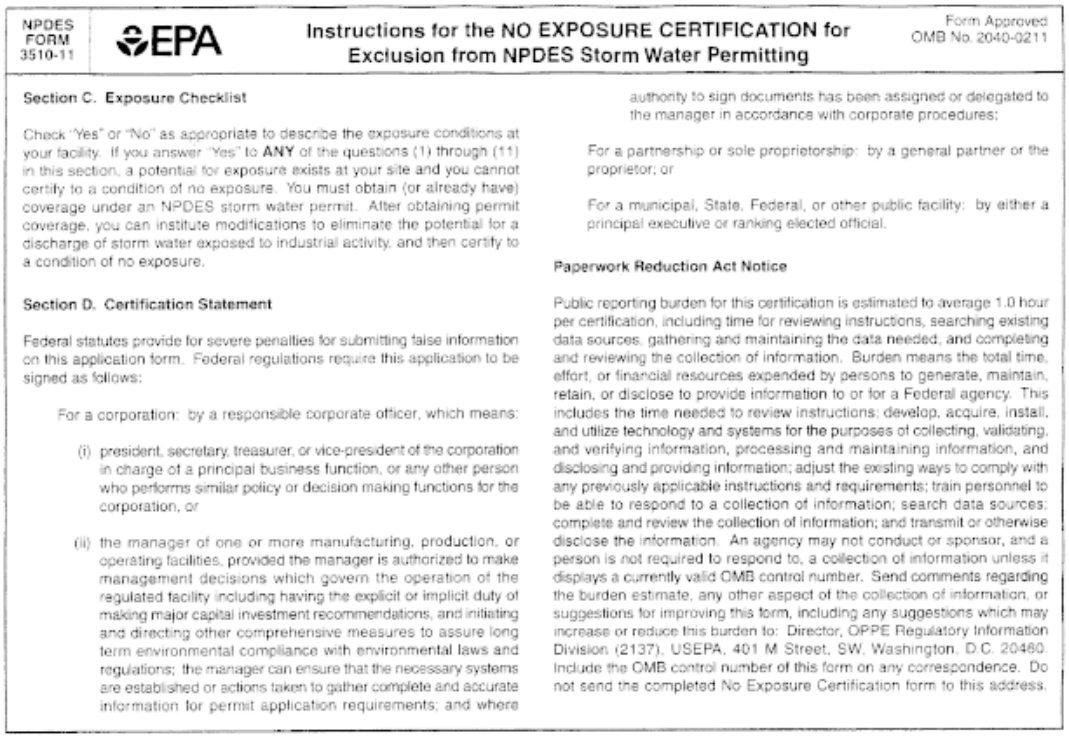

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Section C. Exposure Checklist

Check "Yes" or "No" as appropriate to describe the exposure conditions at your facility. If you answer "Yes" to **ANY** of the questions (1) through (11) in this section, a potential for exposure exists at your site and you cannot certify to a condition of no exposure. You must obtain (or already have) coverage under an NPDES storm water permit. After obtaining permit coverage, you can institute modifications to eliminate the potential for a discharge of storm water exposed to industrial activity, and then certify to a condition of no exposure.

Section D. Certification Statement

Federal statutes provide for severe penalties for submitting false information on this application form. Federal regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means:

(i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or

(ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipal, State, Federal, or other public facility: by either a principal executive or ranking elected official.

Paperwork Reduction Act Notice

Public reporting burden for this certification is estimated to average 1.0 hour per certification, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose to provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Director, OPPE Regulatory Information Division (2137), USEPA, 401 M Street, SW, Washington, D.C. 20460. Include the OMB control number of this form on any correspondence. Do not send the completed No Exposure Certification form to this address.

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BILLING CODE 6560-50-C

***68811 Appendix 5 to Preamble—Regulatory Flexibility for Small Entities**

A. Regulatory Flexibility for Small Municipal Storm Sewer Systems (MS4s)

Different Compliance, Reporting, or Timetables That Are Responsive to Resources of Small Entities

NPDES permitting authorities can issue general permits instead of requiring individual permits. This flexibility avoids the high application costs and administrative burden associated with individual permits.

NPDES permitting authorities can specify a time period of up to five years for small MS4s to fully develop and implement their program

Analytic monitoring is not required.

After the first permit term and subsequent permit terms, submittal of a summary report is only required in years two and four (Phase I municipalities are currently required to submit a detailed report each year).

A brief reporting format is encouraged to facilitate compiling and analyzing data from submitted reports. EPA intends to develop a model form for this purpose.

NPDES Permitting Authorities can phase in permit coverage for small MS4s serving jurisdictions with a population under 10,000 on a schedule consistent with a State watershed permitting approach.

Clarifying, Consolidating, or Simplifying Compliance and Reporting Requirements

The rule avoids duplication in permit requirements by allowing NPDES permitting authorities to include permit conditions that direct an MS4 to follow the requirements of a qualifying local program rather than the requirements of a minimum measure. Compliance with these programs is considered compliance with the NPDES general permit.

The rule allows NPDES permitting authorities to recognize existing responsibilities among different municipal entities to satisfy obligations for the minimum control measures.

A further alternative allows a small MS4 to satisfy its NPDES permit obligations if another governmental entity is already implementing a minimum control measure in the jurisdiction of the small MS4. The following conditions must be met:

1. The other entity is implementing the control measure,

2. The particular control measure (or component thereof) is at least as stringent as the corrersponding NPDES permit requirement, and

3. The other entity agrees to implement the control measure on your behalf.

The rule allows a covered small MS4 to "piggy-back" on to the storm water management program of an adjoining Phase I MS4. A small MS4 is waived from the application requirements of §122.26(d)(1)(iii), (iv) and (d)(2)(iii) [discharge characterization] and may satisfy the requirements of §122.26(d)(1)(v) and (d)(2)(iv) [identifying a management plan] by referencing the adjoining Phase I MS4's storm water management plan.

The rule accommodates the use of the watershed approach through NPDES general permits that could be issued on a watershed basis. The small MS4 can develop measures that are tailored to meet their watershed requirements. The small MS4's storm water management program can tie into watershed-wide plans.

Performance Rather Than Design Standards for Small Entities

Small governmental jurisdictions whose MS4s are covered by this rule are allowed to choose the best management practices (BMPs) to be implemented and the measurable goals for each of the minimum control measures:

1. Public education and outreach on storm water impacts

2. Public Involvement/Participation

3. Illicit discharge detection and elimination ***68812**

4. Construction site storm water runoff control

5. Post-construction storm water management in new development and redevelopment

6. Pollution prevention/good housekeeping for municipal operations

EPA will provide guidance and recommend, but not mandate, certain BMPs for some of the minimum control measures listed above. States can provide guidance to supplement or supplant EPA guidance.

Small MS4s can identify the measurable goals for each of the minimum control measures listed above. In their reports to the NPDES permitting authority, the small MS4s must evaluate their progress towards achievement of their identified measurable goals.

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Waivers for Small Entities From Coverage

The rule allows permitting authorities to waive from coverage MS4s operated by small governmental jurisdictions located within an urbanized area and serving a population less than 1,000 people where the permitting authority has determined the MS4 is not contributing substantially to the pollutant loadings of an interconnected MS4 and, if the MS4 discharges pollutants that have been identified as a cause of impairment in the receiving water of the MS4 then the permitting authority has determined that storm water controls are not needed based on a TMDL that addresses the pollutants of concern.

The rule allows the permitting authority to waive from coverage MS4s serving a population under 10,000 where the permitting authority has evaluated all waters that receive a discharge from the MS4 and the permitting authority has determined that storm water controls are not needed based on a TMDL that addresses the pollutants of concern and future discharges do not have the potential to result in exceedances of water quality standards.

B. Regulatory Flexibility for Small Construction Activities

Different Compliance, Reporting, or Timetables That Are Responsive to Resources of Small Entities

The rule gives NPDES permitting authorities discretion not to require the submittal of a notice of intent (NOI) for coverage under a NPDES general permit, thereby reducing administrative and financial burden. All construction sites disturbing greater than 5 acres must submit an NOI.

Clarifying, Consolidating, or Simplifying Compliance and Reporting Requirements

The rule avoids duplication by allowing the NPDES permitting authority to incorporate by reference State, Tribal, or local programs under a NPDES general permit. Compliance with these programs is considered compliance with the NPDES general permit.

Performance Rather Than Design Standards for Small Entities

The operator of a covered construction activity selects and implement the BMPs most appropriate for the construction site based on the operator's storm water pollution prevention plan.

Waivers for Small Entities From Coverage

Waivers could be granted based on the use of a rainfall erosivity factor or a comprehensive analysis of water quality impacts.

(A) Low rainfall waiver: When the rainfall erosivity factor (“R” from Revised Universal Soil Loss Equation) is less than 5 during the period of construction activity, a permit is not required.

(B) Determination based on Water Quality Analysis: The NPDES permitting authority can waive from coverage construction activities disturbing from 1 acre up to 5 acres of land where storm water controls are not needed based on:

1. A TMDL approved or established by EPA that addresses the pollutants of concern, or

2. For non-impaired waters, an equivalent analysis that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety.

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C. Regulatory Flexibility for Industrial/Commercial Facilities

Waivers for Small Entities From Coverage

The rule provides a "no-exposure" waiver provision for Phase I industrial/commercial facilities. Qualifying facilities seeking this provision simply need to complete a self-certification form indicating that no industrial materials or activities are exposed to rain, snow, snow melt and/or runoff.

Appendix 6 of Preamble—Governmental Entities Located Fully or Partially Within an Urbanized Area

(This is a reference list only, not a list of all operators of small MS4s subject to §§122.32-122.36. For example, a listed governmental entity is only regulated if it operates a small MS4 within an "urbanized area" boundary as determined by the Bureau of the Census. Furthermore, entities such as military bases, large hospitals, prison complexes, universities, sewer districts, and highway departments that operate a small MS4 within an urbanized area are also subject to the permitting regulations but are not individually listed here. See §122.26(b)(16) for the definition of a small MS4 and §122.32(a) for the definition of a regulated small MS4.)

(Source: 1990 Census of Population and Housing, U.S. Bureau of the Census. This list is subject to change with the Decennial Census)

AL Anniston city

AL Attalla city

AL Auburn city

AL Autauga County

AL Blue Mountain town

AL Calhoun County

AL Colbert County

AL Dale County

AL Decatur city

AL Dothan city

AL Elmore County

AL Etowah County

AL Flint City town

AL Florence city

AL Gadsden city

AL Glencoe city

AL Grimes town

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AL Hartselle city

AL Hobson City town

AL Hokes Bluff city

AL Houston County

AL Kinsey town

AL Lauderdale County

AL Lee County

AL Limestone County

AL Madison County

AL Midland City town

AL Montgomery County

AL Morgan County

AL Muscle Shoals city

AL Napier Field town

AL Northport city

AL Opelika city

AL Oxford city

AL Phenix City city

AL Prattville city

AL Priceville town

AL Rainbow City city

AL Russell County

AL Sheffield city

AL Southside city

AL Sylvan Springs town

AL Talladega County

AL Tuscaloosa city

AL Tuscaloosa County

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AL Tuscumbia city

AL Weaver city

AR Alexander town

AR Barling city

AR Benton County

AR Cammack Village city

AR Crawford County

AR Crittenden County

AR Farmington city

AR Fayetteville city

AR Fort Smith city

AR Greenland town

AR Jacksonville city

AR Jefferson County

AR Johnson city

AR Marion city

AR Miller County

AR North Little Rock city

AR Pine Bluff city

AR Pulaski County

AR Saline County

AR Sebastian County

AR Shannon Hills city

AR Sherwood city

AR Springdale city

AR Sunset town

AR Texarkana city

AR Van Buren city

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AR Washington County

AR West Memphis city

AR White Hall city

AZ Apache Junction city

AZ Chandler city

AZ El Mirage town

AZ Gilbert town

AZ Guadalupe town

AZ Maricopa County

AZ Oro Valley town

AZ Paradise Valley town

AZ Peoria city

AZ Pinal County ***68813**

AZ South Tucson city

AZ Surprise town

AZ Tolleson city

AZ Youngtown town

AZ Yuma city

AZ Yuma County

CA Apple Valley town

CA Belvedere city

CA Benicia city

CA Brentwood city

CA Butte County

CA Capitola city

CA Carmel-by-the-Sea city

CA Carpinteria city

CA Ceres city

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CA Chico city

CA Compton city

CA Corte Madera town

CA Cotati city

CA Davis city

CA Del Rey Oaks city

CA Fairfax town

CA Hesperia city

CA Imperial County

CA Lakewood city

CA Lancaster city

CA Larkspur city

CA Lodi city

CA Lompoc city

CA Marin County

CA Marina city

CA Marysville city

CA Merced city

CA Merced County

CA Mill Valley city

CA Monterey city

CA Monterey County

CA Morgan Hill city

CA Napa city

CA Napa County

CA Novato city

CA Pacific Grove city

CA Palm Desert city

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CA Palmdale city

CA Piedmont city

CA Placer County

CA Redding city

CA Rocklin city

CA Rohnert Park city

CA Roseville city

CA Ross town

CA San Anselmo town

CA San Buenaventura (Ventura) city

CA San Francisco city

CA San Joaquin County

CA San Luis Obispo city

CA San Luis Obispo County

CA San Rafael city

CA Sand City city

CA Santa Barbara city

CA Santa Barbara County

CA Santa Cruz city

CA Santa Cruz County

CA Santa Maria city

CA Sausalito city

CA Scotts Valley city

CA Seaside city

CA Shasta County

CA Solano County

CA Sonoma County

CA Stanislaus County

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CA Suisun City city

CA Sutter County

CA Tiburon town

CA Tulare County

CA Vacaville city

CA Victorville city

CA Villa Park city

CA Visalia city

CA Watsonville city

CA West Sacramento city

CA Yolo County

CA Yuba City city

CA Yuba County

CO Adams County

CO Arvada city

CO Boulder city

CO Boulder County

CO Bow Mar town

CO Broomfield city

CO Cherry Hills Village city

CO Columbine Valley town

CO Commerce City city

CO Douglas County

CO Edgewater city

CO El Paso County

CO Englewood city

CO Evans city

CO Federal Heights city

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CO Fort Collins city

CO Fountain city

CO Garden City town

CO Glendale city

CO Golden city

CO Grand Junction city

CO Greeley city

CO Greenwood Village city

CO Jefferson County

CO La Salle town

CO Lakeside town

CO Larimer County

CO Littleton city

CO Longmont city

CO Manitou Springs city

CO Mesa County

CO Mountain View town

CO Northglenn city

CO Pueblo city

CO Pueblo County

CO Sheridan city

CO Thornton city

CO Weld County

CO Westminster city

CO Wheat Ridge city

CT Ansonia city

CT Avon town

CT Beacon Falls town

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CT Berlin town

CT Bethel town

CT Bloomfield town

CT Bozrah town

CT Branford town

CT Bridgeport city

CT Bristol city

CT Brookfield town

CT Burlington town

CT Cheshire town

CT Cromwell town

CT Danbury city

CT Darien town

CT Derby city

CT Durham town

CT East Granby town

CT East Hartford town

CT East Haven town

CT East Lyme town

CT East Windsor town

CT Easton town

CT Ellington town

CT Enfield town

CT Fairfield County

CT Fairfield town

CT Farmington town

CT Franklin town

CT Glastonbury town

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CT Greenwich town

CT Groton city

CT Groton town

CT Guilford town

CT Hamden town

CT Hartford city

CT Hartford County

CT Ledyard town

CT Lisbon town

CT Litchfield County

CT Manchester town

CT Meriden city

CT Middlebury town

CT Middlefield town

CT Middlesex County

CT Middletown city

CT Milford city (remainder)

CT Monroe town

CT Montville town

CT Naugatuck borough

CT New Britain city

CT New Canaan town

CT New Fairfield town

CT New Haven city

CT New Haven County

CT New London city

CT New London County

CT New Milford town

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CT Newington town

CT Newtown town

CT North Branford town

CT North Haven town

CT Norwalk city

CT Norwich city

CT Orange town

CT Oxford town

CT Plainville town

CT Plymouth town

CT Portland town

CT Preston town

CT Prospect town

CT Rocky Hill town

CT Seymour town

CT Shelton city

CT Sherman town

CT Somers town

CT South Windsor town

CT Southington town

CT Sprague town

CT Stonington town

CT Stratford town

CT Suffield town

CT Thomaston town

CT Thompson town

CT Tolland County

CT Tolland town

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CT Trumbull town

CT Vernon town

CT Wallingford town

CT Waterbury city

CT Waterford town

CT Watertown town

CT West Hartford town

CT West Haven city

CT Weston town

CT Westport town

CT Wethersfield town

CT Wilton town

CT Windham County

CT Windsor Locks town

CT Windsor town

CT Wolcott town

CT Woodbridge town ***68814**

CT Woodmont borough

DE Camden town

DE Dover city

DE Kent County

DE Newark city

DE Wyoming town

FL Alachua County

FL Baldwin town

FL Bay County

FL Belleair Shore town

FL Biscayne Park village

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FL Brevard County

FL Callaway city

FL Cape Canaveral city

FL Cedar Grove town

FL Charlotte County

FL Cinco Bayou town

FL Clay County

FL Cocoa Beach city

FL Cocoa city

FL Collier County

FL Daytona Beach city

FL Daytona Beach Shores city

FL Destin city

FL Edgewater city

FL El Portal village

FL Florida City city

FL Fort Pierce city

FL Fort Walton Beach city

FL Gainesville city

FL Gulf Breeze city

FL Hernando County

FL Hillsboro Beach town

FL Holly Hill city

FL Indialantic town

FL Indian Harbour Beach city

FL Indian River County

FL Indian River Shores town

FL Indian Shores town

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FL Kissimmee city

FL Lazy Lake village

FL Lynn Haven city

FL Malabar town

FL Marion County

FL Martin County

FL Mary Esther city

FL Melbourne Beach town

FL Melbourne city

FL Melbourne Village town

FL Naples city

FL New Smyrna Beach city

FL Niceville city

FL Ocala city

FL Ocean Breeze Park town

FL Okaloosa County

FL Orange Park town

FL Ormond Beach city

FL Osceola County

FL Palm Bay city

FL Panama City city

FL Parker city

FL Ponce Inlet town

FL Port Orange city

FL Port St. Lucie city

FL Punta Gorda city

FL Rockledge city

FL Santa Rosa County

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FL Satellite Beach city

FL Sewall's Point town

FL Shalimar town

FL South Daytona city

FL Springfield city

FL St. Johns County

FL St. Lucie County

FL St. Lucie village

FL Stuart city

FL Sweetwater city

FL Titusville city

FL Valparaiso city

FL Vero Beach city

FL Virginia Gardens village

FL Volusia County

FL Walton County

FL Weeki Wachee city

FL West Melbourne city

FL Windermere town

GA Albany city

GA Athens city

GA Bartow County

GA Brunswick city

GA Catoosa County

GA Centerville city

GA Chattahoochee County

GA Cherokee County

GA Chickamauga city

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GA Clarke County

GA Columbia County

GA Conyers city

GA Dade County

GA Dougherty County

GA Douglas County

GA Douglasville city

GA Fayette County

GA Floyd County

GA Fort Oglethorpe city

GA Glynn County

GA Grovetown city

GA Henry County

GA Houston County

GA Jones County

GA Lee County

GA Lookout Mountain city

GA Mountain Park city

GA Oconee County

GA Payne city

GA Rockdale County

GA Rome city

GA Rossville city

GA Stockbridge city

GA Vernonburg town

GA Walker County

GA Warner Robins city

GA Winterville city

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GA Woodstock city

IA Altoona city

IA Asbury city

IA Bettendorf city

IA Black Hawk County

IA Buffalo city

IA Carter Lake city

IA Cedar Falls city

IA Clive city

IA Coralville city

IA Council Bluffs city

IA Dallas County

IA Dubuque city

IA Dubuque County

IA Elk Run Heights city

IA Evansdale city

IA Hiawatha city

IA Iowa City city

IA Johnson County

IA Johnston city

IA Le Claire city

IA Linn County

IA Marion city

IA Norwalk city

IA Panorama Park city

IA Pleasant Hill city

IA Polk County

IA Pottawattamie County

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IA Raymond city

IA Riverdale city

IA Robins city

IA Scott County

IA Sergeant Bluff city

IA Sioux City city

IA University Heights city

IA Urbandale city

IA Warren County

IA Waterloo city

IA West Des Moines city

IA Windsor Heights city

IA Woodbury County

ID Ada County

ID Ammon city

ID Bannock County

ID Bonneville County

ID Chubbuck city

ID Idaho Falls city

ID Iona city

ID Pocatello city

ID Power County

IL Addison township

IL Addison village

IL Algonquin township

IL Algonquin village

IL Alorton village

IL Alsip village

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IL Alton city

IL Antioch township

IL Antioch village

IL Arlington Heights village

IL Aroma Park village

IL Aroma township

IL Aurora city

IL Aurora township

IL Avon township

IL Ball township

IL Bannockburn village

IL Barrington township

IL Barrington village

IL Bartlett village

IL Bartonville village

IL Batavia city

IL Batavia township

IL Beach Park village

IL Bedford Park village

IL Belleville city

IL Bellevue village

IL Bellwood village

IL Bensenville village

IL Benton township

IL Berkeley village

IL Berwyn city

IL Bethalto village

IL Blackhawk township

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IL Bloom township

IL Bloomingdale township

IL Bloomingdale village

IL Bloomington city

IL Bloomington township

IL Blue Island city

IL Bolingbrook village

IL Bourbonnais township

IL Bourbonnais village

IL Bowling township

IL Bradley village

IL Bremen township

IL Bridgeview village

IL Bristol township

IL Broadview village

IL Brookfield village

IL Brooklyn village

IL Buffalo Grove village

IL Burbank city

IL Burnham village

IL Burr Ridge village ***68815**

IL Burritt township

IL Burton township

IL Cahokia village

IL Calumet City city

IL Calumet Park village

IL Calumet township

IL Canteen township

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IL Capital township

IL Carbon Cliff village

IL Carol Stream village

IL Carpentersville Village

IL Cary village

IL Caseyville township

IL Caseyville village

IL Centreville city

IL Centreville township

IL Champaign city

IL Champaign County

IL Champaign township

IL Channahon township

IL Cherry Valley township

IL Cherry Valley village

IL Chicago city

IL Chicago Heights city

IL Chicago Ridge village

IL Chouteau township

IL Cicero town

IL Cincinnati township

IL Clarendon Hills village

IL Coal Valley township

IL Coal Valley village

IL Collinsville city

IL Collinsville township

IL Colona township

IL Colona village

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IL Columbia city

IL Country Club Hills city

IL Countryside city

IL Crest Hill city

IL Crestwood village

IL Crete township

IL Crete village

IL Creve Coeur village

IL Crystal Lake city

IL Cuba township

IL Curran township

IL Darien city

IL Decatur city

IL Decatur township

IL Deer Park village

IL Deerfield township

IL Deerfield village

IL Des Plaines city

IL Dixmoor village

IL Dolton village

IL Dorr township

IL Downers Grove township

IL Downers Grove village

IL Dry Grove township

IL Du Page township

IL Dundee township

IL Dunleith township

IL Dupo village

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IL East Alton village

IL East Dubuque city

IL East Dundee village

IL East Hazel Crest village

IL East Moline city

IL East Peoria city

IL East St. Louis city

IL Edwardsville city

IL Edwardsville township

IL Ela township

IL Elgin city

IL Elgin township

IL Elk Grove township

IL Elk Grove Village village

IL Elm Grove township

IL Elmhurst city

IL Elmwood Park village

IL Evanston city

IL Evergreen Park village

IL Fairmont City village

IL Fairview Heights city

IL Flossmoor village

IL Fondulac township

IL Ford Heights village

IL Forest Park village

IL Forest View village

IL Forsyth village

IL Fort Russell township

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IL Foster township

IL Fox Lake village

IL Fox River Grove village

IL Frankfort township

IL Frankfort village

IL Franklin Park village

IL Fremont township

IL Gardner township

IL Geneva city

IL Geneva township

IL Gilberts village

IL Glen Carbon village

IL Glen Ellyn village

IL Glencoe village

IL Glendale Heights village

IL Glenview village

IL Glenwood village

IL Godfrey township

IL Golf village

IL Grafton township

IL Grandview village

IL Granite City city

IL Grant township

IL Grayslake village

IL Green Oaks village

IL Green Rock city

IL Groveland township

IL Gurnee village

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IL Hainesville village

IL Hampton township

IL Hampton village

IL Hanna township

IL Hanover Park village

IL Hanover township

IL Harlem township

IL Harristown township

IL Harristown village

IL Hartford village

IL Harvey city

IL Harwood Heights village

IL Hawthorn Woods village

IL Hazel Crest village

IL Henry County

IL Hensley township

IL Hickory Hills city

IL Hickory Point township

IL Highland Park city

IL Highwood city

IL Hillside village

IL Hinsdale village

IL Hodgkins village

IL Hoffman Estates village

IL Hollis township

IL Homer township

IL Hometown city

IL Homewood village

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IL Indian Creek village

IL Indian Head Park village

IL Inverness village

IL Itasca village

IL Jarvis township

IL Jerome village

IL Jo Daviess County

IL Joliet city

IL Joliet township

IL Justice village

IL Kane County

IL Kankakee city

IL Kankakee County

IL Kankakee township

IL Kendall County

IL Kenilworth village

IL Kickapoo township

IL Kildeer village

IL La Grange Park village

IL La Grange village

IL Lake Barrington village

IL Lake Bluff village

IL Lake Forest city

IL Lake in the Hills village

IL Lake Villa township

IL Lake Villa village

IL Lake Zurich village

IL Lakemoor village

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IL Lakewood village

IL Lansing village

IL Leland Grove city

IL Lemont township

IL Leyden township

IL Libertyville township

IL Libertyville village

IL Limestone township

IL Lincolnshire village

IL Lincolnwood village

IL Lindenhurst village

IL Lisle township

IL Lisle village

IL Lockport city

IL Lockport township

IL Lombard village

IL Long Creek township

IL Long Grove village

IL Loves Park city

IL Lynwood village

IL Lyons township

IL Lyons village

IL Machesney Park village

IL Macon County

IL Madison city

IL Madison County

IL Maine township

IL Markham city

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IL Marquette Heights city

IL Maryville village

IL Matteson village

IL Maywood village

IL McCook village

IL McCullom Lake village

IL McHenry city

IL McHenry County

IL McHenry township

IL McLean County

IL Medina township

IL Melrose Park village

IL Merrionette Park village

IL Midlothian village

IL Milan village

IL Milton township

IL Moline city

IL Moline township

IL Monee township

IL Monroe County

IL Montgomery village

IL Moro township

IL Morton Grove village

IL Morton township

IL Morton village ***68816**

IL Mount Prospect village

IL Mount Zion township

IL Mount Zion village

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IL Mundelein village

IL Nameoki township

IL Naperville city

IL Naperville township

IL National City village

IL New Lenox township

IL New Lenox village

IL New Millford village

IL New Trier township

IL Newport township

IL Niles township

IL Niles village

IL Normal town

IL Normal township

IL Norridge village

IL North Aurora village

IL North Barrington village

IL North Chicago city

IL North Pekin village

IL North Riverside village

IL Northbrook village

IL Northfield township

IL Northfield village

IL Northlake city

IL Norwood Park township

IL Norwood village

IL Nunda township

IL Oak Brook village

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IL Oak Forest city

IL Oak Grove village

IL Oak Lawn village

IL Oak Park village

IL Oakbrook Terrace city

IL Oakley township

IL Oakwood Hills village

IL O'Fallon city

IL O'Fallon township

IL Olympia Fields village

IL Orland Hills village

IL Orland Park village

IL Orland township

IL Oswego township

IL Oswego village

IL Otto township

IL Owen township

IL Palatine township

IL Palatine village

IL Palos Heights city

IL Palos Hills city

IL Palos Park village

IL Palos township

IL Park City city

IL Park Forest village

IL Park Ridge city

IL Pekin city

IL Pekin township

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IL Peoria city

IL Peoria County

IL Peoria Heights village

IL Phoenix village

IL Pin Oak township

IL Plainfield township

IL Plainfield village

IL Pontoon Beach village

IL Posen village

IL Precinct 10

IL Prospect Heights city

IL Proviso township

IL Rich township

IL Richton Park village

IL Richwoods township

IL River Forest village

IL River Grove village

IL Riverdale village

IL Riverside township

IL Riverside village

IL Riverwoods village

IL Robbins village

IL Rochester township

IL Rock Island city

IL Rock Island County

IL Rock Island township

IL Rockdale village

IL Rockford township

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IL Rockton township

IL Rockton village

IL Rolling Meadows city

IL Romeoville village

IL Roscoe township

IL Roscoe village

IL Roselle village

IL Rosemont village

IL Round Lake Beach village

IL Round Lake Heights village

IL Round Lake Park village

IL Round Lake village

IL Roxana village

IL Rutland township

IL Sangamon County

IL Sauget village

IL Sauk Village village

IL Savoy village

IL Schaumburg township

IL Schaumburg village

IL Schiller Park village

IL Shields township

IL Shiloh Valley township

IL Shiloh village

IL Shorewood village

IL Silvis city

IL Skokie village

IL Sleepy Hollow village

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IL Somer township

IL South Beloit city

IL South Chicago Heights village

IL South Elgin village

IL South Holland village

IL South Moline township

IL South Rock Island township

IL South Roxana village

IL South Wheatland township

IL Southern View village

IL Spring Bay township

IL Springfield city

IL Springfield township

IL St. Charles city

IL St. Charles township

IL St. Clair County

IL St. Clair township

IL Steger village

IL Stickney township

IL Stickney village

IL Stites township

IL Stone Park village

IL Stookey township

IL Streamwood village

IL Sugar Grove township

IL Sugar Loaf township

IL Summit village

IL Sunnyside village

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IL Swansea village

IL Tazewell County

IL Thornton township

IL Thornton village

IL Tinley Park village

IL Tolono township

IL Tower Lakes village

IL Tremont township

IL Troy city

IL Troy township

IL University Park village

IL Urbana city

IL Urbana township

IL Venice city

IL Venice township

IL Vernon Hills village

IL Vernon township

IL Villa Park village

IL Warren township

IL Warrenville city

IL Washington city

IL Washington Park village

IL Washington township

IL Wauconda township

IL Waukegan city

IL Waukegan township

IL Wayne township

IL West Chicago city

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IL West Deerfield township

IL West Dundee village

IL West Peoria township

IL Westchester village

IL Western Springs village

IL Westmont village

IL Wheatland township

IL Wheaton city

IL Wheeling township

IL Wheeling village

IL Whitmore township

IL Will County

IL Willow Springs village

IL Willowbrook village

IL Wilmette village

IL Winfield township

IL Winfield village

IL Winnebago County

IL Winnetka village

IL Winthrop Harbor village

IL Wood Dale city

IL Wood River city

IL Wood River township

IL Woodford County

IL Woodridge village

IL Woodside township

IL Worth township

IL Worth village

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IL York township

IL Zion city

IN Aboite township

IN Adams township

IN Allen County

IN Anderson city

IN Anderson township

IN Baugo township

IN Beech Grove city

IN Bloomington city

IN Bloomington township

IN Boone County

IN Buck Creek township

IN Calumet township

IN Carmel city

IN Castleton town

IN Cedar Creek township

IN Center township

IN Centre township

IN Chesterfield town

IN Chesterton town

IN Clark County

IN Clarksville town

IN Clay township

IN Clermont town

IN Cleveland township

IN Concord township

IN Country Club Heights town ***68817**

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IN Crown Point city

IN Crows Nest town

IN Cumberland town

IN Daleville town

IN Delaware County

IN Delaware township

IN Dyer town

IN Eagle township

IN East Chicago city

IN Edgewood town

IN Elkhart city

IN Elkhart County

IN Elkhart township

IN Evansville city

IN Fairfield township

IN Fall Creek township

IN Fishers town

IN Floyd County

IN Fort Wayne city

IN Franklin township

IN Gary city

IN German township

IN Goshen city

IN Greenwood city

IN Griffith town

IN Hamilton County

IN Hamilton township

IN Hammond city

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IN Hancock County

IN Hanover township

IN Harris township

IN Harrison township

IN Hendricks County

IN Highland town

IN Hobart city

IN Hobart township

IN Homecroft town

IN Honey Creek township

IN Howard County

IN Howard township

IN Indian Village town

IN Jackson township

IN Jefferson township

IN Jeffersonville city

IN Jeffersonville township

IN Johnson County

IN Knight township

IN Kokomo city

IN Lafayette city

IN Lafayette township

IN Lake County

IN Lake Station city

IN Lawrence city

IN Lawrence township

IN Liberty township

IN Lincoln township

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IN Lost Creek township

IN Madison County

IN Meridian Hills town

IN Merrillville town

IN Mishawaka city

IN Monroe County

IN Mount Pleasant township

IN Muncie city

IN Munster town

IN New Albany city

IN New Albany township

IN New Chicago town

IN New Haven city

IN New Whiteland town

IN Newburgh town

IN North Crows Nest town

IN North township

IN Ogden Dunes town

IN Ohio township

IN Osceola town

IN Osolo township

IN Otter Creek township

IN Penn township

IN Perry township

IN Pigeon township

IN Pike township

IN Pleasant township

IN Portage city

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IN Portage township

IN Porter County

IN Porter town

IN Richland township

IN Riley township

IN River Forest town

IN Rocky Ripple town

IN Roseland town

IN Ross township

IN Salem township

IN Schererville town

IN Seelyville town

IN Sellersburg town

IN Selma town

IN Silver Creek township

IN South Bend city

IN Southport city

IN Speedway town

IN Spring Hill town

IN St. John town

IN St. John township

IN St. Joseph County

IN St. Joseph township

IN Sugar Creek township

IN Taylor township

IN Terre Haute city

IN Tippecanoe County

IN Tippecanoe township

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IN Union township

IN Utica township

IN Van Buren township

IN Vanderburgh County

IN Vigo County

IN Wabash township

IN Warren Park town

IN Warren township

IN Warrick County

IN Washington township

IN Wayne township

IN Wea township

IN West Lafayette city

IN West Terre Haute town

IN Westchester township

IN Westfield town

IN White River township

IN Whiteland town

IN Whiting city

IN Williams Creek town

IN Woodlawn Heights town

IN Wynnedale town

IN Yorktown town

IN Zionsville town

KS Attica township

KS Bel Aire city

KS Countryside city

KS Delano township

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KS Doniphan County

KS Douglas County

KS Eastborough city

KS Elwood city

KS Fairway city

KS Gypsum township

KS Haysville city

KS Johnson County

KS Kechi city

KS Kechi township

KS Lake Quivira city

KS Lawrence city

KS Leawood city

KS Lenexa city

KS Merriam city

KS Minneha township

KS Mission city

KS Mission Hills city

KS Mission township

KS Mission Woods city

KS Monticello township

KS Ohio township

KS Olathe city

KS Olathe township

KS Park City city

KS Park township

KS Prairie Village city

KS Riverside township

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KS Roeland Park city

KS Salem township

KS Sedgwick County

KS Shawnee city

KS Shawnee County

KS Shawnee township

KS Soldier township

KS Tecumseh township

KS Topeka township

KS Waco township

KS Wakarusa township

KS Washington township

KS Westwood city

KS Westwood Hills city

KS Williamsport township

KS Wyandotte County

KY Alexandria city

KY Ashland city

KY Bellefonte city

KY Bellevue city

KY Boone County

KY Boyd County

KY Bromley city

KY Bullitt County

KY Campbell County

KY Catlettsburg city

KY Christian County

KY Covington city

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KY Crescent Park city

KY Crescent Springs city

KY Crestview city

KY Crestview Hills city

KY Daviess County

KY Dayton city

KY Edgewood city

KY Elsmere city

KY Erlanger city

KY Fairview city

KY Flatwoods city

KY Florence city

KY Forest Hills city

KY Fort Mitchell city

KY Fort Thomas city

KY Fort Wright city

KY Fox Chase city

KY Greenup County

KY Hebron Estates city

KY Henderson city

KY Henderson County

KY Highland Heights city

KY Hillview city

KY Hunters Hollow city

KY Independence city

KY Jessamine County

KY Kenton County

KY Kenton Vale city

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KY Lakeside Park city

KY Latonia Lakes city

KY Ludlow city

KY Melbourne city ***68818**

KY Newport city

KY Oak Grove city

KY Owensboro city

KY Park Hills city

KY Pioneer Village city

KY Raceland city

KY Russell city

KY Silver Grove city

KY Southgate city

KY Taylor Mill city

KY Villa Hills city

KY Wilder city

KY Woodlawn city

KY Wurtland city

LA Alexandria city

LA Baker city

LA Ball town

LA Bossier City city

LA Bossier Parish

LA Broussard town

LA Caddo Parish

LA Calcasieu Parish

LA Carencro city

LA Denham Springs city

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LA Houma city

LA Lafayette city

LA Lafayette Parish

LA Lafourche Parish

LA Lake Charles city

LA Livingston Parish

LA Monroe city

LA Ouachita Parish

LA Pineville city

LA Plaquemines Parish

LA Port Allen city

LA Rapides Parish

LA Richwood town

LA Scott town

LA Slidell city

LA St. Bernard Parish

LA St. Charles Parish

LA St. Tammany Parish

LA Sulphur city

LA Terrebonne Parish

LA West Baton Rouge Parish

LA West Monroe city

LA Westlake city

LA Zachary city

MA Abington town

MA Acton town

MA Acushnet town

MA Agawam town

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MA Amesbury town

MA Andover town

MA Arlington town

MA Ashland town

MA Attleboro city

MA Auburn town

MA Avon town

MA Barnstable County

MA Barnstable town

MA Bedford town

MA Bellingham town

MA Belmont town

MA Berkshire County

MA Beverly city

MA Billerica town

MA Blackstone town

MA Boxborough town

MA Boylston town

MA Braintree town

MA Bridgewater town

MA Bristol County

MA Brockton city

MA Brookline town

MA Burlington town

MA Cambridge city

MA Canton town

MA Charlton town

MA Chelmsford town

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MA Chelsea city

MA Chicopee city

MA Cohasset town

MA Concord town

MA Dalton town

MA Danvers town

MA Dartmouth town

MA Dedham town

MA Dennis town

MA Dighton town

MA Dover town

MA Dracut town

MA Dudley town

MA East Bridgewater town

MA East Longmeadow town

MA Easthampton town

MA Easton town

MA Essex County

MA Essex town

MA Everett city

MA Fairhaven town

MA Fall River city

MA Fitchburg city

MA Foxborough town

MA Framingham town

MA Franklin town

MA Freetown town

MA Georgetown town

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MA Gloucester city

MA Grafton town

MA Granby town

MA Groton town

MA Groveland town

MA Hadley town

MA Halifax town

MA Hamilton town

MA Hampden County

MA Hampden town

MA Hampshire County

MA Hanover town

MA Hanson town

MA Haverhill city

MA Hingham town

MA Hinsdale town

MA Holbrook town

MA Holden town

MA Holliston town

MA Holyoke city

MA Hudson town

MA Hull town

MA Lanesborough town

MA Lawrence city

MA Leicester town

MA Leominster city

MA Lexington town

MA Lincoln town

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MA Littleton town

MA Longmeadow town

MA Lowell city

MA Ludlow town

MA Lunenburg town

MA Lynn city

MA Lynnfield town

MA Malden city

MA Manchester town

MA Mansfield town

MA Marblehead town

MA Marlborough city

MA Mashpee town

MA Maynard town

MA Medfield town

MA Medford city

MA Medway town

MA Melrose city

MA Merrimac town

MA Methuen town

MA Middlesex County

MA Middleton town

MA Millbury town

MA Millis town

MA Millville town

MA Milton town

MA Nahant town

MA Natick town

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MA Needham town

MA New Bedford city

MA Newton city

MA Norfolk town

MA North Andover town

MA North Attleborough town

MA North Reading town

MA Northampton city

MA Northborough town

MA Northbridge town

MA Norton town

MA Norwell town

MA Norwood town

MA Oxford town

MA Paxton town

MA Peabody city

MA Pembroke town

MA Pittsfield city

MA Plainville town

MA Plymouth County

MA Quincy city

MA Randolph town

MA Raynham town

MA Reading town

MA Rehoboth town

MA Revere city

MA Rockland town

MA Rockport town

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MA Salem city

MA Sandwich town

MA Saugus town

MA Scituate town

MA Seekonk town

MA Sharon town

MA Shrewsbury town

MA Somerset town

MA Somerville city

MA South Hadley town

MA Southampton town

MA Southborough town

MA Southwick town

MA Springfield city

MA Stoneham town

MA Stoughton town

MA Stow town

MA Sudbury town

MA Sutton town

MA Swampscott town

MA Swansea town

MA Taunton city

MA Tewksbury town

MA Tyngsborough town

MA Uxbridge town

MA Wakefield town

MA Walpole town

MA Waltham city

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MA Watertown town

MA Wayland town

MA Webster town

MA Wellesley town

MA Wenham town

MA West Boylston town

MA West Bridgewater town

MA West Springfield town ***68819**

MA Westborough town

MA Westfield city

MA Westford town

MA Westminster town

MA Weston town

MA Westport town

MA Westwood town

MA Weymouth town

MA Whitman town

MA Wilbraham town

MA Williamsburg town

MA Wilmington town

MA Winchester town

MA Winthrop town

MA Woburn city

MA Worcester County

MA Wrentham town

MA Yarmouth town

MD Allegany County

MD Annapolis city

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MD Bel Air town

MD Berwyn Heights town

MD Bladensburg town

MD Bowie city

MD Brentwood town

MD Brookeville town

MD Capitol Heights town

MD Cecil County

MD Cheverly town

MD Chevy Chase Section Five village

MD Chevy Chase Section Three village

MD Chevy Chase town

MD Chevy Chase Village town

MD College Park city

MD Colmar Manor town

MD Cottage City town

MD Cumberland city

MD District Heights city

MD Edmonston town

MD Elkton town

MD Fairmount Heights town

MD Forest Heights town

MD Frederick city

MD Frostburg city

MD Funkstown town

MD Gaithersburg city

MD Garrett Park town

MD Glen Echo town

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MD Glenarden town

MD Greenbelt city

MD Hagerstown city

MD Highland Beach town

MD Hyattsville city

MD Kensington town

MD Landover Hills town

MD Laurel city

MD Martin's Additions village

MD Morningside town

MD Mount Rainier city

MD New Carrollton city

MD North Brentwood town

MD Riverdale town

MD Rockville city

MD Seat Pleasant city

MD Smithsburg town

MD Somerset town

MD Takoma Park city

MD University Park town

MD Walkersville town

MD Washington Grove town

MD Williamsport town

ME Androscoggin County

ME Auburn city

ME Bangor city

ME Berwick town

ME Brewer city

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ME Cape Elizabeth town

ME Cumberland County

ME Eliot town

ME Falmouth town

ME Gorham town

ME Kittery town

ME Lebanon town

ME Lewiston city

ME Lisbon town

ME Old Town city

ME Orono town

ME Penobscot County

ME Penobscot Indian Island Reservation

ME Portland city

ME Sabattus town

ME Scarborough town

ME South Berwick town

ME South Portland city

ME Veazie town

ME Westbrook city

ME York County

MI Ada township

MI Allegan County

MI Allen Park city

MI Alpine township

MI Ann Arbor township

MI Auburn Hills city

MI Bangor township

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MI Bath township

MI Battle Creek city

MI Bay City city

MI Bay County

MI Bedford township

MI Belleville city

MI Benton Charter township

MI Benton Harbor city

MI Berkley city

MI Berlin township

MI Berrien County

MI Beverly Hills village

MI Bingham Farms village

MI Birmingham city

MI Blackman township

MI Bloomfield Hills city

MI Bloomfield township

MI Bridgeport township

MI Brownstown township

MI Buena Vista Charter township

MI Burtchville township

MI Burton city

MI Byron township

MI Calhoun County

MI Canton township

MI Carrollton township

MI Cascade township

MI Cass County

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MI Center Line city

MI Chesterfield township

MI Clarkston village

MI Clawson city

MI Clay township

MI Clayton township

MI Clinton County

MI Clinton township

MI Clio city

MI Clyde township

MI Commerce township

MI Comstock township

MI Cooper township

MI Dalton township

MI Davison city

MI Davison township

MI De Witt township

MI Dearborn city

MI Dearborn Heights city

MI Delhi Charter township

MI Delta township

MI Detroit city

MI East China township

MI East Detroit city

MI East Grand Rapids city

MI East Lansing city

MI Eaton County

MI Ecorse city

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MI Emmett township

MI Erie township

MI Essexville city

MI Farmington city

MI Farmington Hills city

MI Ferndale city

MI Fillmore township

MI Flat Rock city

MI Flint township

MI Flushing city

MI Flushing township

MI Fort Gratiot township

MI Frankenlust township

MI Franklin village

MI Fraser city

MI Fruitport township

MI Gaines township

MI Garden City city

MI Genesee County

MI Genesee township

MI Georgetown township

MI Gibraltar city

MI Grand Blanc city

MI Grand Blanc township

MI Grand Rapids Charter township

MI Grandville city

MI Grosse Ile township

MI Grosse Pointe city

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MI Grosse Pointe Farms city

MI Grosse Pointe Park city

MI Grosse Pointe Shores village

MI Grosse Pointe Woods city

MI Hampton township

MI Hamtramck city

MI Harper Woods city

MI Harrison township

MI Hazel Park city

MI Highland Park city

MI Highland township

MI Holland city

MI Holland township

MI Howard township

MI Hudsonville city

MI Huntington Woods city

MI Huron township

MI Independence township

MI Ingham County

MI Inkster city

MI Ira township

MI Jackson city

MI Jackson County

MI James township

MI Kalamazoo city

MI Kalamazoo County

MI Kalamazoo township

MI Keego Harbor city

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MI Kent County

MI Kentwood city

MI Kimball township

MI Kochville township

MI Lake Angelus city

MI Laketon township

MI Laketown township

MI Lansing city

MI Lansing township

MI Lathrup Village city

MI Leoni township

MI Lincoln Park city ***68820**

MI Lincoln township

MI Livonia city

MI Macomb County

MI Macomb township

MI Madison Heights city

MI Marysville city

MI Melvindale city

MI Meridian township

MI Milford township

MI Milton township

MI Monitor township

MI Monroe County

MI Mount Clemens city

MI Mount Morris city

MI Mount Morris township

MI Mundy township

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MI Muskegon city

MI Muskegon County

MI Muskegon Heights city

MI Muskegon township

MI New Baltimore city

MI Niles city

MI Niles township

MI North Muskegon city

MI Northville city

MI Northville township

MI Norton Shores city

MI Novi city

MI Novi township

MI Oak Park city

MI Oakland Charter township

MI Oakland County

MI Orchard Lake Village city

MI Orion township

MI Oshtemo township

MI Ottawa County

MI Parchment city

MI Park township

MI Pavilion township

MI Pennfield township

MI Pittsfield township

MI Plainfield township

MI Pleasant Ridge city

MI Plymouth city

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MI Plymouth township

MI Pontiac city

MI Port Huron city

MI Port Huron township

MI Portage city

MI Portsmouth township

MI Redford township

MI Richfield township

MI River Rouge city

MI Riverview city

MI Rochester city

MI Rochester Hills city

MI Rockwood city

MI Romulus city

MI Roosevelt Park city

MI Roseville city

MI Ross township

MI Royal Oak city

MI Royal Oak township

MI Saginaw city

MI Saginaw County

MI Saginaw township

MI Schoolcraft township

MI Scio township

MI Shelby township

MI Shoreham village

MI Sodus township

MI South Rockwood village

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MI Southfield city

MI Southfield township

MI Southgate city

MI Spaulding township

MI Spring Arbor township

MI Springfield city

MI Springfield township

MI St. Clair city

MI St. Clair County

MI St. Clair Shores city

MI St. Clair township

MI St. Joseph Charter township

MI St. Joseph city

MI Stevensville village

MI Sullivan township

MI Summit township

MI Sumpter township

MI Superior township

MI Swartz Creek city

MI Sylvan Lake city

MI Taylor city

MI Texas township

MI Thetford township

MI Thomas township

MI Trenton city

MI Troy city

MI Utica city

MI Van Buren township

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MI Vienna township

MI Walker city

MI Walled Lake city

MI Washington township

MI Washtenaw County

MI Waterford township

MI Wayne city

MI West Bloomfield township

MI Westland city

MI White Lake township

MI Whiteford township

MI Williamstown township

MI Wixom city

MI Wolverine Lake village

MI Woodhaven city

MI Wyandotte city

MI Wyoming city

MI Ypsilanti city

MI Ypsilanti township

MI Zeeland city

MI Zilwaukee city

MN Andover city

MN Anoka city

MN Anoka County

MN Apple Valley city

MN Arden Hills city

MN Benton County

MN Birchwood Village city

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MN Blaine city

MN Bloomington city

MN Brooklyn Center city

MN Brooklyn Park city

MN Burnsville city

MN Carver County

MN Cascade township

MN Champlin city

MN Chanhassen city

MN Circle Pines city

MN Clay County

MN Coon Rapids city

MN Cottage Grove city

MN Credit River township

MN Crystal city

MN Dakota County

MN Dayton city

MN Deephaven city

MN Dilworth city

MN Duluth city

MN Eagan city

MN East Grand Forks city

MN Eden Prairie city

MN Excelsior city

MN Falcon Heights city

MN Farmington city

MN Fort Snelling unorg.

MN Fridley city

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MN Gem Lake city

MN Golden Valley city

MN Grant township

MN Greenwood city

MN Ham Lake city

MN Haven township

MN Hennepin County

MN Hermantown city

MN Hilltop city

MN Hopkins city

MN Houston County

MN Inver Grove Heights city

MN La Crescent city

MN La Crescent township

MN Lake Elmo city

MN Lakeville city

MN Landfall city

MN Lauderdale city

MN Le Sauk township

MN Lexington city

MN Lilydale city

MN Lino Lakes city

MN Little Canada city

MN Long Lake city

MN Loretto city

MN Mahtomedi city

MN Maple Grove city

MN Maple Plain city

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MN Maplewood city

MN Marion township

MN Medicine Lake city

MN Medina city

MN Mendota city

MN Mendota Heights city

MN Midway township

MN Minden township

MN Minnetonka Beach city

MN Minnetonka city

MN Minnetrista city

MN Moorhead city

MN Moorhead township

MN Mound city

MN Mounds View city

MN New Brighton city

MN New Hope city

MN Newport city

MN North Oaks city

MN North St. Paul city

MN Oakdale city

MN Oakport township

MN Olmsted County

MN Orono city

MN Osseo city

MN Plymouth city

MN Polk County

MN Prior Lake city

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MN Proctor city

MN Ramsey city

MN Robbinsdale city

MN Rochester city

MN Rochester township

MN Rosemount city

MN Roseville city

MN Sartell city

MN Sauk Rapids city

MN Sauk Rapids township

MN Savage city

MN Scott County

MN Sherburne County

MN Shoreview city

MN Shorewood city

MN South St. Paul city ***68821**

MN Spring Lake Park city

MN Spring Park city

MN St. Anthony city

MN St. Cloud city

MN St. Cloud township

MN St. Louis County

MN St. Paul Park city

MN Stearns County

MN Sunfish Lake city

MN Tonka Bay city

MN Vadnais Heights city

MN Victoria city

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MN Waite Park city

MN Washington County

MN Wayzata city

MN West St. Paul city

MN White Bear Lake city

MN White Bear township

MN Willernie city

MN Woodbury city

MN Woodland city

MN Wright County

MO Airport Drive village

MO Airport township

MO Andrew County

MO Arnold city

MO Avondale city

MO Ballwin city

MO Battlefield town

MO Bella Villa city

MO Bellefontaine Neighbors city

MO Bellerive village

MO Bel-Nor village

MO Bel-Ridge village

MO Belton city

MO Berkeley city

MO Beverly Hills city

MO Big Creek township

MO Birmingham village

MO Black Jack city

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MO Blanchette township

MO Blue Springs city

MO Blue township

MO Bonhomme township

MO Boone County

MO Boone township

MO Breckenridge Hills village

MO Brentwood city

MO Bridgeton city

MO Brooking township

MO Buchanan County

MO Calverton Park village

MO Campbell No. 1 township

MO Campbell No. 2 township

MO Carl Junction city

MO Carroll township

MO Carterville city

MO Cass County

MO Cedar township

MO Center township

MO Charlack city

MO Chesterfield city

MO Chouteau township

MO Christian County

MO Clarkson Valley city

MO Clay County

MO Clay township

MO Claycomd village

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MO Clayton city

MO Clayton township

MO Cliff Village village

MO Columbia city

MO Columbia township

MO Concord township

MO Cool Valley city

MO Cottleville town

MO Cottleville township

MO Country Club Hills city

MO Country Club village

MO Country Life Acres village

MO Crestwood city

MO Creve Coeur city

MO Creve Coeur township

MO Crystal Lake Park city

MO Dardenne township

MO Dellwood city

MO Dennis Acres village

MO Des Peres city

MO Duquesne village

MO Edmundson village

MO Ellisville city

MO Fenton city

MO Ferguson city

MO Ferguson township

MO Flordell Hills city

MO Florissant city

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MO Florissant township

MO Fox township

MO Friedens township

MO Frontenac city

MO Galena township

MO Gallatin township

MO Gladstone city

MO Glen Echo Park village

MO Glenaire village

MO Glendale city

MO Grandview city

MO Grantwood Village town

MO Gravois township

MO Greendale city

MO Greene County

MO Hadley township

MO Hanley Hills village

MO Harvester township

MO Hazelwood city

MO High Ridge township

MO Hillsdale village

MO Houston Lake city

MO Huntleigh city

MO Imperial township

MO Iron Gates village

MO Jackson County

MO Jasper County

MO Jefferson County

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MO Jefferson township

MO Jennings city

MO Joplin city

MO Joplin township

MO Kickapoo township

MO Kimmswick city

MO Kinloch city

MO Kirkwood city

MO Ladue city

MO Lake St. Louis city

MO Lake Tapawingo city

MO Lake Waukomis city

MO Lakeshire city

MO Leawood village

MO Lee's Summit city

MO Lemay township

MO Lewis and Clark township

MO Liberty city

MO Liberty township

MO Mac Kenzie village

MO Manchester city

MO Maplewood city

MO Marlborough village

MO Maryland Heights city

MO May township

MO Meramec township

MO Midland township

MO Mineral township

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MO Missouri River township

MO Missouri township

MO Moline Acres city

MO Mount Pleasant township

MO Newton County

MO Normandy city

MO Normandy township

MO North Campbell No. 1 township

MO North Campbell No. 2 township

MO North Campbell No. 3 township

MO North Kansas City city

MO North View township

MO Northmoor city

MO Northwest township

MO Northwoods city

MO Norwood Court town

MO Oakland city

MO Oakland Park village

MO Oaks village

MO Oakview village

MO Oakwood Park village

MO Oakwood village

MO O'Fallon city

MO O'Fallon township

MO Olivette city

MO Overland city

MO Pagedale city

MO Parkdale town

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MO Parkville city

MO Pasadena Hills city

MO Pasadena Park village

MO Pettis township

MO Pine Lawn city

MO Platte County

MO Platte township

MO Platte Woods city

MO Pleasant Valley city

MO Prairie township

MO Queeny township

MO Randolph village

MO Raymore city

MO Raymore township

MO Raytown city

MO Redings Mill village

MO Richmond Heights city

MO Rivers township

MO Riverside city

MO Riverview village

MO Rock Hill city

MO Rock township

MO Rocky Fork township

MO Saginaw village

MO Shoal Creek Drive village

MO Shoal Creek township

MO Shrewsbury city

MO Silver Creek village

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MO Sioux township

MO Sni-A-Bar township

MO Spanish Lake township

MO Spencer Creek township

MO St. Ann city

MO St. Charles city

MO St. Ferdinand township

MO St. George city

MO St. John city

MO St. Joseph city

MO St. Louis city

MO St. Peters city

MO St. Peters township

MO Sugar Creek city

MO Sunset Hills city

MO Sycamore Hills village

MO Town and Country city

MO Twin Groves township

MO Twin Oaks village

MO Unity Village village ***68822**

MO University City city

MO Uplands Park village

MO Valley Park city

MO Velda Village city

MO Velda Village Hills village

MO Vinita Park city

MO Vinita Terrace village

MO Warson Woods city

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MO Washington township

MO Wayne township

MO Weatherby Lake city

MO Webb City city

MO Webster Groves city

MO Wellston city

MO Wentzville township

MO Westwood village

MO Wilbur Park village

MO Wilson township

MO Winchester city

MO Windsor township

MO Woodson Terrace city

MO Zumbehl township

MS Bay St. Louis city

MS Biloxi city

MS Brandon city

MS Clinton city

MS DeSoto County

MS D'Iberville city

MS Flowood town

MS Forrest County

MS Gautier city

MS Gulfport city

MS Hancock County

MS Harrison County

MS Hattiesburg city

MS Hinds County

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MS Horn Lake city

MS Jackson County

MS Lamar County

MS Long Beach city

MS Madison city

MS Madison County

MS Moss Point city

MS Ocean Springs city

MS Pascagoula city

MS Pass Christian city

MS Pearl city

MS Petal city

MS Rankin County

MS Richland city

MS Ridgeland city

MS Southaven city

MS Waveland city

MT Billings city

MT Cascade County

MT Great Falls city

MT Missoula city

MT Missoula County

MT Yellowstone County

NC Alamance County

NC Apex town

NC Archdale city

NC Asheville city

NC Belmont city

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NC Belville town

NC Bessemer City city

NC Biltmore Forest town

NC Black Mountain town

NC Brookford town

NC Brunswick County

NC Buncombe County

NC Burke County

NC Burlington city

NC Cabarrus County

NC Carrboro town

NC Cary town

NC Catawba County

NC Chapel Hill town

NC China Grove town

NC Clemmons village

NC Concord city

NC Conover city

NC Cramerton town

NC Dallas town

NC Davidson County

NC Durham County

NC Edgecombe County

NC Elon College town

NC Fletcher town

NC Forsyth County

NC Garner town

NC Gaston County

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NC Gastonia city

NC Gibsonville town

NC Goldsboro city

NC Graham city

NC Greenville city

NC Guilford County

NC Harnett County

NC Haw River town

NC Henderson County

NC Hickory city

NC High Point city

NC Hildebran town

NC Hope Mills town

NC Indian Trail town

NC Jacksonville city

NC Jamestown town

NC Kannapolis city

NC Landis town

NC Leland town

NC Long View town

NC Lowell city

NC Matthews town

NC McAdenville town

NC Mebane city

NC Mecklenburg County

NC Mint Hill town

NC Montreat town

NC Mount Holly city

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NC Nash County

NC New Hanover County

NC Newton city

NC Onslow County

NC Orange County

NC Pineville town

NC Pitt County

NC Randolph County

NC Ranlo town

NC Rocky Mount city

NC Rowan County

NC Rural Hall town

NC Spring Lake town

NC Stallings town

NC Thomasville city

NC Union County

NC Wake County

NC Walkertown town

NC Wayne County

NC Weaverville town

NC Wilmington city

NC Winterville town

NC Woodfin town

NC Wrightsville Beach town

ND Barnes township

ND Bismarck city

ND Bismarck unorg.

ND Burleigh County

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ND Captain's Landing township

ND Cass County

ND Fargo city

ND Grand Forks city

ND Grand Forks County

ND Grand Forks township

ND Hay Creek township

ND Lincoln city

ND Mandan city

ND Mandan unorg.

ND Morton County

ND Reed township

ND West Fargo city

NE Bellevue city

NE Bellevue No. 2 precinct

NE Benson precinct

NE Boys Town village

NE Chicago precinct

NE Covington precinct

NE Dakota County

NE Douglas County

NE Douglas precinct

NE Florence precinct

NE Garfield precinct

NE Gilmore No. 1 precinct

NE Gilmore No. 2 precinct

NE Gilmore No. 3 precinct

NE Grant precinct

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NE Highland No. 1 precinct

NE Highland No. 2 precinct

NE Jefferson precinct

NE La Platte precinct

NE La Vista city

NE Lancaster County

NE Lancaster precinct

NE McArdle precinct

NE Millard precinct

NE Papillion city

NE Papillion No. 2 precinct

NE Pawnee precinct

NE Ralston city

NE Richland No. 1 precinct

NE Richland No. 2 precinct

NE Richland No. 3 precinct

NE Sarpy County

NE South Sioux City city

NE Union precinct

NE Yankee Hill precinct

NH Amherst town

NH Auburn town

NH Bedford town

NH Dover city

NH Durham town

NH Goffstown town

NH Hillsborough County

NH Hollis town

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NH Hooksett town

NH Hudson town

NH Litchfield town

NH Londonderry town

NH Madbury town

NH Manchester city

NH Merrimack County

NH Merrimack town

NH Nashua city

NH New Castle town

NH Newington town

NH Pelham town

NH Plaistow town

NH Portsmouth city

NH Rochester city

NH Rockingham County

NH Rollinsford town

NH Rye town

NH Salem town

NH Somersworth city

NH Strafford County

NH Windham town

NJ Aberdeen township

NJ Absecon city ***68823**

NJ Allendale borough

NJ Allenhurst borough

NJ Alpha borough

NJ Alpine borough

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NJ Asbury Park city

NJ Atlantic City city

NJ Atlantic County

NJ Atlantic Highlands borough

NJ Audubon borough

NJ Audubon Park borough

NJ Avon-by-the-Sea borough

NJ Barrington borough

NJ Bay Head borough

NJ Bayonne city

NJ Beachwood borough

NJ Bedminster township

NJ Belleville township

NJ Bellmawr borough

NJ Belmar borough

NJ Bergenfield borough

NJ Berkeley Heights township

NJ Berkeley township

NJ Berlin borough

NJ Berlin township

NJ Bernards township

NJ Bernardsville borough

NJ Beverly city

NJ Bloomfield township

NJ Bloomingdale borough

NJ Bogota borough

NJ Boonton town

NJ Boonton township

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NJ Bordentown city

NJ Bordentown township

NJ Bound Brook borough

NJ Bradley Beach borough

NJ Branchburg township

NJ Brick township

NJ Bridgewater township

NJ Brielle borough

NJ Brigantine city

NJ Brooklawn borough

NJ Buena borough

NJ Buena Vista township

NJ Burlington city

NJ Burlington County

NJ Burlington township

NJ Butler borough

NJ Byram township

NJ Caldwell Borough township

NJ Camden city

NJ Cape May County

NJ Carlstadt borough

NJ Carneys Point township

NJ Carteret borough

NJ Cedar Grove township

NJ Chatham borough

NJ Chatham township

NJ Cherry Hill township

NJ Chesilhurst borough

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NJ Chester township

NJ Chesterfield township

NJ Cinnaminson township

NJ City of Orange township

NJ Clark township

NJ Clayton borough

NJ Clementon borough

NJ Cliffside Park borough

NJ Clifton city

NJ Closter borough

NJ Collingswood borough

NJ Colts Neck township

NJ Commercial township

NJ Cranford township

NJ Cresskill borough

NJ Cumberland County

NJ Deal borough

NJ Delanco township

NJ Delran township

NJ Demarest borough

NJ Denville township

NJ Deptford township

NJ Dover town

NJ Dover township

NJ Dumont borough

NJ Dunellen borough

NJ East Brunswick township

NJ East Greenwich township

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NJ East Hanover township

NJ East Newark borough

NJ East Orange city

NJ East Rutherford borough

NJ Eastampton township

NJ Eatontown borough

NJ Edgewater borough

NJ Edgewater Park township

NJ Edison township

NJ Egg Harbor township

NJ Elizabeth city

NJ Elk township

NJ Elmwood Park borough

NJ Emerson borough

NJ Englewood city

NJ Englewood Cliffs borough

NJ Englishtown borough

NJ Essex Fells township

NJ Evesham township

NJ Ewing township

NJ Fair Haven borough

NJ Fair Lawn borough

NJ Fairfield township

NJ Fairview borough

NJ Fanwood borough

NJ Fieldsboro borough

NJ Florence township

NJ Florham Park borough

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NJ Fort Lee borough

NJ Franklin Lakes borough

NJ Franklin township

NJ Freehold borough

NJ Freehold township

NJ Galloway township

NJ Garfield city

NJ Garwood borough

NJ Gibbsboro borough

NJ Glassboro borough

NJ Glen Ridge Borough township

NJ Glen Rock borough

NJ Gloucester City city

NJ Gloucester County

NJ Gloucester township

NJ Green Brook township

NJ Greenwich township

NJ Guttenberg town

NJ Hackensack city

NJ Haddon Heights borough

NJ Haddon township

NJ Haddonfield borough

NJ Hainesport township

NJ Haledon borough

NJ Hamilton township

NJ Hanover township

NJ Harding township

NJ Harrington Park borough

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NJ Harrison town

NJ Hasbrouck Heights borough

NJ Haworth borough

NJ Hawthorne borough

NJ Hazlet township

NJ Helmetta borough

NJ Highland Park borough

NJ Highlands borough

NJ Hillsborough township

NJ Hillsdale borough

NJ Hillside township

NJ Hi-Nella borough

NJ Hoboken city

NJ Ho-Ho-Kus borough

NJ Holmdel township

NJ Hopatcong borough

NJ Hopewell township

NJ Howell township

NJ Hunterdon County

NJ Interlaken borough

NJ Irvington township

NJ Island Heights borough

NJ Jackson township

NJ Jamesburg borough

NJ Jefferson township

NJ Jersey City city

NJ Keansburg borough

NJ Kearny town

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NJ Kenilworth borough

NJ Keyport borough

NJ Kinnelon borough

NJ Lakehurst borough

NJ Lakewood township

NJ Laurel Springs borough

NJ Lavallette borough

NJ Lawnside borough

NJ Lawrence township

NJ Leonia borough

NJ Lincoln Park borough

NJ Linden city

NJ Lindenwold borough

NJ Linwood city

NJ Little Falls township

NJ Little Ferry borough

NJ Little Silver borough

NJ Livingston township

NJ Loch Arbour village

NJ Lodi borough

NJ Long Branch city

NJ Longport borough

NJ Lopatcong township

NJ Lumberton township

NJ Lyndhurst township

NJ Madison borough

NJ Magnolia borough

NJ Mahwah township

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NJ Manalapan township

NJ Manasquan borough

NJ Manchester township

NJ Mantoloking borough

NJ Mantua township

NJ Manville borough

NJ Maple Shade township

NJ Maplewood township

NJ Margate City city

NJ Marlboro township

NJ Matawan borough

NJ Maywood borough

NJ Medford Lakes borough

NJ Medford township

NJ Mendham borough

NJ Mendham township

NJ Mercer County

NJ Merchantville borough

NJ Metuchen borough

NJ Middlesex borough

NJ Middlesex County

NJ Middletown township

NJ Midland Park borough

NJ Millburn township

NJ Millstone borough

NJ Milltown borough

NJ Millville city

NJ Mine Hill township ***68824**

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NJ Monmouth Beach borough

NJ Monmouth County

NJ Monroe township

NJ Montclair township

NJ Montvale borough

NJ Montville township

NJ Moonachie borough

NJ Moorestown township

NJ Morris County

NJ Morris Plains borough

NJ Morris township

NJ Morristown town

NJ Mount Arlington borough

NJ Mount Ephraim borough

NJ Mount Holly township

NJ Mount Laurel township

NJ Mount Olive township

NJ Mountain Lakes borough

NJ Mountainside borough

NJ National Park borough

NJ Neptune City borough

NJ Neptune township

NJ Netcong borough

NJ New Brunswick city

NJ New Milford borough

NJ New Providence borough

NJ Newark city

NJ Newfield borough

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NJ North Arlington borough

NJ North Bergen township

NJ North Brunswick township

NJ North Caldwell township

NJ North Haledon borough

NJ North Plainfield borough

NJ Northfield city

NJ Northvale borough

NJ Norwood borough

NJ Nutley township

NJ Oakland borough

NJ Oaklyn borough

NJ Ocean City city

NJ Ocean County

NJ Ocean Gate borough

NJ Ocean township

NJ Oceanport borough

NJ Old Bridge township

NJ Old Tappan borough

NJ Oradell borough

NJ Palisades Park borough

NJ Palmyra borough

NJ Paramus borough

NJ Park Ridge borough

NJ Parsippany-Troy Hills township

NJ Passaic city

NJ Passaic County

NJ Passaic township

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NJ Paterson city

NJ Paulsboro borough

NJ Pennington borough

NJ Penns Grove borough

NJ Pennsauken township

NJ Pennsville township

NJ Pequannock township

NJ Perth Amboy city

NJ Phillipsburg town

NJ Pine Beach borough

NJ Pine Hill borough

NJ Pine Valley borough

NJ Piscataway township

NJ Pitman borough

NJ Pittsgrove township

NJ Plainfield city

NJ Pleasantville city

NJ Pohatcong township

NJ Point Pleasant Beach borough

NJ Point Pleasant borough

NJ Pompton Lakes borough

NJ Prospect Park borough

NJ Rahway city

NJ Ramsey borough

NJ Randolph township

NJ Raritan borough

NJ Readington township

NJ Red Bank borough

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NJ Ridgefield borough

NJ Ridgefield Park village

NJ Ridgewood village

NJ Ringwood borough

NJ River Edge borough

NJ River Vale township

NJ Riverdale borough

NJ Riverside township

NJ Riverton borough

NJ Rochelle Park township

NJ Rockaway borough

NJ Rockaway township

NJ Rockleigh borough

NJ Roseland borough

NJ Roselle borough

NJ Roselle Park borough

NJ Roxbury township

NJ Rumson borough

NJ Runnemede borough

NJ Rutherford borough

NJ Saddle Brook township

NJ Saddle River borough

NJ Salem County

NJ Sayreville borough

NJ Scotch Plains township

NJ Sea Bright borough

NJ Sea Girt borough

NJ Seaside Heights borough

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NJ Seaside Park borough

NJ Secaucus town

NJ Shamong township

NJ Shrewsbury borough

NJ Shrewsbury township

NJ Somerdale borough

NJ Somers Point city

NJ Somerset County

NJ Somerville borough

NJ South Amboy city

NJ South Belmar borough

NJ South Bound Brook borough

NJ South Brunswick township

NJ South Hackensack township

NJ South Orange Village township

NJ South Plainfield borough

NJ South River borough

NJ South Toms River borough

NJ Spotswood borough

NJ Spring Lake borough

NJ Spring Lake Heights borough

NJ Springfield township

NJ Stanhope borough

NJ Stratford borough

NJ Summit city

NJ Sussex County

NJ Tabernacle township

NJ Tavistock borough

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NJ Teaneck township

NJ Tenafly borough

NJ Teterboro borough

NJ Tinton Falls borough

NJ Totowa borough

NJ Trenton city

NJ Union Beach borough

NJ Union City city

NJ Union township

NJ Upper Saddle River borough

NJ Upper township

NJ Ventnor City city

NJ Verona township

NJ Victory Gardens borough

NJ Vineland city

NJ Voorhees township

NJ Waldwick borough

NJ Wall township

NJ Wallington borough

NJ Wanaque borough

NJ Warren County

NJ Warren township

NJ Washington township

NJ Watchung borough

NJ Waterford township

NJ Wayne township

NJ Weehawken township

NJ Wenonah borough

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NJ West Caldwell township

NJ West Deptford township

NJ West Long Branch borough

NJ West New York town

NJ West Orange township

NJ West Paterson borough

NJ Westampton township

NJ Westfield town

NJ Westville borough

NJ Westwood borough

NJ Wharton borough

NJ Willingboro township

NJ Winfield township

NJ Winslow township

NJ Woodbridge township

NJ Woodbury city

NJ Woodbury Heights borough

NJ Woodcliff Lake borough

NJ Woodlynne borough

NJ Wood-Ridge borough

NJ Wyckoff township

NM Bernalillo County

NM Corrales village

NM Dona Ana County

NM Las Cruces city

NM Los Ranchos de Albuquerque village

NM Mesilla town

NM Rio Rancho city

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NM Sandoval County

NM Santa Fe city

NM Santa Fe County

NM Sunland Park city

NY Albany city

NY Albany County

NY Amherst town

NY Amityville village

NY Ardsley village

NY Ashland town

NY Atlantic Beach village

NY Babylon town

NY Babylon village

NY Baldwinsville village

NY Ballston town

NY Barker town

NY Baxter Estates village

NY Bayville village

NY Beacon city

NY Bedford town

NY Belle Terre village

NY Bellerose village

NY Bellport village

NY Bethlehem town

NY Big Flats town

NY Binghamton city

NY Binghamton town

NY Blasdell village

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NY Boston town

NY Briarcliff Manor village

NY Brighton town

NY Brightwaters village ***68825**

NY Bronxville village

NY Brookhaven town

NY Brookville village

NY Broome County

NY Brunswick town

NY Buchanan village

NY Buffalo city

NY Camillus town

NY Camillus village

NY Carmel town

NY Cayuga Heights village

NY Cedarhurst village

NY Charlton town

NY Cheektowaga town

NY Chemung County

NY Chenango town

NY Chestnut Ridge village

NY Chili town

NY Cicero town

NY Clarence town

NY Clarkstown town

NY Clay town

NY Clayville village

NY Clifton Park town

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NY Clinton village

NY Cohoes city

NY Colonie town

NY Colonie village

NY Conklin town

NY Cornwall on Hudson village

NY Cornwall town

NY Cortlandt town

NY Croton-on-Hudson village

NY De Witt town

NY Deerfield town

NY Depew village

NY Dickinson town

NY Dobbs Ferry village

NY Dryden town

NY Dutchess County

NY East Fishkill town

NY East Greenbush town

NY East Hills village

NY East Rochester village

NY East Rockaway village

NY East Syracuse village

NY East Williston village

NY Eastchester town

NY Elma town

NY Elmira city

NY Elmira Heights village

NY Elmira town

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NY Elmsford village

NY Endicott village

NY Erie County

NY Evans town

NY Fairport village

NY Farmingdale village

NY Fayetteville village

NY Fenton town

NY Fishkill town

NY Fishkill village

NY Floral Park village

NY Flower Hill village

NY Floyd town

NY Fort Edward town

NY Fort Edward village

NY Frankfort town

NY Freeport village

NY Garden City village

NY Gates town

NY Geddes town

NY Glen Cove city

NY Glens Falls city

NY Glenville town

NY Grand Island town

NY Grand View-on-Hudson village

NY Great Neck Estates village

NY Great Neck Plaza village

NY Great Neck village

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NY Greece town

NY Green Island village

NY Greenburgh town

NY Guilderland town

NY Halfmoon town

NY Hamburg town

NY Hamburg village

NY Harrison village

NY Hastings-on-Hudson village

NY Haverstraw town

NY Haverstraw village

NY Hempstead town

NY Hempstead village

NY Henrietta town

NY Herkimer County

NY Hewlett Bay Park village

NY Hewlett Harbor village

NY Hewlett Neck village

NY Hillburn village

NY Horseheads town

NY Horseheads village

NY Hudson Falls village

NY Huntington Bay village

NY Huntington town

NY Hyde Park town

NY Irondequoit town

NY Irvington village

NY Island Park village

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NY Islandia village

NY Islip town

NY Ithaca city

NY Ithaca town

NY Johnson City village

NY Kenmore village

NY Kensington village

NY Kent town

NY Kings Point village

NY Kingsbury town

NY Kirkland town

NY Kirkwood town

NY La Grange town

NY Lackawanna city

NY LaFayette town

NY Lake Grove village

NY Lake Success village

NY Lancaster town

NY Lancaster village

NY Lansing town

NY Lansing village

NY Larchmont village

NY Lattingtown village

NY Lawrence village

NY Lee town

NY Lewiston town

NY Lewiston village

NY Lindenhurst village

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NY Liverpool village

NY Lloyd Harbor village

NY Lloyd town

NY Long Beach city

NY Lynbrook village

NY Lysander town

NY Malta town

NY Malverne village

NY Mamaroneck town

NY Mamaroneck village

NY Manlius town

NY Manlius village

NY Manorhaven village

NY Marcy town

NY Massapequa Park village

NY Matinecock village

NY Menands village

NY Mill Neck village

NY Mineola village

NY Minoa village

NY Monroe County

NY Montebello village

NY Montgomery town

NY Moreau town

NY Mount Kisco village

NY Mount Pleasant town

NY Mount Vernon city

NY Munsey Park village

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NY Muttontown village

NY New Castle town

NY New Hartford town

NY New Hartford village

NY New Hempstead village

NY New Hyde Park village

NY New Rochelle city

NY New Square village

NY New Windsor town

NY New York Mills village

NY Newburgh city

NY Newburgh town

NY Niagara County

NY Niagara Falls city

NY Niagara town

NY Niskayuna town

NY North Castle town

NY North Greenbush town

NY North Hempstead town

NY North Hills village

NY North Syracuse village

NY North Tarrytown village

NY North Tonawanda city

NY Northport village

NY Nyack village

NY Ogden town

NY Old Brookville village

NY Old Westbury village

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NY Oneida County

NY Onondaga County

NY Onondaga town

NY Orange County

NY Orangetown town

NY Orchard Park town

NY Orchard Park village

NY Oriskany village

NY Ossining town

NY Ossining village

NY Oswego County

NY Owego town

NY Oyster Bay town

NY Paris town

NY Patchogue village

NY Patterson town

NY Peekskill city

NY Pelham Manor village

NY Pelham town

NY Pelham village

NY Pendleton town

NY Penfield town

NY Perinton town

NY Philipstown town

NY Phoenix village

NY Piermont village

NY Pittsford town

NY Pittsford village

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NY Plandome Heights village

NY Plandome Manor village

NY Plandome village

NY Pleasant Valley town

NY Pleasantville village

NY Poestenkill town

NY Pomona village

NY Poospatuck Reservation ***68826**

NY Poquott village

NY Port Chester village

NY Port Dickinson village

NY Port Jefferson village

NY Port Washington North village

NY Poughkeepsie city

NY Poughkeepsie town

NY Pound Ridge town

NY Putnam County

NY Putnam Valley town

NY Queensbury town

NY Ramapo town

NY Rensselaer city

NY Rensselaer County

NY Riverhead town

NY Rochester city

NY Rockville Centre village

NY Rome city

NY Roslyn Estates village

NY Roslyn Harbor village

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NY Roslyn village

NY Rotterdam town

NY Russell Gardens village

NY Rye Brook village

NY Rye city

NY Rye town

NY Saddle Rock village

NY Salina town

NY Sands Point village

NY Saratoga County

NY Scarsdale town

NY Scarsdale village

NY Schaghticoke town

NY Schenectady city

NY Schenectady County

NY Schodack town

NY Schroeppel town

NY Schuyler town

NY Scotia village

NY Sea Cliff village

NY Shoreham village

NY Sloan village

NY Sloatsburg village

NY Smithtown town

NY Solvay village

NY Somers town

NY South Floral Park village

NY South Glens Falls village

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NY South Nyack village

NY Southampton town

NY Southport town

NY Spencerport village

NY Spring Valley village

NY Stewart Manor village

NY Stony Point town

NY Suffern village

NY Suffolk County

NY Syracuse city

NY Tarrytown village

NY Thomaston village

NY Tioga County

NY Tompkins County

NY Tonawanda city

NY Tonawanda town

NY Troy city

NY Tuckahoe village

NY Ulster County

NY Union town

NY Upper Brookville village

NY Upper Nyack village

NY Utica city

NY Valley Stream village

NY Van Buren town

NY Vestal town

NY Veteran town

NY Village of the Branch village

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NY Wappinger town

NY Wappingers Falls village

NY Warren County

NY Washington County

NY Waterford town

NY Waterford village

NY Watervliet city

NY Webster town

NY Webster village

NY Wesley Hills village

NY West Haverstraw village

NY West Seneca town

NY Westbury village

NY Westchester County

NY Western town

NY Wheatfield town

NY White Plains city

NY Whitesboro village

NY Whitestown town

NY Williamsville village

NY Williston Park village

NY Woodsburgh village

NY Yonkers city

NY Yorktown town

NY Yorkville village

OH Addyston village

OH Allen County

OH Allen township

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OH Amberley village

OH Amelia village

OH American township

OH Amherst city

OH Amherst township

OH Anderson township

OH Arlington Heights village

OH Auglaize County

OH Aurora city

OH Austintown township

OH Avon city

OH Avon Lake city

OH Bainbridge township

OH Barberton city

OH Batavia township

OH Bath township

OH Bay Village city

OH Beachwood city

OH Beaver township

OH Beavercreek city

OH Beavercreek township

OH Bedford city

OH Bedford Heights city

OH Bellaire city

OH Bellbrook city

OH Belmont County

OH Belpre city

OH Belpre township

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OH Bentleyville village

OH Berea city

OH Bethel township

OH Bexley city

OH Blendon township

OH Blue Ash city

OH Boardman township

OH Brady Lake village

OH Bratenahl village

OH Brecksville city

OH Brice village

OH Bridgeport village

OH Brilliant village

OH Brimfield township

OH Broadview Heights city

OH Brook Park city

OH Brookfield township

OH Brooklyn city

OH Brooklyn Heights village

OH Brookside village

OH Brown township

OH Brownhelm township

OH Brunswick city

OH Brunswick Hills township

OH Butler County

OH Butler township

OH Campbell city

OH Canfield city

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OH Canfield township

OH Canton city

OH Canton township

OH Carlisle township

OH Carlisle village

OH Centerville city

OH Chagrin Falls township

OH Chagrin Falls village

OH Champion township

OH Chesapeake village

OH Cheviot city

OH Chippewa township

OH Cincinnati city

OH Clark County

OH Clear Creek township

OH Clermont County

OH Cleveland city

OH Cleveland Heights city

OH Cleves village

OH Clinton township

OH Coal Grove village

OH Coitsville township

OH Colerain township

OH Columbia township

OH Concord township

OH Copley township

OH Coventry township

OH Cridersville village

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OH Cross Creek township

OH Cuyahoga County

OH Cuyahoga Falls city

OH Cuyahoga Heights village

OH Deer Park city

OH Deerfield township

OH Delaware County

OH Delhi township

OH Doylestown village

OH Dublin city

OH Duchouquet township

OH East Cleveland city

OH Eastlake city

OH Eaton township

OH Elmwood Place village

OH Elyria city

OH Elyria township

OH Englewood city

OH Erie County

OH Etna township

OH Euclid city

OH Evendale village

OH Fairborn city

OH Fairfax village

OH Fairfield city

OH Fairfield County

OH Fairfield township

OH Fairlawn city

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OH Fairport Harbor village

OH Fairview Park city

OH Fayette township

OH Forest Park city

OH Fort Shawnee village

OH Franklin city

OH Franklin County

OH Franklin township

OH Gahanna city

OH Garfield Heights city

OH Geauga County

OH Genoa township ***68827**

OH German township

OH Girard city

OH Glendale village

OH Glenwillow village

OH Golf Manor village

OH Goshen township

OH Grand River village

OH Grandview Heights city

OH Green township

OH Green village

OH Greene County

OH Greenhills village

OH Grove City city

OH Groveport village

OH Hamilton city

OH Hamilton County

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OH Hamilton township

OH Hanging Rock village

OH Hanover township

OH Harbor View village

OH Harrison township

OH Hartville village

OH Heath city

OH Highland Heights city

OH Hilliard city

OH Hills and Dales village

OH Hinckley township

OH Holland village

OH Howland township

OH Hubbard city

OH Hubbard township

OH Huber Heights city

OH Hudson township

OH Hudson village

OH Independence city

OH Ironton city

OH Island Creek township

OH Jackson township

OH Jefferson County

OH Jefferson township

OH Jerome township

OH Kent city

OH Kettering city

OH Kirtland city

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OH Lake County

OH Lake township

OH Lakeline village

OH Lakemore village

OH Lakewood city

OH Lawrence County

OH Lawrence township

OH Lemon township

OH Lexington village

OH Liberty township

OH Licking County

OH Licking township

OH Lima city

OH Lima township

OH Lincoln Heights city

OH Linndale village

OH Lockland village

OH Lorain city

OH Lorain County

OH Louisville city

OH Loveland city

OH Lowellville village

OH Lucas County

OH Lyndhurst city

OH Macedonia city

OH Mad River township

OH Madeira city

OH Madison township

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OH Mahoning County

OH Maineville village

OH Mansfield city

OH Maple Heights city

OH Marble Cliff village

OH Mariemont village

OH Martins Ferry city

OH Mason city

OH Massillon city

OH Maumee city

OH Mayfield Heights city

OH Mayfield village

OH McDonald village

OH Mead township

OH Medina County

OH Mentor city

OH Mentor-on-the-Lake city

OH Meyers Lake village

OH Miami County

OH Miami township

OH Miamisburg city

OH Middleburg Heights city

OH Middletown city

OH Mifflin township

OH Milford city

OH Millbury village

OH Millville village

OH Minerva Park village

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OH Mingo Junction city

OH Mogadore village

OH Monclova township

OH Monroe township

OH Monroe village

OH Montgomery city

OH Montgomery County

OH Moorefield township

OH Moraine city

OH Moreland Hills village

OH Mount Healthy city

OH Munroe Falls village

OH New Miami village

OH New Middletown village

OH New Rome village

OH Newark city

OH Newark township

OH Newburgh Heights village

OH Newton township

OH Newtown village

OH Niles city

OH Nimishillen township

OH North Bend village

OH North Canton city

OH North College Hill city

OH North Olmsted city

OH North Randall village

OH North Ridgeville city

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OH North Royalton city

OH Northfield Center township

OH Northfield village

OH Northwood city

OH Norton city

OH Norwich township

OH Norwood city

OH Oakwood city

OH Oakwood village

OH Obetz village

OH Ohio township

OH Olmsted Falls city

OH Olmsted township

OH Ontario village

OH Orange township

OH Orange village

OH Oregon city

OH Ottawa County

OH Ottawa Hills village

OH Painesville city

OH Painesville township

OH Palmyra township

OH Parma city

OH Parma Heights city

OH Pease township

OH Pepper Pike city

OH Perry township

OH Perrysburg city

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OH Perrysburg city

OH Perrysburg township

OH Pierce township

OH Plain township

OH Pleasant township

OH Poland township

OH Poland village

OH Portage County

OH Powell village

OH Prairie township

OH Proctorville village

OH Pultney township

OH Randolph township

OH Ravenna city

OH Ravenna township

OH Reading city

OH Reminderville village

OH Reynoldsburg city

OH Richfield township

OH Richfield village

OH Richland County

OH Richmond Heights city

OH Riveredge township

OH Riverlea village

OH Riverside village

OH Rocky River city

OH Rome township

OH Ross township

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OH Rossford city

OH Russell township

OH Russia township

OH Sagamore Hills township

OH Seven Hills city

OH Shadyside village

OH Shaker Heights city

OH Sharon township

OH Sharonville city

OH Shawnee Hills village

OH Shawnee township

OH Sheffield Lake city

OH Sheffield township

OH Sheffield village

OH Silver Lake village

OH Silverton city

OH Solon city

OH South Amherst village

OH South Euclid city

OH South Point village

OH South Russell village

OH Springboro city

OH Springdale city

OH Springfield city

OH Springfield township

OH St. Bernard city

OH St. Clair township

OH Stark County

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OH Steubenville city

OH Steubenville township

OH Stow city

OH Strongsville city

OH Struthers city

OH Suffield township

OH Sugar Bush Knolls village

OH Sugar Creek township

OH Summit County

OH Sycamore township

OH Sylvania city

OH Sylvania township

OH Symmes township

OH Tallmadge city

OH Terrace Park village

OH The Village of Indian Hill city ***68828**

OH Timberlake village

OH Trenton city

OH Trotwood city

OH Troy township

OH Trumbull County

OH Truro township

OH Turtle Creek township

OH Tuscarawas township

OH Twinsburg city

OH Twinsburg township

OH Union city

OH Union County

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OH Union township

OH University Heights city

OH Upper Arlington city

OH Upper township

OH Urbancrest village

OH Valley View village

OH Valleyview village

OH Vandalia city

OH Vermilion city

OH Vermilion township

OH Violet township

OH Wadsworth city

OH Wadsworth township

OH Waite Hill village

OH Walbridge village

OH Walton Hills village

OH Warren city

OH Warren County

OH Warren township

OH Warrensville Heights city

OH Warrensville township

OH Washington County

OH Washington township

OH Wayne County

OH Wayne township

OH Weathersfield township

OH Wells township

OH West Carrollton City city

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OH West Milton village

OH Westerville city

OH Westlake city

OH Whitehall city

OH Whitewater township

OH Wickliffe city

OH Willoughby city

OH Willoughby Hills city

OH Willowick city

OH Wintersville village

OH Wood County

OH Woodlawn village

OH Woodmere village

OH Worthington city

OH Wyoming city

OH Youngstown city

OK Arkoma town

OK Bethany city

OK Bixby city

OK Broken Arrow city

OK Canadian County

OK Catoosa city

OK Choctaw city

OK Cleveland County

OK Comanche County

OK Creek County

OK Del City city

OK Edmond city

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OK Forest Park town

OK Hall Park town

OK Harrah town

OK Jenks city

OK Jones town

OK Lake Aluma town

OK Lawton city

OK Le Flore County

OK Logan County

OK Midwest City city

OK Moffett town

OK Moore city

OK Mustang city

OK Nichols Hills city

OK Nicoma Park city

OK Norman city

OK Oklahoma County

OK Osage County

OK Pottawatomie County

OK Rogers County

OK Sand Springs city

OK Sequoyah County

OK Smith Village town

OK Spencer city

OK The Village city

OK Tulsa County

OK Valley Brook town

OK Wagoner County

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OK Warr Acres city

OK Woodlawn Park town

OK Yukon city

OR Central Point city

OR Columbia County

OR Durham city

OR Jackson County

OR Keizer city

OR King City city

OR Lane County

OR Marion County

OR Maywood Park city

OR Medford city

OR Phoenix city

OR Polk County

OR Rainier city

OR Springfield city

OR Troutdale city

OR Tualatin city

OR Wood Village city

PA Abington township

PA Adamsburg borough

PA Alburtis borough

PA Aldan borough

PA Aleppo township

PA Aliquippa city

PA Allegheny County

PA Allegheny township

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PA Allen township

PA Allenport borough

PA Alsace township

PA Altoona city

PA Ambler borough

PA Ambridge borough

PA Amwell township

PA Antis township

PA Antrim township

PA Archbald borough

PA Arnold city

PA Ashley borough

PA Aspinwall borough

PA Aston township

PA Avalon borough

PA Avoca borough

PA Baden borough

PA Baldwin borough

PA Baldwin township

PA Beaver borough

PA Beaver County

PA Beaver Falls city

PA Bell Acres borough

PA Belle Vernon borough

PA Bellevue borough

PA Ben Avon borough

PA Ben Avon Heights borough

PA Bensalem township

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PA Berks County

PA Bern township

PA Bethel Park borough

PA Bethel township

PA Bethlehem city

PA Bethlehem township

PA Big Beaver borough

PA Birdsboro borough

PA Birmingham township

PA Blair County

PA Blair township

PA Blakely borough

PA Blawnox borough

PA Boyertown borough

PA Brackenridge borough

PA Braddock borough

PA Braddock Hills borough

PA Bradfordwoods borough

PA Brentwood borough

PA Bridgeport borough

PA Bridgeville borough

PA Bridgewater borough

PA Brighton township

PA Bristol borough

PA Bristol township

PA Brookhaven borough

PA Brownstown borough

PA Brownsville borough

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PA Brownsville township

PA Bryn Athyn borough

PA Buckingham township

PA Bucks County

PA California borough

PA Caln township

PA Cambria County

PA Camp Hill borough

PA Canonsburg borough

PA Canton township

PA Carbondale city

PA Carbondale township

PA Carnegie borough

PA Carroll township

PA Castle Shannon borough

PA Catasauqua borough

PA Cecil township

PA Center township

PA Centre County

PA Chalfant borough

PA Chalfont borough

PA Charleroi borough

PA Charlestown township

PA Chartiers township

PA Cheltenham township

PA Chester city

PA Chester County

PA Chester Heights borough

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PA Chester township

PA Cheswick borough

PA Chippewa township

PA Churchill borough

PA Clairton city

PA Clarks Green borough

PA Clarks Summit borough

PA Clifton Heights borough

PA Coal Center borough

PA Coatesville city

PA Colebrookdale township

PA College township

PA Collegeville borough

PA Collier township

PA Collingdale borough

PA Columbia borough

PA Colwyn borough

PA Concord township

PA Conemaugh township

PA Conestoga township ***68829**

PA Conewago township

PA Conshohocken borough

PA Conway borough

PA Coplay borough

PA Coraopolis borough

PA Courtdale borough

PA Crafton borough

PA Crescent township

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PA Cumberland County

PA Cumru township

PA Daisytown borough

PA Dale borough

PA Dallas borough

PA Dallas township

PA Dallastown borough

PA Darby borough

PA Darby township

PA Daugherty township

PA Dauphin County

PA Delaware County

PA Delmont borough

PA Derry township

PA Dickson City borough

PA Donora borough

PA Dormont borough

PA Douglass township

PA Dover borough

PA Dover township

PA Downingtown borough

PA Doylestown borough

PA Doylestown township

PA Dravosburg borough

PA Duboistown borough

PA Duncansville borough

PA Dunlevy borough

PA Dunmore borough

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PA Dupont borough

PA Duquesne city

PA Duryea borough

PA East Allen township

PA East Bradford township

PA East Brandywine township

PA East Caln township

PA East Conemaugh borough

PA East Coventry township

PA East Deer township

PA East Fallowfield township

PA East Goshen township

PA East Hempfield township

PA East Lampeter township

PA East Lansdowne borough

PA East McKeesport borough

PA East Norriton township

PA East Pennsboro township

PA East Petersburg borough

PA East Pikeland township

PA East Pittsburgh borough

PA East Rochester borough

PA East Taylor township

PA East Vincent township

PA East Washington borough

PA East Whiteland township

PA Easton city

PA Easttown township

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PA Eastvale borough

PA Economy borough

PA Eddystone borough

PA Edgewood borough

PA Edgeworth borough

PA Edgmont township

PA Edwardsville borough

PA Elco borough

PA Elizabeth borough

PA Elizabeth township

PA Ellport borough

PA Ellwood City borough

PA Emmaus borough

PA Emsworth borough

PA Erie city

PA Erie County

PA Etna borough

PA Exeter borough

PA Exeter township

PA Export borough

PA Fairfield township

PA Fairview township

PA Fallowfield township

PA Falls township

PA Fallston borough

PA Farrell city

PA Fayette City borough

PA Fayette County

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PA Fell township

PA Ferguson township

PA Ferndale borough

PA Findlay township

PA Finleyville borough

PA Folcroft borough

PA Forest Hills borough

PA Forks township

PA Forty Fort borough

PA Forward township

PA Fountain Hill borough

PA Fox Chapel borough

PA Franconia township

PA Franklin borough

PA Franklin County

PA Franklin Park borough

PA Franklin township

PA Frankstown township

PA Frazer township

PA Freedom borough

PA Freemansburg borough

PA Geistown borough

PA Glassport borough

PA Glendon borough

PA Glenfield borough

PA Glenolden borough

PA Green Tree borough

PA Greensburg city

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PA Hallam borough

PA Hampden township

PA Hampton township

PA Hanover township

PA Harborcreek township

PA Harmar township

PA Harmony township

PA Harris township

PA Harrisburg city

PA Harrison township

PA Harveys Lake borough

PA Hatboro borough

PA Hatfield borough

PA Hatfield township

PA Haverford township

PA Haysville borough

PA Heidelberg borough

PA Hellam township

PA Hellertown borough

PA Hempfield township

PA Hepburn township

PA Hermitage city

PA Highspire borough

PA Hilltown township

PA Hollidaysburg borough

PA Homestead borough

PA Homewood borough

PA Hopewell township

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PA Horsham township

PA Houston borough

PA Hughestown borough

PA Hulmeville borough

PA Hummelstown borough

PA Hunker borough

PA Indiana township

PA Ingram borough

PA Irwin borough

PA Ivyland borough

PA Jackson township

PA Jacobus borough

PA Jeannette city

PA Jefferson borough

PA Jenkins township

PA Jenkintown borough

PA Jermyn borough

PA Jessup borough

PA Johnstown city

PA Juniata township

PA Kenhorst borough

PA Kennedy township

PA Kilbuck township

PA Kingston borough

PA Kingston township

PA Koppel borough

PA Lackawanna County

PA Laflin borough

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PA Lancaster city

PA Lancaster County

PA Lancaster township

PA Langhorne borough

PA Langhorne Manor borough

PA Lansdale borough

PA Lansdowne borough

PA Larksville borough

PA Laurel Run borough

PA Laureldale borough

PA Lawrence County

PA Lawrence Park township

PA Lebanon County

PA Leesport borough

PA Leet township

PA Leetsdale borough

PA Lehigh County

PA Lehman township

PA Lemoyne borough

PA Liberty borough

PA Limerick township

PA Lincoln borough

PA Lititz borough

PA Logan township

PA Loganville borough

PA London Britain township

PA Londonderry township

PA Lorain borough

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PA Lower Allen township

PA Lower Alsace township

PA Lower Burrell city

PA Lower Chichester township

PA Lower Frederick township

PA Lower Gwynedd township

PA Lower Heidelberg township

PA Lower Macungie township

PA Lower Makefield township

PA Lower Merion township

PA Lower Moreland township

PA Lower Nazareth township

PA Lower Paxton township

PA Lower Pottsgrove township

PA Lower Providence township

PA Lower Salford township

PA Lower Saucon township

PA Lower Southampton township

PA Lower Swatara township

PA Lower Yoder township

PA Loyalsock township

PA Luzerne borough

PA Luzerne County

PA Luzerne township ***68830**

PA Lycoming County

PA Lycoming township

PA Macungie borough

PA Madison borough

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PA Maidencreek township

PA Malvern borough

PA Manchester township

PA Manheim township

PA Manor borough

PA Manor township

PA Marcus Hook borough

PA Marple township

PA Marshall township

PA Marysville borough

PA Mayfield borough

PA McCandless township

PA McKean township

PA McKees Rocks borough

PA McKeesport city

PA Mechanicsburg borough

PA Media borough

PA Mercer County

PA Middle Taylor township

PA Middletown borough

PA Middletown township

PA Millbourne borough

PA Millcreek township

PA Millersville borough

PA Millvale borough

PA Modena borough

PA Mohnton borough

PA Monaca borough

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PA Monessen city

PA Monongahela city

PA Monroe township

PA Montgomery County

PA Montgomery township

PA Montoursville borough

PA Moon township

PA Moosic borough

PA Morrisville borough

PA Morton borough

PA Mount Lebanon township

PA Mount Oliver borough

PA Mount Penn borough

PA Mountville borough

PA Muhlenberg township

PA Munhall borough

PA Municipality of Monroeville borough

PA Municipality of Murrysville borough

PA Nanticoke city

PA Narberth borough

PA Nether Providence township

PA Neville township

PA New Brighton borough

PA New Britain borough

PA New Britain township

PA New Cumberland borough

PA New Eagle borough

PA New Galilee borough

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PA New Garden township

PA New Hanover township

PA New Kensington city

PA New Sewickley township

PA New Stanton borough

PA Newell borough

PA Newport township

PA Newton township

PA Newtown borough

PA Newtown township

PA Norristown borough

PA North Belle Vernon borough

PA North Braddock borough

PA North Catasauqua borough

PA North Charleroi borough

PA North Coventry township

PA North Franklin township

PA North Huntingdon township

PA North Irwin borough

PA North Londonderry township

PA North Sewickley township

PA North Strabane township

PA North Versailles township

PA North Wales borough

PA North Whitehall township

PA North York borough

PA Northampton borough

PA Northampton County

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PA Northampton township

PA Norwood borough

PA Oakmont borough

PA O'Hara township

PA Ohio township

PA Old Forge borough

PA Old Lycoming township

PA Olyphant borough

PA Ontelaunee township

PA Osborne borough

PA Paint borough

PA Paint township

PA Palmer township

PA Palmyra borough

PA Parkside borough

PA Patterson Heights borough

PA Patterson township

PA Patton township

PA Paxtang borough

PA Penbrook borough

PA Penn borough

PA Penn Hills township

PA Penn township

PA Penndel borough

PA Pennsbury Village borough

PA Pequea township

PA Perkiomen township

PA Perry County

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PA Perry township

PA Peters township

PA Phoenixville borough

PA Pine township

PA Pitcairn borough

PA Pittsburgh city

PA Pittston city

PA Pittston township

PA Plains township

PA Pleasant Hills borough

PA Plum borough

PA Plymouth borough

PA Plymouth township

PA Port Vue borough

PA Potter township

PA Pottstown borough

PA Pringle borough

PA Prospect Park borough

PA Pulaski township

PA Radnor township

PA Rankin borough

PA Ransom township

PA Reading city

PA Red Lion borough

PA Reserve township

PA Richland township

PA Ridley Park borough

PA Ridley township

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PA Robinson township

PA Rochester borough

PA Rochester township

PA Rockledge borough

PA Roscoe borough

PA Rose Valley borough

PA Ross township

PA Rosslyn Farms borough

PA Rostraver township

PA Royalton borough

PA Royersford borough

PA Rutledge borough

PA Salem township

PA Salisbury township

PA Scalp Level borough

PA Schuylkill township

PA Schwenksville borough

PA Scott township

PA Scranton city

PA Sewickley borough

PA Sewickley Heights borough

PA Sewickley Hills borough

PA Sewickley township

PA Shaler township

PA Sharon city

PA Sharon Hill borough

PA Sharpsburg borough

PA Sharpsville borough

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PA Shenango township

PA Shillington borough

PA Shiremanstown borough

PA Silver Spring township

PA Sinking Spring borough

PA Skippack township

PA Somerset County

PA Souderton borough

PA South Abington township

PA South Coatesville borough

PA South Fayette township

PA South Greensburg borough

PA South Hanover township

PA South Heidelberg township

PA South Heights borough

PA South Huntingdon township

PA South Park township

PA South Pymatuning township

PA South Strabane township

PA South Whitehall township

PA South Williamsport borough

PA Southmont borough

PA Southwest Greensburg borough

PA Speers borough

PA Spring City borough

PA Spring Garden township

PA Spring township

PA Springdale borough

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PA Springdale township

PA Springettsbury township

PA Springfield township

PA St. Lawrence borough

PA State College borough

PA Steelton borough

PA Stockdale borough

PA Stonycreek township

PA Stowe township

PA Sugar Notch borough

PA Summit township

PA Susquehanna township

PA Sutersville borough

PA Swarthmore borough

PA Swatara township

PA Swissvale borough

PA Swoyersville borough

PA Tarentum borough

PA Taylor borough

PA Telford borough

PA Temple borough

PA Thornburg borough

PA Thornbury township

PA Throop borough

PA Tinicum township

PA Towamencin township

PA Trafford borough

PA Trainer borough ***68831**

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PA Trappe borough

PA Tredyffrin township

PA Tullytown borough

PA Turtle Creek borough

PA Union township

PA Upland borough

PA Upper Allen township

PA Upper Chichester township

PA Upper Darby township

PA Upper Dublin township

PA Upper Gwynedd township

PA Upper Leacock township

PA Upper Macungie township

PA Upper Makefield township

PA Upper Merion township

PA Upper Milford township

PA Upper Moreland township

PA Upper Pottsgrove township

PA Upper Providence township

PA Upper Saucon township

PA Upper Southampton township

PA Upper St. Clair township

PA Upper Yoder township

PA Uwchlan township

PA Valley township

PA Vanport township

PA Verona borough

PA Versailles borough

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PA Wall borough

PA Warminster township

PA Warrington township

PA Warrior Run borough

PA Warwick township

PA Washington city

PA Washington County

PA Washington township

PA Wayne township

PA Wernersville borough

PA Wesleyville borough

PA West Bradford township

PA West Brownsville borough

PA West Chester borough

PA West Conshohocken borough

PA West Deer township

PA West Earl township

PA West Easton borough

PA West Elizabeth borough

PA West Fairview borough

PA West Goshen township

PA West Hanover township

PA West Hempfield township

PA West Homestead borough

PA West Lampeter township

PA West Lawn borough

PA West Manchester township

PA West Mayfield borough

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PA West Middlesex borough

PA West Mifflin borough

PA West Newton borough

PA West Norriton township

PA West Pikeland township

PA West Pittston borough

PA West Pottsgrove township

PA West Reading borough

PA West Taylor township

PA West View borough

PA West Whiteland township

PA West Wyoming borough

PA West York borough

PA Westmont borough

PA Westmoreland County

PA Westtown township

PA Wheatland borough

PA Whitaker borough

PA White Oak borough

PA White township

PA Whitehall township

PA Whitemarsh township

PA Whitpain township

PA Wilkes-Barre city

PA Wilkes-Barre township

PA Wilkins township

PA Wilkinsburg borough

PA Williams township

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PA Williamsport city

PA Willistown township

PA Wilmerding borough

PA Wilson borough

PA Windber borough

PA Windsor borough

PA Windsor township

PA Worcester township

PA Wormleysburg borough

PA Wrightsville borough

PA Wyoming borough

PA Wyomissing borough

PA Wyomissing Hills borough

PA Yardley borough

PA Yatesville borough

PA Yeadon borough

PA Yoe borough

PA York city

PA York County

PA York township

PA Youngwood borough

PR Aibonita

PR Anasco

PR Aquada

PR Aquadilla

PR Aquas Buenas

PR Arecibo

PR Bayamon

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PR Cabo Rojo

PR Caguas

PR Camuy

PR Canovanas

PR Catano

PR Cayey

PR Cidra

PR Dorado

PR Guaynabo

PR Gurabo

PR Hatillo

PR Hormigueros

PR Humacao

PR Juncos

PR Las Piedras

PR Loiza

PR Manati

PR Mayaguez

PR Moca

PR Naguabo

PR Naranjito

PR Penuelas

PR Ponce

PR Rio Grande

PR San German

PR San Lorenzo

PR Toa Alta

PR Toa Baja

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PR Trujillo Alto

PR Vega Alta

PR Vega Baja

PR Yabucao

RI Barrington town

RI Bristol town

RI Burrillville town

RI Central Falls city

RI Coventry town

RI Cranston city

RI Cumberland town

RI East Greenwich town

RI East Providence city

RI Glocester town

RI Jamestown town

RI Johnston town

RI Lincoln town

RI Middletown town

RI Newport city

RI Newport County

RI North Kingstown town

RI North Providence town

RI North Smithfield town

RI Pawtucket city

RI Portsmouth town

RI Providence city

RI Providence County

RI Scituate town

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RI Smithfield town

RI Tiverton town

RI Warren town

RI Warwick city

RI Washington County

RI West Greenwich town

RI West Warwick town

RI Woonsocket city

SC Aiken city

SC Aiken County

SC Anderson city

SC Anderson County

SC Arcadia Lakes town

SC Berkeley County

SC Burnettown town

SC Cayce city

SC Charleston city

SC Charleston County

SC City View town

SC Columbia city

SC Cowpens town

SC Darlington County

SC Dorchester County

SC Edgefield County

SC Florence city

SC Florence County

SC Folly Beach city

SC Forest Acres city

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SC Fort Mill town

SC Georgetown County

SC Goose Creek city

SC Hanahan city

SC Horry County

SC Irmo town

SC Isle of Palms city

SC Lexington County

SC Lincolnville town

SC Mount Pleasant town

SC Myrtle Beach city

SC North Augusta city

SC North Charleston city

SC Pickens County

SC Pineridge town

SC Quinby town

SC Rock Hill city

SC South Congaree town

SC Spartanburg city

SC Spartanburg County

SC Springdale town

SC Sullivan's Island town

SC Summerville town

SC Sumter city

SC Sumter County

SC Surfside Beach town

SC West Columbia city

SC York County

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SD Big Sioux township

SD Central Pennington unorg.

SD Lincoln County

SD Mapleton township ***68832**

SD Minnehaha County

SD North Sioux City city

SD Pennington County

SD Rapid City city

SD Split Rock township

SD Union County

SD Wayne township

TN Alcoa city

TN Anderson County

TN Bartlett town

TN Belle Meade city

TN Berry Hill city

TN Blount County

TN Brentwood city

TN Bristol city

TN Carter County

TN Church Hill town

TN Clarksville city

TN Collegedale city

TN Davidson County

TN East Ridge city

TN Elizabethton city

TN Farragut town

TN Forest Hills city

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TN Germantown city

TN Goodlettsville city

TN Hamilton County

TN Hawkins County

TN Hendersonville city

TN Jackson city

TN Johnson City city

TN Jonesborough town

TN Kingsport city

TN Knox County

TN Lakesite city

TN Lakewood city

TN Lookout Mountain town

TN Loudon County

TN Madison County

TN Maryville city

TN Montgomery County

TN Mount Carmel town

TN Mount Juliet city

TN Oak Hill city

TN Red Bank city

TN Ridgeside city

TN Rockford city

TN Shelby County

TN Signal Mountain town

TN Soddy-Daisy city

TN Sullivan County

TN Sumner County

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TN Washington County

TN Williamson County

TN Wilson County

TX Addison city

TX Alamo city

TX Alamo Heights city

TX Allen city

TX Archer County

TX Azle city

TX Balch Springs city

TX Balcones Heights city

TX Bayou Vista village

TX Baytown city

TX Bedford city

TX Bell County

TX Bellaire city

TX Bellmead city

TX Belton city

TX Benbrook city

TX Beverly Hills city

TX Bexar County

TX Blue Mound city

TX Bowie County

TX Brazoria County

TX Brazos County

TX Brookside Village city

TX Brownsville city

TX Bryan city

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TX Buckingham town

TX Bunker Hill Village city

TX Cameron County

TX Carrollton city

TX Castle Hills city

TX Cedar Hill city

TX Cedar Park city

TX Chambers County

TX Cibolo city

TX Clear Lake Shores city

TX Clint town

TX Cockrell Hill city

TX College Station city

TX Colleyville city

TX Collin County

TX Comal County

TX Combes town

TX Converse city

TX Copperas Cove city

TX Corinth town

TX Coryell County

TX Crowley city

TX Dallas County

TX Dalworthington Gardens city

TX Deer Park city

TX Denison city

TX Denton city

TX Denton County

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TX DeSoto city

TX Dickinson city

TX Donna city

TX Double Oak town

TX Duncanville city

TX Ector County

TX Edgecliff village

TX Edinburg city

TX El Lago city

TX El Paso County

TX Ellis County

TX Euless city

TX Everman city

TX Farmers Branch city

TX Flower Mound town

TX Forest Hill city

TX Fort Bend County

TX Friendswood city

TX Galena Park city

TX Galveston city

TX Galveston County

TX Grand Prairie city

TX Grapevine city

TX Grayson County

TX Gregg County

TX Groves city

TX Guadalupe County

TX Haltom City city

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TX Hardin County

TX Harker Heights city

TX Harlingen city

TX Harrison County

TX Hedwig Village city

TX Hewitt city

TX Hickory Creek town

TX Hidalgo County

TX Highland Park town

TX Highland Village city

TX Hill Country Village city

TX Hilshire Village city

TX Hitchcock city

TX Hollywood Park town

TX Howe town

TX Humble city

TX Hunters Creek Village city

TX Hurst city

TX Hutchins city

TX Impact town

TX Jacinto City city

TX Jefferson County

TX Jersey Village city

TX Johnson County

TX Jones County

TX Katy city

TX Kaufman County

TX Keller city

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TX Kemah city

TX Kennedale city

TX Killeen city

TX Kirby city

TX Kleberg County

TX La Marque city

TX La Porte city

TX Lacy-Lakeview city

TX Lake Dallas city

TX Lake Worth city

TX Lakeside City town

TX Lakeside town

TX Lampasas County

TX Lancaster city

TX League City city

TX Leander city

TX Leon Valley city

TX Lewisville city

TX Live Oak city

TX Longview city

TX Lubbock County

TX Lumberton city

TX Martin County

TX McAllen city

TX McLennan County

TX Meadows city

TX Midland city

TX Midland County

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TX Mission city

TX Missouri City city

TX Montgomery County

TX Morgan's Point city

TX Nash city

TX Nassau Bay city

TX Nederland city

TX Nolanville city

TX North Richland Hills city

TX Northcrest town

TX Nueces County

TX Odessa city

TX Olmos Park city

TX Palm Valley town

TX Palmview city

TX Pantego town

TX Parker County

TX Pearland city

TX Pflugerville city

TX Pharr city

TX Piney Point Village city

TX Port Arthur city

TX Port Neches city

TX Portland city

TX Potter County

TX Primera town

TX Randall County

TX Richardson city

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TX Richland Hills city

TX River Oaks city

TX Robinson city

TX Rockwall city

TX Rockwall County

TX Rollingwood city

TX Rose Hill Acres city

TX Rowlett city ***68833**

TX Sachse city

TX Saginaw city

TX San Angelo city

TX San Benito city

TX San Juan city

TX San Patricio County

TX Sansom Park city

TX Santa Fe city

TX Schertz city

TX Seabrook city

TX Seagoville city

TX Selma city

TX Shavano Park city

TX Sherman city

TX Shoreacres city

TX Smith County

TX Socorro town

TX South Houston city

TX Southside Place city

TX Spring Valley city

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TX Stafford town

TX Sugar Land city

TX Sunset Valley city

TX Tarrant County

TX Taylor County

TX Taylor Lake Village city

TX Temple city

TX Terrell Hills city

TX Texarkana city

TX Texas City city

TX Tom Green County

TX Travis County

TX Tye town

TX Tyler city

TX Universal City city

TX University Park city

TX Victoria city

TX Victoria County

TX Wake Village city

TX Waller County

TX Watauga city

TX Webb County

TX Webster city

TX Weslaco city

TX West Lake Hills city

TX West University Place city

TX Westover Hills town

TX Westworth village

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TX White Oak city

TX White Settlement city

TX Wichita County

TX Wichita Falls city

TX Williamson County

TX Wilmer city

TX Windcrest city

TX Woodway city

UT American Fork city

UT Bluffdale city

UT Bountiful city

UT Cache County

UT Cedar Hills town

UT Centerville city

UT Clearfield city

UT Clinton city

UT Davis County

UT Draper city

UT Farmington city

UT Farr West city

UT Fruit Heights city

UT Harrisville city

UT Highland city

UT Hyde Park city

UT Kaysville city

UT Layton city

UT Lehi city

UT Lindon city

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UT Logan city

UT Mapleton city

UT Midvale city

UT Millville city

UT Murray city

UT North Logan city

UT North Ogden city

UT North Salt Lake city

UT Ogden city

UT Orem city

UT Pleasant Grove city

UT Pleasant View city

UT Providence city

UT Provo city

UT River Heights city

UT Riverdale city

UT Riverton city

UT Roy city

UT Sandy city

UT Smithfield city

UT South Jordan city

UT South Ogden city

UT South Salt Lake city

UT South Weber city

UT Springville city

UT Sunset city

UT Syracuse city

UT Uintah town

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UT Utah County

UT Washington Terrace city

UT Weber County

UT West Bountiful city

UT West Jordan city

UT West Point city

UT West Valley City city

UT Woods Cross city

VA Albemarle County

VA Alexandria city

VA Amherst County

VA Bedford County

VA Botetourt County

VA Bristol city

VA Campbell County

VA Charlottesville city

VA Colonial Heights city

VA Danville city

VA Dinwiddie County

VA Fairfax city

VA Falls Church city

VA Fredericksburg city

VA Gate City town

VA Gloucester County

VA Hanover County

VA Herndon town

VA Hopewell city

VA James City County

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VA Loudoun County

VA Lynchburg city

VA Manassas city

VA Manassas Park city

VA Occoquan town

VA Petersburg city

VA Pittsylvania County

VA Poquoson city

VA Prince George County

VA Richmond city

VA Roanoke city

VA Roanoke County

VA Salem city

VA Scott County

VA Spotsylvania County

VA Stafford County

VA Suffolk city

VA Vienna town

VA Vinton town

VA Washington County

VA Weber City town

VA Williamsburg city

VA York County

VT Burlington city

VT Chittenden County

VT Colchester town

VT Essex Junction village

VT Essex town

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VT Shelburne town

VT South Burlington city

VT Williston town

VT Winooski city

WA Algona city

WA Auburn city

WA Beaux Arts Village town

WA Bellevue city

WA Bellingham city

WA Benton County

WA Bonney Lake city

WA Bothell city

WA Bremerton city

WA Brier city

WA Clyde Hill town

WA Cowlitz County

WA Des Moines city

WA DuPont city

WA Edmonds city

WA Everett city

WA Fife city

WA Fircrest town

WA Franklin County

WA Gig Harbor city

WA Hunts Point town

WA Issaquah city

WA Kelso city

WA Kennewick city

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WA Kent city

WA Kirkland city

WA Kitsap County

WA Lacey city

WA Lake Forest Park city

WA Longview city

WA Lynnwood city

WA Marysville city

WA Medina city

WA Mercer Island city

WA Mill Creek city

WA Millwood town

WA Milton city

WA Mountlake Terrace city

WA Mukilteo city

WA Normandy Park city

WA Olympia city

WA Pacific city

WA Pasco city

WA Port Orchard city

WA Puyallup city

WA Redmond city

WA Renton city

WA Richland city

WA Ruston town

WA Selah city

WA Steilacoom town

WA Sumner city

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WA Thurston County

WA Tukwila city

WA Tumwater city

WA Union Gap city

WA Vancouver city

WA West Richland city

WA Whatcom County

WA Woodway city

WA Yakima city

WA Yakima County

WA Yarrow Point town

WI Algoma town ***68834**

WI Allouez village

WI Altoona city

WI Appleton city

WI Ashwaubenon village

WI Bayside village

WI Bellevue town

WI Beloit city

WI Beloit town

WI Big Bend village

WI Black Wolf town

WI Blooming Grove town

WI Brookfield city

WI Brookfield town

WI Brown County

WI Brown Deer village

WI Brunswick town

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WI Buchanan town

WI Burke town

WI Butler village

WI Caledonia town

WI Calumet County

WI Campbell town

WI Cedarburg city

WI Cedarburg town

WI Chippewa County

WI Chippewa Falls city

WI Clayton town

WI Combined Locks village

WI Cudahy city

WI Dane County

WI De Pere city

WI De Pere town

WI Delafield town

WI Douglas County

WI Dunn town

WI Eagle Point town

WI Eau Claire city

WI Eau Claire County

WI Elm Grove village

WI Elmwood Park village

WI Fitchburg city

WI Fox Point village

WI Franklin city

WI Germantown town

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WI Germantown village

WI Glendale city

WI Grafton town

WI Grafton village

WI Grand Chute town

WI Green Bay city

WI Greendale village

WI Greenfield city

WI Greenville town

WI Hales Corners village

WI Hallie town

WI Harmony town

WI Harrison town

WI Hobart town

WI Holmen village

WI Howard village

WI Janesville city

WI Janesville town

WI Kaukauna city

WI Kenosha city

WI Kenosha County

WI Kimberly village

WI Kohler village

WI La Crosse city

WI La Crosse County

WI La Prairie town

WI Lafayette town

WI Lannon village

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WI Lima town

WI Lisbon town

WI Little Chute village

WI Madison town

WI Maple Bluff village

WI Marathon County

WI McFarland village

WI Medary town

WI Menasha city

WI Menasha town

WI Menomonee Falls village

WI Mequon city

WI Middleton city

WI Middleton town

WI Monona city

WI Mount Pleasant town

WI Muskego city

WI Neenah city

WI Neenah town

WI Nekimi town

WI New Berlin city

WI North Bay village

WI Norway town

WI Oak Creek city

WI Onalaska city

WI Onalaska town

WI Oshkosh city

WI Oshkosh town

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WI Outagamie County

WI Ozaukee County

WI Pewaukee town

WI Pewaukee village

WI Pleasant Prairie town

WI Pleasant Prairie village

WI Racine city

WI Racine County

WI Rib Mountain town

WI River Hills village

WI Rock County

WI Rock town

WI Rothschild village

WI Salem town

WI Schofield city

WI Scott town

WI Sheboygan city

WI Sheboygan County

WI Sheboygan Falls city

WI Sheboygan Falls town

WI Sheboygan town

WI Shelby town

WI Shorewood Hills village

WI Shorewood village

WI Somers town

WI South Milwaukee city

WI St. Francis city

WI Stettin town

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WI Sturtevant village

WI Superior city

WI Superior village

WI Sussex village

WI Thiensville village

WI Turtle town

WI Union town

WI Vandenbroek town

WI Vernon town

WI Washington County

WI Washington town

WI Waukesha city

WI Waukesha County

WI Waukesha town

WI Wausau city

WI Wauwatosa city

WI West Allis city

WI West Milwaukee village

WI Weston town

WI Westport town

WI Wheaton town

WI Whitefish Bay village

WI Wilson town

WI Wind Point village

WI Winnebago County

WV Bancroft town

WV Barboursville village

WV Belle town

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WV Benwood city

WV Berkeley County

WV Bethlehem village

WV Brooke County

WV Cabell County

WV Cedar Grove town

WV Ceredo city

WV Charleston city

WV Chesapeake town

WV Clearview village

WV Dunbar city

WV East Bank town

WV Follansbee city

WV Glasgow town

WV Glen Dale city

WV Hancock County

WV Huntington city

WV Hurricane city

WV Kanawha County

WV Kenova city

WV Marmet city

WV Marshall County

WV McMechen city

WV Mineral County

WV Moundsville city

WV Nitro city

WV North Hills town

WV Ohio County

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WV Parkersburg city

WV Poca town

WV Putnam County

WV Ridgeley town

WV South Charleston city

WV St. Albans city

WV Triadelphia town

WV Vienna city

WV Wayne County

WV Weirton city

WV Wheeling city

WV Wood County

WY Casper city

WY Cheyenne city

WY Evansville town

WY Laramie County

WY Mills town

WY Natrona County

***68835 Appendix 7 of Preamble—Governmental Entities (Located Outside of an Urbanized Area) That Must Be Examined By the NPDES Permitting Authority for Potential Designation Under §123.35(b)(2)**

(All listed entities have a population of at least 10,000 and a population density of at least 1,000. A listed entity would only be potentially designated if it operates a small MS4. See §122.26(b)(16) for the definition of a small MS4.)

(This list does not include all operators of small MS4s that may be designated by the NPDES permitting authority. Operators of small MS4s in areas with populations below 10,000 and densities below 1,000 may also be designated but examination of them is not required. Also, entities such as military bases, large hospitals, prison complexes, universities, sewer districts, and highway departments that operate a small MS4 in an area listed here, or in an area otherwise designated by the NPDES permitting authority, may be designated and become subject to permitting regulations.) (Source: 1990 Census of Population and Housing, U.S. Bureau of the Census. This list is subject to change with the Decennial Census)

AL Daphne city

AL Jacksonville city

AL Selma city

AR Arkadelphia city

AR Benton city

AR Blytheville city

AR Conway city

AR El Dorado city

AR Hot Springs city

AR Magnolia city

AR Rogers city

AR Searcy city

AR Stuttgart city

AZ Douglas city

CA Arcata city

CA Arroyo Grande city

CA Atwater city

CA Auburn city

CA Banning city

CA Brawley city

CA Calexico city

CA Clearlake city

CA Corcoran city

CA Delano city

CA Desert Hot Springs city

CA Dinuba city

CA Dixon city

CA El Centro city

CA El Paso de Robles (Paso Robles) city

CA Eureka city

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CA Fillmore city

CA Gilroy city

CA Grover City city

CA Hanford city

CA Hollister city

CA Lemoore city

CA Los Banos city

CA Madera city

CA Manteca city

CA Oakdale city

CA Oroville city

CA Paradise town

CA Petaluma city

CA Porterville city

CA Red Bluff city

CA Reedley city

CA Ridgecrest city

CA Sanger city

CA Santa Paula city

CA Selma city

CA South Lake Tahoe city

CA Temecula city

CA Tracy city

CA Tulare city

CA Turlock city

CA Ukiah city

CA Wasco city

CA Woodland city

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CO Canon City city

CO Durango city

CO Lafayette city

CO Louisville city

CO Loveland city

CO Sterling city

FL Bartow city

FL Belle Glade city

FL De Land city

FL Eustis city

FL Haines City city

FL Key West city

FL Leesburg city

FL Palatka city

FL Plant City city

FL St. Augustine city

FL St. Cloud city

GA Americus city

GA Carrollton city

GA Cordele city

GA Dalton city

GA Dublin city

GA Griffin city

GA Hinesville city

GA Moultrie city

GA Newnan city

GA Statesboro city

GA Thomasville city

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GA Tifton city

GA Valdosta city

GA Waycross city

IA Ames city

IA Ankeny city

IA Boone city

IA Burlington city

IA Fort Dodge city

IA Fort Madison city

IA Indianola city

IA Keokuk city

IA Marshalltown city

IA Mason City city

IA Muscatine city

IA Newton city

IA Oskaloosa city

IA Ottumwa city

IA Spencer city

ID Caldwell city

ID Coeur d'Alene city

ID Lewiston city

ID Moscow city

ID Nampa city

ID Rexburg city

ID Twin Falls city

IL Belvidere city

IL Canton city

IL Carbondale city

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IL Centralia city

IL Charleston city

IL Danville city

IL De Kalb city

IL Dixon city

IL Effingham city

IL Freeport city

IL Galesburg city

IL Jacksonville city

IL Macomb city

IL Mattoon city

IL Mount Vernon city

IL Ottawa city

IL Pontiac city

IL Quincy city

IL Rantoul village

IL Sterling city

IL Streator city

IL Taylorville city

IL Woodstock city

IN Bedford city

IN Columbus city

IN Crawfordsville city

IN Frankfort city

IN Franklin city

IN Greenfield city

IN Huntington city

IN Jasper city

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IN La Porte city

IN Lebanon city

IN Logansport city

IN Madison city

IN Marion city

IN Martinsville city

IN Michigan City city

IN New Castle city

IN Noblesville city

IN Peru city

IN Plainfield town

IN Richmond city

IN Seymour city

IN Shelbyville city

IN Valparaiso city

IN Vincennes city

IN Wabash city

IN Warsaw city

IN Washington city

KS Arkansas City city

KS Atchison city

KS Coffeyville city

KS Derby city

KS Dodge City city

KS El Dorado city

KS Emporia city

KS Garden City city

KS Great Bend city

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KS Hays city

KS Hutchinson city

KS Junction City city

KS Leavenworth city

KS Liberal city

KS Manhattan city

KS McPherson city

KS Newton city

KS Ottawa city

KS Parsons city

KS Pittsburg city

KS Salina city

KS Winfield city

KY Bowling Green city

KY Danville city

KY Frankfort city

KY Georgetown city

KY Glasgow city

KY Hopkinsville city

KY Madisonville city

KY Middlesborough city

KY Murray city

KY Nicholasville city

KY Paducah city

KY Radcliff city

KY Richmond city

KY Somerset city

KY Winchester city ***68836**

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LA Abbeville city

LA Bastrop city

LA Bogalusa city

LA Crowley city

LA Eunice city

LA Hammond city

LA Jennings city

LA Minden city

LA Morgan City city

LA Natchitoches city

LA New Iberia city

LA Opelousas city

LA Ruston city

LA Thibodaux city

MA Amherst town

MA Clinton town

MA Milford town

MA Newburyport city

MD Aberdeen town

MD Cambridge city

MD Salisbury city

MD Westminster city

ME Waterville city

MI Adrian city

MI Albion city

MI Alpena city

MI Big Rapids city

MI Cadillac city

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MI Escanaba city

MI Grand Haven city

MI Marquette city

MI Midland city

MI Monroe city

MI Mount Pleasant city

MI Owosso city

MI Sturgis city

MI Traverse City city

MN Albert Lea city

MN Austin city

MN Bemidji city

MN Brainerd city

MN Faribault city

MN Fergus Falls city

MN Hastings city

MN Hutchinson city

MN Mankato city

MN Marshall city

MN New Ulm city

MN North Mankato city

MN Northfield city

MN Owatonna city

MN Stillwater city

MN Willmar city

MN Winona city

MO Cape Girardeau city

MO Farmington city

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MO Hannibal city

MO Jefferson City city

MO Kennett city

MO Kirksville city

MO Marshall city

MO Maryville city

MO Poplar Bluff city

MO Rolla city

MO Sedalia city

MO Sikeston city

MO Warrensburg city

MO Washington city

MS Brookhaven city

MS Canton city

MS Clarksdale city

MS Cleveland city

MS Columbus city

MS Greenville city

MS Greenwood city

MS Grenada city

MS Indianola city

MS Laurel city

MS McComb city

MS Meridian city

MS Natchez city

MS Starkville city

MS Vicksburg city

MS Yazoo City city

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MT Bozeman city

MT Havre city

MT Helena city

MT Kalispell city

NC Albemarle city

NC Asheboro city

NC Boone town

NC Eden city

NC Elizabeth City city

NC Havelock city

NC Henderson city

NC Kernersville town

NC Kinston city

NC Laurinburg city

NC Lenoir city

NC Lexington city

NC Lumberton city

NC Monroe city

NC New Bern city

NC Reidsville city

NC Roanoke Rapids city

NC Salisbury city

NC Sanford city

NC Shelby city

NC Statesville city

NC Tarboro town

NC Wilson city

ND Dickinson city

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ND Jamestown city

ND Minot city

ND Williston city

NE Beatrice city

NE Columbus city

NE Fremont city

NE Grand Island city

NE Hastings city

NE Kearney city

NE Norfolk city

NE North Platte city

NE Scottsbluff city

NJ East Windsor township

NJ Plainsboro township

NJ Bridgeton city

NJ Princeton borough

NM Alamogordo city

NM Artesia city

NM Clovis city

NM Deming city

NM Farmington city

NM Gallup city

NM Hobbs city

NM Las Vegas city

NM Portales city

NM Roswell city

NM Silver City town

NV Elko city

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NY Amsterdam city

NY Auburn city

NY Batavia city

NY Canandaigua city

NY Corning city

NY Cortland city

NY Dunkirk city

NY Fredonia village

NY Fulton city

NY Geneva city

NY Gloversville city

NY Jamestown city

NY Kingston city

NY Lockport city

NY Massena village

NY Middletown city

NY Ogdensburg city

NY Olean city

NY Oneonta city

NY Oswego city

NY Plattsburgh city

NY Potsdam village

NY Watertown city

OH Alliance city

OH Ashland city

OH Ashtabula city

OH Athens city

OH Bellefontaine city

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OH Bowling Green city

OH Bucyrus city

OH Cambridge city

OH Chillicothe city

OH Circleville city

OH Coshocton city

OH Defiance city

OH Delaware city

OH Dover city

OH East Liverpool city

OH Findlay city

OH Fostoria city

OH Fremont city

OH Galion city

OH Greenville city

OH Lancaster city

OH Lebanon city

OH Marietta city

OH Marion city

OH Medina city

OH Mount Vernon city

OH New Philadelphia city

OH Norwalk city

OH Oxford city

OH Piqua city

OH Portsmouth city

OH Salem city

OH Sandusky city

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OH Sidney city

OH Tiffin city

OH Troy city

OH Urbana city

OH Washington city

OH Wilmington city

OH Wooster city

OH Xenia city

OH Zanesville city

OK Ada city

OK Altus city

OK Bartlesville city

OK Chickasha city

OK Claremore city

OK McAlester city

OK Miami city

OK Muskogee city

OK Okmulgee city

OK Owasso city

OK Ponca City city

OK Stillwater city

OK Tahlequah city

OK Weatherford city

OR Albany city

OR Ashland city

OR Astoria city

OR Bend city

OR City of the Dalles city

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OR Coos Bay city

OR Corvallis city

OR Grants Pass city

OR Hermiston city ***68837**

OR Klamath Falls city

OR La Grande city

OR Lebanon city

OR McMinnville city

OR Newberg city

OR Pendleton city

OR Roseburg city

OR Woodburn city

PA Berwick borough

PA Bloomsburg town

PA Butler city

PA Carlisle borough

PA Chambersburg borough

PA Ephrata borough

PA Hanover borough

PA Hazleton city

PA Indiana borough

PA Lebanon city

PA Meadville city

PA New Castle city

PA Oil City city

PA Pottsville city

PA Sunbury city

PA Uniontown city

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PA Warren city

RI Narragansett town

SC Clemson city

SC Easley city

SC Gaffney city

SC Greenwood city

SC Newberry town

SC Orangeburg city

SD Aberdeen city

SD Brookings city

SD Huron city

SD Mitchell city

SD Vermillion city

SD Watertown city

SD Yankton city

TN Brownsville city

TN Cleveland city

TN Collierville town

TN Cookeville city

TN Dyersburg city

TN Greeneville town

TN Lawrenceburg city

TN McMinnville city

TN Millington city

TN Morristown city

TN Murfreesboro city

TN Shelbyville city

TN Springfield city

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TN Union City city

TX Alice city

TX Alvin city

TX Andrews city

TX Angleton city

TX Bay City city

TX Beeville city

TX Big Spring city

TX Borger city

TX Brenham city

TX Brownwood city

TX Burkburnett city

TX Canyon city

TX Cleburne city

TX Conroe city

TX Coppell city

TX Corsicana city

TX Del Rio city

TX Dumas city

TX Eagle Pass city

TX El Campo city

TX Gainesville city

TX Gatesville city

TX Georgetown city

TX Henderson city

TX Hereford city

TX Huntsville city

TX Jacksonville city

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TX Kerrville city

TX Kingsville city

TX Lake Jackson city

TX Lamesa city

TX Levelland city

TX Lufkin city

TX Mercedes city

TX Mineral Wells city

TX Mount Pleasant city

TX Nacogdoches city

TX New Braunfels city

TX Palestine city

TX Pampa city

TX Pecos city

TX Plainview city

TX Port Lavaca city

TX Robstown city

TX Rosenberg city

TX Round Rock city

TX San Marcos city

TX Seguin city

TX Snyder city

TX Stephenville city

TX Sweetwater city

TX Taylor city

TX The Colony city

TX Uvalde city

TX Vernon city

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TX Vidor city

UT Brigham City city

UT Cedar City city

UT Spanish Fork city

UT Tooele city

VA Blacksburg town

VA Christiansburg town

VA Front Royal town

VA Harrisonburg city

VA Leesburg town

VA Martinsville city

VA Radford city

VA Staunton city

VA Waynesboro city

VA Winchester city

VT Rutland city

WA Aberdeen city

WA Anacortes city

WA Centralia city

WA Ellensburg city

WA Moses Lake city

WA Mount Vernon city

WA Oak Harbor city

WA Port Angeles city

WA Pullman city

WA Sunnyside city

WA Walla Walla city

WA Wenatchee city

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WI Beaver Dam city

WI Fond du Lac city

WI Fort Atkinson city

WI Manitowoc city

WI Marinette city

WI Marshfield city

WI Menomonie city

WI Monroe city

WI Oconomowoc city

WI Stevens Point city

WI Sun Prairie city

WI Two Rivers city

WI Watertown city

WI West Bend city

WI Whitewater city

WI Wisconsin Rapids city

WV Beckley city

WV Bluefield city

WV Clarksburg city

WV Fairmont city

WV Martinsburg city

WV Morgantown city

WY Evanston city

WY Gillette city

WY Green River city

WY Laramie city

WY Rock Springs city

WY Sheridan city

For the reasons set forth in the preamble, chapter I of title 40 of the Code of Federal Regulations is amended as follows:

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PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 et seq., 136-136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601-2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251 et seq., 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971-1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-1, 300j-2, 300j-3, 300j-4, 300j-9, 1857 et seq., 6901-6992k, 7401-7671q, 7542, 9601-9657, 11023, 11048.

40 CFR § 9.1

2. In §9.1 the table is amended by adding entries in numerical order under the indicated heading to read as follows:

40 CFR § 9.1

§9.1 OMB approvals under the Paperwork Reduction Act.

* * * * *

40 CFR citation	OMB control No.
* * * * * * *	
EPA Administered Permit Programs: The National Pollutant Discharge Elimination System	
* * * * * * *	
122.26(g)	2040-0211
* * * * * * *	
State Permit Requirements	
* * * * * * *	
123.35(b)	2040-0211
* * * * * * *	

***68838 PART 122—EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

1. The authority citation for part 122 continues to read as follows:

Authority: The Clean Water Act, 33 U.S.C. 1251 et seq.

40 CFR § 122.21

2. Revise §122.21(c)(1) to read as follows:

40 CFR § 122.21

§122.21 Application for a permit (applicable to State programs, see §123.25).

* * * * *

(c) Time to apply. (1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial

activity. Facilities described under §122.26(b)(14)(x) or (b)(15)(i) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and §122.26(c)(1)(i)(G) and (c)(1)(ii).

* * * * *40 CFR § 122.26

3. Amend §122.26 as follows:

a. Revise paragraphs (a)(9), (b)(4)(i), (b)(7)(i), (b)(14) introductory text, (b)(14)(x), (b)(14)(xi);

b. Redesignate paragraph (b)(15) as paragraph (b)(20) and add new paragraphs (b)(15) through (b)(19);

c. Revise the heading for paragraph (c), the first sentence of paragraph (c)(1) introductory text, the first sentence of paragraph (c)(1)(ii) introductory text, paragraphs (e) heading and introductory text, (e)(1), (e)(5) introductory text, and (e)(5)(i);

d. Add paragraphs (e)(8) and (e)(9); and

e. Revise paragraphs (f)(4), (f)(5), and (g).

The additions and revisions read as follows:

40 CFR § 122.26

§122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) * * *

(9)(i) On and after October 1, 1994, for discharges composed entirely of storm water, that are not required by paragraph (a)(1) of this section to obtain a permit, operators shall be required to obtain a NPDES permit only if:

(A) The discharge is from a small MS4 required to be regulated pursuant to § 122.32;

(B) The discharge is a storm water discharge associated with small construction activity pursuant to paragraph (b)(15) of this section;

(C) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that storm water controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern; or

(D) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(ii) Operators of small MS4s designated pursuant to paragraphs (a)(9)(i)(A), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with §§122.33 through 122.35. Operators of non-municipal sources designated pursuant to paragraphs (a)(9)(i)(B), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with paragraph (c)(1) of this section.

(iii) Operators of storm water discharges designated pursuant to paragraphs (a)(9)(i)(C) and (a)(9)(i)(D) of this section shall apply to the Director for a permit within 180 days of receipt of notice, unless permission for a later date is granted by the Director (see §124.52(c) of this chapter).

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(b) * * *

(4) * * *

(i) Located in an incorporated place with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of this part); or

* * * * *

(7) * * *

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix G of this part); or

* * * * *

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm ***68839** water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of paragraph (b)(14):

* * * * *

(x) Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-25;

(15) Storm water discharge associated with small construction activity means the discharge of storm water from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The Director may waive the otherwise applicable requirements in a general permit for a storm water discharge from construction activities that disturb less than five acres where:

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(A) The value of the rainfall erosivity factor ("R" in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE), pages 21-64, dated January 1997. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C 552(a) and 1 CFR part 51. Copies may be obtained from EPA's Water Resource Center, Mail Code RC4100, 401 M St. S.W., Washington, DC 20460. A copy is also available for inspection at the U.S. EPA Water Docket , 401 M Street S.W., Washington, DC. 20460, or the Office of the Federal Register, 800 N. Capitol Street N.W. Suite 700, Washington, DC. An operator must certify to the Director that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five; or

(B) Storm water controls are not needed based on a "total maximum daily load" (TMDL) approved or established by EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. For the purpose of this paragraph, the pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis.

(ii) Any other construction activity designated by the Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

Exhibit 1 to §122.26(b)(15).—Summary of Coverage of "Storm Water Discharges Associated with Small Construction Activity" Under the NPDES Storm Water Program

Automatic Designation: Required Nationwide Coverage	- Construction activities that result in a land disturbance of equal to or greater than one acre and less than five acres. - Construction activities disturbing less than one acre if part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and less than five acres. (see §122.26(b)(15)(i).)
Potential Designation: Optional Evaluation and Designation by the NPDES Permitting Authority or EPA Regional Administrator.	- Construction activities that result in a land disturbance of less than one acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants. (see §122.26(b)(15)(ii).)
Potential Waiver: Waiver from Requirements as Determined by the NPDES Permitting Authority.	Any automatically designated construction activity where the operator certifies: (1) A rainfall erosivity factor of less than five, or (2) That the activity will occur within an area where controls are not needed based on a TMDL or, for non-impaired waters that do not require a TMDL, an equivalent analysis for the pollutant(s) of concern. (see §122.26(b)(15)(i).)

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***68840** (16) Small municipal separate storm sewer system means all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

(17) Small MS4 means a small municipal separate storm sewer system.

(18) Municipal separate storm sewer system means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to paragraphs (b)(4), (b)(7), and (b)(16) of this section, or designated under paragraph (a)(1)(v) of this section.

(19) MS4 means a municipal separate storm sewer system.

* * * * *

(c) Application requirements for storm water discharges associated with industrial activity and storm water discharges associated with small construction activity—(1) Individual application. Dischargers of storm water associated with industrial activity and with small construction activity are required to apply for an individual permit or seek coverage under a promulgated storm water general permit. * * *

* * * * *

(ii) An operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section or is associated with small construction activity solely under paragraph (b)(15) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. * * *

* * * * *

(e) Application deadlines. Any operator of a point source required to obtain a permit under this section that does not have an effective NPDES permit authorizing discharges from its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) Storm water discharges associated with industrial activity. (i) Except as provided in paragraph (e)(1)(ii) of this section, for any storm water discharge associated with industrial activity identified in paragraphs (b)(14)(i) through (xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or that is not authorized by a storm water general permit, a permit application made pursuant to paragraph (c) of this section must be submitted to the Director by October 1, 1992;

(ii) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 that is not authorized by a general or individual permit, other than an airport, powerplant, or uncontrolled sanitary landfill, the permit application must be submitted to the Director by March 10, 2003.

* * * * *

(5) A permit application shall be submitted to the Director within 180 days of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter), for:

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(i) A storm water discharge that the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraphs (a)(1)(v) and (b)(15)(ii) of this section);
* * * * *
(8) For any storm water discharge associated with small construction activity identified in paragraph (b)(15)(i) of this section, see §122.21(c)(1). Discharges from these sources require permit authorization by March 10, 2003, unless designated for coverage before then.

(9) For any discharge from a regulated small MS4, the permit application made under §122.33 must be submitted to the Director by:

(i) March 10, 2003 if designated under §122.32(a)(1) unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under §123.35(d)(3) (see §122.33(c)(1)); or

(ii) Within 180 days of notice, unless the NPDES permitting authority grants a later date, if designated under §122.32(a)(2) (see §122.33(c)(2)).

(f) * * *

(4) Any person may petition the Director for the designation of a large, medium, or small municipal separate storm sewer system as defined by paragraph (b)(4)(iv), (b)(7)(iv), or (b)(16) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition with the exception of petitions to designate a small MS4 in which case the Director shall make a final determination on the petition within 180 days after its receipt.

(g) Conditional exclusion for "no exposure" of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is "no exposure" of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. "No exposure" means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste ***68841** products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to §122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years;

(iv) Allow the Director to inspect the facility to determine compliance with the "no exposure" conditions;

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(v) Allow the Director to make any "no exposure" inspection reports available to the public upon request; and

(vi) For facilities that discharge through an MS4, upon request, submit a copy of the certification of "no exposure" to the MS4 operator, as well as allow inspection and public reporting by the MS4 operator.

(2) Industrial materials and activities not requiring storm resistant shelter. To qualify for this exclusion, storm resistant shelter is not required for:

(i) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak ("Sealed" means banded or otherwise secured and without operational taps or valves);

(ii) Adequately maintained vehicles used in material handling; and

(iii) Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt).

(3) Limitations. (i) Storm water discharges from construction activities identified in paragraphs (b)(14)(x) and (b)(15) are not eligible for this conditional exclusion.

(ii) This conditional exclusion from the requirement for an NPDES permit is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be "no exposure" discharges, individual permit requirements should be adjusted accordingly.

(iii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.

(iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

(4) Certification. The no exposure certification must require the submission of the following information, at a minimum, to aid the NPDES permitting authority in determining if the facility qualifies for the no exposure exclusion:

(i) The legal name, address and phone number of the discharger (see § 122.21(b));

(ii) The facility name and address, the county name and the latitude and longitude where the facility is located;

(iii) The certification must indicate that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation:

(A) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water;

(B) Materials or residuals on the ground or in storm water inlets from spills/leaks;

(C) Materials or products from past industrial activity;

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(D) Material handling equipment (except adequately maintained vehicles);

(E) Materials or products during loading/unloading or transporting activities;

(F) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);

(G) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

(H) Materials or products handled/stored on roads or railways owned or maintained by the discharger;

(I) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);

(J) Application or disposal of process wastewater (unless otherwise permitted); and

(K) Particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow;

(iv) All "no exposure" certifications must include the following certification statement, and be signed in accordance with the signatory requirements of § 122.22: "I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under paragraph (g)(2)) of this section. I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

40 CFR § 122.28

4. Revise §122.28(b)(2)(v) to read as follows:

40 CFR § 122.28

§122.28 General permits (applicable to State NPDES programs, see §123.25).

* * * * *

(b) * * *

(2) * * *

(v) Discharges other than discharges from publicly owned treatment works, combined sewer overflows, municipal ***68842** separate storm sewer systems, primary industrial facilities, and storm water discharges associated with industrial activity, may, at the discretion of the Director, be authorized to discharge under a general permit without submitting a notice of intent where the Director finds that a notice of intent requirement would be inappropriate. In making such a finding, the Director shall consider: the type of discharge; the expected nature of the discharge; the potential for toxic and

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conventional pollutants in the discharges; the expected volume of the discharges; other means of identifying discharges covered by the permit; and the estimated number of discharges to be covered by the permit. The Director shall provide in the public notice of the general permit the reasons for not requiring a notice of intent.

* * * * *

5. Add §§122.30 through 122.37 to subpart B to read as follows:

40 CFR § 122.30

§122.30 What are the objectives of the storm water regulations for small MS4s?

(a) Sections 122.30 through 122.37 are written in a "readable regulation" format that includes both rule requirements and EPA guidance that is not legally binding. EPA has clearly distinguished its recommended guidance from the rule requirements by putting the guidance in a separate paragraph headed by the word "guidance".

(b) Under the statutory mandate in section 402(p)(6) of the Clean Water Act, the purpose of this portion of the storm water program is to designate additional sources that need to be regulated to protect water quality and to establish a comprehensive storm water program to regulate these sources. (Because the storm water program is part of the National Pollutant Discharge Elimination System (NPDES) Program, you should also refer to §122.1 which addresses the broader purpose of the NPDES program.)

(c) Storm water runoff continues to harm the nation's waters. Runoff from lands modified by human activities can harm surface water resources in several ways including by changing natural hydrologic patterns and by elevating pollutant concentrations and loadings. Storm water runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients, heavy metals, pathogens, toxins, oxygen-demanding substances, and floatables.

(d) EPA strongly encourages partnerships and the watershed approach as the management framework for efficiently, effectively, and consistently protecting and restoring aquatic ecosystems and protecting public health.

40 CFR § 122.31

§122.31 As a Tribe, what is my role under the NPDES storm water program?

As a Tribe you may:

(a) Be authorized to operate the NPDES program including the storm water program, after EPA determines that you are eligible for treatment in the same manner as a State under §§123.31 through 123.34 of this chapter. (If you do not have an authorized NPDES program, EPA implements the program for discharges on your reservation as well as other Indian country, generally.);

(b) Be classified as an owner of a regulated small MS4, as defined in §122.32. (Designation of your Tribe as an owner of a small MS4 for purposes of this part is an approach that is consistent with EPA's 1984 Indian Policy of operating on a government-to-government basis with EPA looking to Tribes as the lead governmental authorities to address environmental issues on their reservations as appropriate. If you operate a separate storm sewer system that meets the definition of a regulated small MS4, you are subject to the requirements under §§122.33 through 122.35. If you are not designated as a regulated small MS4, you may ask EPA to designate you as such for the purposes of this part.); or

(c) Be a discharger of storm water associated with industrial activity or small construction activity under §§122.26(b)(14) or (b)(15), in which case you must meet the applicable requirements. Within Indian country, the NPDES permitting authority is generally EPA, unless you are authorized to administer the NPDES program.

40 CFR § 122.32

§122.32 As an operator of a small MS4, am I regulated under the NPDES storm water program?

(a) Unless you qualify for a waiver under paragraph (c) of this section, you are regulated if you operate a small MS4, including but not limited to systems operated by federal, State, Tribal, and local governments, including State departments of transportation; and:

(1) Your small MS4 is located in an urbanized area as determined by the latest Decennial Census by the Bureau of the Census. (If your small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated); or

(2) You are designated by the NPDES permitting authority, including where the designation is pursuant to §§123.35(b)(3) and (b)(4) of this chapter, or is based upon a petition under §122.26(f).

(b) You may be the subject of a petition to the NPDES permitting authority to require an NPDES permit for your discharge of storm water. If the NPDES permitting authority determines that you need a permit, you are required to comply with §§122.33 through 122.35.

(c) The NPDES permitting authority may waive the requirements otherwise applicable to you if you meet the criteria of paragraph (d) or (e) of this section. If you receive a waiver under this section, you may subsequently be required to seek coverage under an NPDES permit in accordance with §122.33(a) if circumstances change. (See also §123.35(b) of this chapter.)

(d) The NPDES permitting authority may waive permit coverage if your MS4 serves a population of less than 1,000 within the urbanized area and you meet the following criteria:

(1) Your system is not contributing substantially to the pollutant loadings of a physically interconnected MS4 that is regulated by the NPDES storm water program (see §123.35(b)(4) of this chapter); and

(2) If you discharge any pollutant(s) that have been identified as a cause of impairment of any water body to which you discharge, storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established "total maximum daily load" (TMDL) that addresses the pollutant(s) of concern.

(e) The NPDES permitting authority may waive permit coverage if your MS4 serves a population under 10,000 and you meet the following criteria:

(1) The permitting authority has evaluated all waters of the U.S., including small streams, tributaries, lakes, and ponds, that receive a discharge from your MS4;

(2) For all such waters, the permitting authority has determined that storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern or, if a TMDL has not been developed or approved, an equivalent analysis that determines sources and allocations for the pollutant(s) of concern;

(3) For the purpose of this paragraph (e), the pollutant(s) of concern include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from your MS4; and ***68843**

(4) The permitting authority has determined that future discharges from your MS4 do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

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40 CFR § 122.33

§122.33 If I am an operator of a regulated small MS4, how do I apply for an NPDES permit and when do I have to apply?
(a) If you operate a regulated small MS4 under §122.32, you must seek coverage under a NPDES permit issued by your NPDES permitting authority. If you are located in an NPDES authorized State, Tribe, or Territory, then that State, Tribe, or Territory is your NPDES permitting authority. Otherwise, your NPDES permitting authority is the EPA Regional Office.

(b) You must seek authorization to discharge under a general or individual NPDES permit, as follows:

(1) If your NPDES permitting authority has issued a general permit applicable to your discharge and you are seeking coverage under the general permit, you must submit a Notice of Intent (NOI) that includes the information on your best management practices and measurable goals required by §122.34(d). You may file your own NOI, or you and other municipalities or governmental entities may jointly submit an NOI. If you want to share responsibilities for meeting the minimum measures with other municipalities or governmental entities, you must submit an NOI that describes which minimum measures you will implement and identify the entities that will implement the other minimum measures within the area served by your MS4. The general permit will explain any other steps necessary to obtain permit authorization.

(2)(i) If you are seeking authorization to discharge under an individual permit and wish to implement a program under §122.34, you must submit an application to your NPDES permitting authority that includes the information required under §§122.21(f) and 122.34(d), an estimate of square mileage served by your small MS4, and any additional information that your NPDES permitting authority requests. A storm sewer map that satisfies the requirement of § 122.34(b)(3)(i) will satisfy the map requirement in §122.21(f)(7).

(ii) If you are seeking authorization to discharge under an individual permit and wish to implement a program that is different from the program under §122.34, you will need to comply with the permit application requirements of §122.26(d). You must submit both Parts of the application requirements in §§122.26(d)(1) and (2) by March 10, 2003. You do not need to submit the information required by §§122.26(d)(1)(ii) and (d)(2) regarding your legal authority, unless you intend for the permit writer to take such information into account when developing your other permit conditions.

(iii) If allowed by your NPDES permitting authority, you and another regulated entity may jointly apply under either paragraph (b)(2)(i) or (b)(2)(ii) of this section to be co-permittees under an individual permit.

(3) If your small MS4 is in the same urbanized area as a medium or large MS4 with an NPDES storm water permit and that other MS4 is willing to have you participate in its storm water program, you and the other MS4 may jointly seek a modification of the other MS4 permit to include you as a limited co-permittee. As a limited co-permittee, you will be responsible for compliance with the permit's conditions applicable to your jurisdiction. If you choose this option you will need to comply with the permit application requirements of §122.26, rather than the requirements of §122.34. You do not need to comply with the specific application requirements of §122.26(d)(1)(iii) and (iv) and (d)(2)(iii) (discharge characterization). You may satisfy the requirements in §122.26 (d)(1)(v) and (d)(2)(iv) (identification of a management program) by referring to the other MS4's storm water management program.

(4) Guidance: In referencing an MS4's storm water management program, you should briefly describe how the existing plan will address discharges from your small MS4 or would need to be supplemented in order to adequately address your discharges. You should also explain your role in coordinating storm water pollutant control activities in your MS4, and detail the resources available to you to accomplish the plan.

(c) If you operate a regulated small MS4:

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(1) Designated under §122.32(a)(1), you must apply for coverage under an NPDES permit, or apply for a modification of an existing NPDES permit under paragraph (b)(3) of this section by March 10, 2003, unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under §123.35(d)(3) of this chapter.

(2) Designated under §122.32(a)(2), you must apply for coverage under an NPDES permit, or apply for a modification of an existing NPDES permit under paragraph (b)(3) of this section, within 180 days of notice, unless the NPDES permitting authority grants a later date.
40 CFR § 122.34

§122.34 As an operator of a regulated small MS4, what will my NPDES MS4 storm water permit require?
(a) Your NPDES MS4 permit will require at a minimum that you develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Your storm water management program must include the minimum control measures described in paragraph (b) of this section unless you apply for a permit under §122.26(d). For purposes of this section, narrative effluent limitations requiring implementation of best management practices (BMPs) are generally the most appropriate form of effluent limitations when designed to satisfy technology requirements (including reductions of pollutants to the maximum extent practicable) and to protect water quality. Implementation of best management practices consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to §122.33 constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable." Your NPDES permitting authority will specify a time period of up to 5 years from the date of permit issuance for you to develop and implement your program.

(b) Minimum control measures—(1) Public education and outreach on storm water impacts. (i) You must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance: You may use storm water educational materials provided by your State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or ***68844** household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. You are encouraged to tailor your outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(2) Public involvement/participation. (i) You must, at a minimum, comply with State, Tribal and local public notice requirements when implementing a public involvement/ participation program.

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(ii) Guidance: EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

(3) Illicit discharge detection and elimination. (i) You must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at §122.26(b)(2)) into your small MS4.

(ii) You must:

(A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

(B) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;

(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to your system; and

(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(iii) You need address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

(iv) Guidance: EPA recommends that the plan to detect and address illicit discharges include the following four components: procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends visually screening outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

(4) Construction site storm water runoff control. (i) You must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for storm water

discharges associated with small construction activity in accordance with § 122.26(b)(15)(i), you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

(ii) Your program must include the development and implementation of, at a minimum:

(A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

(B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(E) Procedures for receipt and consideration of information submitted by the public, and

(F) Procedures for site inspection and enforcement of control measures.

(iii) Guidance: Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving ***68845** water quality. You are encouraged to provide appropriate educational and training measures for construction site operators. You may wish to require a storm water pollution prevention plan for construction sites within your jurisdiction that discharge into your system. See § 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see § 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the permitting authority, may be responsible for implementing one or more of the minimum measures on your behalf.)

(5) Post-construction storm water management in new development and redevelopment.

(i) You must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program must ensure that controls are in place that would prevent or minimize water quality impacts.

(ii) You must:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community;

(B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

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(iii) Guidance: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the BMPs chosen: be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. In choosing appropriate BMPs, EPA encourages you to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, EPA recommends that you adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, you should provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that you ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that your requirements be responsive to these changes, developments or improvements in control technologies.

(6) Pollution prevention/good housekeeping for municipal operations. (i) You must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance: EPA recommends that, at a minimum, you consider the following in developing your program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from your separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by you, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

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(c) If an existing qualifying local program requires you to implement one or more of the minimum control measures of paragraph (b) of this section, the NPDES permitting authority may include conditions in your NPDES permit that direct you to follow that qualifying program's requirements rather than the requirements of paragraph (b) of this section. A qualifying local program is a local, State or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b) of this section.

(d)(1) In your permit application (either a notice of intent for coverage ***68846** under a general permit or an individual permit application), you must identify and submit to your NPDES permitting authority the following information:

(i) The best management practices (BMPs) that you or another entity will implement for each of the storm water minimum control measures at paragraphs (b)(1) through (b)(6) of this section;

(ii) The measurable goals for each of the BMPs including, as appropriate, the months and years in which you will undertake required actions, including interim milestones and the frequency of the action; and

(iii) The person or persons responsible for implementing or coordinating your storm water management program.

(2) If you obtain coverage under a general permit, you are not required to meet any measurable goal(s) identified in your notice of intent in order to demonstrate compliance with the minimum control measures in paragraphs (b)(3) through (b)(6) of this section unless, prior to submitting your NOI, EPA or your State or Tribe has provided or issued a menu of BMPs that addresses each such minimum measure. Even if no regulatory authority issues the menu of BMPs, however, you still must comply with other requirements of the general permit, including good faith implementation of BMPs designed to comply with the minimum measures.

(3) Guidance: Either EPA or your State or Tribal permitting authority will provide a menu of BMPs. You may choose BMPs from the menu or select others that satisfy the minimum control measures.

(e)(1) You must comply with any more stringent effluent limitations in your permit, including permit requirements that modify, or are in addition to, the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis. The permitting authority may include such more stringent limitations based on a TMDL or equivalent analysis that determines such limitations are needed to protect water quality.

(2) Guidance: EPA strongly recommends that until the evaluation of the storm water program in §122.37, no additional requirements beyond the minimum control measures be imposed on regulated small MS4s without the agreement of the operator of the affected small MS4, except where an approved TMDL or equivalent analysis provides adequate information to develop more specific measures to protect water quality.

(f) You must comply with other applicable NPDES permit requirements, standards and conditions established in the individual or general permit, developed consistent with the provisions of §§122.41 through 122.49, as appropriate.

(g) Evaluation and assessment—(1) Evaluation. You must evaluate program compliance, the appropriateness of your identified best management practices, and progress towards achieving your identified measurable goals.

Note to Paragraph (g)(1): The NPDES permitting authority may determine monitoring requirements for you in accordance with State/Tribal monitoring plans appropriate to your watershed. Participation in a group monitoring program is encouraged.

(2) Recordkeeping. You must keep records required by the NPDES permit for at least 3 years. You must submit your records to the NPDES permitting authority only when specifically asked to do so. You must make your records, including

a description of your storm water management program, available to the public at reasonable times during regular business hours (see §122.7 for confidentiality provision). (You may assess a reasonable charge for copying. You may require a member of the public to provide advance notice.)

(3) Reporting. Unless you are relying on another entity to satisfy your NPDES permit obligations under §122.35(a), you must submit annual reports to the NPDES permitting authority for your first permit term. For subsequent permit terms, you must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports. Your report must include:

(i) The status of compliance with permit conditions, an assessment of the appropriateness of your identified best management practices and progress towards achieving your identified measurable goals for each of the minimum control measures;

(ii) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

(iii) A summary of the storm water activities you plan to undertake during the next reporting cycle;

(iv) A change in any identified best management practices or measurable goals for any of the minimum control measures; and

(v) Notice that you are relying on another governmental entity to satisfy some of your permit obligations (if applicable).
40 CFR § 122.35

§122.35 As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?
(a) You may rely on another entity to satisfy your NPDES permit obligations to implement a minimum control measure if:

(1) The other entity, in fact, implements the control measure;

(2) The particular control measure, or component thereof, is at least as stringent as the corresponding NPDES permit requirement; and

(3) The other entity agrees to implement the control measure on your behalf. In the reports you must submit under §122.34(g)(3), you must also specify that you rely on another entity to satisfy some of your permit obligations. If you are relying on another governmental entity regulated under section 122 to satisfy all of your permit obligations, including your obligation to file periodic reports required by §122.34(g)(3), you must note that fact in your NOI, but you are not required to file the periodic reports. You remain responsible for compliance with your permit obligations if the other entity fails to implement the control measure (or component thereof). Therefore, EPA encourages you to enter into a legally binding agreement with that entity if you want to minimize any uncertainty about compliance with your permit.

(b) In some cases, the NPDES permitting authority may recognize, either in your individual NPDES permit or in an NPDES general permit, that another governmental entity is responsible under an NPDES permit for implementing one or more of the minimum control measures for your small MS4 or that the permitting authority itself is responsible. Where the permitting authority does so, you are not required to include such minimum control measure(s) in your storm water management program. (For example, if a State or Tribe is subject to an NPDES permit that requires it to administer a program to control construction site runoff at the State or Tribal level and that program satisfies all of the requirements of §122.34(b)(4), you could avoid responsibility for the construction measure, but would be responsible for the remaining minimum control measures.) Your permit may be reopened and modified to include the requirement to implement a minimum control measure if the entity fails to implement it. ***68847**

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40 CFR § 122.36

§122.36 As an operator of a regulated small MS4, what happens if I don't comply with the application or permit requirements in §§122.33 through 122.35?

NPDES permits are federally enforceable. Violators may be subject to the enforcement actions and penalties described in Clean Water Act sections 309 (b), (c), and (g) and 505, or under applicable State, Tribal, or local law. Compliance with a permit issued pursuant to section 402 of the Clean Water Act is deemed compliance, for purposes of sections 309 and 505, with sections 301, 302, 306, 307, and 403, except any standard imposed under section 307 for toxic pollutants injurious to human health. If you are covered as a co-permittee under an individual permit or under a general permit by means of a joint Notice of Intent you remain subject to the enforcement actions and penalties for the failure to comply with the terms of the permit in your jurisdiction except as set forth in §122.35(b).

40 CFR § 122.37

§122.37 Will the small MS4 storm water program regulations at §§122.32 through 122.36 and §123.35 of this chapter change in the future?

EPA will evaluate the small MS4 regulations at §§122.32 through 122.36 and § 123.35 of this chapter after December 10, 2012 and make any necessary revisions. (EPA intends to conduct an enhanced research effort and compile a comprehensive evaluation of the NPDES MS4 storm water program. EPA will re-evaluate the regulations based on data from the NPDES MS4 storm water program, from research on receiving water impacts from storm water, and the effectiveness of best management practices (BMPs), as well as other relevant information sources.)

40 CFR § 122.44

6. In §122.44, redesignate paragraphs (k)(2) and (k)(3) as paragraphs (k)(3) and (k)(4), remove the comma at the end of newly redesignated paragraph (k)(3) and add a semicolon in its place, and add new paragraphs (k)(2) and (s) to read as follows:

40 CFR § 122.44

§122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see §123.25).

* * * * *

(k) * * *

(2) Authorized under section 402(p) of CWA for the control of storm water discharges;

* * * * *

(s) Qualifying State, Tribal, or local programs. (1) For storm water discharges associated with small construction activity identified in § 122.26(b)(15), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. Where a qualifying State, Tribal, or local program does not include one or more of the elements in this paragraph (s)(1), then the Director must include those elements as conditions in the permit. A qualifying State, Tribal, or local erosion and sediment control program is one that includes:

(i) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(ii) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(iii) Requirements for construction site operators to develop and implement a storm water pollution prevention plan. (A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges); and

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(iv) Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

(2) For storm water discharges from construction activity identified in § 122.26(b)(14)(x), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. A qualifying State, Tribal or local erosion and sediment control program is one that includes the elements listed in paragraph (s)(1) of this section and any additional requirements necessary to achieve the applicable technology-based standards of "best available technology" and "best conventional technology" based on the best professional judgment of the permit writer.

40 CFR § 122.62

7. Add §122.62(a)(14) to read as follows:

40 CFR § 122.62

§122.62 Modification or revocation and reissuance of permits (applicable to State programs, see §123.25).

* * * * *

(a) * * *

(14) For a small MS4, to include an effluent limitation requiring implementation of a minimum control measure or measures as specified in § 122.34(b) when:

(i) The permit does not include such measure(s) based upon the determination that another entity was responsible for implementation of the requirement(s); and

(ii) The other entity fails to implement measure(s) that satisfy the requirement(s).

* * * * *

8. Revise Appendices F, G, H, and I to Part 122 to read as follows:

Appendix F to Part 122.—Incorporated Places With Populations Greater Than 250,000 According to the 1990 Decennial Census by the Bureau of the Census

State	Incorporated Place
Alabama	Birmingham.
Arizona	Phoenix.
	Tucson.
California	Long Beach.
	Los Angeles.
	Oakland.
	Sacramento.
	San Diego.
	San Francisco.
	San Jose.
Colorado	Denver.

District of Columbia	
Florida	Jacksonville.
	Miami.
	Tampa.
Georgia.	Atlanta.
Illinois	Chicago.
Indiana	Indianapolis.
Kansas	Wichita.
Kentucky	Louisville.
Louisiana	New Orleans.
Maryland	Baltimore.
Massachusetts	Boston.
Michigan	Detroit.
Minnesota	Minneapolis.
	St. Paul.
Missouri	Kansas City.
	St. Louis.
Nebraska	Omaha.
New Jersey	Newark.
New Mexico	Albuquerque.
New York	Buffalo.
	Bronx Borough.
	Brooklyn Borough.
	Manhattan Borough.
	Queens Borough.
	Staten Island Borough.
North Carolina	Charlotte.
Ohio	Cincinnati.
	Cleveland.

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	Columbus.
	Toledo.
Oklahoma	Oklahoma City.
	Tulsa.
Oregon	Portland.
Pennsylvania	Philadelphia.
	Pittsburgh.
Tennessee	Memphis.
	Nashville/Davidson.
Texas	Austin.
	Dallas.
	El Paso.
	Fort Worth.
	Houston.
	San Antonio.
Virginia	Norfolk.
	Virginia Beach.
Washington	Seattle.
Wisconsin	Milwaukee.

Appendix G to Part 122.—Incorporated Places With Populations Greater Than 100,000 But Less Than 250,000 According to the 1990 Decennial Census by the Bureau of the Census

State	Incorporated place
Alabama	Huntsville.
	Mobile.
	Montgomery.
Alaska	Anchorage.
Arizona	Mesa.
	Tempe.
Arkansas	Little Rock.

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California	Anaheim.
	Bakersfield.
	Berkeley.
	Chula Vista.
	Concord.
	El Monte.
	Escondido.
	Fremont.
	Fresno.
	Fullerton.
	Garden Grove.
	Glendale.
	Hayward.
	Huntington Beach.
	Inglewood.
	Irvine.
	Modesto.
	Moreno Valley.
	Oceanside.
	Ontario.
	Orange.
Colorado	Aurora.
	Colorado Springs.
	Lakewood.
	Pueblo.
Connecticut	Bridgeport.
	Hartford.
	New Haven.
	Stamford.

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	Waterbury.
Florida	Fort Lauderdale.
	Hialeah.
	Hollywood.
	Orlando.
	St. Petersburg.
	Tallahassee.
Georgia	Columbus.
	Macon.
	Savannah.
Idaho	Boise City.
Illinois	Peoria.
	Rockford.
Indiana	Evansville.
	Fort Wayne.
	Gary.
	South Bend.
Iowa	Cedar Rapids.
	Davenport.
	Des Moines.
Kansas	Kansas City.
	Topeka.
Kentucky	Lexington-Fayette.
Louisiana	Baton Rouge.
	Shreveport.
Massachusetts	Springfield.
	Worcester.
Michigan	Ann Arbor.
	Flint.

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	Grand Rapids.
	Lansing.
	Livonia.
	Sterling Heights.
	Warren.
Mississippi	Jackson.
Missouri	Independence.
	Springfield.
Nebraska	Lincoln.
Nevada	Las Vegas.
	Reno.
New Jersey	Elizabeth.
	Jersey City.
	Paterson.
New York	Albany.
	Rochester.
	Syracuse.
	Yonkers.
North Carolina	Durham.
	Greensboro.
	Raleigh.
	Winston-Salem.
Ohio	Akron.
	Dayton.
	Youngstown.
Oregon	Eugene.
Pennsylvania	Allentown.
	Erie.
Rhode Island	Providence.

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South Carolina	Columbia.
Tennessee	Chattanooga.
	Knoxville.
Texas	Abilene.
	Amarillo.
	Arlington.
	Beaumont.
	Corpus Christi.
	Garland.
	Irving.
	Laredo.
	Lubbock.
	Mesquite.
	Pasadena.
	Plano.
	Waco.
Utah	Salt Lake City.
Virginia	Alexandria.
	Chesapeake.
	Hampton.
	Newport News.
	Portsmouth.
	Richmond.
	Roanoke.
Washington	Spokane.
	Tacoma.
Wisconsin	Madison.

Appendix H to Part 122.—Counties With Unincorporated Urbanized Areas With a Population of 250,000 or More According to the 1990 Decennial Census by the Bureau of the Census

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State	County	Unincorporated urbanized population
California	Los Angeles	886,780
	Sacramento	594,889
	San Diego	250,414
Delaware	New Castle	296,996
Florida	Dade	1,014,504
Georgia	DeKalb	448,686
Hawaii	Honolulu [1]	114,506
Maryland	Anne Arundel	344,654
	Baltimore	627,593
	Montgomery	599,028
	Prince George's	494,369
Texas	Harris	729,206
Utah	Salt Lake	270,989
Virginia	Fairfax	760,730
Washington	King	520,468

Appendix I to Part 122.—Counties With Unincorporated Urbanized Areas Greater Than 100,000 But Less Than 250,000 According to the 1990 Decennial Census by the Bureau of the Census

State	County	Unincorporated urbanized population
Alabama	Jefferson	78,608
Arizona	Pima	162,202
California	Alameda	115,082
	Contra Costa	131,082
	Kern	128,503
	Orange	223,081
	Riverside	166,509
	San Bernardino	162,202
Colorado	Arapahoe	103,248

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Florida	Broward	142,329
	Escambia	167,463
	Hillsborough	398,593
	Lee	102,337
	Manatee	123,828
	Orange	378,611
	Palm Beach	360,553
	Pasco	148,907
	Pinellas	255,772
	Polk	121,528
	Sarasota	172,600
	Seminole	127,873
Georgia	Clayton	133,237
	Cobb	322,595
	Fulton	127,776
	Gwinnett	237,305
	Richmond	126,476
Kentucky	Jefferson	239,430
Louisiana	East Baton Rouge	102,539
	Parish	331,307
	Jefferson Parish	.....
Maryland	Howard	157,972
North Carolina	Cumberland	146,827
Nevada	Clark	327,618
Oregon	Multnomah [1]	52,923
	Washington	116,687
South Carolina	Greenville	147,464
	Richland	130,589
Virginia	Arlington	170,936

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	Chesterfield	174,488
	Henrico	201,367
	Prince William	157,131
Washington	Pierce	258,530
	Snohomish	157,218

***68849 PART 123—STATE PROGRAM REQUIREMENTS**

1. The authority citation for part 123 continues to read as follows:

Authority: The Clean Water Act, 33 U.S.C. 1251 et seq.

40 CFR § 123.25

2. Amend §123.25 by removing the word "and" at the end of paragraph (a)(37), by removing the period at the end of paragraph (a)(38) and adding a semicolon in its place, and by adding paragraphs (a)(39) through (a)(45) to read as follows:

40 CFR § 123.25

§123.25 Requirements for permitting.

(a) * * * ***68850**

(39) §122.30 (What are the objectives of the storm water regulations for small MS4s?);

(40) §122.31 (For Indian Tribes only) (As a Tribe, what is my role under the NPDES storm water program?);

(41) §122.32 (As an operator of a small MS4, am I regulated under the NPDES storm water program?);

(42) §122.33 (If I am an operator of a regulated small MS4, how do I apply for an NPDES permit? When do I have to apply?);

(43) §122.34 (As an operator of a regulated small MS4, what will my NPDES MS4 storm water permit require?);

(44) §122.35 (As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?); and

(45) §122.36 (As an operator of a regulated small MS4, what happens if I don't comply with the application or permit requirements in §§122.33 through 122.35?).

* * * * *40 CFR § 123.35

3. Add §123.35 to subpart B to read as follows:

40 CFR § 123.35

§123.35 As the NPDES Permitting Authority for regulated small MS4s, what is my role?

(a) You must comply with the requirements for all NPDES permitting authorities under Parts 122, 123, 124, and 125 of this chapter. (This section is meant only to supplement those requirements and discuss specific issues related to the small MS4 storm water program.)

(b) You must develop a process, as well as criteria, to designate small MS4s other than those described in §122.32(a)(1) of this chapter, as regulated small MS4s to be covered under the NPDES storm water discharge control program. This

process must include the authority to designate a small MS4 waived under paragraph (d) of this section if circumstances change. EPA may make designations under this section if a State or Tribe fails to comply with the requirements listed in this paragraph. In making designations of small MS4s, you must:

(1)(i) Develop criteria to evaluate whether a storm water discharge results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

(ii) Guidance: For determining other significant water quality impacts, EPA recommends a balanced consideration of the following designation criteria on a watershed or other local basis: discharge to sensitive waters, high growth or growth potential, high population density, contiguity to an urbanized area, significant contributor of pollutants to waters of the United States, and ineffective protection of water quality by other programs;

(2) Apply such criteria, at a minimum, to any small MS4 located outside of an urbanized area serving a jurisdiction with a population density of at least 1,000 people per square mile and a population of at least 10,000;

(3) Designate any small MS4 that meets your criteria by December 9, 2002. You may wait until December 8, 2004 to apply the designation criteria on a watershed basis if you have developed a comprehensive watershed plan. You may apply these criteria to make additional designations at any time, as appropriate; and

(4) Designate any small MS4 that contributes substantially to the pollutant loadings of a physically interconnected municipal separate storm sewer that is regulated by the NPDES storm water program.

(c) You must make a final determination within 180 days from receipt of a petition under §122.26(f) of this chapter (or analogous State or Tribal law). If you do not do so within that time period, EPA may make a determination on the petition.

(d) You must issue permits consistent with §§122.32 through 122.35 of this chapter to all regulated small MS4s. You may waive or phase in the requirements otherwise applicable to regulated small MS4s, as defined in § 122.32(a)(1) of this chapter, under the following circumstances:

(1) You may waive permit coverage for each small MS4s in jurisdictions with a population under 1,000 within the urbanized area where all of the following criteria have been met:

(i) Its discharges are not contributing substantially to the pollutant loadings of a physically interconnected regulated MS4 (see paragraph (b)(4) of this section); and

(ii) If the small MS4 discharges any pollutant(s) that have been identified as a cause of impairment of any water body to which it discharges, storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established "total maximum daily load" (TMDL) that address the pollutant(s) of concern.

(2) You may waive permit coverage for each small MS4 in jurisdictions with a population under 10,000 where all of the following criteria have been met:

(i) You have evaluated all waters of the U.S., including small streams, tributaries, lakes, and ponds, that receive a discharge from the MS4 eligible for such a waiver.

(ii) For all such waters, you have determined that storm water controls are not needed based on wasteload allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern or, if a TMDL has

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not been developed or approved, an equivalent analysis that determines sources and allocations for the pollutant(s) of concern.

(iii) For the purpose of paragraph (d)(2)(ii) of this section, the pollutant(s) of concern include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the MS4.

(iv) You have determined that current and future discharges from the MS4 do not have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

(v) Guidance: To help determine other significant water quality impacts, EPA recommends a balanced consideration of the following criteria on a watershed or other local basis: discharge to sensitive waters, high growth or growth potential, high population or commercial density, significant contributor of pollutants to waters of the United States, and ineffective protection of water quality by other programs.

(3) You may phase in permit coverage for small MS4s serving jurisdictions with a population under 10,000 on a schedule consistent with a State watershed permitting approach. Under this approach, you must develop and implement a schedule to phase in permit coverage for approximately 20 percent annually of all small MS4s that qualify for such phased-in coverage. Under this option, all regulated small MS4s are required to have coverage under an NPDES permit by no later than March 8, 2007. Your schedule for phasing in permit coverage for small MS4s must be approved by the Regional Administrator no later than December 10, 2001.

(4) If you choose to phase in permit coverage for small MS4s in jurisdictions with a population under 10,000, in accordance with paragraph (d)(3) of this section, you may also provide waivers in accordance with paragraphs (d)(1) and (d)(2) of this section pursuant to your approved schedule. ***68851**

(5) If you do not have an approved schedule for phasing in permit coverage, you must make a determination whether to issue an NPDES permit or allow a waiver in accordance with paragraph (d)(1) or (d)(2) of this section, for each eligible MS4 by December 9, 2002.

(6) You must periodically review any waivers granted in accordance with paragraph (d)(2) of this section to determine whether any of the information required for granting the waiver has changed. At a minimum, you must conduct such a review once every five years. In addition, you must consider any petition to review any waiver when the petitioner provides evidence that the information required for granting the waiver has substantially changed.

(e) You must specify a time period of up to 5 years from the date of permit issuance for operators of regulated small MS4s to fully develop and implement their storm water program.

(f) You must include the requirements in §§122.33 through 122.35 of this chapter in any permit issued for regulated small MS4s or develop permit limits based on a permit application submitted by a regulated small MS4. (You may include conditions in a regulated small MS4 NPDES permit that direct the MS4 to follow an existing qualifying local program's requirements, as a way of complying with some or all of the requirements in §122.34(b) of this chapter. See §122.34(c) of this chapter. Qualifying local, State or Tribal program requirements must impose, at a minimum, the relevant requirements of §122.34(b) of this chapter.)

(g) If you issue a general permit to authorize storm water discharges from small MS4s, you must make available a menu of BMPs to assist regulated small MS4s in the design and implementation of municipal storm water management programs

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to implement the minimum measures specified in §122.34(b) of this chapter. EPA plans to develop a menu of BMPs that will apply in each State or Tribe that has not developed its own menu. Regardless of whether a menu of BMPs has been developed by EPA, EPA encourages State and Tribal permitting authorities to develop a menu of BMPs that is appropriate for local conditions. EPA also intends to provide guidance on developing BMPs and measurable goals and modify, update, and supplement such guidance based on the assessments of the NPDES MS4 storm water program and research to be conducted over the next thirteen years.

(h)(1) You must incorporate any additional measures necessary to ensure effective implementation of your State or Tribal storm water program for regulated small MS4s.

(2) Guidance: EPA recommends consideration of the following:

(i) You are encouraged to use a general permit for regulated small MS4s;

(ii) To the extent that your State or Tribe administers a dedicated funding source, you should play an active role in providing financial assistance to operators of regulated small MS4s;

(iii) You should support local programs by providing technical and programmatic assistance, conducting research projects, performing watershed monitoring, and providing adequate legal authority at the local level;

(iv) You are encouraged to coordinate and utilize the data collected under several programs including water quality management programs, TMDL programs, and water quality monitoring programs;

(v) Where appropriate, you may recognize existing responsibilities among governmental entities for the control measures in an NPDES small MS4 permit (see §122.35(b) of this chapter); and

(vi) You are encouraged to provide a brief (e.g., two page) reporting format to facilitate compiling and analyzing data from submitted reports under § 122.34(g)(3) of this chapter. EPA intends to develop a model form for this purpose.

PART 124—PROCEDURES FOR DECISIONMAKING

1. The authority citation for part 124 continues to read as follows:

Authority: Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.; Safe Drinking Water Act, 42 U.S.C. 300(f) et seq.; Clean Water Act, 33 U.S.C. 1251 et seq.; Clean Air Act, 42 U.S.C. 7401 et seq.

40 CFR § 124.52

2. Revise §124.52(c) to read as follows:

40 CFR § 124.52

§124.52 Permits required on a case-by-case basis.

* * * * *

(c) Prior to a case-by-case determination that an individual permit is required for a storm water discharge under this section (see §122.26(a)(1)(v), (c)(1)(v), and (a)(9)(iii) of this chapter), the Regional Administrator may require the discharger to submit a permit application or other information regarding the discharge under section 308 of the CWA. In requiring such information, the Regional Administrator shall notify the discharger in writing and shall send an application form with the notice. The discharger must apply for a permit within 180 days of notice, unless permission for a later date is granted by the Regional Administrator. The question whether the initial designation was proper will remain open for consideration during the public comment period under §124.11 or §124.118 and in any subsequent hearing.

[FR Doc. 99-29181 Filed 12-7-99; 8:45 am]

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Footnotes

1 National level benefits are not inclusive of all categories of benefits that can be expected to result from the regulation.

2 Total may not add due to rounding.

1 To estimate non-local willingness to pay per household, the 33% of willingness is multiplied by the fraction of previously impaired national waters (in each use category) that attain the beneficial use as a result of the Phase II rule. To estimate the aggregate non-local benefits, non-local willingness to pay is multiplied with the total number of households in the US.
+= positive benefits expected but not monetized.

1 Includes water quality benefit of municipal programs, based on 80% effectiveness of municipal programs.

2 Based on research by Carson and Mitchell (1993). Fresh water value only. Does not include commercial fishery, navigation, or diversionary (e.g. municipal drinking water cost savings or risk reductions) benefits. May not fully capture human health risk reduction or ecological values.

3 Based on research by Paterson et al. (1993). Although the survey's description of the benefits of reducing soil erosion from construction sites included reduced dredging, avoided flooding, and water storage capacity benefits, these benefit categories may not be fully incorporated in the WTP values. Small streams may account for over 2% of total benefits.

Notes:

1 Source: U.S. EPA, Office of Wastewater Management. Economic Analysis for the Storm Water Phase II Rule.

2 The total number of potential no exposure respondents was divided by 5 to estimate an annual total. It was assumed that the annual number of respondents for the no exposure certification would be spread over the five year period the exclusion applies.

3 The number of respondents in each category represents only those respondents located within the 44 NPDES-authorized States and Territories. The burden and cost estimates provided in this section are for the NPDES-authorized States in their role as the permitting authority for municipal designations and industrial no exposure.

4 The number of respondents for this activity, 15, represents the number of NPDES-authorized States and Territories that must develop designation criteria and assess small MS4s located outside of an urbanized area for possible Phase II coverage divided by the three year ICR period.

1 County was previously listed in this appendix; however, population dropped to below 250,000 in the 1990 Census.

1 County was previously listed in this appendix; however, population dropped to below 100,000 in the 1990 Census.

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ATTACHMENT A-26

81 FR 89320-01, 2016 WL 7158878(F.R.)
RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY
40 CFR Part 122
[EPA-HQ-OW-2015-0671; FRL-9955-11-OW]
RIN 2040-AF57

National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System General Permit Remand Rule

Friday, December 9, 2016

AGENCY: Environmental Protection Agency (EPA).

***89320** ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is revising the regulations governing regulated small municipal separate storm sewer system (MS4) permits to respond to a remand from the United States Court of Appeals for the Ninth Circuit in Environmental Defense Center, et al. v. EPA, 344 F.3d 832 (9th Cir. 2003). In that decision, the court determined that the regulations for providing coverage under small MS4 general permits did not provide for adequate public notice and opportunity to request a hearing. Additionally, the court found that EPA failed to require permitting authority review of the best management practices (BMPs) to be used at a particular MS4 to ensure that the small MS4 permittee reduces pollutants in the discharge from their systems to the "maximum extent practicable" (MEP), the standard established by the Clean Water Act (CWA) for such permits. The final rule establishes two alternative approaches a permitting authority can use to issue National Pollutant Discharge Elimination (NPDES) general permits for small MS4s and meet the requirements of the court remand. The first option is to establish all necessary permit terms and conditions to require the MS4 operator to reduce the discharge of pollutants from its MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act ("MS4 permit standard") upfront in one comprehensive permit. The second option allows the permitting authority to establish the necessary permit terms and conditions in two steps: A first step to issue a base general permit that contains terms and conditions applicable to all small MS4s covered by the permit and a second step to establish necessary permit terms and conditions for individual MS4s that are not in the base general permit. Public notice and comment and opportunity to request a hearing would be necessary for both steps of this two-step general permit. This final rule does not establish any new substantive requirements for small MS4 permits.

DATES: This final rule is effective on January 9, 2017.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-HQ-OW-2015-0671. All documents in the docket are listed on the http://www.regulations.gov Web site. Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available electronically through http://www.regulations.gov.

FOR FURTHER INFORMATION CONTACT: Greg Schaner, Office of Wastewater Management, Water Permits Division (4203M), Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 564-0721; email address: schaner.greg@epa.gov. Refer also to EPA's Web site for further information related to the final rule at https://www.epa.gov/npdes/stormwater-rules-and-notices1Bproposed.

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SUPPLEMENTARY INFORMATION: The Federal Register published EPA's proposed rule on January 6, 2016 (81 FR 415).

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I. General Information

A. Does this action apply to me?

Entities regulated [or affected] by this rule include:

Category	Examples of regulated entities	North American industry classification system (NAICS) code
Part IV		
Federal and state government	EPA or state NPDES stormwater permitting authorities; operators of small municipal separate storm sewer systems	924110
Local governments	Operators of small municipal separate storm sewer systems	924110

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated or otherwise affected by this action. Other types of entities not listed in the table could also be regulated. To determine whether your entity is regulated by this action, you should carefully examine the applicability criteria found in 40 CFR 122.32, and the discussion in the preamble. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the FOR FURTHER INFORMATION CONTACT section.

B. What action is the Agency taking?

EPA is issuing a final rule to revise its regulations governing the way in which small municipal separate storm sewer systems (MS4s) obtain coverage under National Pollutant Discharge Elimination System (NPDES) general permits and how required permit conditions are established. The rule results from a decision by the U.S. Court of Appeals for the Ninth Circuit in Environmental Defense Center, et al. v. EPA, at 344 F.3d 832 (9th Cir. 2003) ("EDC decision"), which found that EPA regulations for obtaining coverage under a small MS4 general permit did not provide for adequate public notice, the opportunity to request a hearing, or permitting authority review to determine whether the best management practices (BMPs) selected by each MS4 in its stormwater management program (SWMP) meets the CWA requirements including the requirement to "reduce pollutants to the maximum extent practicable." The Federal Register published EPA's proposed rule on January 6, 2016 (81 FR 415). EPA proposed and solicited public comment on three options for addressing the remand. One option (called the "Traditional General Permit Approach") would require the permitting authority to establish within the general permit all requirements necessary for the regulated small MS4s to meet the applicable permit standard (to reduce pollutants to the maximum extent practicable (MEP), to protect water quality,

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and to satisfy the appropriate water quality requirements of the CWA), which would be subject to public notice and comment and an opportunity to request a hearing. The second proposed option (called the "Procedural Approach") would require the permitting authority to incorporate an additional review and public comment step into the existing Phase II regulatory framework for permitting small MS4s through general permits. More specifically, once an MS4 operator submitted its Notice of Intent (NOI) requesting coverage under the general permit, an additional step would take place in which the permitting authority would review, and the public would be given an opportunity to comment and request a hearing on, the merits of the MS4's proposed BMPs and measurable goals for complying with the requirement to reduce discharges to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA. A third proposed option (called the "State Choice Approach") would enable the permitting authority to choose between the Traditional General Permit and Procedural Approaches, or to implement a combination of these approaches in issuing and authorizing coverage under a general permit. Today, EPA is issuing a rule that promulgates the "State Choice Approach" and has renamed it as the "Permitting Authority Choice Approach."

C. What is the Agency's authority for taking this action?

The authority for this rule is the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., including sections 402 and 501.

D. What are the incremental costs of this action?

The Economic Analysis estimates the incremental costs to implement the final rule. EPA assumed that all other costs accrued as a result of the existing small MS4 program, which were accounted for in the Economic Analysis accompanying the 1999 final Phase II MS4 regulations, remain the same and are not germane to the Economic Analysis, unless the rule change would affect the baseline program costs. In this respect, EPA focused only on new costs that may be imposed as a result of implementing the final rule. It is, therefore, unnecessary to reevaluate the total program costs of the Phase II rule, since those costs were part of the original economic analysis conducted for the 1999 Phase II rule (see 64 FR 68722, December 8, 1999). For further information, refer to the Economic Analysis that is included in the rule docket.

EPA estimates the annualized cost of the final rule to be between $558,025 and $604,770, depending on the assumed discount rate. This can be thought of as the annual budgeted amounts each permitting authority would need to make available each year in order to be able to cover the increase in permitting authority efforts that would result every 5 years. The total net present value of the compliance cost ranges from $5.5 million to $8.4 million, depending on the assumed discount rate. These estimates are all below the threshold level established by statute and various executive orders for determining that a rule has an economically significant or substantial impact on affected entities. See further discussion in Section X of this preamble.

The Economic Analysis assumes that permitting authorities are the only entities that are expected to be impacted from this rule because the requirements modified by the rule focus only on the administrative manner in which general ***89322** permits are issued and how coverage under those permits is granted. EPA emphasizes that this final rule does not change the stringency of the underlying requirements in the statute or Phase II regulations to which small MS4 permittees are subject, nor does it establish new substantive requirements for MS4 permittees. Therefore, the Economic Analysis does not attribute new costs to regulated small MS4s beyond what they are already subject to under the statute and Phase II regulations. EPA acknowledges that many permitting authorities consider permitting a cost-neutral function, therefore some may increase permit fees to cover the increased costs associated with this rule.

EPA used conservative assumptions about impacts on state workloads, meaning that the actual economic costs of complying with the final rule and implementing any new procedural changes are most likely lower than what is actually presented. EPA considers the cost assumptions to be conservative because as more permitting authorities issue general permits consistent with the new rule, other permitting authorities can use and build on those examples, reducing the amount of time it takes to draft the permit requirements, and permitting authorities will likely learn from experience as

they move forward how to work more efficiently to issue and administer their general permits. EPA has issued guidance to permitting authorities on how to write better MS4 permits (MS4 Permit Improvement Guide (EPA, 2010); Compendium of MS4 Permitting Approaches—Part 2: Post Construction Standards (EPA, 2016); Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016)), and additional examples of permit provisions that are written in a "clear, specific, and measurable" manner for the six minimum control measures are included in the preamble to this rule. EPA also anticipates issuing further guidance once the rule is promulgated to assist permitting authorities in implementing the new rule requirements, which will in turn hopefully make permit writing more efficient. These gained efficiencies were not, however, accounted for in the option-specific cost assumptions.

II. Background

A. Statutory and Regulatory Overview

Stormwater discharges are a significant cause of water quality impairment because they can contain a variety of pollutants such as sediment, nutrients, chlorides, pathogens, metals, and trash that are mobilized and ultimately discharged to storm sewers or directly to water bodies. Furthermore, the increased volume and velocity of stormwater discharges that result from the creation of impervious cover can alter streams and rivers by causing scouring and erosion. These surface water impacts can threaten public health and safety due to the increased risk of flooding and increased level of pollutants; can lead to economic losses to property and fishing industries; can increase drinking water treatment costs; and can decrease opportunities for recreation, swimming, and wildlife uses.

Stormwater discharges are subject to regulation under section 402(p) of the CWA. Under this provision, Congress required the following stormwater discharges initially to be subject to NPDES permitting requirements: Stormwater discharges for which NPDES permits were issued prior to February 4, 1987; discharges "associated with industrial activity"; discharges from MS4s serving populations of 100,000 or more; and any stormwater discharge determined by EPA or a state to "contribute . . . to a violation of a water quality standard or to be a significant contributor of pollutants to waters of the United States." Congress further directed EPA to study other stormwater discharges and determine which needed additional controls. With respect to MS4s, section 402(p)(3)(B) provides that NPDES permits may be issued on a system-wide or jurisdiction-wide basis, and requires that MS4 NPDES permits "include a requirement to effectively prohibit non-stormwater discharges into the storm sewers" and require "controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

EPA developed the stormwater regulations under section 402(p) of the CWA in two phases, as directed by the statute. In the first phase, under section 402(p)(4) of the CWA, EPA promulgated regulations establishing application and other NPDES permit requirements for stormwater discharges from medium (serving populations of 100,000 to 250,000) and large (serving populations of 250,000 or more) MS4s, and stormwater discharges associated with industrial activity. EPA published the final Phase I rule on November 16, 1990 (55 FR 47990). The Phase I rule, among other things, defined "municipal separate storm sewer" as publicly-owned conveyances or systems of conveyances that discharge to waters of the U.S. and are designed or used for collecting or conveying stormwater, are not combined sewers, and are not part of a publicly-owned treatment works at § 122.26(b)(8). EPA included construction sites disturbing five acres or more in the definition of "stormwater discharges associated with industrial activity" at § 122.26(b)(14)(x).

In the second phase, section 402(p)(5) and (6) of the CWA required EPA to conduct a study to identify other stormwater discharges that needed further controls "to protect water quality," report to Congress on the results of the study, and to designate for regulation additional categories of stormwater discharges not regulated in Phase I on the basis of the study and in consultation with state and local officials. EPA promulgated the Phase II rule on December 8, 1999, designating discharges from certain small MS4s and from small construction sites (disturbing equal to or greater than one acre and less than five acres) and requiring NPDES permits for these discharges (64 FR 68722, December 8, 1999). A regulated small MS4 is generally defined as any MS4 that is not already covered by the Phase I program and that is located

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within the urbanized area boundary as determined by the latest U.S. Decennial Census. Separate storm sewer systems such as those serving military bases, universities, large hospitals or prison complexes, and highways are also included in the definition of "small MS4." See § 122.26(b)(16). In addition, the Phase II rule includes authority for EPA (or states authorized to administer the NPDES program) to require NPDES permits for currently unregulated stormwater discharges through a designation process. See § 122.26(a)(9)(i)(C) and (D). Other small MS4s located outside of an urbanized area may be designated as a regulated small MS4 if the NPDES permitting authority determines that its discharges cause, or have the potential to cause, an adverse impact on water quality. See §§ 122.32(a)(2) and 123.35(b)(3).

B. MS4 Permitting Requirements

The Phase I regulations are primarily comprised of requirements that must be addressed in applications for individual permits from large and medium MS4s. The regulations at § 122.26(d)(2)(iv) require these MS4s to develop a proposed stormwater management program (SWMP), which is considered by EPA or the authorized state permitting authority when establishing permit conditions to reduce pollutants to the "maximum extent practicable" (MEP).

***89323** Like the Phase I rule, the Phase II rule requires regulated small MS4s to develop and implement SWMPs. The regulations at § 122.34(a) requires that SWMPs be designed to reduce pollutants discharged from the MS4 "to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act," and requires that the SWMPs include six "minimum control measures." The minimum control measures are: Public education and outreach, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, pollution prevention and good housekeeping. See § 122.34(b). Under the Phase II rule, a regulated small MS4 may seek coverage under an available general permit or may apply for an individual permit. To be authorized to discharge under a general permit, the rule requires submission of a Notice of Intent (NOI) to be covered by the general permit containing a description of the best management practices (BMPs) to be implemented and the measurable goals for each of the BMPs, including timing and frequency, as appropriate. See §§ 122.33(a)(1), 122.34(d)(1).

EPA anticipated that under the first two or three permit cycles, whether required in individual permits or in general permits, BMP-based controls implementing the six minimum control measures would, if properly implemented, "be sufficiently stringent to protect water quality, including water quality standards, so that additional, more stringent and/or more prescriptive water quality based effluent limitations will be unnecessary." (64 FR 68753, December 8, 1999). In the final Phase II rule preamble, EPA also stated that it "has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis. . . . Therefore, each permittee will determine appropriate BMPs to satisfy each of the six minimum control measures through an evaluative process." (64 FR 68754, December 8, 1999).

The agency described the approach to meet the MS4 permit standard in the preamble to the Phase II rule as an "iterative process" of developing, implementing, and improving stormwater control measures contained in SWMPs. As EPA further stated in the preamble to the Phase II rule, "MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. . . . If, after implementing the six minimum control measures there is still water quality impairment associated with discharges from the MS4, after successive permit terms the permittee will need to expand or better tailor its BMPs within the scope of the six minimum control measures for each subsequent permit." (64 FR 68754, December 8, 1999).

C. Judicial Review of the Phase II Rule and Partial Remand

The Phase II rule was challenged in petitions for review filed by environmental groups, municipal organizations, and industry groups, resulting in a partial remand of the rule. Environmental Defense Center v. U.S. Environmental Protection Agency, 344 F.3d. 832 (9th Cir. 2003) (EDC). The court remanded the Phase II rule's provisions for small MS4

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general permits because they lacked procedures for permitting authority review and public notice and the opportunity to request a hearing on NOIs submitted under general MS4 permits.

In reviewing how the Phase II rule provided for general permit coverage for small MS4s, the court found that the way in which NOIs function under the rule was not the same as in other NPDES general permits. Other general permits contain within the body of the general permit the specific effluent limitations and conditions applicable to the class of dischargers for which the permit is available. In this situation, authorization to discharge under a general permit is obtained by filing an NOI in which the discharger agrees to comply with the terms of the general permit and in which the operator provides some basic information (e.g., site location, receiving waters) to help determine eligibility. In contrast, the court held that under the Phase II rule, because the NOI submitted by the MS4 contains the information describing what the MS4 will do to reduce pollutants to the MEP, it is the "functional equivalent" of an individual permit application. See EDC, 344 F.3d. at 857. Because the CWA requires public notice and the opportunity to request a public hearing for all permit applications, the court held that failure to require public notice and the opportunity for a public hearing for NOIs under the Phase II rule is contrary to the Act. See EDC, 344 F.3d. at 858.

Similarly, the court found the Phase II rule allows the MS4 to identify the BMPs that it will undertake in its SWMP without any permitting authority review. The court held that the lack of review "to ensure that the measures that any given operator of a small MS4 has decided to undertake will in fact reduce discharges of pollutants to the maximum extent practicable" also does not comport with CWA requirements. The court stated, "That the Rule allows a permitting authority to review an NOI is not enough; every permit must comply with the standards articulated by the Clean Water Act, and unless every NOI issued under general permit is reviewed, there is no way to ensure that such compliance has been achieved." See EDC, 344 F.3d. at 855 n.32. The court therefore vacated and remanded "those portions of the Phase II Rule that address these procedural issues . . . so that EPA may take appropriate action to comply with Clean Water Act." See EDC, 344 F.3d. at 858.

III. Summary of the Proposed Rule and Comments Received

A. Scope of the Proposed Rule

EPA proposed revisions to the Phase II MS4 NPDES permitting requirements on January 6, 2016 (81 FR 415) to respond to the Ninth Circuit's remand in Environmental Defense Center v. U.S. Environmental Protection Agency, 344 F.3d. 832 (9th Cir. 2003). To address the remand, the regulations must ensure that permitting authorities determine what permit requirements are needed to reduce pollutants from each permitted small MS4 "to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act" (referred to hereinafter as the "MS4 permit standard"). The rule must also require NPDES permitting authorities to provide the public with the opportunity to review, submit comments, and request a public hearing on these permit requirements. EPA did not propose modifications to any of the substantive requirements that were promulgated in the Phase II rule (nor did EPA reopen or seek comment on any aspect of the Phase I rule, which was described in the preamble of the proposed rule for informational purposes only).

In the remand decision, the court established in broad and clear terms what is needed for general permits that cover regulated small MS4s and therefore provided EPA with what minimum attributes should be part of any revisions to the Phase II regulations. The court stated that "every permit must comply with the standards articulated by the Clean Water Act, and ***89324** unless every NOI issued under a general permit is reviewed, there is no way to ensure that such compliance has been achieved." See EDC, 344 F.3d at 855, n. 32. In the court's view, the NOI served as the document that established how the MEP standard would be met: "Because a Phase II NOI establishes what the discharger will do to reduce discharges to the 'maximum extent practicable,' the Phase II NOI crosses the threshold from being an item of procedural correspondence to being a substantive component of a regulatory scheme." See EDC, 344 F.3d at 853. Since review of the NOI by the permitting authority was not specified in the regulation, and § 122.34(a) stated that compliance with the storm water management program developed by the permittee constituted compliance with the MEP standard,

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the court also expressed concern that the regulation put the MS4 in charge of establishing its own requirements. "[U]nder the Phase II Rule nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable." See EDC, 344 F.3d at 855. Further, the court found that the failure to require public notice or opportunity to submit comments or request a public hearing for each NOI violated requirements applicable to all CWA permits in accordance with section 402(b)(3). See EDC, 344 F.3d at 857.

B. Description of Options Proposed

EPA proposed for comment the following three options to address the regulatory shortcomings found in the remand decision.

1. Option 1 ("Traditional General Permit Approach")

Under the proposed Traditional General Permit Approach, the permitting authority must establish in any small MS4 general permit the full set of requirements that are deemed necessary to meet the MS4 permit standard ("reduce pollutants to the maximum extent practicable, protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act"), and the administrative record would include an explanation of the rationale for its determination. (This approach contrasts with the original regulations, which appeared to the court to provide the permittee with the ability to establish its own requirements.) Once the permit is issued, and the terms and conditions in the permit are fixed for the term of the permit, neither the development of a SWMP document nor the submittal of an NOI for coverage would represent new permit requirements. Thus, because the permit contains all of the requirements that will be used to assess permittee compliance, the permitting authority would no longer need to rely on the MS4's NOI as the mechanism for ascertaining what will occur during the permit term. Under this approach, the function of the NOI would be more similar to that of any other general permit NOI, and more specifically other stormwater general permits, whereby the NOI is used to establish certain minimum facts about the discharger, including the operator's contact details, the discharge location(s), and confirmation that the operator is eligible for permit coverage and has agreed to comply with the terms of the permit. By removing the possibility that effluent limits could be proposed in the NOI (and for that matter in the SWMP) and made part of the permit once permit coverage is provided, the NOI would no longer look and function like an individual permit application, as the court found with respect to MS4 NOIs under the Phase II regulations currently in effect. Therefore, it would not be necessary to carry out the type of additional permitting authority review and public participation procedures contemplated by the Ninth Circuit court in the remand decision. These requirements would be met during the process of issuing the general permit.

2. Option 2 ("Procedural Approach")

Under the proposed Procedural Approach, the permitting authority would establish applicable permit requirements to meet the MS4 permit standard by going through a second permitting step following the issuance of the general permit (referred to as the "base general permit"), similar to the procedures used to issue individual NPDES permits. Eligible MS4 operators would be required to submit NOIs with the same information that has always been required under the Phase II regulations, that is, a description of the BMPs to be implemented by the MS4 operator during the permit term, and the measurable goals associated with each BMP. Following the receipt of the NOI, the permitting authority would review the NOI to assess whether the proposed BMPs and measurable goals meet the MS4 permit standard. If not, the permitting authority would request supplemental information or revisions as necessary to ensure that the submission satisfies the regulatory requirements. Once satisfied with the submission, the permitting authority would be required to propose incorporating the BMPs and measurable goals in the NOI as permit requirements and to provide public notice of the NOI and an opportunity to submit comments and to request a hearing in accordance with §§ 124.10 through 124.13. After consideration of comments received and a hearing, if held, the permitting authority would provide notice of its decision to authorize coverage under the general permit, along with any MS4-specific requirements established during

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this second process. Upon completion of this process, the MS4 would be required to comply with the requirements set forth in the base general permit and the additional terms and conditions established through the second-step process.

3. Option 3 ("State Choice Approach")

The proposed rule also requested comment on a State Choice Approach, which would allow permitting authorities to choose either the Traditional General Permit Approach or the Procedural Approach, or some combination of the two as would best suit their needs and circumstances. As described in the proposed rule, the permitting authority could, for example, choose to use Option 1 for small MS4s that have fully established programs and uniform core requirements, and Option 2 for MS4s that it finds would benefit from the additional flexibility to address unique circumstances, such as those encountered by non-traditional MS4s (e.g., state departments of transportation, public universities, military bases). Alternatively, a state could apply a hybrid of the two approaches within one permit by defining some elements within the general permit, which, consistent with the Option 1 approach, are deemed to meet the MS4 permit standard, and establishing additional permit requirements through the Option 2 procedural approach for each MS4 seeking coverage under the General Permit. Under a hybrid approach, any requirements established in the general permit that fully articulate what is required to meet the MS4 permit standard would require no further permitting authority review and public notice proceedings; however, for any terms and conditions established for individual MS4s based in part on information submitted with the NOI would need to follow the Option 2 approach for incorporating these requirements into the permit as enforceable requirements.

89325** ***C. General Summary of Comments Received

EPA received about 70 unique comments on the proposed rule from the MS4 community, states, environmental groups, industry associations, and engineering firms. Most commenters favored Option 3—the "State Choice" option. While several expressed support for their states using the Traditional General Permit or Procedural Approach, a number of these same commenters acknowledged that these approaches would likely not work in all situations if EPA were to adopt either one as the sole option under the final rule. EPA notes that while most of the environmental organization commenters expressed support for a hybrid option, which technically falls under the State Choice option, they also strongly recommended mandating that the Traditional General Permit Approach be used for permit requirements related to the six minimum control measures and that the Procedural Approach be used for water quality-based requirements, such as requirements for implementing total maximum daily loads (TMDLs).

A common reason given for supporting the State Choice approach included the flexibility it would give authorized states to use different options to address different situations and that it would minimize disruption to existing programs. Several states that now use a traditional general permit approach or a procedural approach stressed the importance of providing choices for other states. EPA notes that no commenter expressly opposed the State Choice approach. EPA discusses these comments in the context of its decision to adopt the State Choice approach in the final rule in Section IV of the preamble below.

EPA received a significant number of comments concerning its proposed changes to the way in which permit terms and conditions must be expressed, particularly with respect to the proposed deletion of the word "narrative" in § 122.34(a). These comments focused on the concern that EPA was moving away from support of the use of BMPs to comply with stormwater permits and from the longstanding "iterative approach" to meeting MS4 permit requirements. EPA discusses these comments and the changes made in response to these comments in the final rule in Section V of the preamble.

In addition to responding to major comments in the preamble, EPA has prepared a Response to Comment document, which can be found in the docket for this rulemaking.

IV. Summary of the Final Rule

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A. Selection of the "Permitting Authority Choice" Approach

EPA is selecting proposed Option 3 (the "State Choice Approach") for the final rule, described in Section III.B.3. The new name for this option better captures the universe of entities that will implement the rule, i.e., any NPDES permitting authority including EPA Regions and authorized states. Under this approach, the NPDES permitting authority may choose between two alternative means of establishing permit requirements in general permits for small MS4s. The final rule amends § 122.28(d) to require permitting authorities to choose one of these two types of general permits whenever issuing a small MS4 general permit. Permitting authorities are required to select either the "Comprehensive General Permit" or "Two-Step General Permit". The "Comprehensive General Permit" is essentially the "Traditional General Permit", or "Option 1", from the proposed rule. The "Two-Step General Permit" encompasses both the "Procedural Approach", or "Option 2" and the "hybrid approach" that was described as part of "Option 3" from the proposed rule. The Two-Step General Permit allows the permitting authority to establish some requirements in the general permit and others applicable to individual MS4s through a second proposal and public comment process.

B. Description of the Two Permitting Alternatives Under the Permitting Authority Choice Approach

As described in Section IV.A, the Permitting Authority Choice Approach requires permitting authorities to choose between two alternative approaches to issue general permits for small MS4s. These two types of general permits are described briefly as follows:

• Comprehensive General Permit—For this type of general permit, the permitting authority issues a small MS4 general permit that includes the full set of requirements necessary to meet the MS4 permit standard of "reducing pollutant discharges from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the CWA." Under the Comprehensive General Permit, all requirements are contained within the general permit, and no additional requirements are established after permit issuance, as is the case with the "Two-Step General Permit" described below. For this reason, to provide coverage to eligible small MS4s, the permitting authority can use a traditional general permit NOI as described in § 122.28(b)(2)(ii), and does not need to require additional information from each operator concerning how they will comply with the permit, for instance the BMPs that will be implemented and the measurable goals for each control measure, as a prerequisite to authorizing the discharge. See further discussion of the role of the NOI in Section IV.E.

• Two-Step General Permit (combination of the proposed Procedural and Hybrid Approaches)— For the Two-Step General Permit, after issuing a base general permit, the permitting authority establishes through the completion of a second permitting step additional permit terms and conditions that are necessary to meet the MS4 permit standard for each MS4 seeking authorization to discharge under the general permit. These additional terms and conditions supplement the requirements of the general permit for individual MS4 permittees. It is in the second permitting step where the permitting authority satisfies its obligation to review the NOI for adequacy, determine what additional requirements are needed for the MS4 to meet the MS4 permit standard, and provide public notice and an opportunity for the public to submit comments and to request a hearing. See discussion of the second permitting step in Section V.B. Upon completion of this process, the MS4 permittee is authorized to discharge subject to the terms of the general permit and the additional requirements that apply individually to that MS4.

The Two-Step General Permit encompasses the "hybrid" approach described in the proposed rule (see Section VI.C), where the permitting authority includes specific permit terms and conditions within the base general permit, but also establishes additional requirements to meet the MS4 permit standard through a second permitting step. For the final rule, EPA intentionally used rule language that would enable permitting authorities to use a Two-Step General Permit to implement a hybrid approach by referring to both "required permit terms and conditions in the general permit applicable to all eligible small MS4s" and "additional terms and conditions to satisfy one or more of the permit requirements in § 122.34 for individual small MS4 operators." See § 122.28(d)(2).

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The final rule requires that the permitting authority indicate which ***89326** type of general permit it is using for any small MS4 general permit. This statement or explanation may be included in the general permit itself or in the permit fact sheet. EPA notes that the permitting authority may choose to change the permitting approach for subsequent permits. Questions concerning when the final rule change takes effect are discussed in Section VIII.A.

C. Summary of Regulatory Changes To Adopt the Permitting Authority Choice Approach

The final rule implements the Permitting Authority Choice option in several different sections of the NPDES regulations. Below is a brief summary of the most significant changes and where they can be found in the final rule:

• Permitting Authority Choice Approach (§ 122.28(d)): The final rule adds a new paragraph (d) to § 122.28 that requires the permitting authority to select between two alternative general permits. This section describes both types of general permits (the "Comprehensive General Permit" and the "Two-Step General Permit") and the minimum requirements associated with each. EPA chose to include the Permitting Authority Choice in a different section of the regulations than was proposed. EPA determined upon further consideration that rather than including all of the requirements within the application and NOI section of the Phase II regulations now at § 122.33, the two alternatives comprising the Permitting Authority Choice Approach fit better within the general permit regulations as a unique set of requirements affecting general permits for regulated small MS4s.

• Changes to the NOI requirements (§ 122.33): The final rule includes modifications to the requirements for what must be included in NOIs submitted for coverage under small MS4 general permits. The required contents of the NOI vary depending on the type of general permit used. For permitting authorities choosing a Comprehensive General Permit, the final rule enables the permitting authority to reduce the information required in NOIs to the minimum information required for any general permit NOI in § 122.28(b)(2)(ii). See § 122.33(b)(1)(i). For permitting authorities choosing the Two-Step General Permit, the final rule provides the permitting authority with the ability to determine what information it deems necessary to establish individual requirements for MS4 operators that meet the MS4 permit standard. See § 122.33(b)(1)(ii), and additional discussion of these and other changes to § 122.33 in Section V.D.1.

• Clarifications to the requirements for small MS4 permits (§ 122.34): Regardless of the permitting approach chosen by the NPDES authority, the terms and conditions of the resulting general permits must adhere to the requirements of § 122.34. The final rule retains modifications from the proposed rule that clarify that it is the permitting authority's responsibility, and not that of the small MS4 permittee, to establish permit terms and conditions that meet the MS4 regulatory standard and to delineate the requirements for implementing the six minimum control measures, other terms and conditions deemed necessary by the permitting authority to protect water quality, as well as any other requirement. The final rule also emphasizes that permit requirements must be expressed in "clear, specific, and measurable" terms. These modifications do not alter the existing, substantive requirements of the six minimum control measures in § 122.34(b). See further discussion of these changes in Section VI.

D. Commonalities Among the Two Types of General Permits

The two options available to the permitting authority under the final rule involve different steps and require differing levels of administrative oversight; however, at a basic level, they share the same underlying characteristics. Each type of general permit shares in common that through the permitting process, the permitting authority must determine which requirements a small MS4 must meet in order to satisfy the MS4 permit standard. Both types of general permits also require that the specific actions that comprise what is necessary to meet the MS4 permit standard be established through the permitting process. The key distinction between the two types of permits is that they establish permit terms and conditions at different points in time during the permitting process. For Comprehensive General Permits, the determination as to what requirements are needed to satisfy the MS4 permit standard is made as part of the issuance of the general permit. By contrast, for Two-Step General Permits, the permitting authority makes this determination both

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in the process of issuing the general permit and in the process of establishing additional permit requirements applicable on an individual basis to each MS4 covered under the general permit, based on information in the NOI.

The final rule also places both types of general permits on a level playing field with respect to the requirements that must be addressed in any general permit issued to a small MS4. Regardless of which type of general permit is used to establish permit terms and conditions, every small MS4 general permit must include requirements that address the minimum control measures (§ 122.34(b)), water quality-based requirements where needed (§ 122.34(c)), and evaluation and assessment requirements (§ 122.34(d)). The final rule clarifies that all such terms and conditions must be expressed in terms that are "clear, specific, and measurable." The important attribute here is that permit requirements must be enforceable, and must provide a set of performance expectations and schedules that are readily understood by the permittee, the public, and the permitting authority alike. For both types of general permits, requirements may be expressed in narrative or numeric form, as long as they are clear, specific, and measurable. This requirement for clear, specific, and measurable requirements applies to any permit term or condition established under § 122.34, including requirements addressing the minimum control measures, any water quality-based requirements, and the evaluation, recordkeeping, and reporting requirements. Section VII of this preamble contains a detailed discussion about establishing permit terms and conditions.

Importantly, the final rule also ensures that the process for issuing both types of general permit addresses the deficiencies found by the Ninth Circuit to exist in the Phase II regulations. While the court's opinion focused on the role of the NOI in the Phase II rule for MS4 general permits, the court made it clear that under the CWA, the permitting authority must determine which MS4 permit requirements are adequate to meet the MS4 permit standard, and that the public must have the opportunity to review and comment on those permit requirements and to request a hearing. All of these core CWA requirements are present in the final rule. For Comprehensive General Permits, once the permit is issued it has gone through permitting authority review, public notice and comment, and the opportunity to request a hearing. Permitting authority review and public comment and opportunity for a hearing occurs in the process of drafting permit conditions and soliciting comment on the draft general permit. Permitting authority determination of what an MS4 must do to meet the MS4 permit standard occurs in the process of issuing ***89327** the final permit after consideration of comments. By comparison, for Two-Step General Permits, permitting authority review, public notice and comment, and the opportunity to request a hearing occur first on the draft general permit and again on the additional terms and conditions applicable to each MS4 authorized to discharge under the general permit. Under the Two-Step process, the CWA requirements for permitting authority review and public comment and opportunity for hearing are only fully addressed after the completion of the discharge authorization process for each individual small MS4 operator seeking coverage under the general permit. To ensure that these CWA requirements are met, the final rule supplements the administrative steps necessary to issue the base general permit with procedures that ensure that any decision to authorize an individual MS4 to discharge based on information included in the NOI is subject to review by the permitting authority, and the public has the opportunity to review and submit comments, and to request a hearing on the terms and conditions that will be incorporated as enforceable permit terms.

E. Role of the NOI Under the Permitting Authority Choice Approach

The two permitting options available under the final rule include important changes in the relationship between the MS4 operator's NOI and the general permit. Under the 1999 Phase II regulations, any MS4 operator seeking coverage under a small MS4 general permit has been required to submit information in the NOI describing, at a minimum, the BMPs that would be implemented for each minimum control measure during the permit term, and the measurable goals associated with each BMP. These NOIs differ significantly from the typical general permit NOI, which is required to include far less information, and "represents no more than a formal acceptance of [permit] terms elaborated elsewhere" in the general permit. See EDC, 344 F. 3d. at 852. Under the NPDES regulations at § 122.28(b)(2)(ii), the NOI is a procedural mechanism to document operator eligibility, to certify that the information submitted by the operator is accurate and truthful, and to confirm the operator's intention to be covered by the terms and conditions of the general permit.

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The Ninth Circuit court, in its remand decision, likened the NOI under the remanded regulations to being "functionally equivalent to a detailed application for an individualized permit," since the MS4 operator was in essence proposing to the permitting authority what it intended to accomplish to satisfy the MS4 permit standard. The court found it to differ markedly from the NOI utilized for most general permits, that is, limited to "an item of procedural correspondence." 344 F. 3d. at 853. The similarity in the court's view between the NOI under the Phase II regulations and an individual permit application, combined with the failure of the regulations to require permitting authority review or to provide the opportunity for the public to comment and request a hearing on the NOI, were key factors in the Ninth Circuit finding that the regulations had violated the CWA.

The final rule modifies the way in which the NOI functions in important respects so that it addresses the problems found by the Ninth Circuit. For a Comprehensive General Permit, because the permit contains all of the requirements that will be used to assess permittee compliance, the permitting authority no longer needs to rely on the MS4's NOI as the mechanism for ascertaining what will occur during the permit term. In this way, the function of the NOI is the same as that of any other general permit NOI, and more specifically other stormwater general permits, where the NOI is used to establish certain minimum facts about the discharger, including the operator's contact details, the discharge location(s), and confirmation that the operator is eligible for permit coverage and has agreed to comply with the terms of the permit. It is for this reason, therefore, that the final rule establishes no additional requirements for the information required to be included in NOIs beyond what is already required for other general permits in § 122.28(b)(2)(ii). See § 122.33(b)(1) in the final rule. By removing the possibility that permit requirements could be proposed in the NOI (or in the SWMP) and made part of the permit once permit coverage is provided under the Comprehensive General Permit approach, the NOI will no longer look and function like an individual permit application, as the court found with respect to MS4 NOIs under the original Phase II regulations. Similarly, because the NOI no longer bears the similarity of an individual permit application, it is no longer necessary to carry out the type of additional permitting authority review and public participation steps contemplated by the Ninth Circuit.

By contrast, for coverage under a Two-Step General Permit, the NOI needs to include information to assist the permitting authority in developing the additional permit requirements for each permittee. For this NOI, the permitting authority requires more detailed information from the MS4 operator so that it can determine what additional permit terms and conditions are necessary in order to satisfy the MS4 permit standard. The NOI in the Two-Step General Permit is likely to include much of the same information that has been required of MS4 operators under the regulations since they were promulgated in 1999. The major difference now is that the permitting authority reviews the NOI materials to determine what additional permit terms and conditions are necessary for the individual MS4 to meet the MS4 permit standard, and to provide an opportunity for the public to comment and request a hearing on this determination.

The proposed rule would have required the full set of information required for individual permit applications in § 122.33(b)(2)(i), including the proposed BMPs to be implemented for the minimum control measures, measurable goals for each BMP (as required by § 122.34(d) of the original regulations), the persons responsible for implementing the stormwater management program, the square mileage served by the MS4, and any other information deemed necessary. In the final rule, EPA is taking a slightly different approach and giving the permitting authority the flexibility to determine what information it needs to request in its Two-Step General Permit NOI rather than requiring by default that all of the individual permit application information be submitted. This will give the permitting authority the ability to request what information it needs to establish the necessary additional terms and conditions for each individual MS4 to meet the MS4 permit standard. If the permitting authority needs information from all of its MS4s on the BMPs and measurable goals they propose for the permit term in order to establish suitable permit requirements, then it has the discretion to require this information. See §§ 122.28(d)(2)(i) and 122.33(b)(1)(ii), which states that the information requested by the permitting authority "may include, but is not limited to, the information required under § 122.33(b)(2)(i)."

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Alternatively, under the final rule, if the general permit terms and conditions already define what is required to meet the MS4 permit standard for several of the minimum control measures then the permitting authority could decide that it is no longer necessary to require the submittal of information on the BMPs and measurable goals associated with ***89328** those minimum control measures. As noted by a commenter, requiring information from MS4s related to permit terms and conditions that have already been established is likely to be redundant and represent an unnecessary burden. At the same time, the permitting authority must be able to obtain sufficient information to establish clear, specific, and measurable permit terms and conditions. Under the final rule, there is no minimum requirement with respect to what information is needed. In short, the permitting authority must request the information it needs to be able to make an informed decision when establishing clear, specific, and measurable permit terms and conditions for the permittee to ensure that it will meet the MS4 permit standard. The final rule enables the permitting authority to determine what the right amount of information is needed to meet this requirement.

F. Permitting Authority Flexibility To Choose the Most Suitable Approach

The final rule provides permitting authorities with full discretion to choose which option is best suited for its permitting needs and specific circumstances. While there are significant considerations, advantages, and disadvantages to selecting either of the two permitting approaches, EPA is leaving the decision of which method to adopt for each general permit up to the permitting authority. In providing full discretion to the permitting authority to choose which approach to use, EPA agreed with commenters that recommended against adopting conditions or constraints on the selection of either of the two options. EPA also expects that the decision as to which approach to adopt for any given small MS4 general permit may change from one permit term to the next. Therefore, if the permitting authority elects to issue its next general permit by implementing the “Comprehensive General Permit Approach” there is nothing preventing the permitting authority from switching approaches to the “Two-Step General Permit Approach” in subsequent permit terms, or vice versa.

EPA requested comment on whether the agency should constrain the permitting authority's discretion under Option 3 by requiring the use of the “Traditional General Permit Approach” (now the “Comprehensive General Permit”) for some types of permit terms and conditions, while allowing the “Procedural Approach (now the “Two-Step General Permit”) to be used for other requirements. Several commenters recommended that EPA require permitting authorities to use the proposed “Traditional General Permit Approach” to establish permit requirements for the minimum control measures in § 122.34(b) and to allow the use of the proposed “Procedural Approach” for the establishment of water quality-based effluent limits, such as those implementing total maximum daily loads (TMDLs). EPA refers to this approach below as a “fixed hybrid approach.” Other commenters were opposed to a fixed hybrid approach and urged EPA to provide permitting authorities with maximum discretion to choose which option works best without stipulating which option must be used for specific types of permit requirements.

After consideration of these comments, EPA has determined that it is unnecessary to mandate which permitting approach is used for specific types of requirements. Primarily, EPA does not wish to prejudge what approach permitting authorities use to arrive at clear, specific, and measurable requirements that result in achieving the MS4 permit standard. As an overall matter, EPA views both of the approaches in the final rule as equally valid ways of establishing the required permit terms and conditions and meeting the remand requirements.

Having said this, however, EPA recognizes that some types of requirements are more easily established through the general permit than others. For instance, clear, specific, and measurable permit requirements that address the minimum control measures, due to their broad applicability to all MS4s, may be easier to develop and include within the general permit, than requirements addressing TMDLs. EPA's MS4 Permit Improvement Guide (EPA, 2010) and the MS4 permit compendia [FN1] provide a number of ready examples for how permits may establish clear, specific, and measurable requirements that implement the six minimum control measures. On the other hand, the necessarily site- and watershed-specific nature of TMDLs, combined with the fact that effective implementation of TMDLs is enhanced through involvement of the public at the local level, makes these types of requirements more amenable to being developed through the procedural requirements of the second permitting step within the Two-Step General Permit. To illustrate this point,

a number of states have already adopted approaches that enable the MS4s to first develop and propose something like a TMDL implementation plan, followed by a step where the state permitting authority reviews and approves the plan to make it an enforceable part of the permit. See related examples in EPA's Compendium of MS4 Permitting Approaches —Part 3: Water Quality-Based Requirements (EPA, 2016).[FN2] In this situation, under the final rule, the permitting authority would establish the MS4's TMDL implementation requirements as part of the second step of the general permit and follow the procedures applicable to the Two-Step General Permit in § 122.28(d)(2).

EPA anticipates that some permitting authorities may over time appreciate the benefits of not having to go through a second process step for individual review and individualized public notices for each MS4, and may as an alternative choose to establish the required permit terms and conditions necessary to meet the MS4 permit standard in the general permit. Under the Two-Step General Permit, the permitting authority must provide public notice for each MS4's NOI and the proposed additional permit terms and conditions to be applied to the MS4, and review and process comments and any requests for a public hearing before finalizing the permit terms and conditions. By comparison, there is only one public notice for an opportunity to comment and request a hearing for a Comprehensive General Permit. Even if deciding that a Comprehensive General Permit is not the best fit, some permitting authorities may find it easier over time to move more requirements into the base general permit so that the number of permitting provisions subject to the additional individualized review and public notice is reduced.

G. Why EPA Did Not Choose Proposed Option 1 or 2 as Stand-Alone Options

By adopting the proposed State Choice Approach (Option 3) (now called the "Permit Authority Choice Approach") for the final rule, EPA is making a decision to not adopt Option 1 (the "Traditional General Permit Approach") or Option 2 (the "Procedural Approach") from the proposal as the sole approach by which permitting authorities issue and administer their small MS4 general permits. As stated in Section V.B., the public comments were heavily in favor of adopting Option 3, although there were also proponents for finalizing ***89329** proposed Option 1 and for finalizing an approach that would require use of proposed Option 1 for the minimum control measures and proposed Option 2 for water quality-based requirements. EPA ultimately found most persuasive the comments arguing in favor of choosing Option 3 to give permitting authorities flexibility and discretion to determine how it would develop different permit requirements.

A major theme among comments favoring Option 3 was the emphasis on the flexibility it would provide permitting authorities to choose which approach works best in their state. This flexibility will be important, according to a number of commenters, to continue to be able to administer a program that includes local governments with divergent geography, land resources and uses, and financial and resource capacities. According to a number of commenters, Option 3 would also give permitting authorities a range of options for crafting permit conditions for non-traditional MS4s (e.g., universities, hospitals, military bases, road and highway systems), which in many cases require different types of permit provisions than traditional MS4s due to their lack of regulatory, land use, and/or police powers and more limited audiences. Other comments focused on the significant burden that would be placed on states and regulated MS4s if required to adopt one uniform approach, especially in cases where the permitting authority is already implementing approaches that are similar to either proposed Option 1 or 2. In some cases, the way in which permitting authorities write and administer their small MS4 general permits is a direct result of state case law or concern about the risk of state litigation, and these states argue forcefully in their comments about the importance of retaining their approach in light of this history. According to these comments, those permitting authorities that have chosen one or the other of Option 1 or 2 should be able to continue implementing that approach.

Another related common theme among the comments was an argument against adopting either proposed Option 1 or Option 2 as a national, one size fits all approach. These comments emphasized the difficulties associated with forcing all permit terms and conditions into one general permit for all MS4 types and all water quality considerations using the proposed Option 1 approach, and underscored the resource demands associated with implementing an Option 2

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approach. Many of these commenters concluded that Option 3 would be the best way of preserving the permitting authority's flexibility to tailor their approach based on what would work best for each state's circumstances.

Based on these comments, EPA chose Option 3, the Permitting Authority Choice option, because both options are valid ways of addressing the court's remand and there is no reason to compel permitting authorities to adopt one or the other of the approaches in proposed Option 1 or Option 2. EPA also appreciates that those state permitting authorities that are already moving their small MS4 permitting approaches in the direction of either Option 1 or 2 are doing so for a number of legitimate reasons that relate to these states' individual circumstances. By enabling permitting authorities to choose which option works best, EPA is avoiding disrupting already established state preferences. This is not to say that permitting authorities will not have to make changes to conform their procedures to the requirements of the final rule.

EPA also received comments urging the Agency not to adopt Option 2 as the only permitting choice available to permitting authorities because of the resource burdens associated with the Option 2 approach, especially the requirement to individually review and approve terms and conditions for their small MS4s. EPA does not dispute the fact that Option 2, which has been finalized as the “Two-Step General Permit”, is resource intensive; this approach requires significant administrative oversight by design. The process of conducting an individual review of each MS4 operator's NOI, developing a proposal for comment of unique terms and conditions based on the NOI, and processing any public comments or requests for public hearings will require additional resources of the permitting authority if it is not already implementing this type of approach. Any permitting authority choosing this approach will need to carefully consider whether it has the resource capacity to handle the large amount of administrative oversight and review responsibilities that the Two-Step General Permit requires. EPA expects that the resource requirements alone will provide sufficient enough reason for a number of permitting authorities to choose the Comprehensive General Permit, or to minimize the number of terms and conditions it develops for individual MS4 to lessen the administrative burden associated with the Two-Step General Permit.

EPA understands that a permitting authority's decision to adopt the Two-Step General Permit will mean that members of the public interested in commenting on small MS4 permit conditions may end up needing to review not only the draft general permit but also the public notice that proposes the additional terms and conditions for each MS4 that seeks coverage under the general permit. Some commenters considered this a disadvantage because it would be burdensome for the public as well. EPA does not see this as sufficient reason for EPA to choose Option 1 as the only option and deprive permitting authorities of the flexibility to use a two-step procedure. The Two-Step General Permit closely resembles, after all, the approach suggested in the EDC remand decision, which emphasized the need for permitting authority review and public participation procedures prior to the establishment of enforceable permit requirements. EPA appreciates the level of interest and concern there is among the public for ensuring that MS4 discharges are being adequately controlled and are making improvements in water quality. EPA notes that any permitting authority that takes on the Two-Step permitting process will need to be prepared to review and respond to any comments that it receives in response to the individual public notices it publishes, and will need to provide a rationale for any final permit terms and conditions established through the process. While states currently using a two-step type of procedure report that they receive few, if any public comments about requirements for individual MS4s, this will not necessarily hold true for the future. With this in mind, EPA found it important to clarify in the final rule that permitting authorities may switch to a Comprehensive General Permit for the next permit term simply by explaining which option they will use to provide coverage under the general permit.

V. How the Two General Permit Options Work

A. Comprehensive General Permit Approach

Permitting authorities opting to issue Comprehensive General Permits must establish the full set of requirements that are deemed necessary to meet the MS4 permit standard in § 122.34. (See § 122.28(d)(1), which requires that “the Director includes all required permit terms and conditions in the general permit.”) The permit must therefore include terms and

conditions that define what is required to meet the MS4 permit standard for the minimum control measures (§ 122.34(b)), ***89330** additional permit terms and conditions based on an approved total maximum daily load (TMDL) or other appropriate requirements to protect water quality (§ 122.34(c)), and requirements to evaluate and report on compliance with the permit (§ 122.34(d)). As a result, the Comprehensive General Permit is no different than other general permits in that all applicable effluent limitations and other conditions are included within the permit itself, and the NOI is used primarily to determine whether a specific MS4 is eligible and to secure coverage for that MS4 under the permit subject to its limits and conditions.

While a number of comments expressed support for the proposed Option 1 approach (now called the "Comprehensive General Permit" in the final rule), there were also comments expressing concern about the difficulty of putting together a permit that would comprehensively establish terms and conditions that would be suitable for and achievable by all eligible MS4s, including both traditional and non-traditional MS4s. Others questioned the ability of permitting authorities to write a single permit that would establish uniform requirements that would contain appropriate requirements for MS4s that have been regulated since the beginning of the Phase II program as well as for MS4s brought into the Phase II program by the latest Census, not to mention a permit that would be able to establish watershed-specific requirements addressing TMDLs. EPA acknowledges the challenge that permitting authorities will face in developing and issuing a Comprehensive General Permit. Synthesizing the collective understanding of MS4 capabilities across an entire state, and translating this into effective and achievable permit requirements, will require a greater effort up front in developing one of these permits. However, as described in further detail below, there are ways of addressing challenges such as these, for example, by subcategorizing MS4s by experience, size, or other factors, and creating different requirements for each subcategory.

To assist permitting authorities in developing permit conditions for a Comprehensive General Permit, EPA has compiled examples of permit provisions from existing permits that implement the minimum control measures, which are written in a "clear, specific, and measurable" manner. These examples are included in a document entitled Compendium of MS4 Permitting Approaches—Part 1: Six Minimum Control Measure Provisions (EPA, 2016). EPA has also included in a separate compendium examples of permit provisions to consider when addressing approved TMDLs.[FN3] A number of commenters requested that EPA continue to provide these types of examples to help permitting authorities implement the final rule. EPA agrees with these comments, and plans to regularly update these compendia and provide other similar types of technical assistance.

There are a variety of permitting approaches that should be considered to address the concerns raised about developing a Comprehensive General Permit for the large number and variety of regulated MS4s, and which address the array of localized or watershed-based issues. One approach that may work is to issue two different comprehensive general permits or to subdivide the permitted universe, establish in the main body of the permit requirements that apply to all MS4s, and to provide a separate appendix that establishes MS4-specific terms and conditions, which apply uniquely to different categories of MS4s. For instance, the state of Washington has issued two MS4 general permits, one for the eastern part of the state and the other for the western part of the state. Further, the Western Washington Small MS4 General Permit includes a TMDL appendix, which establishes additional permit requirements for specific MS4s based on the watershed in which they are located and the waterbody to which they discharge. These additional requirements are each translated from the approved TMDL for that watershed and the specific waterbody. Another approach that permitting authorities can consider is to establish different requirements for each minimum control measure for separate sub-categories of MS4s based on type of MS4 or other factors.[FN4] Permits could also include separate sections for traditional versus non-traditional MS4s,[FN5] or alternatively separate permits may be issued for these different categories of MS4s, as several states are doing for departments of transportation MS4s. The main benefit of these different approaches is that they provide the permitting authority with a way of dividing up the universe of small MS4s into smaller categories, which are composed of municipalities with a greater degree of similarity among them.

B. Two-Step General Permit Approach

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Inherent in the Two-Step General Permit approach is the fact that the general permit requirements are not on their own adequate to meet the MS4 permit standard in § 122.34. In order to fill in the gaps, the permitting authority must individually review information submitted with each eligible MS4 operator's NOI, and propose additional permit requirements to apply to the MS4 individually that, together with the base general permit requirements, meet the MS4 permit standard for that MS4. These proposed additional permit requirements and the information on which it is based is then subject to public notice and comment, and the opportunity to request a hearing.

The first step of the Two-Step General Permit is to develop and issue the final small MS4 general permit, or "base general permit." The need for the second step arises because the base general permit does not include all of the terms and conditions necessary to meet the MS4 permit standard, and therefore has left the development of the additional requirements to a second process. NOIs for general permits using this approach must include more information than NOIs for typical general permits.

The proposed rule described the steps that would be involved in the second step of the permitting process in Section VI.B of the preamble (81 FR 427, January 6, 2016). EPA requested comment on modifying the applicable parts of the NPDES regulations to enable permitting authorities to incorporate additional, enforceable elements of the Two-Step General Permit for individual MS4s following a process that would require public notice, the opportunity to request a public hearing, and a final permitting determination. The model that EPA proposed for this procedure was based on several of the key components of the permitting framework adopted for Concentrated Animal Feeding Operations (CAFOs) in § 122.23(h). EPA proposed that the new "Option 2" process would be contained in § 122.33(b)(1), where the NOI requirements for small MS4 general permits are located. The proposal described the rule provisions as follows:

• At a minimum, the operator must include in the NOI the BMPs that it proposes to implement to comply with the permit, the measurable goals for each BMP, the person or persons responsible for implementing the SWMP, and any additional information ***89331** required in the NOI by the general permit. The Director must review the NOI to ensure that it includes adequate information to determine if the proposed BMPs, timelines, and any other actions are adequate to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. When the Director finds that additional information is necessary to complete the NOI or clarify, modify, or supplement previously submitted material, the Director may request such additional information from the MS4 operator.

• If the Director makes a preliminary determination that the NOI contains the required information and that the proposed BMPs, schedules, and any other actions necessary to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act, the permitting authority must notify the public of its proposal to authorize the MS4 to discharge under the general permit and, consistent with § 124.10, make available for public review and comment and opportunity for public hearing the NOI, and the specific BMPs, milestones, and schedules from the NOI that the Director proposes to be incorporated into the permit as enforceable requirements. The process for submitting public comments and hearing requests, and the hearing process if a hearing is granted, must follow the procedures applicable to draft permits in §§ 124.11 through 124.13. The permitting authority must respond to significant comments received during the comment period, as provided in § 124.17, and, if necessary revise the proposed BMPs and/or timelines to be included as terms of the permit.

• When the Director authorizes coverage for the MS4 to discharge under the general permit, the specific elements identified in the NOI are incorporated as terms and conditions of the general permit for that MS4. The permitting authority must, consistent with § 124.15, notify the MS4 operator and inform the public that coverage has been authorized and of the elements from the NOI that are incorporated as terms and conditions of the general permit applicable to the MS4 (81 FR at 427-420, January 6, 2016).

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The final rule matches closely with what was proposed as the steps necessary to implement Option 2. These steps, which are part of what was finalized as the "Two-Step General Permit," are described as follows in § 122.28(d)(2):

(1) The MS4 operator submits the NOI with the information about its activities as specified in the general permit.

(2) The permitting authority reviews the NOI to determine if the information is complete and to develop proposed additional permit requirements necessary to meet the MS4 permit standard;

(3) If the permitting authority makes a preliminary determination to authorize the small MS4 operator to discharge it must give the public notice of and opportunity to comment and request a public hearing on the proposed additional permit terms and conditions, and the basis for these additional requirements, including the NOI and other relevant information submitted by the MS4. These procedures must be carried out in accordance with 40 CFR part 124.

(4) Upon completion of the procedures in step (3), the permitting authority may authorize the discharge from the MS4 subject to the requirements of the base general permit and the final requirements established in the second step. Using this approach, the permitting authority may choose to rely fully on the completion of this process to establish most of required permit terms and conditions for a particular MS4, or it may rely on a hybrid approach wherein some of the necessary requirements are established within the base general permit at permit issuance while the remaining set of requirements are developed during the process of authorizing individual MS4 discharges in the second step.

Where EPA has modified the Two-Step General Permit from the proposed rule, it is to clarify a point made in the proposed rule. For instance, EPA makes a clarification in the final rule regarding the requirements for NOI review in the Two-Step approach. The proposed rule explained that the purpose of the permitting authority's review is to determine whether the NOI is complete and whether the operator's proposed set of BMPs and measurable goals are adequate to meet the MS4 permit standard. The final rule places emphasis on the fact that the information submitted by the MS4 operator with its NOI is for the purpose of informing the permitting authority's determination as to what "additional terms and conditions necessary to meet the requirements of § 122.34." See § 122.28(d)(2)(ii). What the operator submits in the NOI is determined by the permitting authority when establishing the base general permit. The permitting authority may request descriptions of BMPs to be implemented and measurable goals as the MS4's proposal for what it considers to be adequate to "reduce pollutants to the maximum extent practicable, protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act." Under the Two-Part General Permit in the final rule, the permitting authority reviews this information to craft what it determines are the necessary permit terms and conditions to meet this MS4 permit standard; these terms and conditions are then subject to the permitting procedures for public comment and the opportunity to request a hearing. The specific requirements developed out of this process may bear a substantial similarity to the operator's proposed BMPs and measurable goals, but they also may be modified or further refined based on the permitting authority's own determination as to the specific requirements that it deems necessary to meet the MS4 permit standard. For instance, instead of proposing to adopt all of the BMP details that are submitted by the MS4 operator with the NOI as enforceable permit requirements, the permitting authority may instead develop proposed requirements that focus in on the specific actions and milestones that it believes would represent significant progress during the permit term. This is a clarification from the proposed rule description of the NOI review process, which did not clearly articulate the permitting authority's role in reviewing the operator's BMP and measurable goal information, or other information requested in the base general permit (or fact sheet).

Another clarification made to the proposed Two-Step process relates to the 40 CFR part 124 procedures to follow during the second step. The final rule incorporates by reference several specific sections of part 124. These specific references are consistent with the proposed rule's reference generally to part 124, however, in the final rule EPA focused in on the specific procedural requirements that ensure that the public participation aspects of the Two-Step General Permit are consistent with the NPDES regulations. These part 124 requirements are necessary because the permitting authority is proposing to add additional terms and conditions to the general permit applicable to individual MS4 permittees. EPA

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likens these additional terms and conditions to the development of a "draft permit" under § 124.6, and, as such, these draft requirements must undergo minimum permitting procedures for public notice, ***89332** comments, and hearings before they are established in final form. The following procedural requirements are referenced directly:

Public Notice of Permit Actions and Public Comment Period (§ 124.10, Excluding (c)(2))

—By incorporating these provisions of § 124.10 for the Two-Part General Permit, this means that the permitting authority's notice must adhere to the following minimum public notice requirements for the draft permit conditions:
• The notice must provide a minimum of 30 days for the public to provide comment on the draft permit terms and conditions. The permitting authority must provide notice to the public at least 30 days prior to holding a public hearing on these draft requirements. See § 124.10(b).

• The permitting authority must provide public notice to the MS4 operator who submitted the NOI, to any relevant agencies or other entities referenced in § 124.10(c)(1), and members of the public on the permitting authority's mailing list pursuant to § 124.10(c)(1)(ix). The public notice must also be sent in a manner constituting legal notice to the public under state law (if the permit program is administered by an approved state), and by using "any other method reasonably calculated to give actual notice" of the draft terms and conditions being added to the permit. See § 124.10(c)(3) and (4).

• The public notice must consist of: (1) The name and address of the office processing the NOI and draft terms and conditions for the MS4 operator; (2) name, address, and telephone number of a person from whom interested persons may obtain further information, including copies of the draft terms and conditions, statement of basis or fact sheet, and the NOI; (3) a brief description of the comment procedures required by §§ 124.11 and 124.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing, and any other procedures by which the public may participate in the final authorization decision; (4) for EPA-issued permits, the location of the administrative record required by § 124.9, the times when the record will be open for public inspection, and a statement that all data submitted by the operator is available as part of the administrative record; (5) a general description of the location of each discharge point and the name of the receiving water; and (6) any additional information considered "necessary or proper." The public notice of a hearing under § 124.12 must include: (1) Reference to the date of previous public notices relating to the same MS4; (2) date, time, and place of the hearing; and (3) a brief description of the nature and purpose of the hearing, including the applicable rules and procedures. See § 124.10(d).

• In addition to the public notice, the permitting authority must mail a copy of the fact sheet or statement of basis, the NOI, and the draft terms and conditions to the operator and other agencies and entities listed in § 124.10(c)(1)(ii) and (iii). See § 124.10(e).

A cross-reference to § 124.10(c)(2) is not included in the final rule. Although these requirements apply to general permits, EPA distinguishes in the Two-Step General Permit between the base general permit and the terms and conditions that are added through the second permitting step for individual MS4 permittees. The permitting authority is required to comply with § 124.10(c)(2) when issuing the general permit (i.e., the base general permit). However, because the additional MS4-specific terms and conditions are developed in a manner that is similar to the way in which terms in an individual permit would be developed, EPA concluded that the public notice requirements that apply to individual permits are more appropriate for the second step in the process of authorizing an MS4 to discharge under a Two-Step General Permit. For this reason, EPA does not apply the specific requirements of § 124.10(c)(2) to the proposed additional terms and conditions, but does apply the other applicable public notice requirements of § 124.10.

Public Comments and Public Hearings (§§ 124.11 and 124.17)
Consistent with § 124.11, during the public comment period for the draft permit conditions, any member of the public may submit comments and may request a hearing, if none has already been scheduled. The permitting authority is required

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to consider comments received during the comment period in making the decision to authorize the discharge. When the permitting authority has made a final determination to authorize an individual small MS4 to discharge under the general permit, subject to the additional incorporated requirements, it must also make available to the public its responses to comments received, subject to the applicable requirements of § 124.17.

Public Hearings (§ 124.12)
If the permitting authority holds a public hearing on the draft permit conditions, public notice of the hearing must be provided as specified in § 124.10 and the hearing must be conducted in accordance with the requirements of § 124.12.

Obligation To Raise Issues During the Public Comment Period (§ 124.13)
During the public comment period for the draft permit conditions, commenters are obligated to raise "all reasonably ascertainable issues and submit all reasonably available arguments supporting their position" as required in § 124.13.

Upon completion of these procedures, in which permitting authority review, public notice and comment, and any public hearings take place in accordance with the appropriate sections of part 124, the permitting authority may authorize the MS4 to discharge under the terms of the permit. When authorization occurs, the final terms and conditions that were the subject of the public comment and hearing process described above become enforceable permit terms and conditions for that MS4 permittee. No significant changes were made to this step from the proposed rule. EPA clarifies that the permitting authority may choose the method by which the permittee is notified of the final decision to authorize the discharge and the final permit conditions, and by which the public is informed of the same. EPA oversight of state-issued NPDES permits must also be taken into account. Under the Two-Step General Permit, EPA has authority to review all terms and conditions of the permit, whether established in a base general permit or in the second step that establishes terms and conditions for individual MS4s. See § 123.44.

C. Permittee Publication of Public Notice
A question arose during the development of the proposed rule as to whether the MS4 could carry out public notice requirements for the Procedural Approach (now referred to as the "Two-Step General Permit"). Several states currently require MS4 permittees to provide public notice of individual MS4 NOIs (and their proposed SWMPs in many states), including information on how the public can submit comments to the state and to request a public hearing. EPA requested comment on whether permitting authorities that have relied on the MS4 to place public notices in the past should be able to use this ***89333** approach to satisfy their public notice requirements for individual NOIs under the Two-Part General Permit. EPA did not propose this approach to be adopted as part of the rulemaking effort, and is not including in the final rule any specific requirements related to this practice.

EPA received several comments in response to this question. State permitting authorities and one statewide MS4 association voiced their support for allowing permitting authorities to require MS4 permittees to publish public notices, and to establish procedures within the final rule to accommodate this practice. One state suggested that if a permitting authority is allowed to rely on the MS4 to publish the public notice of the NOI, such public notice must follow all of the minimum requirements related to the contents and methods of providing notice, and any public comments received should be acknowledged and considered by the state and documented in the final permit decision. Another commenter recommended that the permitting authority be the only entity authorized to conduct public notice and comment procedures given the differences of opinion that may arise during the process, but suggested that as an alternative EPA could allow states to establish their own process for these procedures as long as they are consistent with the regulations.

Other commenters were opposed to allowing permitting authorities to rely on the MS4 permittee to carry out applicable public participation requirements. These commenters emphasized the clear requirement in the regulations for the permitting authority to conduct these activities, pointing to the fact that the NOI should be treated no differently than

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any permit application. These comments noted that members of the public wishing to review and potentially submit comments and request a hearing on NOIs should have a centralized place to refer to for reviewing public notices of NOIs, and feared that allowing a decentralized approach where the MS4 handles the public notice would be unlikely to reach the intended audience. Another point made was that in keeping with the permitting authority's responsibility to review and determine the adequacy of each MS4's NOI, the public notice and comment proceedings that are associated with the NOIs should be managed by the same entity. These commenters also questioned whether delegating these responsibilities to the MS4 made sense given the fact that it is the state that is most familiar with how to meet its own administrative rules and protocols, and that is best equipped from a technical and physical capacity standpoint to receive and process comments, many of which will be submitted electronically, and potentially hold hearings. Additionally, some commenters worried about the effect of placing more burden on the municipalities.

The final rule does not address the issue of whether the permitting authority may rely on its MS4 permittees to carry out public notice responsibilities on its behalf in the final rule, but instead incorporates by reference the existing set of requirements that apply to all draft permits in § 124.10. As to whether permitting authorities may rely on the permittee to publish the public notice, it is EPA's view that they may do so as long as the public notice meets all of the applicable requirements in § 124.10. The public notice responsibilities in the NPDES regulations apply to the permitting authority, therefore these are requirements that it must ensure are met. The state must conduct any public hearing, consider the comments received, respond to them, and make decisions as to what changes are necessary as a result of the comments.

VI. Requirements for Permit Terms and Conditions

EPA proposed several clarifying changes to the regulatory language in § 122.34 regarding the expression of permit limits for small MS4s. First, EPA proposed to clarify that the permitting authority is responsible for establishing permit requirements that meet the MS4 permit standard. Second, proposed changes would address issues of clarity in permit terms and the different ways in which permit requirements can be expressed. Third, the proposal would reinforce the expectation that the MS4 standard must be independently met for each 5-year permit term. Each of these categories of regulatory changes is discussed below. The final rule incorporates these proposed changes, with some modification to the proposed rule language in response to comments and for additional clarity.

A. Permitting Authority as the Ultimate Decision-Maker

To directly address the clear message from the Ninth Circuit remand that the regulations need to preclude the small MS4 from determining on its own what actions are sufficient to meet the MS4 standard "to reduce pollutants to the maximum extent practicable, protect water quality and satisfy the appropriate water quality requirements of the CWA," EPA proposed revisions throughout § 122.34 to make it clear that the permitting authority is responsible for establishing permit requirements that meet the standard. For this reason, EPA proposed to shift the focus of the requirements in § 122.34 to the "NPDES permitting authority" rather than the regulated small MS4. Similarly, the proposed rule modified the guidance provisions to focus on permitting authorities as well as MS4s. In most cases, this meant substituting the term "NPDES permitting authority" for "you" or "your" (referring to the regulated small MS4) and referring to the regulated small MS4 as the "operator." A related change tied to the remand was the proposed deletion of the sentence "Implementation of best management practices consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to § 122.33 constitutes compliance with the standard of reducing pollutants to the 'maximum extent practicable.' " The Ninth Circuit court specifically raised this sentence as a demonstration that "nothing in the Phase II regulations requires that NPDES permitting authorities review these Minimum Measures to ensure that the measures that any given operator of a small MS4 has decided to undertake will in fact reduce discharges to the maximum extent practicable." See EDC, 344 F.3d at 832, 854. The proposal to remove this sentence, combined with the other changes, would reinforce the fact that the permitting authority is the entity responsible for establishing the terms and conditions of the permit necessary to meet the MS4 permit standard. These changes also would shift the focus of § 122.34 to the development of permit requirements and away from the identification of what the MS4 should include in its SWMP.

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EPA received a relatively small number of comments responding to these proposed changes. Some commenters expressed a preference to continue to have the MS4 in charge of defining the MS4 standard for itself or requested that the deleted sentence ("Implementation of best management practices consistent with the provisions of the stormwater management plan. . . .") be retained. Other commenters pointed out that the proposed changes should apply to all regulated small MS4 permits, regardless of the type of permit (e.g., Traditional General Permit, Procedural General Permit, or individual), and requested that EPA clarify this in the final rule.

The final rule retains the proposed rule changes that emphasize that it is ***89334** the permitting authority with the ultimate authority to determine what small MS4s must do to meet the MS4 permit standard. These changes respond to the Ninth Circuit's finding in the EDC decision that the Phase II rule did not, contrary to the CWA, require the permitting authority to determine whether the MS4 permittee's proposed program would in fact meet the MS4 permit standard. Indeed, while the EDC decision specifically addressed the general permit process, the underlying rationale for the court's rejection of the general permitting process—the failure of the rule to ensure that the permitting authority, not the permittee, determine what is needed to meet the standard applicable to MS4 permits under the CWA—applies whether the MS4 permit is a general permit or an individual permit. Therefore, EPA is amending § 122.34 to apply to any permit issued to regulated small MS4s (except those small MS4s applying for an individual permit under § 122.33(b)(2)(ii)).

These changes, including the deletion of the sentence "Implementation of best management practices consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to § 122.33 constitutes compliance with the standard of reducing pollutants to the maximum extent practicable," more clearly establish the permit as the enforceable document, not the stormwater management program or what has been described in the SWMP. (See VI.E of this preamble for a discussion of the function of the "SWMP" under EPA's small MS4 regulation.)

B. "Clear, Specific, and Measurable" Permit Requirements

EPA also proposed rule revisions related to the expression of permit terms. Consistent with current EPA guidance, the proposed rule specified that permit requirements be expressed in "clear, specific, and measurable" terms. The preamble to the proposed rule contained a detailed discussion about what "clear, specific, and measurable" meant and EPA put in the rulemaking docket a draft compendium of example language from actual permits to further illustrate the meaning of "clear specific, and measurable." See updated permit compendium in the final rule docket, MS4 Compendium of Permitting Approaches: Part 1: Six Minimum Control Measures (EPA, 2016). EPA also included in the preamble to the proposed rule, examples of permit language that do not appear to have the type of detail that would be needed.

In addition to specifying that permit terms and conditions must be "clear, specific, and measurable," the proposed rule text clarified that effluent limitations may be in the form of BMPs, and provided non-exclusive examples of how these BMP requirements may appear in the permit, such as in the form of specific tasks, BMP design requirements, performance requirements or benchmarks, schedules for implementation and maintenance, and the frequency of actions. This language was proposed to substitute for existing language that states: "Narrative effluent limitations requiring implementation of best management practices (BMPs) are generally the most appropriate form of effluent limitations when designed to satisfy technology requirements . . . and to protect water quality."

EPA also proposed to delete a related guidance paragraph in § 123.34(e)(2). As explained in the proposed rule preamble, the guidance no longer reflects current practice.[FN6] The deletion of this paragraph is also consistent with EPA guidance developed since 1999 regarding the types of requirements that are recommended for MS4 permits.[FN7]

EPA received numerous comments on these proposed changes. For the most part, commenters from all stakeholder groups expressed approval for the "clear, specific, and measurable" language. However, a variety of commenters read the

deletion of "narrative" to mean that numeric effluent limitations (e.g., end-of-pipe pollutant concentration limitations) would be required in small MS4 permits or that "narrative" limits would no longer be acceptable. As stated in the preamble, EPA did not intend to make substantive changes to § 122.34 beyond what would be required to address the court remand. The term "narrative" was proposed to be deleted to recognize that other expressions of effluent limitations may be appropriate, not to preclude the use of narrative effluent limitations. To avoid misinterpretation of the regulation, however, the final rule instead describes appropriate requirements as being "narrative, numeric, or other requirements." EPA intends for the final rule text to more broadly encompass the various types of controls for stormwater discharges that could be required of small MS4s.

Regarding the insertion of "clear, specific, and measurable" to describe permit requirements, most commenters perceived benefits for permittees, permitting authorities, and the public, particularly because it will be more clearly stated in the permit what is expected for compliance. Some commenters observed that "clear, specific, and measurable" terms would enable better enforcement of the MS4 permit requirements, and would provide a more effective path to improved water quality. Some small MS4s themselves pointed out that greater certainty in permit terms could put them into a better position to plan and to garner local political support and critical funding for their programs. Other MS4s, however, voiced uncertainty as to how the terms "clear, specific, and measurable" would be implemented and what would actually be required of them by their permits and concern that their flexibility would be unduly restricted. Some commenters also suggested that regulatory provisions associated with the expression of permit limits, while discussed in the preamble to the proposed rule in the context of Option 1, should apply regardless of the option chosen. Several groups requested that "clear, specific, and measurable" be changed instead to "focused, flexible, and effective." Other commenters requested that "enforceable" be added to this phrase. Some groups representing MS4 permittees and industry expressed concern that "measurable" meant that permits would now contain water quality monitoring requirements or that "measurable," together with the deletion of "narrative" to describe effluent limitations, meant that EPA was opening the door for small MS4 permits to now be required to contain numeric effluent limitations, e.g., end-of-pipe pollutant concentration limits for each outfall in the system. A concern that "clear, specific, and measurable" would preclude or reduce MS4 flexibility to change program elements as a program encountered successes or failures (i.e., adaptations made during the permit term or to meet MS4-specific circumstances) was also stated as a disadvantage associated with this language. In a related vein, several commenters warned against permit terms that were too specific and left very little discretion to the MS4. Some commenters requested that the regulatory text indicate that the expectation that permit requirements be "clear, specific, and measurable" apply ***89335** to each BMP and other requirements in the permit, and accompanied by reporting requirements that related to measurable requirements, rather than measureable goals as in the current regulation.

The final rule retains the proposed rule requirement for "clear, specific, and measurable" permit terms and conditions. Accompanying the promulgation of this requirement, EPA is also publishing an updated version of its compendium of permit examples from the proposed rule (i.e., MS4 Compendium of Permitting Approaches: Part 1: Six Minimum Control Measures (EPA, 2016)), which includes provisions from EPA and state MS4 general permits that provide examples of clear, specific, and measurable requirements. EPA also retains the examples provided in the proposed rule preamble of permit language that would generally not qualify as clear, specific, and measurable, which is included here, with minor edits:

• Permit provisions that simply copy the language of the Phase II regulations verbatim without providing further detail on the level of effort required or that do not include the minimum actions that must be carried out during the permit term. For instance, where a permit includes the language in § 122.34(b)(4)(ii)(B) (i.e., requiring ". . . construction site operators to implement appropriate erosion and sediment control best management practices") and does not provide further details on the minimum set of accepted practices, the requirement would not provide clear, specific, and measurable requirements within the intended meaning of the proposed Traditional General Permit Approach. The same would also be true if the permit just copies the language from the other minimum control measure provisions in § 122.34(b) without further detailing the particular actions and schedules that must be achieved during the permit term.

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• Permit requirements that include "caveat" language, such as "if feasible," "if practicable," "to the maximum extent practicable," and "as necessary" or "as appropriate" unless defined. Without defining parameters for such terms (for example, "infeasible" means "not technologically possible or not economically practicable and achievable in light of best industry practices"), this type of language creates uncertainty as to what specific actions the permittee is expected to take, and is therefore difficult to comply with and assess compliance.

• Permit provisions that preface the requirement with non-mandatory words, such as "should" or "the permittee is encouraged to . . . ." This type of permit language makes it difficult to assess compliance since it is ultimately left to the judgment of the permittee as to whether it will comply. EPA notes that the Phase II regulations include "guidance" in places (e.g., § 122.34(b)(1)(ii), (b)(2)(ii), and (b)(3)(iv)) that suggest practices for adoption by MS4s and within permits, but does not mandate that they be adopted. This guidance language is intended for permitting authorities to consider in establishing their permit requirements. Permitting authorities may find it helpful to their permittees to include guidance language within their permits in order to provide suggestions to their permittees, and it may be included. However, guidance language phrased as suggested guidelines would not qualify as an enforceable permit requirement under the final rule.

• Permit requirements that lack a measurable component. For instance, permit language implementing the construction minimum control measure that requires inspections "at a frequency determined by the permittee" based on a number of factors. This type of provision includes no minimum frequency that can be used to measure adequacy and, therefore, would not constitute a measurable requirement for the purposes of the rule.

• Provisions that require the development of a plan to implement one of the minimum control measures, but does not include details on the minimum contents or requirements for the plan, or the required outcomes, deadlines, and corresponding milestones. For example, permit language requiring the MS4 to develop a plan to implement the public education minimum control measure, which informs the public about steps they can take to reduce stormwater pollution. The requirement leaves all of the decisions on what specific actions will be taken during the permit term to comply with this provision to the MS4 permittee, thus enabling almost any type of activity, no matter how minor or insubstantial, to be considered in compliance with the permit.

Regarding the suggestion to add "enforceable," in EPA's view, clear, specific and measurable terms and conditions together define what makes a permit requirement enforceable. Therefore, adding "enforceable" to this list of attributes would not add to the enforceability of permit terms and conditions. With respect to the suggestion to replace "clear, specific, and measurable" with "focused, flexible, and effective," EPA clarifies that nothing in the final rule prevents a permitting authority from developing permit requirements that are focused, flexible, and effective, as long as those requirements are articulated in clear, specific, and measurable terms.

The word "specific" also generated a number of comments. EPA proposed "specific" to indicate what activities an MS4 would be required to undertake to implement the various required elements of the minimum control measures described in § 122.34(b) or to achieve a specified level of performance that would constitute compliance with the permit. Some commenters advocated for more specificity in permits, while others cautioned against too much specificity. Still others simply asked for more guidance about how "specific" a general permit would need to be. EPA intends for "specific" to mean that a permitting authority describes in enough in detail that an MS4 can determine from permit terms and conditions what activity they need to undertake, when or how often they must undertake it, and whether they must undertake it in a particular way. It must be clear what does and does not constitute compliance. As noted in the preamble to the proposed regulation, a verbatim repetition of the minimum control measures described in § 122.34(b) does not provide a sufficient level of specificity.

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At the same time, EPA intends for the permitting authority to retain discretion in determining how much specificity is needed for different permit requirements. The level of specificity may change over time, for example, to reflect a more robust understanding of more effective stormwater management controls or to meet specific state needs. There is a wide range of ways to implement a stormwater management program and the permitting authority will need to determine how to craft permit terms and conditions that establish clear expectations that implement the various requirements in § 122.34 in specific terms, and this can be done while also providing flexibility to MS4s to choose how they will comply with permit terms. For example, a requirement to "Develop a public education program about the effect of stormwater on water quality" is not a sufficiently specific permit requirement. To provide greater specificity, some permitting authorities have provided a menu of specific public education activities in the permit, and the MS4 must choose from among them indicating how they will comply with the permit. For a hypothetical example, the permit might require that the MS4 ***89336** undertake four public education activities each year from a list of activities specified in the permit and include at least one each year that is directed at students in all public schools within the MS4 area, using an existing or new curriculum, to explain ways in which stormwater can harm water quality. In this hypothetical example, the MS4 has the flexibility to choose from a list of activities the permitting authority has determined are acceptable and, for the required activity involving public schools, and to choose a curriculum that already exists or develop a new one that is tailored to specific stormwater problems in the community. The specific (clear and measurable) permit terms are:

(1) To undertake four education activities per year from a specified list of allowable activities; and (2) to ensure that at least one of the activities involves education about stormwater at all public schools. Compliance would be completion of four activities each year. One type of activity is specified in the permit, but the MS4 can choose the audience, the medium, and the specific message for the other three required activities. Even within the more specific requirement related to public schools, the permittee would have discretion in determining the form and content of the curriculum. In this hypothetical example, the permit contained requirements of varying specificity, but the boundaries of what constitutes compliance is readily apparent and it is clear what the MS4 must do and the timeframe for compliance.

What is not specified in a permit implicitly defines the level of discretion the MS4 has to meet the terms and conditions of the permit. EPA recognizes that it can be useful for MS4s to retain the ability to change specific stormwater control activities during the term of the permit without the need to seek a permit modification for every change. In the above hypothetical example, if the MS4 finds that, after the second year of the permit term that the curriculum it chose was not effective, it could develop a different one or choose another curriculum, e.g., one that involves field work rather than just classroom instruction. The change in curriculum would not require a permit modification because the permit did not specify the particular curriculum that must be used. The permit terms in this case also provide the public with sufficient information to offer comments on the activities available, their number and frequency, and the degree of discretion left to the MS4. EPA emphasizes that it is not necessary that every detail be spelled out in a permit as an enforceable requirement under the CWA. See further discussion of the considerations related to permit modifications in Section VI.E.

In the above hypothetical example, the permitting authority could have chosen more specific terms. For example, it could have required that the MS4s undertake activities A and B in the first year, activities C and D in the second year, and so on. It could have specified the medium to be used, e.g., television or social media and each of the audiences that must be addressed in the outreach plan (e.g., businesses, commercial establishments, developers). EPA notes that increased specificity does not necessarily mean that the permit is more stringent. It does, however, decrease the flexibility left to the MS4 to determine how to meet the permit requirement. Conversely, the permitting authority in the above hypothetical example could have been less specific, for instance, by not requiring one activity each year to be carried out in public schools. Permitting authorities need to consider what level of specificity is appropriate based on the particular factors at play in their permit area. The level of specificity may change over time, and should be evaluated in each successive permit. There may be differences of opinion about the degree of specificity needed, but that call would be open for public comment on the general permit or, if the Two-Part General Permit is used, on the public notice for the additional terms and conditions applicable to individual MS4s.

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Another example of how the permit can provide greater specificity is to include distinct requirements based on type of MS4. For example, Section 3.2.1.3 of the Arkansas general permit states: "The stormwater public education and outreach program shall include more than one mechanism and target at least five different stormwater themes or messages over the permit term. At a minimum, at least one theme or message shall be targeted to the land development community. For non-traditional MS4s, the land development community refers to landscaping and construction contractors working within its boundaries (emphasis added). The stormwater public education and outreach program shall reach at least 50 percent of the population over the permit term." Here, the permitting authority further specifies the target audience as applied to non-traditional MS4s.

Alternatively, specific permit terms could be established uniformly for all eligible small MS4s, which would have the benefit of leveling the playing field among small MS4s. The final rule gives permitting authorities some discretion to decide how much specificity to include in the permit and how much flexibility to leave to the MS4 when working out the details of how it will comply with permit terms. The public would have an opportunity to provide comments on such preliminary decisions about the level of specificity in permit terms and conditions needed during the public comment period on the general permit or on the second step of a Two-Step General Permit, or in some cases on both.

EPA also received comments on the term "measurable." In response to comments, EPA clarifies that "measurable" does not necessarily mean that water quality monitoring must be required in every instance to assess compliance. Likewise, it does not mean that numeric, end-of-pipe pollutant concentrations or loadings must be included in permits. While these examples do represent a type of measurable requirement, they are not required to be in every MS4 permit. Rather, the term "measurable" means that the permit requirement has been articulated in such a way that compliance with it can be assessed in a straightforward manner. For example, a permit provision that requires inspections at construction sites to be conducted once per week until final stabilization has been verified is a measurable requirement. To help assess compliance, the permit should also contain a way to track whether the requirement has been met, such as requiring the permittee to keep a log of each inspection, including the date and any relevant findings. On the other hand, a requirement that construction sites be inspected "after storms as needed" would not be a measurable requirement. For this requirement, the permittee would have to determine whether a "storm" occurred and, if so, whether an inspection was called for, both of which are determinations that are left completely up to the permittee to determine. A permitting authority could not easily assess that this requirement was or was not met.

Like the term "measurable," "numeric" is another term that is often misunderstood to require numeric end-of-pipe concentration and/or mass pollutant limitations similar to those that commonly appear in permits issued to other types of point source dischargers (e.g., industrial process discharges and discharges from sewage treatment plants). EPA intends numeric to be read more broadly to include an objective, quantifiable value related to the performance of different ***89337** requirements for small MS4 programs. For example, "numeric" can refer to the number or frequency of required actions to be taken such as a requirement to "clean 25% of the catch basins in your service area on a yearly basis" or "complete 6 of 10 public education events specified in the following table on an annual basis." "Numeric" can also refer to a specified numeric performance levels, such as a retention standard for post-construction discharges from new development and re-development sites, e.g., "The first inch of any precipitation must be retained on-site." Another example of a numeric performance requirement is exemplified by the following provision from the 2016 Vermont Small MS4 general permit: "The control measure(s) is designed to treat at a minimum the 80th percentile storm event. The control measure(s) shall be designed to treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS) to a median value of 30 mg/L or less." See Section E.4.a.iv.B.

A commenter requested that EPA require measurable conditions for each BMP. EPA interprets this comment as recommending that permit terms implementing the minimum control measures, which are often articulated as narrative requirements, each be expressed in a measurable manner. EPA agrees that permit terms and conditions that are established to satisfy a minimum control measure need to have measurable (as well as clear and specific) requirements

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associated with them that assist the MS4 and permitting authority in determining whether required elements of the minimum control measures or other permit terms and conditions have been achieved.

In the final rule, EPA has decided to substitute the term "terms and conditions" for "effluent limitations" because stakeholders asserted the term effluent limitations connotes end-of-pipe numeric limits even though EPA is not insisting that these types of limitations be used. In sum, EPA intends that terms and conditions are a type of effluent limitations and that they are interchangeable and both mean permit requirements. As defined in the Clean Water Act, "effluent limitation" means "any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance." See CWA section 502(11). The Clean Water Act also authorizes inclusion of permit conditions. See CWA section 402(a)(1) and (2). Both "effluent limitations or other limitations" under section 301 of the Act and "any permit or condition thereof" are an enforceable "effluent standard or limitation" under the citizen suit provision, section 505(f) of the Clean Water Act, and the general enforcement provisions, section 309 of the Act. EPA uses these terms interchangeably when referring to actions designed to reduce pollutant discharges. For the purposes of this final rule, changing the small MS4 regulations to refer instead to "terms and conditions" is intended to be read as consistent with the meaning of "effluent limitations" in the regulations and CWA.

C. Narrative, Numeric, and Other Forms of Permit Requirements

As explained in the previous section of this preamble, EPA has clarified that permit limits need not be expressed only as "narrative" limits but can consist of "narrative, numeric, and other types" of permit requirements. The final rule provides a non-exclusive list of the types of narrative, numeric, and other types of terms and conditions that would be appropriate for small MS4 permits by stating that allowable terms and conditions could include, among other things "implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions." These examples are the same as those proposed, with the exception of removing the term "benchmarks" and adding in its place, "adaptive management requirements." Several commenters noted that the term "benchmarks" is used in EPA's and many states' Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, or "MSGP," to mean numeric pollutant concentration levels that must be measured, and if exceeded, trigger further monitoring or corrective action requirements. To eliminate any confusion, the commenters requested that a different term be used. EPA did not intend "benchmarks" to be precisely defined, but instead to generally refer to various types of identified measurements of performance and to undertake different actions or controls if performance is not at the measured level. To avoid confusion, EPA is replacing "benchmarks" with the phrase "adaptive management requirements," since adaptive management approaches are used widely in the MS4 communities. Adaptive management enables MS4 permittees to iteratively improve their stormwater control strategies and practices as they implement their programs and learn from experience to better control pollutant discharges.

With respect to establishing permit terms and conditions, use of the term "BMP" in § 122.34(a) is intended to take on a broad meaning and could encompass both the enforceable terms and conditions of the permit as well as particular activities and practices selected by the permittee that will be undertaken to meet the permit requirements but that are not themselves enforceable. BMPs are defined in § 122.2. The term is defined to include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce water pollution. The regulatory definition also includes treatment requirements, operating procedures, and practices to control runoff, spillage or leads, sludge, or waste disposal, or drainage from raw material storages as BMPs. The defined regulatory term was developed to describe requirements to undertake certain activities to reduce the amount of pollutants discharged that are not described as numeric pollutant effluent discharge limitations or represent specific performance levels. See § 122.44(k). EPA intends, in § 122.34(a) of the final rule, to use BMP in its broadest sense to refer to any type of structural or non-structural practice or activity undertaken by the MS4 in the course of implementing its SWMP. Whether a BMP is an enforceable requirement depends on whether the permitting authority has established it as a term and condition of the

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permit. The term BMP in § 122.34(a) is not intended to be used interchangeably with enforceable requirements necessary to demonstrate compliance with the permit. Instead, it refers to any type of activity that is used to reduce pollutants in the MS4's discharge. This distinction is important because, as discussed elsewhere in the preamble, some BMPs may be changed without first requiring a permit modification, but only if they are not included as enforceable requirements of the permit.

D. Considerations in Developing Requirements for Successive Permits

A final change to § 122.34(a) that EPA proposed was to reflect the iterative nature of the MS4 permit standard and require that what is considered adequate to meet the MS4 permit standard, including what constitutes "maximum ***89338** extent practicable," needs to be determined for each new permit term. The final rule provision is retained from the proposed rule, which requires that for each successive permit, the permitting authority must include terms and conditions that meet the requirements of § 122.34 based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information. The preamble to the proposed rule explained: "A foundational principle of MS4 permits is that from permit term to permit term iterative progress will be made towards meeting water quality objectives, and that adjustments in the form of modified permit requirements will be made where necessary to reflect current water quality conditions, BMP effectiveness, and other current relevant information." (81 FR 422, Jan. 6, 2015). The preamble further listed possible sources to inform the evaluation such as past annual reports, current SWMP documents, audit reports, receiving water monitoring results, existing permit requirements, and applicable TMDLs.

EPA received numerous comments on the language regarding the development of each successive permit. One commenter asked EPA to include additional factors in the rule text that would need to be considered when developing a new small MS4 permit, including impairment status of the waterbody and applicable TMDLs, and permits developed by other states. Other factors requested to be included in the text were discussed in the preamble to the proposed rule include: how long the MS4 has been permitted, the degree of progress made by the small MS4 permittees as a whole and by individual MS4s, the reasons for any lack of progress, and the capability of these MS4s to achieve more focused requirements. Another commenter stated that while it is appropriate to re-examine the permit requirements for continued applicability and effectiveness, EPA should not presume that successive permits would always require more stringent requirements. Instead, the commenter continues, the permit could only require adjustments of existing BMPs. EPA also received general comments about the nature of "maximum extent practicable" that were reflected in comments concerning the new language about successive permits.

EPA has retained substantially the same text as it proposed. In § 122.34(a)(2), permitting authorities are required to revisit permit terms and conditions during the permit issuance process, and to make any necessary changes in order to ensure that the subsequent permit continues to meet the MS4 permit standard. Thus, in advance of issuing any new small MS4 general permit, the permitting authority will need to review, among other things, available information on the relative progress made by permittees to meet any applicable milestones under the expiring permit, compliance problems that may have arisen, the effectiveness of the required activities and selected BMPs under the existing permit, and any improvements or degradation in water quality. This requirement applies regardless of the type of permit (individual or general) or the specific general permitting approach that is chosen by the permitting authority.

As commenters pointed out, there are other factors that the permitting authority can consider in establishing the permit requirements in successive permits that meet the MS4 permit standard. This provision, however, is intended to state a general requirement to update each permit and therefore uses broader, more general terms rather than trying to name all of the factors and considerations that may bear on the development of specific permit terms and conditions in successive permits. The crux of this requirement is that permitting authorities cannot simply reissue the same permit term after term without considering whether more progress can or should be made to meet water quality objectives or that other changes to the permit are in order. As is the case with NPDES permits generally, the permitting authority considers anew what is appropriate each time it issues a permit. For example, new stormwater management techniques may have arisen or

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become affordable during the expiring permit term that should be taken into consideration. The factors identified by commenters and discussed in the proposed rule preamble are all relevant considerations. First and foremost, as noted by one commenter, "the understanding of which pollution control measures and standards are the most effective and practicable can evolve, requiring corresponding changes in permit conditions to meet the 'MEP' standard." Likewise, the stressors affecting water quality can change over time. The water quality of the receiving water and any applicable TMDLs are factors that should be considered, but additional rule language is unnecessary since these factors are already encompassed within the final rule's reference to "current water quality conditions." (Also see, § 122.34(c) which requires permit conditions based on applicable TMDLs.) How long an MS4 has been permitted also could point to establishing different or "tiered" requirements based on whether the MS4 is on its third or fourth permit with a mature program or is a newly regulated MS4 that must build its program "from scratch." Using broad, general terms to describe considerations that may change over time provides critical flexibility, while ensuring that the assessment of current circumstances and information is done.

Contrary to the assumption that EPA presumes that each successive permit will contain more stringent conditions for each permit requirement, EPA recognizes that this is not the case. It is possible that some permit conditions remain relatively static in a successive permit. If a permit, however, contained a less stringent requirement or less specific language than had been included in the previous permit this would require an explanation, backed by empirical evidence or other objective rationale that the requirement was no longer practicable or that another approach is more effective, and that making this requirement less stringent would not result in greater levels of pollutant discharges. This would be especially true where the MS4 is discharging pollutants to an impaired water due to an excess of those pollutants. How quickly pollutants must be reduced and which elements of a program need greater or less emphasis are certainly considerations that an MS4 (or others) can raise during the comment period. Likewise, an MS4 that is seeking an individual permit or coverage under a Two-Step General Permit, can propose BMPs or other management measures to the permitting authority that reflect its judgment about how and to what extent permit terms and conditions should change or stay the same.

One commenter asserted that EPA should require consideration of other states' permits in determining permit conditions. The commenter reasoned that if one state adopts a requirement that achieves greater pollutant reduction than another state, the other state should have to adopt the more effective permit condition or explain why it is not practicable for MS4s in its state. The commenter also noted that EPA has taken similar positions with respect to technology-based requirements for other types of discharges. Finally, the commenter urged EPA to continue to provide and update examples of permit conditions developed by various states. EPA does not find it necessary to expressly require the rule to compel ***89339** permitting authorities to consider the terms and conditions of permits in other jurisdictions in determining the need to modify their own permits. Each permitting authority is required to issue permits that independently meet the MS4 permit standard based on an evaluation of, among other things, how well the past permit conditions worked and what more can be reasonably achieved in the next permit term. This evaluation involves factors that are necessarily unique to the permitting jurisdiction. Furthermore, the factors that led to one state permit's adoption of stricter requirements than another state makes a straightforward analysis between the two difficult, and potentially misleading. While EPA does not agree that permitting authorities should be required to consider other state permits, EPA agrees that much can be learned from other states' permitting approaches and it may be a relevant factor to consider in a particular permitting proceeding.

Commenters suggest that EPA's publication of its MS4 permit compendia (EPA, 2016), as well as EPA's MS4 Permit Improvement Guide (EPA, 2010), providing examples of permit provisions that are written in a "clear, specific, and measurable" manner, makes it easier for permitting authorities to write better permits. EPA agrees with commenters that sharing examples among states is an effective tool for developing permit conditions and has updated the compendium of state practices to accompany the final rule for this very reason. See Compendium of MS4 Permitting Approaches—Part 1: Six Minimum Control Measures (EPA, 2016) in the final rule docket.[FN8] EPA plans to facilitate information transfer on a continuing basis.

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E. Relationship Between the SWMP and Required Permit Terms and Conditions

a. Enforceability of SWMP Documents

In the proposed rule, EPA clarified that the SWMP document does not include enforceable effluent limitations or any other term or condition of the permit. EPA also proposed to delete the language in the Phase II regulations stating that implementation of the SWMP would constitute compliance with the MS4 permit standard. This clarification is retained in the final rule. EPA is revising § 122.34(a) to clarify that the permit, not the stormwater management program, contains the requirements, including requirements for each of the six minimum measures, for reducing pollutants to the maximum extent practicable, protecting water quality and satisfying the appropriate water quality requirements of the CWA. See also Section VIII.A for further discussion of the deleted provision in § 122.34(a). The final rule at § 122.34(b) requires each permit to require the permittee to develop a "written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure." Requiring that portions of the SWMP be in the form of written documentation is not a new requirement, but rather a clarification. The minimum control measure requirements have always required that certain aspects of the permittee's SWMP be documented in writing, e.g., the storm sewer system map, ordinances or other regulatory mechanisms to regulate illicit non-stormwater discharges into the MS4 and to require erosion and sediment controls. The written SWMP provides the permitting authority something concrete to review to understand how the MS4 will comply with permit requirements and implement its stormwater management program. EPA included a specific requirement for written documentation to clarify, as requested by some commenters, the difference between a MS4's stormwater management program itself from the written description of the program.

EPA received several comments regarding the role of the SWMP document under the different permitting options. Among these comments were several focusing on whether the implementation details described in the SWMP document itself, including the BMPs to be implemented and measurable goals to be achieved, would be enforceable as permit requirements. One commenter noted that some states consider a SWMP document to be an integral part of the permit and recommended that EPA do nothing in the rule to limit a permitting authority's ability to enforce against an MS4 for failure to implement any particular aspect of the SWMP and to require an accurate, up-to-date SWMP document that contains the provisions required by the permit. Other commenters, representing the regulated MS4 point of view, emphasized the role of the SWMP document as a planning tool for the permittee, one that is intended to be continually updated to reflect their adaptive management approach to permit compliance. These commenters cautioned against implying directly or indirectly that the SWMP document is an "effluent limitation" that is part of the permit, and felt that under Option 1 of the proposed rule, provisions in SWMP documents could be interpreted by the public to be effluent limitations, thereby opening all details described in the SWMP document to enforcement. These commenters recommended that EPA more narrowly define "effluent limitation" and clarify that SWMPs are for planning purposes only and not subject to challenge by outside parties.

In response to these comments, EPA clarifies that, under EPA's small MS4 regulations, the details included in the permittee's SWMP document are not directly enforceable as effluent limitations of the permit. The SWMP document is intended to be a tool that describes the means by which the MS4 establishes its stormwater controls and engages in the adaptive management process during the term of the permit. While the requirement to develop a SWMP document is an enforceable condition of the permit (see § 122.34(b) of the final rule), the contents of the SWMP document and the SWMP document itself are not enforceable as effluent limitations of the permit, unless the document or the specific details within the SMWP are specifically incorporated by the permitting authority into the permit. In accordance with the final rule, therefore, if an MS4 permittee fails to develop a SWMP document that meets the requirements of its permit, this failure constitutes a permit violation. By contrast, the details of any part of the permittee's program that are described in the SWMP, unless specifically incorporated into the permit, are not enforceable under the permit, and because they are not terms of the permit, the MS4 may revise those parts of the SWMP if necessary to meet any permit requirements or to make improvements to stormwater controls during the permit term. As discussed in more detail below, the permitting

authority has discretion to determine what elements, if any, of the SWMP are to be made enforceable, but in order to do so it must follow the procedural requirements for the second step under § 122.28(d)(2).

The regulations envision that the MS4 permittee will develop a written SWMP document that provides a road map for how the permittee will comply with the permit. The SWMP document(s) can be changed based on adaptations made during the course of the permit, which ***89340** enable the permittee to react to circumstances and experiences on the ground and to make adjustments to its program to better comply with the permit. The fact that the SWMP is an external tool and not required to be part of the permit is intended to enable the MS4 permittee to be able to modify and retool its approach during the course of the permit term in order to continually improve how it complies with the permit and to do this without requiring the permitting authority to review and approve each change as a permit modification. The fact that the regulations do not require the implementation details of the SWMP document to be made enforceable under the permit does not mean that a permitting authority cannot decide to directly incorporate portions of the SWMP or the entire SWMP as enforceable terms and conditions of the permit. However, in order to adopt any part of the SWMP document as an enforceable term or condition it must go through the proper permitting steps to do so. If a permitting authority chooses to directly incorporate elements of the SWMP document as enforceable permit requirements, once completing the minimum permitting steps to propose and finalize NPDES permit conditions, those elements of the SWMP are no longer external to the permit, but instead become enforceable terms and conditions of the permit.

Lastly, EPA understands that some state permitting authorities already incorporate elements of their permittees' SWMP document using a process that is similar to the Two-Step General Permit process in the final rule. EPA emphasizes that under the final rule if a permitting authority chooses to adopt portions of their permittees' SWMPs using the Two-Step General Permit process this would be a valid way to formally incorporate these as permit terms and conditions; this is because in order to make these requirements enforceable under the permit the permitting authority provided the necessary review and public notice and comment procedures. By contrast, EPA generally would not consider general permits that state that the SWMP documents developed by the MS4 are enforceable under the permit, without first formally adopting the details of these documents to the individual permitting authority review and public participation required by the second step of the Two-Step General Permit, to be an adequate way in which to incorporate the details of the SWMP as enforceable requirements of the permit.

b. Permit Modification Considerations

EPA raised the issue in the proposed rule of whether under the Procedural Approach (now in the final rule as the "Two-Step General Permit" approach) a permit modification would be necessary during the permit term if BMPs or measurable goals were changed by the permittee from that which was submitted to the permitting authority. EPA specifically sought comment on what criteria should apply for distinguishing between when a change to BMPs is "substantial" requiring a full public participation process or "not substantial" that would be subject to public notice but not public comment under a permit modification process similar to the process in § 122.42(e)(6).

A number of commenters expressed support for treating some types of changes as non-substantial modifications to the permit. Commenters emphasized the fact that the types of plans, strategies, and practices implemented under MS4 SWMP are subject to considerable change, and that requiring these changes to undergo a review for a permit modification would stifle the process as well as innovation. Some commenters offered suggestions for what types of changes to the SWMP should constitute a substantial modification and should be reviewable by the permitting authority, and which types of changes should be considered non-substantial. Some thought that a complete change to a BMP should be reviewed by the permitting authority for a modification, while others felt that such changes should not be submitted for review if the replacement BMP would be considered to provide equal or better pollutant removal. Another commenter suggested that EPA incorporate applicable requirements from the CAFO regulations whereby the permittee submits proposed changes to the permitting authority and the permitting authority must determine whether such changes comply with applicable, substantive legal requirements, and if the changes are substantial, then the permitting authority must

require public notice, and an opportunity to provide comments or request a hearing before the determination is made on the modification.

The Two-Step approach requires the MS4 operator to provide information about what it intends to do during the permit term to satisfy some or even all of the permit requirements for meeting the MS4 permit standard. The rule then requires the permitting authority, through a review and public comment process, to establish MS4-specific permit terms and conditions that the permitting authority deems necessary to meet the MS4 permit standard. Once issued, these additional permit requirements are set for the permit term, and compliance is measured based on the permittee's ability to meet these enforceable terms and conditions. When the final permit terms and conditions are established, changes to those requirements can only be made through a formal modification process, which is subject to the requirements of § 122.62, or § 122.63 if the proposed change constitutes a minor modification.

A distinction between what constitutes a potential change in permit terms and what amounts to merely a change in implementation of the SWMP is important to consider in the context of the Two-Step General Permit. Where a permittee proposes to change a BMP that it is implementing, and the change does not require the enforceable permit conditions to be changed in any way, but rather offers an alternative means of complying with the same permit conditions, EPA would not consider this to be a permit modification. For instance, if the MS4's permit requires that it conduct field tests of 20 percent of its priority outfalls on an annual basis for illicit discharges, and the permittee changes its method of conducting such tests that is described in its SWMP document, even though a revision to the SWMP document maintained by the permittee may be necessary, no permit modification would be necessary because the 20 percent requirement is still in effect. By contrast, where a permittee proposes to substitute one of its BMPs for another one, and that change would alter the compliance expectations defined in the permit, the permittee will need to notify the permitting authority before proceeding to determine if a permit modification is necessary. For example, if the permittee's requirements specify in precise detail the field screening methodology that the MS4 will utilize for its priority outfalls, and the permittee has indicated it no longer intends to use this approach, then this proposed change will need to be evaluated by the permitting authority for whether a formal permit modification is needed. The important test here is to compare the permittee's proposed change with the terms and conditions of the permit.

EPA shares the views of commenters who emphasized the problems that would be created by any permitting scheme that would require permit modifications to be formally reviewed and approved for every SWMP change. Changes and adjustments made to the ***89341** SWMP document during its implementation are a fundamental part of the Phase II program, which has always emphasized the need for adaptive management to make iterative progress towards water quality goals. Requiring every adaptive management change to undergo review and approval by the permitting authority would constrain implementation and innovation, as commenters suggested, and could greatly increase the burden on permitting authorities. Having said this, however, EPA recognizes that in some circumstances, as illustrated in the example above, the wording of a permit provision may require that a modification be made before a permittee may proceed with a proposed change to its SWMP document. If the permitting authority wants to minimize the instances when a permit modification would be needed, it could incorporate with specificity only those elements in the SWMP document that it deems essential for meeting the MS4 permit standard. For example, a permitting authority could decide that as an alternative to incorporating all of the details of the permittee's proposed outfall screening plan in its "illicit discharge detection and elimination" portion of its SWMP document into the permit, it might instead consider selecting the specific aspects of the screening plan that in its judgment would meet the MS4 permit standard, such as that the permittee will screen all "high priority" outfalls by a specific date and that all illicit discharges will be eliminated within a specified amount of time. By not incorporating every aspect of the specific plans and procedures described by the permittee in its SWMP document, the permittee can modify its implementation approach during the permit term without needing to check with the permitting authority before making any such changes and having that change approved under the permit.

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Apart from the issue of whether or not proposed SWMP document changes require a permit modification is the need for permitting authorities to specify what procedures it will follow to review and process any permit modifications. EPA agrees with the commenter that suggested that such procedures are needed. Rather than establishing a unique set of procedures, however, it is EPA's view that the existing regulatory procedures in §§ 122.62 and 122.63, which apply to all NPDES permit modifications, are sufficient for modifications to a Two-Step General Permit. EPA advises permitting authorities to include in their permits a clear description of what types of proposed SWMP document changes will need to be reviewed as potential permit modifications, and the procedures for submitting and reviewing these changes.

F. Explaining How the Permit Terms and Conditions Meet the MS4 Permit Standard

Several commenters recommended that the final rule clarify, both in the preamble and in the rule language itself, that permitting authorities are required to include an explanation in the permit's administrative record as to why the adopted permit provisions meet the MS4 permit standard. The commenters specified that this requirement should apply regardless of the option EPA chooses to include in the final rule.

EPA agrees that the permitting authority's rationale for adopting specific small MS4 permit requirements should be documented consistent with the requirements for any NPDES permit requirements under § 124.8 and, if EPA is the permitting authority, § 124.9. This rationale should describe the basis for the draft permit terms and conditions, including support for why the permitting authority has determined that the requirements meet the required MS4 permit standard. EPA agrees with the commenters' suggestion that this rationale should be provided under both permitting approaches in the final rule. This position is consistent with the Ninth Circuit's remand decision, which emphasized the need for permitting authorities to determine that requirements satisfy the MS4 permit standard and that the public be given an opportunity to provide comments and to request a hearing on this determination.

For clarification purposes, EPA includes additional language in the final rule for the Two-Step General Permit approach to emphasize that the permitting authority's public notice for the second step (pursuant to § 122.28(d)(2)(ii)) must include, apart from the NOI and the proposed additional permit terms and conditions, “the basis for these additional requirements.” This requirement is consistent with the requirements of § 124.8(b) for what must be included in a permit fact sheet. EPA does not find it necessary for the permitting authority to produce a full fact sheet for each individual MS4 permittee under a Two-Step General Permit, nor do the regulations require this for the type of permit requirements that are being established under the second step. A fact sheet is required for the issuance of the general permit, regardless of whether the general permit is a Comprehensive General Permit or the base general permit in a Two-Step General Permit. See § 124.8(a), which requires fact sheets to be prepared for general permits. However, the NPDES regulations do not require a separate fact sheet to be developed for the additional terms and conditions that are established for individual MS4s in the second step of the Two-Step General Permit, since these requirements are not themselves part of the base general permit, nor do they necessarily fall under any of the other types of permits listed in § 124.8(a) as requiring a fact sheet (e.g., a “major” NPDES facility or site). Short of requiring a separate fact sheet for the draft additional permit conditions, EPA finds it reasonable to expect the proposed additional permit terms and conditions to be accompanied by the supporting rationale for why these requirements satisfy the MS4 permit standard.

One commenter also suggested that permitting authorities be required to explain in the administrative record why any alternative standards recommended in public comments or included in any of EPA's MS4 permit compendia were not adopted. Permitting authorities are required to respond to significant comments received in response to the public notice for the Comprehensive General Permit and the base general permit of a Two-Step General Permit, and, in addition, to respond to the comments on the second step public notice under a Two-Step General Permit. Such comments could include alternative standards suggested for inclusion in the permit. EPA does not agree that permitting authorities should be required to explain in the administrative record why a provision included in any of the agency's MS4 permit compendia was not used in any particular permit. Again, the example permit provisions that are highlighted in the permit compendia are provided as guidance and are not intended to provide a floor for what types of provisions must be used in MS4 permits.

G. Minimum Federal Permit Requirements

Several commenters requested clarification or raised concerns about the extent to which the Phase II regulations establish minimum permit requirements. This question is often raised in the context of state laws that prohibit the permitting authority from including terms and conditions in a permit that are more stringent than the federal minimum requirements or include more than the federal minimum requirements. Some comments confuse ***89342** "minimum permit requirements" with the specified elements of the minimum control measures described in § 122.34(b). In a related manner, a number of permitting authorities have shared with EPA their experiences in encountering resistance to a proposed permit requirement on the basis that it is not explicitly required in the federal regulations. In addition, some commenters asked EPA to clarify that suggestions made in the "guidance" paragraphs that are unique to the small MS4 regulations are not mandatory permit terms.

The regulations specify the elements that must be addressed in a permit. It is up to the permitting authority to establish the specific terms and conditions to meet the MS4 permit standard for each of these elements. The minimum control measures set forth in § 122.34(b), for instance, are not intended as minimum permit requirements, but rather areas of municipal stormwater management that must be addressed in permits through terms and conditions that are determined adequate to meet the MS4 permit standard. For that matter, if a permitting authority were to merely use the minimum control measure language from § 122.34(b) word-for-word and include no further enforceable permit terms and conditions, this permit would not satisfactorily meet the requirement to establish clear, specific, and measurable requirements that together ensure permittees will comply with the MS4 permit standard. EPA emphasizes that what constitutes compliance with the MS4 permit standard continues to evolve. The need to reevaluate what is meant by "maximum extent practicable" for each permit term, as well as the need to determine what is necessary to protect water quality and satisfy the appropriate water quality requirements of the CWA, means that what constitutes compliance will by necessity change over time. Therefore, in EPA's view, those that argue that the minimum federal requirements are what is included in the wording of the minimum control measures, are misconstruing the intent of the regulations, and are handicapping permits by artificially tying the MS4 permit standard to the minimum control measures.

EPA emphasizes that the minimum control measures do not restrict the permitting authority from regulating additional sources of stormwater pollutant discharges, not specifically mentioned in the minimum control measure language. For example, some states require small MS4s with very large populations to implement a program that addresses industrial sites due to the concentration of industrial sites in many of their larger urban areas. (Consider that some small MS4s can be the same size as "medium" MS4s, which are required to have a program for addressing stormwater discharges from industrial sites.) Such a requirement represents what is necessary, for those small MS4s, to reduce pollutants as necessary to meet the MS4 permit standard. This does not mean that the requirement is more stringent than the minimum control measures, but rather it constitutes what is needed in the permitting authority's view to satisfy the MS4 permit standard.

In response to the comments relating to the guidance language in § 122.34(b), EPA verifies that this "guidance" is intended to act as suggested methods of implementation, not mandatory permit terms. Having said this, EPA points out that these guidelines could form the basis of permit terms that meet the § 122.34(a) requirement to articulate requirements in a clear, specific, and measurable manner. EPA's interest in having more specific requirements in permits is to provide clarity of expectations and to hold MS4s accountable for implementing a program that continues to make progress toward achievement of water quality objectives. For a permitting authority to include requirements in a permit based on these "guidance requirements," because in its view they are necessary to ensure MS4s meet the MS4 permit standard, does not mean that the permit has established requirements beyond the federal minimum or that the permitting authority impermissibly used guidance to develop enforceable requirements.

H. Comments Beyond the Scope of This Rulemaking

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EPA received numerous public comments suggesting revisions to the substantive requirements in § 122.34. EPA clearly stated its intent in the preamble to the proposed rule that it was not proposing to change any substantive requirement and therefore the many comments suggesting the addition of specific requirements (e.g., establish or do not establish a numeric retention standard for post-construction stormwater controls) are outside the scope of this rulemaking.

VII. Revisions to Other Parts of § 122.34

A. Compliance Timeline for New MS4 Permittees

EPA proposed a minor revision to § 122.34(a) to include the word "new" before "permittees" to indicate that the five-year period allowed to develop and implement their stormwater management program applies to the initial permit for new permittees. New permittees could include small MS4s that are in urbanized areas for the first time because of demographic changes reflected in the latest decennial census, or they could be specifically designated by a permitting authority as needing an NPDES permit to protect water quality. This change is intended to preserve the flexibility included in Phase II regulations in place prior to this final rule, and to more clearly indicate that the extended time period for compliance is intended to apply to MS4s that must put a stormwater management program in place for the first time. This revision does not change the status quo; it merely recognizes that first-time small MS4 permittees have up to five years to develop and implement their SWMPs, while small MS4s that have already been permitted will have developed and implemented their SWMPs when they reapply for permit coverage under an individual permit or submit an NOI under the next small MS4 general permit. This is not to say that all actions necessary to achieve pollutant reductions must be completed in the first five years. EPA recognizes that MS4s may need more time, for example, to complete the various steps needed to get structural controls into place and operational (e.g., design project(s), secure funding, follow procurement procedures, etc. before installing structural BMPs). Therefore, EPA is retaining in the final rule the proposed clarification that permitting authorities may provide up to 5 years for small MS4s being permitted for the first time to come into compliance with the terms and conditions of the permit and to implement necessary BMPs.

B. Revisions to Evaluation and Assessment Provisions

EPA proposed to renumber existing § 122.34(g) as § 122.34(d) and to incorporate the stylistic changes described in Section VII.E of this preamble. Several commenters suggested that the terminology in this paragraph be changed to conform to the text changes made elsewhere. EPA agrees that changes to reflect the remand changes similar to the ones made elsewhere in the section are appropriate for the newly designated § 122.34(d)(1) concerning requirements for evaluation and assessment. The new § 122.34(d)(1) now states that the permit must require the permittee to evaluate compliance with the terms and conditions of the permit, the effectiveness of the components of its stormwater management program, and of achieving ***89343** the measurable requirements in the permit. Rather than evaluate the appropriateness of self-identified BMPs and measurable goals as previously required, the final rule requires permits to include terms and conditions to evaluate compliance with permit requirements, including achievement of measurable requirements established as permit requirements. This language more closely aligns the required evaluation and assessment requirements with the newly articulated requirements for developing permit conditions that are clear, specific, and measurable. It also more accurately describes the objectives of the evaluation and assessment requirements, given other revisions made in response to the remand to clarify that permitting authorities determine what is constitutes compliance, not the regulated MS4s.

The proposed rule inadvertently omitted a recent amendment to § 122.34(g) (§ 122.34(d) in the final rule) that was added by the eReporting rule (80 FR 64064, Oct. 22, 2015). This omission is corrected in the rule text that appears in this Federal Register document. The relevant provision in § 122.34(d)(3) states that, among other things, starting on December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the small MS4 to the permitting authority or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127, and that prior to this date, and independent of part 127, the owner, operator, or the duly authorized

representative of the small MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. Section IX addresses in more detail the relationship between this final rule and the eReporting rule.

EPA received a request to revise proposed § 122.34(d)(2) regarding recordkeeping requirements to mandate that MS4s post on-line the SWMP documents required under § 122.34(b). Currently, MS4s are only required to make summaries of their SWMP available to the public upon request. EPA is of the view that on-line posting of information is an effective way to communicate stormwater program information, and encourages MS4s to post on-line documents that describe their stormwater management plans, as well as provide other information about managing stormwater for various audiences. EPA, however, declines to adopt a regulatory requirement for MS4s to post documents on-line. EPA did not propose any changes to the recordkeeping requirements, and accordingly, the request is outside the scope of the proposal. EPA notes that some permitting authorities have required on-line posting of SWMP information and educational materials to implement minimum controls measures for public education and involvement, as well as elements of other minimum control measures such as the illicit discharge detection and elimination, construction and post-construction program minimum controls, and other permit requirements.

C. Establishing Water Quality-Based Requirements

EPA made minor changes to the provisions for establishing "other applicable requirements." See § 122.34(c). The following discussion explains these changes and describes how the section has been rearranged. It then discusses issues raised about how water quality-based requirements can be established under the two general permit options.

EPA proposed to consolidate existing paragraphs (e)(1) and (f) into one paragraph and to move this consolidated provision to § 122.34(c). EPA also proposed to delete guidance paragraph (e)(2). Existing § 122.34(e)(1) addresses the need to comply with permit requirements that are in addition to the minimum control measures based on a TMDL or equivalent analysis. Existing § 122.34(f) requires compliance with permit requirements that have been developed consistent with provisions in §§ 122.41 through 122.49, as appropriate. EPA is promulgating the proposed revisions, with minor editorial changes, as discussed below.

The new § 122.34(c)(1) states that the permit will include, as appropriate, more stringent terms and conditions, including permit requirements that modify, or are in addition to, the minimum control measures, based on an approved total maximum daily load (TMDL) or equivalent analysis, or where the NPDES permitting authority determines such terms and conditions are needed to protect water quality. EPA replaced the term "effluent limitations" with "terms and conditions" to be consistent with changes made to § 122.34(a). In a minor change from the proposal, the paragraph now more clearly indicates that the permitting authority has the discretion to require additional measures to protect water quality, not limited to requirements based on a TMDL or equivalent analysis. This change reflects the authority granted by the statute to protect water quality in section 402(p)(6) of the CWA. It also responds to a comment that due to the time it takes for TMDL development, permitting authorities should not be limited to consideration of only TMDL or equivalent analyses before imposing water quality based requirements. As a general matter, EPA agrees that other types of watershed plans that identify sources that should be controlled can provide a valid basis for establishing additional permit terms and conditions. Additionally, EPA recognizes that there may be instances where other information about the water quality impacts of the MS4 discharges may be sufficient to indicate the need for additional controls. (Of course, permitting authorities must have a rational basis and record support for determining that additional requirements serve a water quality objective.)

The final rule deletes existing § 122.34(e)(2), as was proposed. As explained in the preamble to the proposed rule, the guidance in existing § 122.34(e)(2) reflects EPA's recommendation for the initial round of permit issuance, which has already occurred for all permitting authorities. The phrasing of the guidance language no longer represents EPA policy with respect to including additional requirements. EPA has found that an increasing number of permitting authorities are already including specific requirements in their small MS4 permits that address not only wasteload allocations in TMDLs, but also other requirements that are in addition to permit provisions implementing the six minimum control

measures irrespective of the status of EPA's § 122.37 evaluation. See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016).[FN9] Based on the advancements made by specific permitting programs, and information that points to stormwater discharges continuing to cause waterbody impairments around the country, prior to the promulgation of this final rule, EPA has advised in guidance that permitting authorities write MS4 permits with provisions that are "clear, specific, measurable, and enforceable," incorporating such requirements as clear performance standards, and including measurable goals or quantifiable targets for ***89344** implementation. [FN10] This guidance is a more accurate reflection of the agency's current views on how the Phase II regulations should be implemented than the guidance currently in § 122.34(e)(2).

EPA received few comments about the proposed removal of § 122.34(e)(2). Several commenters strongly supported the deletion of § 122.34(e)(2), while others expressed concern that MS4s may not be in a position to implement additional controls. The MS4 permit standard embodies a great deal of flexibility and gives the permitting authority discretion to address particular water quality impairments. Where a waterbody is impaired in part due to discharges from small MS4s, especially where an approved TMDL allocates wasteload reduction responsibilities to those MS4s, additional controls to achieve reasonable progress towards attainment of water quality standards will need to be considered. The permitting authority has the ability under the final rule to develop requirements tailored to a particular MS4, either by issuing an individual permit or by employing the Two-Step General Permit process in § 122.28(d)(2). Some permitting authorities have successfully created requirements for specific MS4s in a more comprehensive general permit. For example, the 2013 California Small MS4 general permit establishes additional requirements for small MS4s discharging to waters with an approved TMDL. Each set of "deliverables" or "actions required" is tailored to the individual MS4, or groupings of MS4s, based on the pollutant of concern and the particular wasteload allocation. See Appendix G of the 2013 California Small MS4 general permit.

D. Establishing Water Quality-Based Requirements Under the Two General Permit Options

EPA received a number of questions and suggestions concerning how requirements to implement applicable TMDLs should be incorporated into general permits under any of the proposed options. Some comments asserted that there is incompatibility between the proposed Option 1 approach and the need to establish permit terms and conditions that address TMDLs, which require watershed- and MS4-specific provisions. One commenter questioned whether a general permit can incorporate different water quality-based effluent limitations for different MS4s asserting that the NPDES regulations require that general permits include the same water quality-based effluent limits for sources within the same category. Several commenters also suggested that requirements addressing TMDLs are ones that are amenable to using the Option 2 approach given their inherently watershed-specific nature and the fact that TMDL implementation plans often need to be developed with the involvement of the community so that issues such as implementation schedules and BMP approaches reflect the interests of the affected public and are attainable.

EPA clarifies that in order to comply fully with the Comprehensive General Permit approach, all terms and conditions established based on approved TMDLs must be included within the permit itself. Use of the Comprehensive General Permit approach means that the permit needs to spell out the requirements necessary for permittees "to achieve reasonable further progress toward attainment of water quality standards." (64 FR 68753, December 8, 1999) Therefore, where a TMDL establishes wasteload allocations specifically or categorically for MS4 discharges to the impaired water, the permittee should expect to find "clear, specific, and measurable" requirements within the permit that delineate their responsibilities during the permit term relative to that TMDL and associated wasteload allocation(s). There are a variety of approaches for incorporating these TMDL-related requirements into general permits for specific MS4s. One noteworthy approach places all applicable water quality-based effluent limitations in an appendix to the general permit (e.g., Appendix 2 of the 2012 Western Washington Small MS4 General Permit). For this particular permit, the state evaluated all relevant TMDLs addressing discharges from small MS4s eligible for coverage under the permit and assigned additional requirements focused on reducing the discharge of the impairment pollutant. See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016), which will be posted on EPA's Web site at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources, for additional examples.

EPA does not view any of these approaches as inconsistent with the NPDES regulatory requirement that "where sources within a specific category or subcategory of dischargers are subject to water quality-based limits . . . the sources in that specific category or subcategory shall be subject to the same water quality-based effluent limitations." See § 122.28(a)(3). It is certainly true that, due to the watershed-specific nature of TMDLs, requirements in general permit based on TMDLs can vary for individual MS4s based on the impaired water to which they discharge and the specific details of the applicable TMDL. EPA, however, does not view these differing water quality-based limit requirements within the same general permit as running afoul of the § 122.28(a)(3) requirement. EPA considers the different water quality-based requirements that are unique to a TMDL and/or to MS4s that are subject to the TMDL to be the equivalent of dividing the MS4 permittee universe into subcategories based on these requirements. This categorization is not dissimilar to the way in which EPA and many states issue their Multi-Sector General Permits for Stormwater Discharges Associated with Industrial Activity, in which there are requirements common to all facilities and a separate set of requirements that apply to different industrial sectors or subsectors. By establishing different permittee subcategories based on TMDLs, the permit remains consistent with the requirement in § 122.28(a)(3).

Use of a Two-Step General Permit similarly requires that where requirements are necessary under § 122.34(c) to address TMDLs that they be expressed in a clear, specific, and measurable manner. These requirements can be included in the base general permit or they can be developed through the second permitting step of the Two-Step General Permit approach where additional terms and conditions are established for individual MS4s. EPA agrees with the commenters that, given the watershed-specific nature of TMDLs and the strategies needed to address them, in many cases it may be that a Two-Step General Permit is the approach that provides the greatest amount of flexibility to account for these differences. The advantage of this approach is that it allows each MS4 to develop and propose stormwater control strategies that are supported by the community and that can then be reviewed by the permitting authority for adequacy. EPA notes that there are several states that have already set up permit approaches that require MS4s to first develop TMDL implementation plans that are then reviewed and approved by the permitting authority. These approaches may provide useful models to draw from especially for those permitting authorities that choose to establish water quality-based requirements through a Two-Step ***89345** General Permit. See examples in EPA's compendium document, Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016), which will be posted on EPA's Web site at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources.

E. Restructuring, Consolidating, Conforming, and Other Editorial Revisions

EPA proposed a restructuring of certain provisions in § 122.34(c) through (e) and making a number of minor editorial revisions to reflect the changes made elsewhere to meet remand requirements and to change the style of regulatory text, as discussed earlier in this preamble. EPA proposed to update the cross-references in § 122.35 to conform to the rearrangement of provisions in § 122.34. The preamble at Section VIII.B addresses changes to address water quality-based permit provisions currently in § 122.34(e) and to consolidate existing paragraphs (e) and (f) into new paragraph (c). This section explains other revisions. For the most part, EPA is promulgating these proposed revisions and has added similar revisions to additional provisions that were identified in comments. The following discussion briefly explains those changes.

First, the current § 122.34(c) of the regulations concerning "qualifying local programs" has been moved to § 122.34(e) as proposed. The only changes to the text of the existing language are to remove the words "you" and replace it with "the permittee." EPA received no comments on this proposed revision.

Second, the current § 122.34(d) that addresses information requirements for obtaining NPDES permit coverage under a general or individual permit has been moved to § 122.33(b)(2). All basic information requirements necessary to obtain permit coverage under the two types of individual permits and two types of general permits are now consolidated in § 122.33. EPA clarifies that these information requirements apply to individual permits, while the information required to be included in NOIs for general permits is to be determined by the permitting authority based on what it needs in

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order to establish the permit terms and conditions necessary to meet the MS4 permit standard. See further discussion in Sections IV.C and E.

Third, EPA also proposed to delete paragraphs (d)(2) and (3) in § 122.34 that required the permitting authority to provide a menu of BMPs for each minimum control measure, and, where such a menu of BMPS had not been provided, stated that a small MS4 need not be held to any "measurable goal" for that BMP. The final rule deletes these paragraphs as no longer necessary. EPA provided a menu of BMPs that has been available on its Web site for a number of years. EPA expects that this menu and any similar state menus will continue to be available. In addition, the function of "measurable goals" in the permitting process is clarified under the final rule. In order to address the EDC court's concerns about the lack of permitting authority review of the NOI, which contains information such as the MS4 operator's proposed measurable goals, the final rule clarifies that measurable goals are submitted in proposed form and must be reviewed and approved, and modified where necessary, by the permitting authority prior to becoming effective as enforceable requirements. Therefore, in the final rule, "measurable goals" are now "proposed measurable goals" that are submitted by an MS4 seeking an individual permit to implement the requirements in § 122.34, and at the discretion of the permitting authority, if included as required to be submitted in an NOI for coverage under a Two-Step General Permit under § 122.28(d)(2) as information necessary to establish permit conditions.

Some commenters favored keeping the requirements for a menu of BMPs as a way to promote equitable treatment among MS4s that have similar circumstances. While EPA has deleted the proviso that MS4s will not be held accountable for their selected measurable goals if a menu of BMPs has not been developed by the permitting authority, EPA does not expect permitting authorities to eliminate existing and future BMPs menus. Under § 123.35(g), an approved state is still obligated to establish BMP menus for the minimum control measures to facilitate effective program implementation. Not making information about BMPs available would be counter to effective program implementation. EPA anticipates that equity amongst MS4s will be further enhanced by the requirement for clear, specific, and measurable permit terms and conditions. It should be clear from any proposed general permit if similar MS4s are not being treated equitably and the public will have an opportunity to voice (through comments or a public hearing, if one is held) support or objections to different permit terms and conditions among MS4s. MS4s include a broad range of entities that, as noted by several commenters, are likely to need different terms and conditions for their particular situations, e.g., state departments of transportation that generally do not have the same police powers as local governments and who serve a largely transient audience. EPA also expects that dissimilar requirements for similar MS4s would be explained in the fact sheet or other document that provides the rationale for permit terms and conditions.

Finally, in the proposed rule, EPA used the term "Director" in place of "NPDES Permitting Authority" in §§ 122.33-122.35. This proposed revision was intended to use terminology in the Phase II regulations that is used in other sections of part 122. "Director" and "NPDES Permitting Authority" mean the same thing, i.e., the Regional Administrator or the Director of an authorized State NPDES program, depending on which entity issues the NPDES permits in a particular area. EPA uses these terms interchangeably. However, for purposes of minimizing the number of changes not directly related to the remand, EPA has decided to retain the status quo with respect to how these terms are used currently. In the sections that address the small MS4 program (§§ 122.32—122.35), the final rule uses the term "NPDES permitting authority." This is different than the terminology that was proposed. The other sections of part 122, for example, §§ 122.26 and 122.28, will continue to use the term "Director."

VIII. Final Rule Implementation

A. When the Final Rule Must Be Implemented

EPA received comments from state permitting authorities requesting clarification on the implementation timeframe for the new rule. EPA also received comments from environmental organizations indicating that given the length of time since the Ninth Circuit found the procedural aspects of the Phase II regulations to be invalid, that permitting authorities should be required to modify their general permit procedures now to comport their program with the CWA requirements

for permitting authority review and public participation, and also recommended that EPA should require current permits to be reopened for this purposes.

To clarify, this final rule becomes effective on January 9, 2017. It is not EPA's expectation that permitting authorities be required to reopen permits currently in effect to comply with the requirements of this final rule. However, EPA does expect that permitting authorities comply with the final rule when the next permit is being ***89346** issued following the expiration of the current permit. Having said this, EPA acknowledges that there are a small number of states whose permits are expiring within a few months of the final rule's effective date, and for these states it is likely too late in their process for them to make the necessary changes to fully comply with the final rule. Therefore, a permitting authority that has proposed a permit, is in the final stages of issuing a new permit (e.g., after the close of the public comment period), or has issued a final permit before this rule becomes effective will not be expected to re-open those permits. Where the permitting authority has not yet proposed a permit, EPA expects that these permits will be issued consistent with the final rule's requirements.

EPA recognizes that development of a new small MS4 general permit starts well in advance of the expiration of existing permits. Still, EPA anticipates that most states can develop clear, specific, and measurable permit terms and conditions without the need for a change to their legal authorities to implement the type(s) of general permits it plans to use. The substantive standard has not changed (i.e., the MS4 permit standard); the final rule merely clarifies the way in which permit terms and conditions that comply with the standard must be expressed and how they are established. Even where a state determines that it needs to change its regulations to establish new procedural requirements to implement the final rule, such as where a state establishes the general permit through a rulemaking process, it may be able to develop necessary permit terms and conditions consistent with the final rule based on its existing statutory authorities. In the event that states must change their legal authorities before they can act, the existing regulations at § 123.62 provides states up to one year to make the necessary changes and up to two years if a statutory change is needed.

B. Status of the 2004 Interim Guidance

This final rule, upon its effective date on January 9, 2017, establishes the requirements for issuing general permits for small MS4 discharges in response to the U.S. Court of Appeals for the Ninth Circuit's decision in Environmental Defense Center v. EPA. The 2004 Interim Guidance (Implementing the Partial Remand of the Stormwater Phase II Regulations Regarding Notices of Intent & NPDES General Permitting for Phase II MS4s, EPA (2004)), by its own terms, "provides interim guidance to EPA and State NPDES permitting authorities pending a rulemaking to conform the Phase II rule to the court's order." With the promulgation of this final rule, the "interim guidance" is no longer needed.

IX. Consistency With the NPDES Electronic Reporting Rule

EPA issued a final NPDES Electronic Reporting Rule (referred to as the "eReporting Rule") requiring that permitting authorities and regulated entities electronically submit permit and reporting information instead of submitting paper forms. (80 FR 64064, Oct. 22, 2015) The promulgation of the eReporting Rule includes "data elements" (in appendix A of the rule) that must be reported on by both Phase II small MS4s and permitting authorities related to individual NOIs submitted for general permit coverage and required program reports. The data elements included in the eReporting Rule for Phase II MS4s are based on the regulatory requirements in existence at the time that rule was promulgated. These data elements, therefore, do not reflect changes that are being made to the corresponding requirements as part of this MS4 remand rule.

EPA received two public comments, which were similarly focused on the need to ensure consistency between the final MS4 remand rule and the eReporting Rule. One commenter recommended that EPA be prepared once the MS4 remand rule is finalized to make conforming regulatory changes to the eReporting Rule so that programs are again aligned. The other commenter also gave examples of how the wording of the eReporting data elements would be inconsistent with the rule language under consideration for Option 1 of the proposed MS4 remand rule. More specifically, the commenter

questioned how permitting authorities would be able to populate the required data elements for the NOI for a general permit implemented under proposed Option 1 considering that information on the MS4 operator's BMPs and measurable goals would no longer be required as part of the NOI.

EPA agrees with the commenters on the importance of consistency between this final rule and the eReporting Rule. Because the appendix A data elements are no more than a reflection of what the NPDES regulations require for NOIs and compliance reports, where the underlying regulations change, as they are under the final MS4 remand rule, it is necessary to make conforming changes to appendix A. Now that the final MS4 remand rule language is set, there are some data elements that will need to be updated to conform to the new expectations for NOIs and program reports. EPA is aware of the following types of inconsistencies between the final MS4 remand rule and the appendix A data elements related to small MS4s:

• References to "measurable goals" in data name and data descriptions associated with minimum control measures—Under the final MS4 remand rule, the MS4 operator's measurable goals no longer take on the same role that they did under the previous regulations. See related discussion in Section VII.E. Under the new regulations, the final terms and conditions in the general permit and any additional requirements developed through the Two-Step process, are what is relevant. References in appendix A to the permittee's measurable goals will need to be substituted with appropriate references to the final terms and conditions of the permit. Additional updates are also needed in some places in appendix A to change the reference from "measurable goals" to the applicable schedule or deadline for compliance with the specific permit requirement.

• References to the permittee's intended actions during the permit term—The data elements in appendix A, Table 2 describe a number of the minimum control measure elements as reflecting what the permittee intends to accomplish during the permit term. Under the final MS4 remand rule, the MS4's intended actions are not what the permittee is held to, but rather the final permit terms and conditions. Therefore, EPA will need to update any references to intended actions to reflect the fact that the terms and conditions of the permit are what is necessary to report as a data element.

• Regulatory citations—Updates are also necessary to the citations in appendix A to reflect changes made to the Phase II regulations by the final MS4 remand rule.

• NPDES Data Group Number (appendix A, Table 2)—This number corresponds to the entity that is required to provide information on the data element under the eReporting Rule. Table 1 of appendix A assigns a "Data Provider" number to various entities, which is reflected in Table 2. In the portion of appendix A related to information from the NOIs, the "Data Provider" for most of the minimum control measure data elements is indicated as the "Authorized NPDES Program" (or permitting authority) and/or the "NPDES Permittee." Because the permitting authority under the final MS4 remand rule is solely responsible for establishing final permit terms and conditions, EPA will need to update the ***89347** Data Provider to remove references to the NPDES Permittee, where applicable.

EPA has also discovered in reviewing this issue that it inadvertently omitted two data elements from the final eReporting Rule. These data elements correspond to the schedules, deadlines, and milestones that are specified in the permit for the pollution prevention and good housekeeping for municipal operations requirements established under § 122.34(b)(6), and any additional requirements that may be established under § 122.34(c).

EPA is interested in taking the time needed to ensure that the edits required to appendix A are made precisely. Due to the time constraints associated with finalizing the MS4 remand rule, EPA has determined that the updates needed in appendix A require a separate regulatory action outside of this rulemaking. In addition, EPA notes that the deadline for implementation of the affected eReporting rule provisions is December 21, 2020, therefore there should be sufficient time to make the necessary changes before electronic reporting is required under the regulations. EPA will initiate the

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rulemaking process immediately and will complete it as soon as possible. In the meantime, EPA will continue to work with its state counterparts to provide appropriate guidance on applying the data elements in the near term.

X. Statutory and Executive Orders Reviews

Additional information about these statutes and Executive Orders can be found at http://www2.epa.gov/laws-regulations/laws-and-executive-orders.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket for this action. In addition, EPA prepared an analysis of the potential costs associated with this action. This analysis, "Economic Analysis for the Municipal Separate Storm Sewer System (MS4) General Permit Remand Rule," is summarized in Section I.D and is available in the docket.

B. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2040-0004.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. Although small MS4s are regulated under the Phase II regulations, this rule does not change the underlying requirements to which these entities are subject. Instead, the focus of this rule is on ensuring that the process by which NPDES permitting authorities authorize discharges from small MS4s using general permits comports with the legal requirements of the Clean Water Act and the applicable NPDES regulations.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531-1538. This action does not significantly or uniquely affect small governments because this rulemaking focuses on the way in which state permitting authorities administer general permit coverage to small MS4s, and does not modify the underlying permit requirements to which they are subject. Nonetheless, EPA consulted with small governments concerning the regulatory requirements that might indirectly affect them, as described in Section I.E.

E. Executive Order 13132: Federalism

This rule will not have substantial direct effects on the states, the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. The rule makes changes to the way in which NPDES permitting authorities, including authorized state government agencies, provide general permit coverage to small MS4s. The impact to states which are NPDES permitting authorities may range from $558,025 and $604,770 annually, depending upon the rule option that is finalized. Details of this analysis are presented in "Economic Analysis for the Final Municipal Separate Storm Sewer System General Permit Remand Rule," which is available in the docket for the rule at http://www.regulations.gov under Docket ID No. EPA-HQ-OW-2015-0671.

Keeping with the spirit of E.O. 13132 and consistent with EPA's policy to promote communications between EPA and state and local governments, EPA met with state and local officials throughout the process of developing the proposed rule and received feedback on how proposed options would affect them. EPA engaged in extensive outreach

via conference calls to authorized states (e.g., individual state permitting authorities, and the Association of Clean Water Administrators) and regulated MS4s (e.g., the National Association of Clean Water Agencies, Water Environment Federation, National Association of Flood & Stormwater Management Agencies, National Municipal Stormwater Alliance) to gather input on how EPA's current regulations are affecting them, and to enable officials of affected state and local governments to have meaningful and timely input into the development of the options presented in this rule. EPA also reached out to a number of environmental organizations (e.g., American Rivers, Chesapeake Bay Foundation, Cahaba River Society, Natural Resources Defense Council, PennFuture, River Network) and regulated industry (e.g., National Association of Home Builders).

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175 since it does not have a direct substantial impact on one or more federally recognized tribes. The rule affects the way in which small MS4s are covered under a general permit for stormwater discharges and primarily affects the NPDES permitting authorities. No tribal governments are authorized NPDES permitting authorities at this time. The rule could have an indirect impact on an Indian tribe that is a regulated MS4 in that the NOI required for coverage under a general permit may be changed as a result of the rule (if finalized) or may be subject to closer scrutiny by the permitting authority and more of the requirements could be established as enforceable permit conditions. However, the substance of what an MS4 must do will not change significantly as a result of this rule. Thus, Executive Order 13175 does not apply to this action.

Consistent with the EPA Policy on Consultation and Coordination with Indian Tribes, EPA conducted outreach to tribal officials during the development of this action. EPA spoke with tribal members during a conference call with the National Tribal Water Council to gather input on how tribal governments are currently affected by MS4 regulations and may be affected by ***89348** the options in this rule. Based on this outreach and additional, internal analysis, EPA confirmed that this action would have little tribal impact.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that EPA has reason to believe may disproportionately affect children, per the definition of "covered regulatory action" in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to Executive Order 13211, because it does not significantly affect energy supply, distribution, or use.

I. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

EPA determined that the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations. This action affects the procedures by which NPDES permitting authorities provide general permit coverage for small MS4s, to help ensure that small MS4s "reduce the discharge of pollutants to the maximum extent practicable (MEP), to protect water quality and to satisfy the water quality requirements of the Clean Water Act." It does not change any current human health or environmental risk standards.

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K. Congressional Review Act

This action is subject to the CRA, and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 122

Environmental protection, Storm water, Water pollution.

Dated: November 17, 2016.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, EPA amends 40 CFR part 122 as set forth below:

PART 122—EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

1. The authority citation for part 122 continues to read as follows:

Authority: The Clean Water Act, 33 U.S.C. 1251 et seq.
40 CFR § 122.28

2. Amend § 122.28 by adding paragraph (d) to read as follows:
40 CFR § 122.28

§ 122.28 General permits (applicable to State NPDES programs, see § 123.25).

* * * * *

(d) Small municipal separate storm sewer systems (MS4s) (Applicable to State programs). For general permits issued under paragraph (b) of this section for small MS4s, the Director must establish the terms and conditions necessary to meet the requirements of § 122.34 using one of the two permitting approaches in paragraph (d)(1) or (2) of this section. The Director must indicate in the permit or fact sheet which approach is being used.

(1) Comprehensive general permit. The Director includes all required permit terms and conditions in the general permit; or

(2) Two-step general permit. The Director includes required permit terms and conditions in the general permit applicable to all eligible small MS4s and, during the process of authorizing small MS4s to discharge, establishes additional terms and conditions not included in the general permit to satisfy one or more of the permit requirements in § 122.34 for individual small MS4 operators.

(i) The general permit must require that any small MS4 operator seeking authorization to discharge under the general permit submit a Notice of Intent (NOI) consistent with § 122.33(b)(1)(ii).

(ii) The Director must review the NOI submitted by the small MS4 operator to determine whether the information in the NOI is complete and to establish the additional terms and conditions necessary to meet the requirements of § 122.34. The Director may require the small MS4 operator to submit additional information. If the Director makes a preliminary

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decision to authorize the small MS4 operator to discharge under the general permit, the Director must give the public notice of and opportunity to comment and request a public hearing on its proposed authorization and the NOI, the proposed additional terms and conditions, and the basis for these additional requirements. The public notice, the process for submitting public comments and hearing requests, and the hearing process if a request for a hearing is granted, must follow the procedures applicable to draft permits set forth in §§ 124.10 through 124.13 (excluding § 124.10(c)(2)). The Director must respond to significant comments received during the comment period as provided in § 124.17.

(iii) Upon authorization for the MS4 to discharge under the general permit, the final additional terms and conditions applicable to the MS4 operator become effective. The Director must notify the permittee and inform the public of the decision to authorize the MS4 to discharge under the general permit and of the final additional terms and conditions specific to the MS4.

40 CFR § 122.33

3. Revise § 122.33 to read as follows:

40 CFR § 122.33

§ 122.33 Requirements for obtaining permit coverage for regulated small MS4s.

(a) The operator of any regulated small MS4 under § 122.32 must seek coverage under an NPDES permit issued by the applicable NPDES permitting authority. If the small MS4 is located in an NPDES authorized State, Tribe, or Territory, then that State, Tribe, or Territory is the NPDES permitting authority. Otherwise, the NPDES permitting authority is the EPA Regional Office for the Region where the small MS4 is located.

(b) The operator of any regulated small MS4 must seek authorization to discharge under a general or individual NPDES permit, as follows:

(1) General permit. (i) If seeking coverage under a general permit issued by the NPDES permitting authority in accordance with § 122.28(d)(1), the small MS4 operator must submit a Notice of Intent (NOI) to the NPDES permitting authority consistent with § 122.28(b)(2). The small MS4 operator may file its own NOI, or the small MS4 operator and other municipalities or governmental entities may jointly submit an NOI. If the small MS4 operator wants to share responsibilities for meeting the minimum measures with other municipalities or governmental entities, the small MS4 operator must submit an NOI that describes which minimum measures it will implement and identify the entities that will implement the other minimum measures within the area served by the MS4. The general permit will explain any other steps necessary to obtain permit authorization.

***89349** (ii) If seeking coverage under a general permit issued by the NPDES permitting authority in accordance with § 122.28(d)(2), the small MS4 operator must submit an NOI to the Director consisting of the minimum required information in § 122.28(b)(2)(ii), and any other information the Director identifies as necessary to establish additional terms and conditions that satisfy the permit requirements of § 122.34, such as the information required under § 122.33(b)(2)(i). The general permit will explain any other steps necessary to obtain permit authorization.

(2) Individual permit. (i) If seeking authorization to discharge under an individual permit to implement a program under § 122.34, the small MS4 operator must submit an application to the appropriate NPDES permitting authority that includes the information required under § 122.21(f) and the following:

(A) The best management practices (BMPs) that the small MS4 operator or another entity proposes to implement for each of the storm water minimum control measures described in § 122.34(b)(1) through (6);

(B) The proposed measurable goals for each of the BMPs including, as appropriate, the months and years in which the small MS4 operator proposes to undertake required actions, including interim milestones and the frequency of the action;

(C) The person or persons responsible for implementing or coordinating the storm water management program;

(D) An estimate of square mileage served by the small MS4;

(E) Any additional information that the NPDES permitting authority requests; and

(F) A storm sewer map that satisfies the requirement of § 122.34(b)(3)(i) satisfies the map requirement in § 122.21(f)(7).

(ii) If seeking authorization to discharge under an individual permit to implement a program that is different from the program under § 122.34, the small MS4 operator must comply with the permit application requirements in § 122.26(d). The small MS4 operator must submit both parts of the application requirements in § 122.26(d)(1) and (2). The small MS4 operator must submit the application at least 180 days before the expiration of the small MS4 operator's existing permit. Information required by § 122.26(d)(1)(ii) and (d)(2) regarding its legal authority is not required, unless the small MS4 operator intends for the permit writer to take such information into account when developing other permit conditions.

(iii) If allowed by your NPDES permitting authority, the small MS4 operator and another regulated entity may jointly apply under either paragraph (b)(2)(i) or (ii) of this section to be co-permittees under an individual permit.

(3) Co-permittee alternative. If the regulated small MS4 is in the same urbanized area as a medium or large MS4 with an NPDES storm water permit and that other MS4 is willing to have the small MS4 operator participate in its storm water program, the parties may jointly seek a modification of the other MS4 permit to include the small MS4 operator as a limited co-permittee. As a limited co-permittee, the small MS4 operator will be responsible for compliance with the permit's conditions applicable to its jurisdiction. If the small MS4 operator chooses this option it must comply with the permit application requirements of § 122.26, rather than the requirements of § 122.33(b)(2)(i). The small MS4 operator does not need to comply with the specific application requirements of § 122.26(d)(1)(iii) and (iv) and (d)(2)(iii) (discharge characterization). The small MS4 operator may satisfy the requirements in § 122.26 (d)(1)(v) and (d)(2)(iv) (identification of a management program) by referring to the other MS4's storm water management program.

(4) Guidance for paragraph (b)(3) of this section. In referencing the other MS4 operator's storm water management program, the small MS4 operator should briefly describe how the existing program will address discharges from the small MS4 or would need to be supplemented in order to adequately address the discharges. The small MS4 operator should also explain its role in coordinating storm water pollutant control activities in the MS4, and detail the resources available to the small MS4 operator to accomplish the program.

(c) If the regulated small MS4 is designated under § 122.32(a)(2), the small MS4 operator must apply for coverage under an NPDES permit, or apply for a modification of an existing NPDES permit under paragraph (b)(3) of this section, within 180 days of notice of such designation, unless the NPDES permitting authority grants a later date.

40 CFR § 122.34

4. Revise § 122.34 to read as follows:

40 CFR § 122.34

§ 122.34 Permit requirements for regulated small MS4 permits.

(a) General requirements. For any permit issued to a regulated small MS4, the NPDES permitting authority must include permit terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions that satisfy the requirements of this section must be expressed in clear, specific, and measurable terms. Such terms and conditions may include narrative, numeric, or other types of requirements (e.g., implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions).

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(1) For permits providing coverage to any small MS4s for the first time, the NPDES permitting authority may specify a time period of up to 5 years from the date of permit issuance for the permittee to fully comply with the conditions of the permit and to implement necessary BMPs.

(2) For each successive permit, the NPDES permitting authority must include terms and conditions that meet the requirements of this section based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information.

(b) Minimum control measures. The permit must include requirements that ensure the permittee implements, or continues to implement, the minimum control measures in paragraphs (b)(1) through (6) of this section during the permit term. The permit must also require a written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure.

(1) Public education and outreach on storm water impacts. (i) The permit must identify the minimum elements and require implementation of a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: The permittee may use storm water educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program ***89350** should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the permit require the permittee to tailor the public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that the permit require that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permit should encourage the permittee to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(2) Public involvement/participation. (i) The permit must identify the minimum elements and require implementation of a public involvement/participation program that complies with State, Tribal, and local public notice requirements.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit include provisions addressing the need for the public to be included in developing, implementing, and reviewing the storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

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(3) Illicit discharge detection and elimination. (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to detect and eliminate illicit discharges (as defined at § 122.26(b)(2)) into the small MS4. At a minimum, the permit must require the permittee to:

(A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

(B) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions;

(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system; and

(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(ii) The permit must also require the permittee to address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if the permittee identifies them as a significant contributor of pollutants to the small MS4: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(b)(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

(iii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit require the plan to detect and address illicit discharges include the following four components: Procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends that the permit require the permittee to visually screen outfalls during dry weather and conduct field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

(4) Construction site storm water runoff control. (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to reduce pollutants in any storm water runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Director waives requirements for storm water discharges associated with small construction activity in accordance with § 122.26(b)(15)(i), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites. At a minimum, the permit must require the permittee to develop and implement:

(A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

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(B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

***89351** (D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(E) Procedures for receipt and consideration of information submitted by the public, and

(F) Procedures for site inspection and enforcement of control measures.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that the procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. EPA also recommends that the permit require the permittee to provide appropriate educational and training measures for construction site operators, and require storm water pollution prevention plans for construction sites within the MS4's jurisdiction that discharge into the system. See § 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see § 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the NPDES permitting authority, may be responsible for implementing one or more of the minimum measures on the permittee's behalf).

(5) Post-construction storm water management in new development and redevelopment. (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the small MS4. The permit must ensure that controls are in place that would prevent or minimize water quality impacts. At a minimum, the permit must require the permittee to:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community;

(B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the permit ensure that BMPs included in the program: Be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. EPA encourages the permittee to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, EPA recommends that the permit require the permittee to adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from

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new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing the program, the permit should also require the permittee to assess existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, the permit should require the permittee to provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: Storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that the permit requirements be responsive to these changes, developments or improvements in control technologies.

(6) Pollution prevention/good housekeeping for municipal operations. (i) The permit must identify the minimum elements and require the development and implementation of an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the State, Tribe, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit address the following: Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm ***89352** sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

(c) Other applicable requirements. As appropriate, the permit will include:

(1) More stringent terms and conditions, including permit requirements that modify, or are in addition to, the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis, or where the Director determines such terms and conditions are needed to protect water quality.

(2) Other applicable NPDES permit requirements, standards and conditions established in the individual or general permit, developed consistent with the provisions of §§ 122.41 through 122.49.

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(d) Evaluation and assessment requirements—(1) Evaluation. The permit must require the permittee to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the components of its storm water management program, and the status of achieving the measurable requirements in the permit.

Note to paragraph (d)(1): The NPDES permitting authority may determine monitoring requirements for the permittee in accordance with State/Tribal monitoring plans appropriate to the watershed. Participation in a group monitoring program is encouraged.

(2) Recordkeeping. The permit must require that the permittee keep records required by the NPDES permit for at least 3 years and submit such records to the NPDES permitting authority when specifically asked to do so. The permit must require the permittee to make records, including a written description of the storm water management program, available to the public at reasonable times during regular business hours (see § 122.7 for confidentiality provision). (The permittee may assess a reasonable charge for copying. The permit may allow the permittee to require a member of the public to provide advance notice.)

(3) Reporting. Unless the permittee is relying on another entity to satisfy its NPDES permit obligations under § 122.35(a), the permittee must submit annual reports to the NPDES permitting authority for its first permit term. For subsequent permit terms, the permittee must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports. As of December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the small MS4 to the NPDES permitting authority or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the owner, operator, or the duly authorized representative of the small MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. The report must include:

(i) The status of compliance with permit terms and conditions;

(ii) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

(iii) A summary of the storm water activities the permittee proposes to undertake to comply with the permit during the next reporting cycle;

(iv) Any changes made during the reporting period to the permittee's storm water management program; and

(v) Notice that the permittee is relying on another governmental entity to satisfy some of the permit obligations (if applicable), consistent with § 122.35(a).

(e) Qualifying local program. If an existing qualifying local program requires the permittee to implement one or more of the minimum control measures of paragraph (b) of this section, the NPDES permitting authority may include conditions in the NPDES permit that direct the permittee to follow that qualifying program's requirements rather than the requirements of paragraph (b). A qualifying local program is a local, State or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b).
40 CFR § 122.35
5. Amend § 122.35 by revising the section heading and paragraph (a) to read as follows:
40 CFR § 122.35

§ 122.35 May the operator of a regulated small MS4 share the responsibility to implement the minimum control measures with other entities?

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(a) The permittee may rely on another entity to satisfy its NPDES permit obligations to implement a minimum control measure if:

(1) The other entity, in fact, implements the control measure;

(2) The particular control measure, or component thereof, is at least as stringent as the corresponding NPDES permit requirement; and

(3) The other entity agrees to implement the control measure on the permittee's behalf. In the reports, the permittee must submit under § 122.34(d)(3), the permittee must also specify that it is relying on another entity to satisfy some of the permit obligations. If the permittee is relying on another governmental entity regulated under section 122 to satisfy all of the permit obligations, including the obligation to file periodic reports required by § 122.34(d)(3), the permittee must note that fact in its NOI, but the permittee is not required to file the periodic reports. The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure (or component thereof). Therefore, EPA encourages the permittee to enter into a legally binding agreement with that entity if the permittee wants to minimize any uncertainty about compliance with the permit.

* * * * *

[FR Doc. 2016-28426 Filed 12-8-16; 8:45 am]

BILLING CODE 6560-50-P

Footnotes

1 These documents can be found on EPA's Web site at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources.

2 This document will be made available on EPA's Web site at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources.

3 See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016).

4 For example, Colorado's 2016 Small MS4 General Permit includes a different set of actions and corresponding deadlines for "new permittees" and "renewal permittees." See Section H, https://www.colorado.gov/pacific/sites/default/files/COR090000-PermitCertification.PDF.

5 See California's 2013 Small MS4 General Permit, http://www.waterboards.ca.gov/water—issues/programs/stormwater/docs/phsii2012—5th/order—final.pdf.

6 See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016).

7 See EPA memorandum entitled Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," November 26, 2014.

8 This document, and two additional compendia, Compendium of MS4 Permitting Approaches—Part 2: Post Construction Standards (EPA, 2016) and Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016), will be available at EPA's Web site at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources.

9 This document will be made available at on EPA's Web site at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources.

10 See EPA's MS4 Permit Improvement Guide (EPA, 2010).

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ATTACHMENT B-1

West's Annotated California Codes
Constitution of the State of California 1879 (Refs & Annos)
Article III. State of California (Refs & Annos)

West's Ann.Cal.Const. Art. 3, § 3.5

§ 3.5. Administrative agencies; prohibition against declaring statute unenforceable or unconstitutional; exceptions

Currentness

Sec. 3.5. An administrative agency, including an administrative agency created by the Constitution or an initiative statute, has no power:

(a) To declare a statute unenforceable, or refuse to enforce a statute, on the basis of it being unconstitutional unless an appellate court has made a determination that such statute is unconstitutional;

(b) To declare a statute unconstitutional;

(c) To declare a statute unenforceable, or to refuse to enforce a statute on the basis that federal law or federal regulations prohibit the enforcement of such statute unless an appellate court has made a determination that the enforcement of such statute is prohibited by federal law or federal regulations.

Credits
(Added June 6, 1978.)

Notes of Decisions (35)

West's Ann. Cal. Const. Art. 3, § 3.5, CA CONST Art. 3, § 3.5
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-2

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

West's Annotated California Codes
Constitution of the State of California 1879 (Refs & Annos)
Article Xiiib. Government Spending Limitation (Refs & Annos)

West's Ann.Cal.Const. Art. 13B, § 6

§ 6. New programs or services mandated by Legislature or state agencies; subvention; appropriation of funds or suspension of operation

Effective: June 4, 2014
Currentness

SEC. 6. (a) Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service, except that the Legislature may, but need not, provide a subvention of funds for the following mandates:

(1) Legislative mandates requested by the local agency affected.

(2) Legislation defining a new crime or changing an existing definition of a crime.

(3) Legislative mandates enacted prior to January 1, 1975, or executive orders or regulations initially implementing legislation enacted prior to January 1, 1975.

(4) Legislative mandates contained in statutes within the scope of paragraph (7) of subdivision (b) of Section 3 of Article I.

(b)(1) Except as provided in paragraph (2), for the 2005-06 fiscal year and every subsequent fiscal year, for a mandate for which the costs of a local government claimant have been determined in a preceding fiscal year to be payable by the State pursuant to law, the Legislature shall either appropriate, in the annual Budget Act, the full payable amount that has not been previously paid, or suspend the operation of the mandate for the fiscal year for which the annual Budget Act is applicable in a manner prescribed by law.

(2) Payable claims for costs incurred prior to the 2004-05 fiscal year that have not been paid prior to the 2005-06 fiscal year may be paid over a term of years, as prescribed by law.

(3) Ad valorem property tax revenues shall not be used to reimburse a local government for the costs of a new program or higher level of service.

(4) This subdivision applies to a mandate only as it affects a city, county, city and county, or special district.

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(5) This subdivision shall not apply to a requirement to provide or recognize any procedural or substantive protection, right, benefit, or employment status of any local government employee or retiree, or of any local government employee organization, that arises from, affects, or directly relates to future, current, or past local government employment and that constitutes a mandate subject to this section.

(c) A mandated new program or higher level of service includes a transfer by the Legislature from the State to cities, counties, cities and counties, or special districts of complete or partial financial responsibility for a required program for which the State previously had complete or partial financial responsibility.

Credits

(Adopted Nov. 6, 1979. Amended by Stats.2004, Res. c. 133 (S.C.A.4) (Prop.1A, approved Nov. 2, 2004, eff. Nov. 3, 2004); Stats.2013, Res. c. 123 (S.C.A.3), § 2 (Prop. 42, approved June 3, 2014, eff. June 4, 2014).)

Notes of Decisions (213)

West's Ann. Cal. Const. Art. 13B, § 6, CA CONST Art. 13B, § 6
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-3

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

West's Annotated California Codes
Constitution of the State of California 1879 (Refs & Annos)
Article XIIIC. [Voter Approval for Local Tax Levies] (Refs & Annos)

West's Ann.Cal.Const. Art. 13C, § 1

§ 1. Definitions

Effective: November 3, 2010
Currentness

SECTION 1. Definitions. As used in this article:

(a) “General tax” means any tax imposed for general governmental purposes.

(b) “Local government” means any county, city, city and county, including a charter city or county, any special district, or any other local or regional governmental entity.

(c) “Special district” means an agency of the State, formed pursuant to general law or a special act, for the local performance of governmental or proprietary functions with limited geographic boundaries including, but not limited to, school districts and redevelopment agencies.

(d) “Special tax” means any tax imposed for specific purposes, including a tax imposed for specific purposes, which is placed into a general fund.

(e) As used in this article, “tax” means any levy, charge, or exaction of any kind imposed by a local government, except the following:

(1) A charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege.

(2) A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.

(3) A charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.

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(4) A charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property.

(5) A fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law.

(6) A charge imposed as a condition of property development.

(7) Assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

The local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity.

Credits

(Added by Initiative Measure (Prop. 218, § 3, approved Nov. 5, 1996). Amended by Initiative Measure (Prop. 26, § 3, approved Nov. 2, 2010, eff. Nov. 3, 2010).)

Notes of Decisions (72)

West's Ann. Cal. Const. Art. 13C, § 1, CA CONST Art. 13C, § 1
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-4

West's Annotated California Codes
Constitution of the State of California 1879 (Refs & Annos)
Article XIIID. [Assessment and Property Related Fee Reform] (Refs & Annos)

West's Ann.Cal.Const. Art. 13D, § 6

§ 6. New or existing increased fees and charges; procedures and requirements; voter approval

Currentness

Sec. 6. Property Related Fees and Charges. (a) Procedures for New or Increased Fees and Charges. An agency shall follow the procedures pursuant to this section in imposing or increasing any fee or charge as defined pursuant to this article, including, but not limited to, the following:

(1) The parcels upon which a fee or charge is proposed for imposition shall be identified. The amount of the fee or charge proposed to be imposed upon each parcel shall be calculated. The agency shall provide written notice by mail of the proposed fee or charge to the record owner of each identified parcel upon which the fee or charge is proposed for imposition, the amount of the fee or charge proposed to be imposed upon each, the basis upon which the amount of the proposed fee or charge was calculated, the reason for the fee or charge, together with the date, time, and location of a public hearing on the proposed fee or charge.

(2) The agency shall conduct a public hearing upon the proposed fee or charge not less than 45 days after mailing the notice of the proposed fee or charge to the record owners of each identified parcel upon which the fee or charge is proposed for imposition. At the public hearing, the agency shall consider all protests against the proposed fee or charge. If written protests against the proposed fee or charge are presented by a majority of owners of the identified parcels, the agency shall not impose the fee or charge.

(b) Requirements for Existing, New or Increased Fees and Charges. A fee or charge shall not be extended, imposed, or increased by any agency unless it meets all of the following requirements:

(1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.

(2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.

(3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

(4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based on potential or future use of a service are not permitted. Standby charges, whether characterized as charges or assessments, shall be classified as assessments and shall not be imposed without compliance with Section 4.

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(5) No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners. Reliance by an agency on any parcel map, including, but not limited to, an assessor's parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article. In any legal action contesting the validity of a fee or charge, the burden shall be on the agency to demonstrate compliance with this article.

(c) Voter Approval for New or Increased Fees and Charges. Except for fees or charges for sewer, water, and refuse collection services, no property related fee or charge shall be imposed or increased unless and until that fee or charge is submitted and approved by a majority vote of the property owners of the property subject to the fee or charge or, at the option of the agency, by a two-thirds vote of the electorate residing in the affected area. The election shall be conducted not less than 45 days after the public hearing. An agency may adopt procedures similar to those for increases in assessments in the conduct of elections under this subdivision.

(d) Beginning July 1, 1997, all fees or charges shall comply with this section.

Credits
(Added by Initiative Measure (Prop. 218, § 4, approved Nov. 5, 1996).)

Notes of Decisions (89)

West's Ann. Cal. Const. Art. 13D, § 6, CA CONST Art. 13D, § 6
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-5

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

West's Annotated California Codes
Government Code (Refs & Annos)
Title 2. Government of the State of California
Division 4. Fiscal Affairs (Refs & Annos)
Part 7. State-Mandated Local Costs (Refs & Annos)
Chapter 4. Identification and Payment of Costs Mandated by the State (Refs & Annos)
Article 1. Commission Procedure (Refs & Annos)

West's Ann.Cal.Gov.Code § 17551

§ 17551. Hearing and decision on claims

Effective: January 1, 2008
Currentness

(a) The commission, pursuant to the provisions of this chapter, shall hear and decide upon a claim by a local agency or school district that the local agency or school district is entitled to be reimbursed by the state for costs mandated by the state as required by Section 6 of Article XIII B of the California Constitution.

(b) Except as provided in Sections 17573 and 17574, commission review of claims may be had pursuant to subdivision (a) only if the test claim is filed within the time limits specified in this section.

(c) Local agency and school district test claims shall be filed not later than 12 months following the effective date of a statute or executive order, or within 12 months of incurring increased costs as a result of a statute or executive order, whichever is later.

(d) The commission, pursuant to the provisions of this chapter, shall hear and decide upon a claim by a local agency or school district filed on or after January 1, 1985, that the Controller has incorrectly reduced payments to the local agency or school district pursuant to paragraph (2) of subdivision (d) of Section 17561.

Credits
(Added by Stats.1984, c. 1459, § 1. Amended by Stats.1985, c. 179, § 5, eff. July 8, 1985, operative Jan. 1, 1985; Stats.1986, c. 879, § 2; Stats.2002, c. 1124 (A.B.3000), § 30.2, eff. Sept. 30, 2002; Stats.2004, c. 890 (A.B.2856), § 11; Stats.2007, c. 329 (A.B.1222), § 3.)

Notes of Decisions (6)

West's Ann. Cal. Gov. Code § 17551, CA GOVT § 17551
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-6

West's Annotated California Codes
Government Code (Refs & Annos)
Title 2. Government of the State of California
Division 4. Fiscal Affairs (Refs & Annos)
Part 7. State-Mandated Local Costs (Refs & Annos)
Chapter 4. Identification and Payment of Costs Mandated by the State (Refs & Annos)
Article 1. Commission Procedure (Refs & Annos)

West's Ann.Cal.Gov.Code § 17553

§ 17553. Procedures for receiving and hearing claims; filing of test claims; form and contents; incomplete test claims; determination of complete incorrect reduction claim

Effective: January 1, 2008
Currentness

(a) The commission shall adopt procedures for receiving claims filed pursuant to this article and Section 17574 and for providing a hearing on those claims. The procedures shall do all of the following:

(1) Provide for presentation of evidence by the claimant, the Department of Finance, and any other affected department or agency, and any other interested person.

(2) Ensure that a statewide cost estimate is adopted within 12 months after receipt of a test claim, when a determination is made by the commission that a mandate exists. This deadline may be extended for up to six months upon the request of either the claimant or the commission.

(3) Permit the hearing of a claim to be postponed at the request of the claimant, without prejudice, until the next scheduled hearing.

(b) All test claims shall be filed on a form prescribed by the commission and shall contain at least the following elements and documents:

(1) A written narrative that identifies the specific sections of statutes or executive orders and the effective date and register number of regulations alleged to contain a mandate and shall include all of the following:

(A) A detailed description of the new activities and costs that arise from the mandate.

(B) A detailed description of existing activities and costs that are modified by the mandate.

(C) The actual increased costs incurred by the claimant during the fiscal year for which the claim was filed to implement the alleged mandate.

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(D) The actual or estimated annual costs that will be incurred by the claimant to implement the alleged mandate during the fiscal year immediately following the fiscal year for which the claim was filed.

(E) A statewide cost estimate of increased costs that all local agencies or school districts will incur to implement the alleged mandate during the fiscal year immediately following the fiscal year for which the claim was filed.

(F) Identification of all of the following:

(i) Dedicated state funds appropriated for this program.

(ii) Dedicated federal funds appropriated for this program.

(iii) Other nonlocal agency funds dedicated for this program.

(iv) The local agency's general purpose funds for this program.

(v) Fee authority to offset the costs of this program.

(G) Identification of prior mandate determinations made by the Commission on State Mandates or a predecessor agency that may be related to the alleged mandate.

(H) Identification of a legislatively determined mandate pursuant to Section 17573 that is on the same statute or executive order.

(2) The written narrative shall be supported with declarations under penalty of perjury, based on the declarant's personal knowledge, information, or belief, and signed by persons who are authorized and competent to do so, as follows:

(A) Declarations of actual or estimated increased costs that will be incurred by the claimant to implement the alleged mandate.

(B) Declarations identifying all local, state, or federal funds, or fee authority that may be used to offset the increased costs that will be incurred by the claimant to implement the alleged mandate, including direct and indirect costs.

(C) Declarations describing new activities performed to implement specified provisions of the new statute or executive order alleged to impose a reimbursable state-mandated program. Specific references shall be made to chapters, articles, sections, or page numbers alleged to impose a reimbursable state-mandated program.

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(D) If applicable, declarations describing the period of reimbursement and payments received for full reimbursement of costs for a legislatively determined mandate pursuant to Section 17573, and the authority to file a test claim pursuant to paragraph (1) of subdivision (c) of Section 17574.

(3)(A) The written narrative shall be supported with copies of all of the following:

(i) The test claim statute that includes the bill number or executive order, alleged to impose or impact a mandate.

(ii) Relevant portions of state constitutional provisions, federal statutes, and executive orders that may impact the alleged mandate.

(iii) Administrative decisions and court decisions cited in the narrative.

(B) State mandate determinations made by the Commission on State Mandates or a predecessor agency and published court decisions on state mandate determinations made by the Commission on State Mandates are exempt from this requirement.

(4) A test claim shall be signed at the end of the document, under penalty of perjury by the claimant or its authorized representative, with the declaration that the test claim is true and complete to the best of the declarant's personal knowledge, information, or belief. The date of signing, the declarant's title, address, telephone number, facsimile machine telephone number, and electronic mail address shall be included.

(c) If a completed test claim is not received by the commission within 30 calendar days from the date that an incomplete test claim was returned by the commission, the original test claim filing date may be disallowed, and a new test claim may be accepted on the same statute or executive order.

(d) In addition, the commission shall determine whether an incorrect reduction claim is complete within 10 days after the date that the incorrect reduction claim is filed. If the commission determines that an incorrect reduction claim is not complete, the commission shall notify the local agency and school district that filed the claim stating the reasons that the claim is not complete. The local agency or school district shall have 30 days to complete the claim. The commission shall serve a copy of the complete incorrect reduction claim on the Controller. The Controller shall have no more than 90 days after the date the claim is delivered or mailed to file any rebuttal to an incorrect reduction claim. The failure of the Controller to file a rebuttal to an incorrect reduction claim shall not serve to delay the consideration of the claim by the commission.

Credits

(Added by Stats.1995, c. 945 (S.B.11), § 5, operative July 1, 1996. Amended by Stats.1998, c. 681 (A.B.1963), § 1, eff. Sept. 22, 1998; Stats.1999, c. 643 (A.B.1679), § 3; Stats.2004, c. 890 (A.B.2856), § 12; Stats.2006, c. 538 (S.B.1852), § 278; Stats.2007, c. 329 (A.B.1222), § 4.)

West's Ann. Cal. Gov. Code § 17553, CA GOVT § 17553

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ATTACHMENT B-7

 KeyCite Yellow Flag - Negative Treatment
Unconstitutional or PreemptedPrior Version Held Unconstitutional by California School Boards Ass'n v. State, Cal.App. 3 Dist., Mar. 09, 2009

West's Annotated California Codes
Government Code (Refs & Annos)
Title 2. Government of the State of California
Division 4. Fiscal Affairs (Refs & Annos)
Part 7. State-Mandated Local Costs (Refs & Annos)
Chapter 4. Identification and Payment of Costs Mandated by the State (Refs & Annos)
Article 1. Commission Procedure (Refs & Annos)

West's Ann.Cal.Gov.Code § 17556

§ 17556. Findings; costs not mandated upon certain conditions

Effective: October 19, 2010
Currentness

The commission shall not find costs mandated by the state, as defined in Section 17514, in any claim submitted by a local agency or school district, if, after a hearing, the commission finds any one of the following:

(a) The claim is submitted by a local agency or school district that requests or previously requested legislative authority for that local agency or school district to implement the program specified in the statute, and that statute imposes costs upon that local agency or school district requesting the legislative authority. A resolution from the governing body or a letter from a delegated representative of the governing body of a local agency or school district that requests authorization for that local agency or school district to implement a given program shall constitute a request within the meaning of this subdivision. This subdivision applies regardless of whether the resolution from the governing body or a letter from a delegated representative of the governing body was adopted or sent prior to or after the date on which the statute or executive order was enacted or issued.

(b) The statute or executive order affirmed for the state a mandate that has been declared existing law or regulation by action of the courts. This subdivision applies regardless of whether the action of the courts occurred prior to or after the date on which the statute or executive order was enacted or issued.

(c) The statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation. This subdivision applies regardless of whether the federal law or regulation was enacted or adopted prior to or after the date on which the state statute or executive order was enacted or issued.

(d) The local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service. This subdivision applies regardless of whether the authority to levy charges, fees, or assessments was enacted or adopted prior to or after the date on which the statute or executive order was enacted or issued.

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(e) The statute, executive order, or an appropriation in a Budget Act or other bill provides for offsetting savings to local agencies or school districts that result in no net costs to the local agencies or school districts, or includes additional revenue that was specifically intended to fund the costs of the state mandate in an amount sufficient to fund the cost of the state mandate. This subdivision applies regardless of whether a statute, executive order, or appropriation in the Budget Act or other bill that either provides for offsetting savings that result in no net costs or provides for additional revenue specifically intended to fund the costs of the state mandate in an amount sufficient to fund the cost of the state mandate was enacted or adopted prior to or after the date on which the statute or executive order was enacted or issued.

(f) The statute or executive order imposes duties that are necessary to implement, or are expressly included in, a ballot measure approved by the voters in a statewide or local election. This subdivision applies regardless of whether the statute or executive order was enacted or adopted before or after the date on which the ballot measure was approved by the voters.

(g) The statute created a new crime or infraction, eliminated a crime or infraction, or changed the penalty for a crime or infraction, but only for that portion of the statute relating directly to the enforcement of the crime or infraction.

Credits

(Added by Stats.1984, c. 1459, § 1. Amended by Stats.1986, c. 879, § 4; Stats.1989, c. 589, § 1; Stats.2004, c. 895 (A.B.2855), § 14; Stats.2005, c. 72 (A.B.138), § 7, eff. July 19, 2005; Stats.2006, c. 538 (S.B.1852), § 279; Stats.2010, c. 719 (S.B.856), § 31, eff. Oct. 19, 2010.)

Editors' Notes

VALIDITY

A prior version of this section was held unconstitutional as impermissibly broad, in the decision of California School Boards Ass'n v. State (App. 3 Dist. 2009) 90 Cal.Rptr.3d 501, 171 Cal.App.4th 1183.

Notes of Decisions (14)

West's Ann. Cal. Gov. Code § 17556, CA GOVT § 17556
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-8

West's Annotated California Codes
Government Code (Refs & Annos)
Title 5. Local Agencies (Refs & Annos)
Division 2. Cities, Counties, and Other Agencies (Refs & Annos)
Part 1. Powers and Duties Common to Cities, Counties, and Other Agencies (Refs & Annos)
Chapter 4. Financial Affairs (Refs & Annos)
Article 4.6. Proposition 218 Omnibus Implementation Act (Refs & Annos)

West's Ann.Cal.Gov.Code § 53750

§ 53750. Definitions

Effective: January 1, 2018
Currentness

For purposes of Article XIII C and Article XIII D of the California Constitution and this article, the following words have the following meanings, and shall be read and interpreted in light of the findings and declarations contained in Section 53751:

(a) "Agency" means any local government as defined in subdivision (b) of Section 1 of Article XIII C of the California Constitution.

(b) "Assessment" means any levy or charge by an agency upon real property that is based upon the special benefit conferred upon the real property by a public improvement or service, that is imposed to pay the capital cost of the public improvement, the maintenance and operation expenses of the public improvement, or the cost of the service being provided. "Assessment" includes, but is not limited to, "special assessment," "benefit assessment," "maintenance assessment," and "special assessment tax."

(c) "District" means an area that is determined by an agency to contain all of the parcels that will receive a special benefit from a proposed public improvement or service.

(d) "Drainage system" means any system of public improvements that is intended to provide for erosion control, for landslide abatement, or for other types of water drainage.

(e) "Extended," when applied to an existing tax or fee or charge, means a decision by an agency to extend the stated effective period for the tax or fee or charge, including, but not limited to, amendment or removal of a sunset provision or expiration date.

(f) "Flood control" means any system of public improvements that is intended to protect property from overflow by water.

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(g) "Identified parcel" means a parcel of real property that an agency has identified as having a special benefit conferred upon it and upon which a proposed assessment is to be imposed, or a parcel of real property upon which a proposed property-related fee or charge is proposed to be imposed.

(h)(1) "Increased," when applied to a tax, assessment, or property-related fee or charge, means a decision by an agency that does either of the following:

(A) Increases any applicable rate used to calculate the tax, assessment, fee, or charge.

(B) Revises the methodology by which the tax, assessment, fee, or charge is calculated, if that revision results in an increased amount being levied on any person or parcel.

(2) A tax, fee, or charge is not deemed to be "increased" by an agency action that does either or both of the following:

(A) Adjusts the amount of a tax, fee, or charge in accordance with a schedule of adjustments, including a clearly defined formula for inflation adjustment that was adopted by the agency prior to November 6, 1996.

(B) Implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved by the agency is not revised so as to result in an increase in the amount being levied on any person or parcel.

(3) A tax, assessment, fee, or charge is not deemed to be "increased" in the case in which the actual payments from a person or property are higher than would have resulted when the agency approved the tax, assessment, fee, or charge, if those higher payments are attributable to events other than an increased rate or revised methodology, such as a change in the density, intensity, or nature of the use of land.

(i) "Notice by mail" means any notice required by Article XIII C or XIII D of the California Constitution that is accomplished through a mailing, postage prepaid, deposited in the United States Postal Service and is deemed given when so deposited. Notice by mail may be included in any other mailing to the record owner that otherwise complies with Article XIII C or XIII D of the California Constitution and this article, including, but not limited to, the mailing of a bill for the collection of an assessment or a property-related fee or charge.

(j) "Record owner" means the owner of a parcel whose name and address appears on the last equalized secured property tax assessment roll, or in the case of any public entity, the State of California, or the United States, means the representative of that public entity at the address of that entity known to the agency.

(k) "Sewer" includes systems, all real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate sewage collection, treatment, or disposition for sanitary or drainage purposes, including lateral and connecting sewers, interceptors, trunk and outfall lines, sanitary sewage treatment or disposal plants or works, drains, conduits, outlets for surface or storm waters, and any and all other works, property, or structures necessary or

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convenient for the collection or disposal of sewage, industrial waste, or surface or storm waters. "Sewer system" shall not include a sewer system that merely collects sewage on the property of a single owner.

(*l*) "Registered professional engineer" means an engineer registered pursuant to the Professional Engineers Act (Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code).

(m) "Vector control" means any system of public improvements or services that is intended to provide for the surveillance, prevention, abatement, and control of vectors as defined in subdivision (k) of Section 2002 of the Health and Safety Code and a pest as defined in Section 5006 of the Food and Agricultural Code.

(n) "Water" means any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water from any source.

Credits

(Added by Stats.1997, c. 38 (S.B.919), § 5, eff. July 1, 1997. Amended by Stats.1998, c. 876 (S.B.1649), § 10; Stats.2002, c. 395 (S.B.1588), § 3; Stats.2014, c. 78 (A.B.2403), § 2, eff. Jan. 1, 2015; Stats.2017, c. 536 (S.B.231), § 1, eff. Jan. 1, 2018.)

Notes of Decisions (13)

West's Ann. Cal. Gov. Code § 53750, CA GOVT § 53750
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-9

West's Ann.Cal.Gov.Code § 53751

§ 53751. Legislative findings and declarations relating to sewers

Effective: January 1, 2018
Currentness

The Legislature finds and declares all of the following:

(a) The ongoing, historic drought has made clear that California must invest in a 21st century water management system capable of effectively meeting the economic, social, and environmental needs of the state.

(b) Sufficient and reliable funding to pay for local water projects is necessary to improve the state's water infrastructure.

(c) Proposition 218 was approved by the voters at the November 5, 1996, statewide general election. Some court interpretations of the law have constrained important tools that local governments need to manage storm water and drainage runoff.

(d) Storm waters are carried off in storm sewers, and careful management is necessary to ensure adequate state water supplies, especially during drought, and to reduce pollution. But a court decision has found storm water subject to the voter-approval provisions of Proposition 218 that apply to property-related fees, preventing many important projects from being built.

(e) The court of appeal in Howard Jarvis Taxpayers Ass'n v. City of Salinas (2002) 98 Cal.App.4th 1351 concluded that the term “sewer,” as used in Proposition 218, is “ambiguous” and declined to use the statutory definition of the term “sewer system,” which was part of the then-existing law as Section 230.5 of the Public Utilities Code.

(f) The court in Howard Jarvis Taxpayers Ass'n v. City of Salinas (2002) 98 Cal.App.4th 1351 failed to follow long-standing principles of statutory construction by disregarding the plain meaning of the term “sewer.” Courts have long held that statutory construction rules apply to initiative measures, including in cases that apply specifically to Proposition 218 (see People v. Bustamante (1997) 57 Cal.App.4th 693; Keller v. Chowchilla Water Dist. (2000) 80 Cal.App.4th 1006). When construing statutes, courts look first to the words of the statute, which should be given their usual, ordinary, and commonsense meaning (People v. Mejia (2012) 211 Cal.App.4th 586, 611). The purpose of utilizing the plain meaning of statutory language is to spare the courts the necessity of trying to divine the voters' intent by resorting to secondary or subjective indicators. The court in Howard Jarvis Taxpayers Ass'n v. City of Salinas (2002) 98 Cal.App.4th 1351 asserted its belief as to what most voters thought when voting for Proposition 218, but did not cite the voter pamphlet or other

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accepted sources for determining legislative intent. Instead, the court substituted its own judgment for the judgment of voters.

(g) Neither the words "sanitary" nor "sewerage" are used in Proposition 218, and the common meaning of the term "sewer services" is not "sanitary sewerage." In fact, the phrase "sanitary sewerage" is uncommon.

(h) Proposition 218 exempts sewer and water services from the voter-approval requirement. Sewer and water services are commonly considered to have a broad reach, encompassing the provision of clean water and then addressing the conveyance and treatment of dirty water, whether that water is rendered unclean by coming into contact with sewage or by flowing over the built-out human environment and becoming urban runoff.

(i) Numerous sources predating Proposition 218 reject the notion that the term "sewer" applies only to sanitary sewers and sanitary sewerage, including, but not limited to:

(1) Section 230.5 of the Public Utilities Code, added by Chapter 1109 of the Statutes of 1970.

(2) Section 23010.3, added by Chapter 1193 of the Statutes of 1963.

(3) The Street Improvement Act of 1913.

(4) L.A. County Flood Control Dist. v. Southern Cal. Edison Co. (1958) 51 Cal.2d 331, where the California Supreme Court stated that "no distinction has been made between sanitary sewers and storm drains or sewers."

(5) Many other cases where the term "sewer" has been used interchangeably to refer to both sanitary and storm sewers include, but are not limited to, County of Riverside v. Whitlock (1972) 22 Cal.App.3d 863, Ramseier v. Oakley Sanitary Dist. (1961) 197 Cal.App.2d 722, and Torson v. Fleming (1928) 91 Cal.App. 168.

(6) Dictionary definitions of sewer, which courts have found to be an objective source for determining common or ordinary meaning, including Webster's (1976), American Heritage (1969), and Oxford English Dictionary (1971).

(j) Prior legislation has affirmed particular interpretations of words in Proposition 218, specifically Assembly Bill 2403 of the 2013-14 Regular Session (Chapter 78 of the Statutes of 2014).

(k) In Crawley v. Alameda Waste Management Authority (2015) 243 Cal.App.4th 396, the Court of Appeal relied on the statutory definition of "refuse collection services" to interpret the meaning of that phrase in Proposition 218, and found that this interpretation was further supported by the plain meaning of refuse. Consistent with this decision, in determining the definition of "sewer," the plain meaning rule shall apply in conjunction with the definitions of terms as provided in Section 53750.

(*l*) The Legislature reaffirms and reiterates that the definition found in Section 230.5 of the Public Utilities Code is the definition of "sewer" or "sewer service" that should be used in the Proposition 218 Omnibus Implementation Act.

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(m) Courts have read the Legislature's definition of "water" in the Proposition 218 Omnibus Implementation Act to include related services. In Griffith v. Pajaro Valley Water Management Agency (2013) 220 Cal.App.4th 586, the Court of Appeal concurred with the Legislature's view that "water service means more than just supplying water," based upon the definition of water provided by the Proposition 218 Omnibus Implementation Act, and found that actions necessary to provide water can be funded through fees for water service. Consistent with this decision, "sewer" should be interpreted to include services necessary to collect, treat, or dispose of sewage, industrial waste, or surface or storm waters, and any entity that collects, treats, or disposes of any of these necessarily provides sewer service.

Credits

(Added by Stats.2017, c. 536 (S.B.231), § 2, eff. Jan. 1, 2018.)

West's Ann. Cal. Gov. Code § 53751, CA GOVT § 53751
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-10

KeyCite Yellow Flag - Negative Treatment
Unconstitutional or PreemptedLimitation Recognized by City of Arcadia v. State Water Resources Control Bd., Cal.App. 4 Dist., Dec. 14, 2010

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 4. Regional Water Quality Control (Refs & Annos)
Article 4. Waste Discharge Requirements (Refs & Annos)

West's Ann.Cal.Water Code § 13263

§ 13263. Discharge requirements; considerations by regional board; review of requirements; notice of requirements; no vested right; master reclamation permit

Currentness

(a) The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.

(b) A regional board, in prescribing requirements, need not authorize the utilization of the full waste assimilation capacities of the receiving waters.

(c) The requirements may contain a time schedule, subject to revision in the discretion of the board.

(d) The regional board may prescribe requirements although no discharge report has been filed.

(e) Upon application by any affected person, or on its own motion, the regional board may review and revise requirements. All requirements shall be reviewed periodically.

(f) The regional board shall notify in writing the person making or proposing the discharge or the change therein of the discharge requirements to be met. After receipt of the notice, the person so notified shall provide adequate means to meet the requirements.

(g) No discharge of waste into the waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.

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(h) The regional board may incorporate the requirements prescribed pursuant to this section into a master recycling permit for either a supplier or distributor, or both, of recycled water.

(i) The state board or a regional board may prescribe general waste discharge requirements for a category of discharges if the state board or that regional board finds or determines that all of the following criteria apply to the discharges in that category:

(1) The discharges are produced by the same or similar operations.

(2) The discharges involve the same or similar types of waste.

(3) The discharges require the same or similar treatment standards.

(4) The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

(j) The state board, after any necessary hearing, may prescribe waste discharge requirements in accordance with this section.

Credits

(Added by Stats.1969, c. 482, p. 1063, § 18, operative Jan. 1, 1970. Amended by Stats.1992, c. 211 (A.B.3012), § 3; Stats.1995, c. 28 (A.B.1247), § 21; Stats.1995, c. 421 (S.B.572), § 2.)

Notes of Decisions (42)

West's Ann. Cal. Water Code § 13263, CA WATER § 13263
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-11

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 4. Regional Water Quality Control (Refs & Annos)
Article 4. Waste Discharge Requirements (Refs & Annos)

West's Ann.Cal.Water Code § 13271

§ 13271. Discharge of hazardous substance or sewage; notice requirement; violation; regulations establishing reportable quantities

Effective: July 1, 2013
Currentness

(a)(1) Except as provided by subdivision (b), any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the state, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as (A) that person has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.16) of Chapter 7 of Division 1 of Title 2 of the Government Code.

(2) The Office of Emergency Services shall immediately notify the appropriate regional board, the local health officer, and the director of environmental health of the discharge. The regional board shall notify the state board as appropriate.

(3) Upon receiving notification of a discharge pursuant to this section, the local health officer and the director of environmental health shall immediately determine whether notification of the public is required to safeguard public health and safety. If so, the local health officer and the director of environmental health shall immediately notify the public of the discharge by posting notices or other appropriate means. The notification shall describe measures to be taken by the public to protect the public health.

(b) The notification required by this section shall not apply to a discharge in compliance with waste discharge requirements or other provisions of this division.

(c) Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine of not more than twenty thousand dollars ($20,000) or imprisonment in a county jail for not more than one year, or both. Except where a discharge to the waters of this state would have occurred but for cleanup or emergency response by a public agency, this subdivision shall not apply to any discharge to land which does not result in a discharge to the waters of this state.

(d) Notification received pursuant to this section or information obtained by use of that notification shall not be used against any person providing the notification in any criminal case, except in a prosecution for perjury or giving a false statement.

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(e) For substances listed as hazardous wastes or hazardous material pursuant to Section 25140 of the Health and Safety Code, the state board, in consultation with the Department of Toxic Substances Control, shall by regulation establish reportable quantities for purposes of this section. The regulations shall be based on what quantities should be reported because they may pose a risk to public health or the environment if discharged to groundwater or surface water. Regulations need not set reportable quantities on all listed substances at the same time. Regulations establishing reportable quantities shall not supersede waste discharge requirements or water quality objectives adopted pursuant to this division, and shall not supersede or affect in any way the list, criteria, and guidelines for the identification of hazardous wastes and extremely hazardous wastes adopted by the Department of Toxic Substances Control pursuant to Chapter 6.5 (commencing with Section 25100) of Division 20 of the Health and Safety Code. The regulations of the Environmental Protection Agency for reportable quantities of hazardous substances for purposes of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. Sec. 9601 et seq.) shall be in effect for purposes of the enforcement of this section until the time that the regulations required by this subdivision are adopted.

(f)(1) The state board shall adopt regulations establishing reportable quantities of sewage for purposes of this section. The regulations shall be based on the quantities that should be reported because they may pose a risk to public health or the environment if discharged to groundwater or surface water. Regulations establishing reportable quantities shall not supersede waste discharge requirements or water quality objectives adopted pursuant to this division. For purposes of this section, "sewage" means the effluent of a municipal wastewater treatment plant or a private utility wastewater treatment plant, as those terms are defined in Section 13625, except that sewage does not include recycled water, as defined in subdivisions (c) and (d) of Section 13529.2.

(2) A collection system owner or operator, as defined in paragraph (1) of subdivision (a) of Section 13193, in addition to the reporting requirements set forth in this section, shall submit a report pursuant to subdivision (c) of Section 13193.

(g) Except as otherwise provided in this section and Section 8589.7 of the Government Code, a notification made pursuant to this section shall satisfy any immediate notification requirement contained in any permit issued by a permitting agency. When notifying the Office of Emergency Services, the person shall include all of the notification information required in the permit.

(h) For the purposes of this section, the reportable quantity for perchlorate shall be 10 pounds or more by discharge to the receiving waters, unless a more restrictive reporting standard for a particular body of water is adopted pursuant to subdivision (e).

(i) Notification under this section does not nullify a person's responsibility to notify the local health officer or the director of environmental health pursuant to Section 5411.5 of the Health and Safety Code.

Credits

(Added by Stats.1980, c. 877, p. 2753, § 2. Amended by Stats.1986, c. 1479, § 1; Gov.Reorg.Plan No. 1 of 1991, § 195, eff. July 17, 1991; Stats.1994, c. 1214 (A.B.3404), § 9; Stats.1997, c. 783 (S.B.105), § 1; Stats.1997, c. 833 (A.B.541), § 1.5; Stats.2001, c. 498 (A.B.285), § 5; Stats.2003, c. 614 (S.B.1004), § 1; Stats.2007, c. 371 (A.B.800), § 1; Stats.2010, c. 618 (A.B.2791), § 300; Stats.2013, c. 352 (A.B.1317), § 532, eff. Sept. 26, 2013, operative July 1, 2013.)

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West's Ann. Cal. Water Code § 13271, CA WATER § 13271
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-12

 KeyCite Yellow Flag - Negative Treatment
Unconstitutional or PreemptedPrior Version Limited on Preemption Grounds by Karuk Tribe of Northern California v. California Regional Water Quality Control Bd., North Coast Region, Cal.App. 1 Dist., Mar. 30, 2010

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 4. Regional Water Quality Control (Refs & Annos)
Article 4. Waste Discharge Requirements (Refs & Annos)

West's Ann.Cal.Water Code § 13272

§ 13272. Discharge of oil or petroleum product; notice requirement; violation; reportable quantity

Effective: June 20, 2014
Currentness

(a) Except as provided by subdivision (b), any person who, without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the state, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as (1) that person has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the California oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code.

(b) The notification required by this section shall not apply to a discharge in compliance with waste discharge requirements or other provisions of this division.

(c) Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine of not less than five hundred dollars ($500) or more than five thousand dollars ($5,000) per day for each day of failure to notify, or imprisonment of not more than one year, or both. Except where a discharge to the waters of this state would have occurred but for cleanup or emergency response by a public agency, this subdivision shall not apply to any discharge to land that does not result in a discharge to the waters of this state. This subdivision shall not apply to any person who is fined by the federal government for a failure to report a discharge of oil.

(d) Notification received pursuant to this section or information obtained by use of that notification shall not be used against any person providing the notification in any criminal case, except in a prosecution for perjury or giving a false statement.

(e) Immediate notification to the appropriate regional board of the discharge, in accordance with reporting requirements set under Section 13267 or 13383, shall constitute compliance with the requirements of subdivision (a).

(f) The reportable quantity for oil or petroleum products shall be one barrel (42 gallons) or more, by direct discharge to the receiving waters, unless a more restrictive reporting standard for a particular body of water is adopted.

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Credits

(Added by Stats.1982, c. 1480, p. 5691, § 1. Amended by Stats.1990, c. 1248 (S.B.2040), § 20, eff. Sept. 24, 1990; Stats.1994, c. 1214 (A.B.3404), § 10; Stats.2004, c. 796 (S.B.1742), § 46; Stats.2010, c. 618 (A.B.2791), § 301; Stats.2013, c. 352 (A.B.1317), § 533, eff. Sept. 26, 2013, operative July 1, 2013; Stats.2014, c. 35 (S.B.861), § 184, eff. June 20, 2014.)

Editors' Notes

VALIDITY

For validity of a prior version of this section, see Karuk Tribe of Northern California v. California Regional Water Quality Control Bd., North Coast Region (App. 1 Dist. 2010) 108 Cal.Rptr.3d 40, 183 Cal.App.4th 330.

West's Ann. Cal. Water Code § 13272, CA WATER § 13272
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-13

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 5. Enforcement and Implementation (Refs & Annos)
Article 5. Civil Monetary Remedies (Refs & Annos)

West's Ann.Cal.Water Code § 13350

§ 13350. Civil liabilities; amount of liability; remedies; deposit of funds

Effective: July 1, 2017
Currentness

(a) A person who (1) violates a cease and desist order or cleanup and abatement order hereafter issued, reissued, or amended by a regional board or the state board, or (2) in violation of a waste discharge requirement, waiver condition, certification, or other order or prohibition issued, reissued, or amended by a regional board or the state board, discharges waste, or causes or permits waste to be deposited where it is discharged, into the waters of the state, or (3) causes or permits any oil or any residuary product of petroleum to be deposited in or on any of the waters of the state, except in accordance with waste discharge requirements or other actions or provisions of this division, shall be liable civilly, and remedies may be proposed, in accordance with subdivision (d) or (e).

(b)(1) A person who, without regard to intent or negligence, causes or permits a hazardous substance to be discharged in or on any of the waters of the state, except in accordance with waste discharge requirements or other provisions of this division, shall be strictly liable civilly in accordance with subdivision (d) or (e).

(2) For purposes of this subdivision, the term “discharge” includes only those discharges for which Section 13260 directs that a report of waste discharge shall be filed with the regional board.

(3) For purposes of this subdivision, the term “discharge” does not include an emission excluded from the applicability of Section 311 of the Clean Water Act (33 U.S.C. Sec. 1321) pursuant to Environmental Protection Agency regulations interpreting Section 311(a)(2) of the Clean Water Act (33 U.S.C. Sec. 1321(a)(2)).

(c) A person shall not be liable under subdivision (b) if the discharge is caused solely by any one or combination of the following:

(1) An act of war.

(2) An unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(3) Negligence on the part of the state, the United States, or any department or agency thereof. However, this paragraph shall not be interpreted to provide the state, the United States, or any department or agency thereof a defense to liability for any discharge caused by its own negligence.

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(4) An intentional act of a third party, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(5) Any other circumstance or event that causes the discharge despite the exercise of every reasonable precaution to prevent or mitigate the discharge.

(d) The court may impose civil liability either on a daily basis or on a per gallon basis, but not on both.

(1) The civil liability on a daily basis shall not exceed fifteen thousand dollars ($15,000) for each day the violation occurs.

(2) The civil liability on a per gallon basis shall not exceed twenty dollars ($20) for each gallon of waste discharged.

(e) The state board or a regional board may impose civil liability administratively pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 either on a daily basis or on a per gallon basis, but not on both.

(1) The civil liability on a daily basis shall not exceed five thousand dollars ($5,000) for each day the violation occurs.

(A) When there is a discharge, and a cleanup and abatement order is issued, except as provided in subdivision (f), the civil liability shall not be less than five hundred dollars ($500) for each day in which the discharge occurs and for each day the cleanup and abatement order is violated.

(B) When there is no discharge, but an order issued by the regional board is violated, except as provided in subdivision (f), the civil liability shall not be less than one hundred dollars ($100) for each day in which the violation occurs.

(2) The civil liability on a per gallon basis shall not exceed ten dollars ($10) for each gallon of waste discharged.

(f) A regional board shall not administratively impose civil liability in accordance with paragraph (1) of subdivision (e) in an amount less than the minimum amount specified, unless the regional board makes express findings setting forth the reasons for its action based upon the specific factors required to be considered pursuant to Section 13327.

(g) The Attorney General, upon request of a regional board or the state board, shall petition the superior court to impose, assess, and recover the sums. Except in the case of a violation of a cease and desist order, a regional board or the state board shall make the request only after a hearing, with due notice of the hearing given to all affected persons. In determining the amount to be imposed, assessed, or recovered, the court shall be subject to Section 13351.

(h) Article 3 (commencing with Section 13330) and Article 6 (commencing with Section 13360) apply to proceedings to impose, assess, and recover an amount pursuant to this article.

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(i) A person who incurs any liability established under this section shall be entitled to contribution for that liability from a third party, in an action in the superior court and upon proof that the discharge was caused in whole or in part by an act or omission of the third party, to the extent that the discharge is caused by the act or omission of the third party, in accordance with the principles of comparative fault.

(j) Remedies under this section are in addition to, and do not supersede or limit, any and all other remedies, civil or criminal, except that no liability shall be recoverable under subdivision (b) for any discharge for which liability is recovered under Section 13385.

(k) Notwithstanding any other law, all funds generated by the imposition of liabilities pursuant to this section shall be deposited into the Waste Discharge Permit Fund. These moneys shall be separately accounted for, and shall be expended by the state board, upon appropriation by the Legislature, to assist regional boards, and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state, or for the purposes authorized in Section 13443, or to assist in implementing Chapter 7.3 (commencing with Section 13560).

(*l*) This section shall become operative on July 1, 2017.

Credits

(Added by Stats.2014, c. 35 (S.B.861), § 186, eff. June 20, 2014, operative July 1, 2017.)

Notes of Decisions (14)

West's Ann. Cal. Water Code § 13350, CA WATER § 13350
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ATTACHMENT B-14

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13370

§ 13370. Legislative findings and declarations

Currentness

The Legislature finds and declares as follows:

(a) The Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.), as amended, provides for permit systems to regulate the discharge of pollutants and dredged or fill material to the navigable waters of the United States and to regulate the use and disposal of sewage sludge.

(b) The Federal Water Pollution Control Act, as amended, provides that permits may be issued by states which are authorized to implement the provisions of that act.

(c) It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto, provided, that the state board shall request federal funding under the Federal Water Pollution Control Act for the purpose of carrying out its responsibilities under this program.

Credits
(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 746, p. 2343, § 1; Stats.1980, c. 676, p. 2028, § 319; Stats.1987, c. 1189, § 1.)

Notes of Decisions (4)

West's Ann. Cal. Water Code § 13370, CA WATER § 13370
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-15

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13372

§ 13372. Construction and application of chapter

Effective: January 1, 2004
Currentness

(a) This chapter shall be construed to ensure consistency with the requirements for state programs implementing the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto. To the extent other provisions of this division are consistent with the provisions of this chapter and with the requirements for state programs implementing the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, those provisions apply to actions and procedures provided for in this chapter. The provisions of this chapter shall prevail over other provisions of this division to the extent of any inconsistency. The provisions of this chapter apply only to actions required under the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto.

(b) The provisions of Section 13376 requiring the filing of a report for the discharge of dredged or fill material and the provisions of this chapter relating to the issuance of dredged or fill material permits by the state board or a regional board shall be applicable only to discharges for which the state has an approved permit program, in accordance with the provisions of the Federal Water Pollution Control Act, as amended, for the discharge of dredged or fill material.

Credits
(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1987, c. 1189, § 3; Stats.2003, c. 683 (A.B.897), § 5.)

Notes of Decisions (3)

West's Ann. Cal. Water Code § 13372, CA WATER § 13372
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ATTACHMENT B-16

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13374

§ 13374. Waste discharge requirements; equivalent to “permits” under federal act

Currentness

The term “waste discharge requirements” as referred to in this division is the equivalent of the term “permits” as used in the Federal Water Pollution Control Act, as amended.

Credits
(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972.)

Notes of Decisions (3)

West's Ann. Cal. Water Code § 13374, CA WATER § 13374
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-17

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13385

§ 13385. Violations; civil liability; applicability; compliance projects; annual report

Effective: January 1, 2018
Currentness

(a) A person who violates any of the following shall be liable civilly in accordance with this section:

(1) Section 13375 or 13376.

(2) A waste discharge requirement or dredged or fill material permit issued pursuant to this chapter or any water quality certification issued pursuant to Section 13160.

(3) A requirement established pursuant to Section 13383.

(4) An order or prohibition issued pursuant to Section 13243 or Article 1 (commencing with Section 13300) of Chapter 5, if the activity subject to the order or prohibition is subject to regulation under this chapter.

(5) A requirement of Section 301, 302, 306, 307, 308, 318, 401, or 405 of the federal Clean Water Act (33 U.S.C. Sec. 1311, 1312, 1316, 1317, 1318, 1341, or 1345), as amended.

(6) A requirement imposed in a pretreatment program approved pursuant to waste discharge requirements issued under Section 13377 or approved pursuant to a permit issued by the administrator.

(b)(1) Civil liability may be imposed by the superior court in an amount not to exceed the sum of both of the following:

(A) Twenty-five thousand dollars ($25,000) for each day in which the violation occurs.

(B) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed twenty-five dollars ($25) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(2) The Attorney General, upon request of a regional board or the state board, shall petition the superior court to impose the liability.

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(c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 in an amount not to exceed the sum of both of the following:

(1) Ten thousand dollars ($10,000) for each day in which the violation occurs.

(2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars ($10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(d) For purposes of subdivisions (b) and (c), "discharge" includes any discharge to navigable waters of the United States, any introduction of pollutants into a publicly owned treatment works, or any use or disposal of sewage sludge.

(e) In determining the amount of any liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature, circumstances, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require. At a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation.

(f)(1) Except as provided in paragraph (2), for the purposes of this section, a single operational upset that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation.

(2)(A) For the purposes of subdivisions (h) and (i), a single operational upset in a wastewater treatment unit that treats wastewater using a biological treatment process shall be treated as a single violation, even if the operational upset results in violations of more than one effluent limitation and the violations continue for a period of more than one day, if all of the following apply:

(i) The discharger demonstrates all of the following:

(I) The upset was not caused by wastewater treatment operator error and was not due to discharger negligence.

(II) But for the operational upset of the biological treatment process, the violations would not have occurred nor would they have continued for more than one day.

(III) The discharger carried out all reasonable and immediately feasible actions to reduce noncompliance with the applicable effluent limitations.

(ii) The discharger is implementing an approved pretreatment program, if so required by federal or state law.

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(B) Subparagraph (A) only applies to violations that occur during a period for which the regional board has determined that violations are unavoidable, but in no case may that period exceed 30 days.

(g) Remedies under this section are in addition to, and do not supersede or limit, any other remedies, civil or criminal, except that no liability shall be recoverable under Section 13261, 13265, 13268, or 13350 for violations for which liability is recovered under this section.

(h)(1) Notwithstanding any other provision of this division, and except as provided in subdivisions (j), (k), and (*l*), a mandatory minimum penalty of three thousand dollars ($3,000) shall be assessed for each serious violation.

(2) For the purposes of this section, a "serious violation" means any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for a Group II pollutant, as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations, by 20 percent or more or for a Group I pollutant, as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations, by 40 percent or more.

(i)(1) Notwithstanding any other provision of this division, and except as provided in subdivisions (j), (k), and (*l*), a mandatory minimum penalty of three thousand dollars ($3,000) shall be assessed for each violation whenever the person does any of the following four or more times in any period of six consecutive months, except that the requirement to assess the mandatory minimum penalty shall not be applicable to the first three violations:

(A) Violates a waste discharge requirement effluent limitation.

(B) Fails to file a report pursuant to Section 13260.

(C) Files an incomplete report pursuant to Section 13260.

(D) Violates a toxicity effluent limitation contained in the applicable waste discharge requirements where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.

(2) For the purposes of this section, a "period of six consecutive months" means the period commencing on the date that one of the violations described in this subdivision occurs and ending 180 days after that date.

(j) Subdivisions (h) and (i) do not apply to any of the following:

(1) A violation caused by one or any combination of the following:

(A) An act of war.

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(B) An unanticipated, grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(C) An intentional act of a third party, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(D)(i) The operation of a new or reconstructed wastewater treatment unit during a defined period of adjusting or testing, not to exceed 90 days for a wastewater treatment unit that relies on a biological treatment process and not to exceed 30 days for any other wastewater treatment unit, if all of the following requirements are met:

(I) The discharger has submitted to the regional board, at least 30 days in advance of the operation, an operations plan that describes the actions the discharger will take during the period of adjusting and testing, including steps to prevent violations and identifies the shortest reasonable time required for the period of adjusting and testing, not to exceed 90 days for a wastewater treatment unit that relies on a biological treatment process and not to exceed 30 days for any other wastewater treatment unit.

(II) The regional board has not objected in writing to the operations plan.

(III) The discharger demonstrates that the violations resulted from the operation of the new or reconstructed wastewater treatment unit and that the violations could not have reasonably been avoided.

(IV) The discharger demonstrates compliance with the operations plan.

(V) In the case of a reconstructed wastewater treatment unit, the unit relies on a biological treatment process that is required to be out of operation for at least 14 days in order to perform the reconstruction, or the unit is required to be out of operation for at least 14 days and, at the time of the reconstruction, the cost of reconstructing the unit exceeds 50 percent of the cost of replacing the wastewater treatment unit.

(ii) For the purposes of this section, "wastewater treatment unit" means a component of a wastewater treatment plant that performs a designated treatment function.

(2)(A) Except as provided in subparagraph (B), a violation of an effluent limitation where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300, if all of the following requirements are met:

(i) The cease and desist order or time schedule order is issued after January 1, 1995, but not later than July 1, 2000, specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to subdivisions (h) and (i), and the date by which compliance is required to be achieved and, if the final date by which compliance is required to be achieved is later than one year from the effective date of the cease and desist order or time schedule order, specifies the interim requirements by which progress towards compliance will be measured and the date by which the discharger will be in compliance with each interim requirement.

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(ii) The discharger has prepared and is implementing in a timely and proper manner, or is required by the regional board to prepare and implement, a pollution prevention plan that meets the requirements of Section 13263.3.

(iii) The discharger demonstrates that it has carried out all reasonable and immediately feasible actions to reduce noncompliance with the waste discharge requirements applicable to the waste discharge and the executive officer of the regional board concurs with the demonstration.

(B) Subdivisions (h) and (i) shall become applicable to a waste discharge on the date the waste discharge requirements applicable to the waste discharge are revised and reissued pursuant to Section 13380, unless the regional board does all of the following on or before that date:

(i) Modifies the requirements of the cease and desist order or time schedule order as may be necessary to make it fully consistent with the reissued waste discharge requirements.

(ii) Establishes in the modified cease and desist order or time schedule order a date by which full compliance with the reissued waste discharge requirements shall be achieved. For the purposes of this subdivision, the regional board may not establish this date later than five years from the date the waste discharge requirements were required to be reviewed pursuant to Section 13380. If the reissued waste discharge requirements do not add new effluent limitations or do not include effluent limitations that are more stringent than those in the original waste discharge requirements, the date shall be the same as the final date for compliance in the original cease and desist order or time schedule order or five years from the date that the waste discharge requirements were required to be reviewed pursuant to Section 13380, whichever is earlier.

(iii) Determines that the pollution prevention plan required by clause (ii) of subparagraph (A) is in compliance with the requirements of Section 13263.3 and that the discharger is implementing the pollution prevention plan in a timely and proper manner.

(3) A violation of an effluent limitation where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300 or 13308, if all of the following requirements are met:

(A) The cease and desist order or time schedule order is issued on or after July 1, 2000, and specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to subdivisions (h) and (i).

(B) The regional board finds that, for one of the following reasons, the discharger is not able to consistently comply with one or more of the effluent limitations established in the waste discharge requirements applicable to the waste discharge:

(i) The effluent limitation is a new, more stringent, or modified regulatory requirement that has become applicable to the waste discharge after the effective date of the waste discharge requirements and after July 1, 2000, new or modified control measures are necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

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(ii) New methods for detecting or measuring a pollutant in the waste discharge demonstrate that new or modified control measures are necessary in order to comply with the effluent limitation and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

(iii) Unanticipated changes in the quality of the municipal or industrial water supply available to the discharger are the cause of unavoidable changes in the composition of the waste discharge, the changes in the composition of the waste discharge are the cause of the inability to comply with the effluent limitation, no alternative water supply is reasonably available to the discharger, and new or modified measures to control the composition of the waste discharge cannot be designed, installed, and put into operation within 30 calendar days.

(iv) The discharger is a publicly owned treatment works located in Orange County that is unable to meet effluent limitations for biological oxygen demand, suspended solids, or both, because the publicly owned treatment works meets all of the following criteria:

(I) Was previously operating under modified secondary treatment requirements pursuant to Section 301(h) of the Clean Water Act (33 U.S.C. Sec. 1311(h)).

(II) Did vote on July 17, 2002, not to apply for a renewal of the modified secondary treatment requirements.

(III) Is in the process of upgrading its treatment facilities to meet the secondary treatment standards required by Section 301(b)(1)(B) of the Clean Water Act (33 U.S.C. Sec. 1311(b)(1)(B)).

(C)(i) The regional board establishes a time schedule for bringing the waste discharge into compliance with the effluent limitation that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitation. Except as provided in clause (ii), for the purposes of this subdivision, the time schedule shall not exceed five years in length.

(ii)(I) For purposes of the upgrade described in subclause (III) of clause (iv) of subparagraph (B), the time schedule shall not exceed 10 years in length.

(II) Following a public hearing, and upon a showing that the discharger is making diligent progress toward bringing the waste discharge into compliance with the effluent limitation, the regional board may extend the time schedule for an additional period not exceeding five years in length, if the discharger demonstrates that the additional time is necessary to comply with the effluent limitation. This subclause does not apply to a time schedule described in subclause (I).

(iii) If the time schedule exceeds one year from the effective date of the order, the schedule shall include interim requirements and the dates for their achievement. The interim requirements shall include both of the following:

(I) Effluent limitations for the pollutant or pollutants of concern.

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(II) Actions and milestones leading to compliance with the effluent limitation.

(D) The discharger has prepared and is implementing in a timely and proper manner, or is required by the regional board to prepare and implement, a pollution prevention plan pursuant to Section 13263.3.

(k)(1) In lieu of assessing all or a portion of the mandatory minimum penalties pursuant to subdivisions (h) and (i) against a publicly owned treatment works serving a small community, the state board or the regional board may elect to require the publicly owned treatment works to spend an equivalent amount towards the completion of a compliance project proposed by the publicly owned treatment works, if the state board or the regional board finds all of the following:

(A) The compliance project is designed to correct the violations within five years.

(B) The compliance project is in accordance with the enforcement policy of the state board, excluding any provision in the policy that is inconsistent with this section.

(C) The publicly owned treatment works has prepared a financing plan to complete the compliance project.

(2) For the purposes of this subdivision, "a publicly owned treatment works serving a small community" means a publicly owned treatment works serving a population of 20,000 persons or fewer or a rural county, with a financial hardship as determined by the state board after considering such factors as median income of the residents, rate of unemployment, or low population density in the service area of the publicly owned treatment works.

(*l*)(1) In lieu of assessing penalties pursuant to subdivision (h) or (i), the state board or the regional board, with the concurrence of the discharger, may direct a portion of the penalty amount to be expended on a supplemental environmental project in accordance with the enforcement policy of the state board. If the penalty amount exceeds fifteen thousand dollars ($15,000), the portion of the penalty amount that may be directed to be expended on a supplemental environmental project may not exceed fifteen thousand dollars ($15,000) plus 50 percent of the penalty amount that exceeds fifteen thousand dollars ($15,000).

(2) For the purposes of this section, a "supplemental environmental project" means an environmentally beneficial project that a person agrees to undertake, with the approval of the regional board, that would not be undertaken in the absence of an enforcement action under this section.

(3) This subdivision applies to the imposition of penalties pursuant to subdivision (h) or (i) on or after January 1, 2003, without regard to the date on which the violation occurs.

(m) The Attorney General, upon request of a regional board or the state board, shall petition the appropriate court to collect any liability or penalty imposed pursuant to this section. Any person who fails to pay on a timely basis any liability or penalty imposed under this section shall be required to pay, in addition to that liability or penalty, interest, attorney's fees, costs for collection proceedings, and a quarterly nonpayment penalty for each quarter during which the

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failure to pay persists. The nonpayment penalty shall be in an amount equal to 20 percent of the aggregate amount of the person's penalty and nonpayment penalties that are unpaid as of the beginning of the quarter.

(n)(1) Subject to paragraph (2), funds collected pursuant to this section shall be deposited in the State Water Pollution Cleanup and Abatement Account.

(2)(A) Notwithstanding any other provision of law, moneys collected for a violation of a water quality certification in accordance with paragraph (2) of subdivision (a) or for a violation of Section 401 of the federal Clean Water Act (33 U.S.C. Sec. 1341) in accordance with paragraph (5) of subdivision (a) shall be deposited in the Waste Discharge Permit Fund and separately accounted for in that fund.

(B) The funds described in subparagraph (A) shall be expended by the state board, upon appropriation by the Legislature, to assist regional boards, and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state or for the purposes authorized in Section 13443.

(*o*) The state board shall continuously report and update information on its Internet Web site. The state board shall report annually on or before December 31 regarding its enforcement activities. The information shall include all of the following:

(1) A compilation of the number of violations of waste discharge requirements in the previous calendar year, including stormwater enforcement violations.

(2) A record of the formal and informal compliance and enforcement actions taken for each violation, including stormwater enforcement actions.

(3) An analysis of the effectiveness of current enforcement policies, including mandatory minimum penalties.

(p) The amendments made to subdivisions (f), (h), (i), and (j) during the second year of the 2001-02 Regular Session apply only to violations that occur on or after January 1, 2003.

Credits

(Added by Stats.1987, c. 1189, § 10. Amended by Stats.1999, c. 92 (A.B.1104), § 6; Stats.1999, c. 93 (S.B.709), § 6; Stats.2000, c. 807 (S.B.2165), § 2; Stats.2001, c. 869 (A.B.1664), § 7; Stats.2002, c. 995 (A.B.2351), § 1; Stats.2002, c. 1019 (A.B.1969), § 2, eff. Sept. 28, 2002; Stats.2002, c. 1019 (A.B.1969), § 3, eff. Sept. 28, 2002, operative Jan. 1, 2003; Stats.2003, c. 683 (A.B.897), § 7; Stats.2004, c. 644 (A.B.2701), § 41; Stats.2006, c. 404 (S.B.1733), § 3; Stats.2007, c. 130 (A.B.299), § 239; Stats.2010, c. 645 (S.B.1284), § 1; Stats.2011, c. 296 (A.B.1023), § 314; Stats.2017, c. 524 (A.B.355), § 3, eff. Jan. 1, 2018.)

Notes of Decisions (9)

West's Ann. Cal. Water Code § 13385, CA WATER § 13385
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ATTACHMENT B-18

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16100

§ 16100. Short title

Effective: January 1, 2010
Currentness

This chapter shall be known and may be cited as the California Watershed Improvement Act of 2009.

Credits
(Added by Stats.2009, c. 577 (S.B.310), § 1.)

West's Ann. Cal. Water Code § 16100, CA WATER § 16100
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West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16101

§ 16101. Development of watershed improvement plan; process; notice; elements

Effective: January 1, 2010
Currentness

(a) Each county, city, or special district that is a permittee or copermittee under a national pollutant discharge elimination system (NPDES) permit for municipal separate storm sewer systems may develop, either individually or jointly with one or more permittees or copermittees, a watershed improvement plan that addresses major sources of pollutants in receiving water, stormwater, urban runoff, or other surface runoff pollution within the watershed or subwatershed to which the plan applies. The principal purpose of a watershed improvement plan is to implement existing and future water quality requirements and regulations by, among other things, where appropriate, identifying opportunities for stormwater detention, infiltration, use of natural treatment systems, water recycling, reuse, and supply augmentation; and providing programs and measures designed to promote, maintain, or achieve compliance with water quality laws and regulations, including water quality standards and other requirements of statewide plans, regional water quality control plans, total maximum daily loads, and NPDES permits.

(b) The process of developing a watershed improvement plan shall be open and transparent, and shall be conducted consistent with all applicable open meeting laws. A county, city, special district, or combination thereof, shall solicit input from entities representing resource agencies, water agencies, sanitation districts, the environmental community, landowners, home builders, agricultural interests, and business and industry representatives.

(c) Each county, city, special district, or combination thereof shall notify the appropriate regional board of its intention to develop a watershed improvement plan. The regional board may, in its discretion, participate in the preparation of the plan. A watershed improvement plan shall be consistent with the regional board's water quality control plan.

(d) A watershed improvement plan shall include all of the following elements relevant to the waters within the watershed or subwatershed to which the plan applies:

(1) A description of the watershed or subwatershed improvement plan area, the rivers, streams, or manmade drainage channels within the plan area, the agencies with regulatory jurisdiction over matters to be addressed in the plan, the relevant receiving waters within or downstream from the plan area, and the county, city, special district, or combination thereof, participating in the plan.

(2) A description of the proposed facilities and actions that will improve the protection and enhancement of water quality and the designated beneficial uses of waters of the state, consistent with water quality laws and regulations.

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(3) Recommendations for appropriate action by any entity, public or private, to facilitate achievement of, or consistency with, water quality objectives, standards, total maximum daily loads, or other water quality laws, regulations, standards, or requirements, a time schedule for the actions to be taken, and a description of appropriate measurement and monitoring to be undertaken to determine improvement in water quality.

(4) A coordinated economic analysis and financing plan that identifies the costs, effectiveness, and benefits of water quality improvements specified in the watershed improvement plan, and, where feasible, incorporates user-based and cost recovery approaches to financing, which place the cost of managing and treating surface runoff pollution on the generators of the pollutants.

(5) To the extent applicable, a description of regional best management practices, watershed-based natural treatment systems, low-flow diversion systems, stormwater capture, urban runoff capture, other measures constituting structural treatment best management practices, pollution prevention measures, low-impact development strategies, and site design, source control, and treatment control best management practices to promote improved water quality.

(6) A description of the proposed structure, operations, powers, and duties of the implementing entity for the watershed improvement plan.

Credits
(Added by Stats.2009, c. 577 (S.B.310), § 1.)

West's Ann. Cal. Water Code § 16101, CA WATER § 16101
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16102

§ 16102. Plan review and approval; cost reimbursement; utilization; compliance

Effective: January 1, 2010
Currentness

(a) A regional board shall review, in accordance with the reimbursement requirement described in subdivision (c), a watershed improvement plan developed pursuant to Section 16101 and may approve the plan, including any appropriate conditions to the approval, if the regional board finds that the proposed watershed improvement plan will facilitate compliance with water quality requirements. A regional board's review and approval of the watershed improvement plan shall be limited to components described in paragraphs (1), (2), (3), and (5) of subdivision (d) of Section 16101.

(b) A regional board may not approve a proposed watershed improvement plan that includes a geographical area included in an existing approved watershed improvement plan unless the regional board determines that it is infeasible to amend either the proposed watershed improvement plan or the approved watershed improvement plan to achieve the purposes of this chapter.

(c) The entity or entities that develop a watershed improvement plan that is submitted to the regional board for approval shall reimburse the regional board for its costs, including the costs to review and oversee the implementation of the plan, if nonstate funds are not available to cover the costs of the review and oversight. For the purpose of this paragraph, the state board shall adopt a fee schedule by emergency regulation in the manner prescribed in paragraph (2) of subdivision (f) of Section 13260. Fees collected pursuant to this section shall be deposited in the Waste Discharge Permit Fund established by Section 13260.

(d) A regional board may, if it deems appropriate, utilize provisions of approved watershed improvement plans to promote compliance with one or more of the regional board's regulatory plans or programs.

(e) Unless a regional board incorporates the provisions of a watershed improvement plan into waste discharge requirements issued to a permittee, the implementation of a watershed improvement plan by a permittee shall not be deemed to be compliance with those waste discharge requirements.

Credits
(Added by Stats.2009, c. 577 (S.B.310), § 1.)

West's Ann. Cal. Water Code § 16102, CA WATER § 16102
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16103

§ 16103. Fees for runoff; controls and facilities to improve water quality

Effective: January 1, 2010
Currentness

(a) In addition to making use of other financing mechanisms that are available to local agencies to fund watershed improvement plans and plan measures and facilities, a county, city, special district, or combination thereof may impose fees on activities that generate or contribute to runoff, stormwater, or surface runoff pollution, to pay the costs of the preparation of a watershed improvement plan, and the implementation of a watershed improvement plan if all of the following requirements are met:

(1) The regional board has approved the watershed improvement plan.

(2) The entity or entities that develop the watershed improvement plan make a finding, supported by substantial evidence, that the fee is reasonably related to the cost of mitigating the actual or anticipated past, present, or future adverse effects of the activities of the feepayer. "Activities," for the purposes of this paragraph, means the operations and existing structures and improvements subject to regulation under an NPDES permit for municipal separate storm sewer systems.

(3) The fee is not imposed solely as an incident of property ownership.

(b) A county, city, special district, or combination thereof may plan, design, implement, construct, operate, and maintain controls and facilities to improve water quality, including controls and facilities related to the infiltration, retention and reuse, diversion, interception, filtration, or collection of surface runoff, including urban runoff, stormwater, and other forms of runoff, the treatment of pollutants in runoff or other waters subject to water quality regulatory requirements, the return of diverted and treated waters to receiving water bodies, the enhancement of beneficial uses of waters of the state, or the beneficial use or reuse of diverted waters.

(c) The fees authorized under subdivision (a) may be imposed as user-based or regulatory fees consistent with this chapter.

Credits
(Added by Stats.2009, c. 577 (S.B.310), § 1.)

West's Ann. Cal. Water Code § 16103, CA WATER § 16103
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16104

§ 16104. Water diversion

Effective: January 1, 2010
Currentness

Nothing in this chapter alters requirements that govern the diversion of water.

Credits
(Added by Stats.2009, c. 577 (S.B.310), § 1.)

West's Ann. Cal. Water Code § 16104, CA WATER § 16104
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-19

West's Annotated California Codes
Health and Safety Code (Refs & Annos)
Division 5. Sanitation
Part 3. Community Facilities (Refs & Annos)
Chapter 6. General Provisions with Respect to Sewers (Refs & Annos)
Article 4. Sanitation and Sewerage Systems (Refs & Annos)

West's Ann.Cal.Health & Safety Code § 5471

§ 5471. Power to prescribe and collect fees, tolls, rates, rentals or other charges; use of revenues; continuance of charges; new, increased, or extended assessments

Effective: January 1, 2017
Currentness

(a) In addition to the powers granted in the principal act, any entity shall have power, by an ordinance or resolution approved by a two-thirds vote of the members of the legislative body thereof, to prescribe, revise and collect, fees, tolls, rates, rentals, or other charges for services and facilities furnished by it, either within or without its territorial limits, in connection with its water, sanitation, storm drainage, or sewerage system.

(b) In addition to the powers granted in the principal act, any entity shall have power, pursuant to the notice, protest, and hearing procedures in Section 53753 of the Government Code, to prescribe, revise, and collect water, sewer, or water and sewer standby or immediate availability charges for services and facilities furnished by it, either within or without its territorial limits, in connection with its water, sanitation, storm drainage, or sewerage system.

(c) The entity may provide that the charge for the service shall be collected with the rates, tolls, and charges for any other utility, and that any or all of these charges may be billed upon the same bill. Where the charge is to be collected with the charges for any other utility service furnished by a department or agency of the entity and over which its legislative body does not exercise control, the consent of the department or agency shall be obtained prior to collecting water, sanitation, storm drainage, or sewerage charges with the charges for any other utility. Revenues derived under the provisions in this section, shall be used only for the acquisition, construction, reconstruction, maintenance, and operation of water systems and sanitation, storm drainage, or sewerage facilities, to repay principal and interest on bonds issued for the construction or reconstruction of these water systems and sanitary, storm drainage, or sewerage facilities and to repay federal or state loans or advances made to the entity for the construction or reconstruction of water systems and sanitary, storm drainage, or sewerage facilities. However, the revenue shall not be used for the acquisition or construction of new local street sewers or laterals as distinguished from main trunk, interceptor, and outfall sewers.

(d) If the procedures set forth in this section as it read at the time a standby charge was established were followed, the entity may, by ordinance or resolution adopted by a two-thirds vote of the members of the legislative body thereof, continue the charge pursuant to this section in successive years at the same rate. If new, increased, or extended assessments are proposed, the entity shall comply with the notice, protest, and hearing procedures in Section 53753 of the Government Code.

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(Formerly § 5470 added by Stats.1945, c. 979, p. 1877, § 5. Amended by Stats.1949, c. 319, p. 608, § 1; Stats.1951, c. 719, p. 1984, § 1. Renumbered § 5471 and amended by Stats.1953, c. 862, p. 2206, § 1, eff. May 23, 1953. Amended by Stats.1973, c. 545, p. 1048, § 4; Stats.1988, c. 706, § 1; Stats.1991, c. 1110 (S.B.682), § 35; Stats.2007, c. 27 (S.B.444), § 11; Stats.2016, c. 366 (S.B.974), § 16, eff. Jan. 1, 2017.)

Notes of Decisions (30)

West's Ann. Cal. Health & Safety Code § 5471, CA HLTH & S § 5471
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ATTACHMENT B-20

West's Annotated California Codes
Public Resources Code (Refs & Annos)
Division 30. Waste Management (Refs & Annos)
Part 1. Integrated Waste Management (Refs & Annos)
Chapter 1. General Provisions (Refs & Annos)
Article 2. General Provisions (Refs & Annos)

West's Ann.Cal.Pub.Res.Code § 40059

§ 40059. Local determinations; extent of services; means for providing services; abrogation of existing franchises, contracts, or licenses

Currentness

(a) Notwithstanding any other provision of law, each county, city, district, or other local governmental agency may determine all of the following:

(1) Aspects of solid waste handling which are of local concern, including, but not limited to, frequency of collection, means of collection and transportation, level of services, charges and fees, and nature, location, and extent of providing solid waste handling services.

(2) Whether the services are to be provided by means of nonexclusive franchise, contract, license, permit, or otherwise, either with or without competitive bidding, or if, in the opinion of its governing body, the public health, safety, and well-being so require, by partially exclusive or wholly exclusive franchise, contract, license, permit, or otherwise, either with or without competitive bidding. The authority to provide solid waste handling services may be granted under terms and conditions prescribed by the governing body of the local governmental agency by resolution or ordinance.

(b) Nothing in this division modifies or abrogates in any manner either of the following:

(1) Any franchise previously granted or extended by any county or other local governmental agency.

(2) Any contract, license, or any permit to collect solid waste previously granted or extended by a city, county, or a city and county.

Credits

(Added by Stats.1989, c. 1095, § 22. Amended by Stats.1990, c. 1355 (A.B.3992), § 1, eff. Sept. 27, 1990.)

Notes of Decisions (24)

West's Ann. Cal. Pub. Res. Code § 40059, CA PUB RES § 40059
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ATTACHMENT B-21

STATE OF CALIFORNIA
AUTHENTICATED
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Senate Bill No. 231

CHAPTER 536

An act to amend Section 53750 of, and to add Section 53751 to, the Government Code, relating to local government finance.

[Approved by Governor October 6, 2017. Filed with Secretary of State October 6, 2017.]

LEGISLATIVE COUNSEL'S DIGEST

SB 231, Hertzberg. Local government: fees and charges.

Articles XIII C and XIII D of the California Constitution generally require that assessments, fees, and charges be submitted to property owners for approval or rejection after the provision of written notice and the holding of a public hearing. Existing law, the Proposition 218 Omnibus Implementation Act, prescribes specific procedures and parameters for local jurisdictions to comply with Articles XIII C and XIII D of the California Constitution and defines terms for these purposes.

This bill would define the term "sewer" for these purposes. The bill would also make findings and declarations relating to the definition of the term "sewer" for these purposes.

The people of the State of California do enact as follows:

SECTION 1. Section 53750 of the Government Code is amended to read:

53750. For purposes of Article XIII C and Article XIII D of the California Constitution and this article, the following words have the following meanings, and shall be read and interpreted in light of the findings and declarations contained in Section 53751:

(a) "Agency" means any local government as defined in subdivision (b) of Section 1 of Article XIII C of the California Constitution.

(b) "Assessment" means any levy or charge by an agency upon real property that is based upon the special benefit conferred upon the real property by a public improvement or service, that is imposed to pay the capital cost of the public improvement, the maintenance and operation expenses of the public improvement, or the cost of the service being provided. "Assessment" includes, but is not limited to, "special assessment," "benefit assessment," "maintenance assessment," and "special assessment tax."

(c) "District" means an area that is determined by an agency to contain all of the parcels that will receive a special benefit from a proposed public improvement or service.

(d) "Drainage system" means any system of public improvements that is intended to provide for erosion control, for landslide abatement, or for other types of water drainage.

(e) "Extended," when applied to an existing tax or fee or charge, means a decision by an agency to extend the stated effective period for the tax or fee or charge, including, but not limited to, amendment or removal of a sunset provision or expiration date.

(f) "Flood control" means any system of public improvements that is intended to protect property from overflow by water.

(g) "Identified parcel" means a parcel of real property that an agency has identified as having a special benefit conferred upon it and upon which a proposed assessment is to be imposed, or a parcel of real property upon which a proposed property-related fee or charge is proposed to be imposed.

(h) (1) "Increased," when applied to a tax, assessment, or property-related fee or charge, means a decision by an agency that does either of the following:

(A) Increases any applicable rate used to calculate the tax, assessment, fee, or charge.

(B) Revises the methodology by which the tax, assessment, fee, or charge is calculated, if that revision results in an increased amount being levied on any person or parcel.

(2) A tax, fee, or charge is not deemed to be "increased" by an agency action that does either or both of the following:

(A) Adjusts the amount of a tax, fee, or charge in accordance with a schedule of adjustments, including a clearly defined formula for inflation adjustment that was adopted by the agency prior to November 6, 1996.

(B) Implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved by the agency is not revised so as to result in an increase in the amount being levied on any person or parcel.

(3) A tax, assessment, fee, or charge is not deemed to be "increased" in the case in which the actual payments from a person or property are higher than would have resulted when the agency approved the tax, assessment, fee, or charge, if those higher payments are attributable to events other than an increased rate or revised methodology, such as a change in the density, intensity, or nature of the use of land.

(i) "Notice by mail" means any notice required by Article XIII C or XIII D of the California Constitution that is accomplished through a mailing, postage prepaid, deposited in the United States Postal Service and is deemed given when so deposited. Notice by mail may be included in any other mailing to the record owner that otherwise complies with Article XIII C or XIII D of the California Constitution and this article, including, but not limited to, the mailing of a bill for the collection of an assessment or a property-related fee or charge.

(j) "Record owner" means the owner of a parcel whose name and address appears on the last equalized secured property tax assessment roll, or in the

case of any public entity, the State of California, or the United States, means the representative of that public entity at the address of that entity known to the agency.

(k) "Sewer" includes systems, all real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate sewage collection, treatment, or disposition for sanitary or drainage purposes, including lateral and connecting sewers, interceptors, trunk and outfall lines, sanitary sewage treatment or disposal plants or works, drains, conduits, outlets for surface or storm waters, and any and all other works, property, or structures necessary or convenient for the collection or disposal of sewage, industrial waste, or surface or storm waters. "Sewer system" shall not include a sewer system that merely collects sewage on the property of a single owner.

(*l*) "Registered professional engineer" means an engineer registered pursuant to the Professional Engineers Act (Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code).

(m) "Vector control" means any system of public improvements or services that is intended to provide for the surveillance, prevention, abatement, and control of vectors as defined in subdivision (k) of Section 2002 of the Health and Safety Code and a pest as defined in Section 5006 of the Food and Agricultural Code.

(n) "Water" means any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water from any source.

SEC. 2. Section 53751 is added to the Government Code, to read:

53751. The Legislature finds and declares all of the following:

(a) The ongoing, historic drought has made clear that California must invest in a 21st century water management system capable of effectively meeting the economic, social, and environmental needs of the state.

(b) Sufficient and reliable funding to pay for local water projects is necessary to improve the state's water infrastructure.

(c) Proposition 218 was approved by the voters at the November 5, 1996, statewide general election. Some court interpretations of the law have constrained important tools that local governments need to manage storm water and drainage runoff.

(d) Storm waters are carried off in storm sewers, and careful management is necessary to ensure adequate state water supplies, especially during drought, and to reduce pollution. But a court decision has found storm water subject to the voter-approval provisions of Proposition 218 that apply to property-related fees, preventing many important projects from being built.

(e) The court of appeal in Howard Jarvis Taxpayers Ass'n v. City of Salinas (2002) 98 Cal.App.4th 1351 concluded that the term "sewer," as used in Proposition 218, is "ambiguous" and declined to use the statutory definition of the term "sewer system," which was part of the then-existing law as Section 230.5 of the Public Utilities Code.

(f) The court in Howard Jarvis Taxpayers Ass'n v. City of Salinas (2002) 98 Cal.App.4th 1351 failed to follow long-standing principles of statutory

construction by disregarding the plain meaning of the term "sewer." Courts have long held that statutory construction rules apply to initiative measures, including in cases that apply specifically to Proposition 218 (see People v. Bustamante (1997) 57 Cal.App.4th 693; Keller v. Chowchilla Water Dist. (2000) 80 Cal.App.4th 1006). When construing statutes, courts look first to the words of the statute, which should be given their usual, ordinary, and commonsense meaning (People v. Mejia (2012) 211 Cal.App.4th 586, 611). The purpose of utilizing the plain meaning of statutory language is to spare the courts the necessity of trying to divine the voters' intent by resorting to secondary or subjective indicators. The court in Howard Jarvis Taxpayers Ass'n v. City of Salinas (2002) 98 Cal.App.4th 1351 asserted its belief as to what most voters thought when voting for Proposition 218, but did not cite the voter pamphlet or other accepted sources for determining legislative intent. Instead, the court substituted its own judgment for the judgment of voters.

(g) Neither the words "sanitary" nor "sewerage" are used in Proposition 218, and the common meaning of the term "sewer services" is not "sanitary sewerage." In fact, the phrase "sanitary sewerage" is uncommon.

(h) Proposition 218 exempts sewer and water services from the voter-approval requirement. Sewer and water services are commonly considered to have a broad reach, encompassing the provision of clean water and then addressing the conveyance and treatment of dirty water, whether that water is rendered unclean by coming into contact with sewage or by flowing over the built-out human environment and becoming urban runoff.

(i) Numerous sources predating Proposition 218 reject the notion that the term "sewer" applies only to sanitary sewers and sanitary sewerage, including, but not limited to:

(1) Section 230.5 of the Public Utilities Code, added by Chapter 1109 of the Statutes of 1970.

(2) Section 23010.3, added by Chapter 1193 of the Statutes of 1963.

(3) The Street Improvement Act of 1913.

(4) L.A. County Flood Control Dist. v. Southern Cal. Edison Co. (1958) 51 Cal.2d 331, where the California Supreme Court stated that "no distinction has been made between sanitary sewers and storm drains or sewers."

(5) Many other cases where the term "sewer" has been used interchangeably to refer to both sanitary and storm sewers include, but are not limited to, County of Riverside v. Whitlock (1972) 22 Cal.App.3d 863, Ramseier v. Oakley Sanitary Dist. (1961) 197 Cal.App.2d 722, and Torson v. Fleming (1928) 91 Cal.App. 168.

(6) Dictionary definitions of sewer, which courts have found to be an objective source for determining common or ordinary meaning, including Webster's (1976), American Heritage (1969), and Oxford English Dictionary (1971).

(j) Prior legislation has affirmed particular interpretations of words in Proposition 218, specifically Assembly Bill 2403 of the 2013–14 Regular Session (Chapter 78 of the Statutes of 2014).

(k) In Crawley v. Alameda Waste Management Authority (2015) 243 Cal.App.4th 396, the Court of Appeal relied on the statutory definition of "refuse collection services" to interpret the meaning of that phrase in Proposition 218, and found that this interpretation was further supported by the plain meaning of refuse. Consistent with this decision, in determining the definition of "sewer," the plain meaning rule shall apply in conjunction with the definitions of terms as provided in Section 53750.

(*l*) The Legislature reaffirms and reiterates that the definition found in Section 230.5 of the Public Utilities Code is the definition of "sewer" or "sewer service" that should be used in the Proposition 218 Omnibus Implementation Act.

(m) Courts have read the Legislature's definition of "water" in the Proposition 218 Omnibus Implementation Act to include related services. In Griffith v. Pajaro Valley Water Management Agency (2013) 220 Cal.App.4th 586, the Court of Appeal concurred with the Legislature's view that "water service means more than just supplying water," based upon the definition of water provided by the Proposition 218 Omnibus Implementation Act, and found that actions necessary to provide water can be funded through fees for water service. Consistent with this decision, "sewer" should be interpreted to include services necessary to collect, treat, or dispose of sewage, industrial waste, or surface or storm waters, and any entity that collects, treats, or disposes of any of these necessarily provides sewer service.

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ATTACHMENT B-22

STATE OF CALIFORNIA
LEGISLATIVE COUNSEL BUREAU
AUTHENTICATED
ELECTRONIC LEGAL MATERIAL

Assembly Bill No. 1180

CHAPTER 617

An act to amend Section 2 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), relating to the Los Angeles County Flood Control District.

[Approved by Governor October 9, 2017. Filed with Secretary of State October 9, 2017.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1180, Holden. Los Angeles County Flood Control District: taxes, fees, and charges.

Existing law, the Los Angeles County Flood Control Act, establishes the Los Angeles County Flood Control District and authorizes the district to control and conserve the flood, storm, and other wastewater of the district. Existing law authorizes the district to impose a fee or charge, in compliance with Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and providing services to improve water quality and reduce stormwater and urban runoff pollution in the district in accordance with specified criteria. The act requires that any fees imposed be levied and collected together with taxes for county purposes, and the revenues paid into the county treasury to the credit of the district, and requires the county board of supervisors to expend the funds to pay for those costs and expenses, to be allocated as prescribed.

This bill would authorize the district to levy a tax, in compliance with the applicable provisions of Article XIII C of the California Constitution, or impose a fee or charge, in compliance with the applicable provisions of Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and programs to increase stormwater capture and reduce stormwater and urban runoff pollution in the district, and would specify that projects funded by the revenues from the tax, fee, or charge may include projects providing multiple benefits that increase water supply, improve water quality, and, where appropriate, provide community enhancements, as prescribed. The bill would revise certain provisions prescribing the allocation of those revenues derived from any tax, fee, or charge imposed pursuant to the above-described provisions for those water projects and programs.

The people of the State of California do enact as follows:

SECTION 1. Section 2 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), as amended by Section 2 of Chapter 212 of the Statutes of 2012, is amended to read:

Sec. 2. The objects and purposes of this act are to provide for the control and conservation of the flood, storm and other waste waters of said district, and to conserve these waters for beneficial and useful purposes by spreading, storing, retaining or causing to percolate into the soil within the district, or to save or conserve in any manner, all or any of these waters, and to protect from damage from flood or storm waters, the harbors, waterways, public highways and property in the district, and to provide for public use of navigable waterways under the district's control that are suitable for recreational and educational purposes, when these purposes are not inconsistent with the use thereof by the district for flood control and water conservation.

The Los Angeles County Flood Control District is hereby declared to be a body corporate and politic, and has all the following powers:

1. To have perpetual succession.

2. To sue and be sued in the name of the district in all actions and proceedings in all courts and tribunals of competent jurisdiction.

3. To adopt a seal and alter it at pleasure.

4. To take by grant, purchase, gift, devise or lease, hold, use, enjoy, and to lease or dispose of real or personal property of every kind within or without the district necessary to the full exercise of its power.

5. To acquire or contract to acquire lands, rights-of-way, easements, privileges and property of every kind, and construct, maintain and operate any and all works or improvements within or without the district necessary or proper to carry out any of the objects or purposes of this act, and to complete, extend, add to, repair or otherwise improve any works or improvements acquired by it as herein authorized. Construction or improvement of existing facilities may involve landscaping and other aesthetic treatment in order that the facility will be compatible with existing or planned development in the area of improvement.

6. To exercise the right of eminent domain, either within or without the district, to take any property necessary to carry out any of the objects or purposes of this act.

7. To incur indebtedness, and to issue bonds in the manner herein provided.

7a. To borrow money from the United States of America, any agency or department thereof, or from any nonprofit corporation, organized under the laws of this state, to which the Reconstruction Finance Corporation, a corporation organized and existing under and by virtue of an act of Congress, entitled "Reconstruction Finance Corporation Act," or other agency, or department, of the United States government, has authorized, or shall hereafter authorize, a loan to enable nonprofit corporation to lend money to the Los Angeles County Flood Control District, for any flood control

work authorized under this act, and to repay the same, in annual installments, over a period of not to exceed twenty (20) years, with interest at a rate of not to exceed four and one-fourth per centum (4 ¼%) per annum, payable semiannually, and, without the necessity of an election when authorized by resolution of the board of supervisors, as evidences of that indebtedness, the district is hereby authorized to execute and deliver a note, or a series of notes, or bonds, or other evidences of indebtedness, signed by the chairperson of the board of supervisors of the district, which notes, bonds, or other evidences of indebtedness, shall be negotiable instruments if so declared in the resolution of the board of supervisors providing for their issuance, and notes, bonds, or other evidences of indebtedness, may have interest coupons attached to evidence interest payments, signed by the facsimile signature of the chairperson of the board. All applications for these loans shall specify the particular flood control work or projects for which the funds will be expended, and when received, the money shall be deposited in a special fund, and shall be expended for those purposes only which are described and referred to in the applications. If a surplus remains after the completion of the work, the surplus shall be applied to the payment of the note, notes, bonds, or other evidences of indebtedness, executed as aforesaid, for the loan including interest coupons. The board of supervisors shall annually levy a tax upon the taxable real property of the district, clearly sufficient to pay the interest and installments of principal, as the same shall become due and payable, under any loan made pursuant to the authority of this section, and to create and maintain a reserve fund to assure the prompt payment thereof, as may be provided by resolution of the board of supervisors. However, the amount of taxes levied in any year, pursuant to this subsection, shall, pro tanto, reduce the authority of the board of supervisors, during any year, to levy taxes under Section 14 of this act, but this proviso shall not be a limitation upon the power and duty to levy and collect taxes under this subsection. Notwithstanding any other provisions of law, interest earned on funds representing the proceeds of bonds of the district shall be deposited and retained in the reserve fund of the district to meet the principal and interest falling due on these bonds.

Notwithstanding anything in this subsection to the contrary, the total amount the district may borrow under the authority of any or all of the provisions of this subsection is limited to and shall not exceed in the aggregate the sum of four million five hundred thousand dollars ($4,500,000).

7b. The power granted in the next preceding subsection is hereby extended to authorize the issuance and sale of bonds or other evidences of indebtedness of the district to the County of Los Angeles and the purchase thereof by the county in accordance with “An act authorizing the investment and reinvestment and disposition of any surplus moneys in the treasury of any county, city and county, incorporated city or town or municipal utility district or flood control district,” approved April 23, 1913, as amended; all subject to the provisions and limitations of the next preceding subsection relative to the disposition and use of funds, interest rate, period of repayment, tax

rate and mode of issuance. The total amount of bonds or other evidence of indebtedness, in the aggregate, which the district may issue and sell under the authority of subsection 7a and of this subsection is limited to and shall not exceed four million five hundred thousand dollars ($4,500,000).

8. To cause taxes to be levied and collected for the purpose of paying any obligation of the district in the manner provided in this section.

8a. To levy a tax, in compliance with the applicable provisions of Article XIII C of the California Constitution, or impose a fee or charge, in compliance with the applicable provisions of Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and programs to increase stormwater capture and reduce stormwater and urban runoff pollution in the district in accordance with criteria established by the ordinance adopted pursuant to subsection 8c. Projects and programs funded by the revenues from the tax, fee, or charge may include projects providing multiple benefits that increase water supply, improve water quality, and, where appropriate, provide community enhancements such as the greening of schools, parks, and wetlands, and increased public access to rivers, lakes, and streams. Any tax, fee, or charge that is levied or imposed pursuant to this subsection shall be levied and collected together with, and not separately from, taxes for county purposes, and the revenues derived from the tax, fee, or charge shall be paid into the county treasury to the credit of the district, and the board of supervisors shall expend these funds to pay for costs and expenses in accordance with this subsection.

8b. The district shall allocate the revenues derived from any tax, fee, or charge imposed pursuant to subsection 8a as follows:

(A) Ten percent shall be allocated to the district for implementation and administration of projects and programs described in subsection 8a, and for payment of the costs incurred in connection with the levy and collection of the tax, fee, or charge and the distribution of the funds generated by imposition of the tax, fee, or charge, in accordance with the procedures established by the ordinance adopted pursuant to subsection 8c.

(B) Forty percent shall be allocated to cities within the boundaries of the district and to the County of Los Angeles, in the same proportion as the amount of revenues collected within each jurisdiction and within the unincorporated territories, to be expended by those cities within the cities' respective jurisdictions and by the County of Los Angeles within the unincorporated territories that are within the boundaries of the district, for the implementation, operation and maintenance, and administration of projects and programs described in subsection 8a, in accordance with the procedures established by the ordinance adopted pursuant to subsection 8c.

(C) Fifty percent shall be allocated to pay for the implementation, operation and maintenance, and administration of watershed-based projects and programs described in subsection 8a, including projects and programs identified in regional plans such as stormwater resource plans developed in accordance with Part 2.3 (commencing with Section 10560) of Division 6 of the Water Code, watershed management programs developed pursuant to waste discharge requirements for municipal separate storm sewer system

(MS4) discharges within the coastal watersheds of the County of Los Angeles, issued by the Los Angeles Regional Water Quality Control Board, and other regional water management plans, as appropriate, in accordance with the procedures established by the ordinance adopted pursuant to subsection 8c.

8c. The governing board of the district shall adopt an ordinance to establish criteria and procedures to implement the authority granted pursuant to subsections 8a and 8b.

9. To make contracts, and to employ for temporary services only, expert appraisers, consultants and technical advisers, and to do all acts necessary for the full exercise of all powers vested in the district, or any of the officers thereof, by this act.

10. To grant or otherwise convey to counties, cities and counties, cities or towns easements for street and highway purposes, over, along, upon, in, through, across or under any real property owned by the Los Angeles County Flood Control District.

11. To remove, carry away and dispose of any rubbish, trash, debris or other inconvenient matter that may be dislodged, transported, conveyed or carried by means of, through, in, or along the works and structures operated or maintained hereunder and deposited upon the property of the district or elsewhere.

12. To pay premiums on bonds of contractors required under any contract if the amount payable to the contractor exceeds five million dollars ($5,000,000); provided, that the specifications in these cases shall specifically so provide and state that the bidder shall not include in his or her bids the cost of furnishing the required bonds.

13. To lease, sell or dispose of any property (or any interest therein) whenever in the judgment of the board of supervisors of the property, or any interest therein or part thereof, is no longer required for the purposes of the district, or may be leased for any purpose without interfering with the use of the same for the purposes of the district, and to pay any compensation received therefor into the general fund of the district and use the same for the purposes of this act. However, nothing herein shall authorize the board of supervisors or other governing body of the district or any officer thereof to sell, lease or otherwise dispose of any water, water right, reservoir space or storage capacity or any interest or space therein except to public agencies for recreational purposes when the use is not inconsistent with the use thereof by the district for flood control and water conservation purposes; or except as provided by Section 17 of this act. However, the district may grant and convey to the United States of America, or to any federal agency authorized to accept and pay for the land or interests in land, all lands and interests in land, now owned or hereafter acquired, lying within any channel, dam or reservoir site, improved or constructed, in whole or in part, with federal funds, upon payment to the district of sums equivalent to actual expenditures made by it in acquiring the lands and interests in land so conveyed and deemed reasonable by the Secretary of War and the Chief of Engineers.

14. To provide, by agreement with other public agencies or private persons or entities or otherwise, for the recreational use of the lands, facilities, and works of the district which shall not interfere, or be inconsistent, with the primary use and purpose of the lands, facilities, and works by the district.

15. In addition to its other powers, the district shall have the power to preserve, enhance, and add recreational features to its properties and upon a finding by the board of supervisors that the acquisition is necessary for those purposes, to acquire, preserve, enhance, and add recreational features to lands or interests in lands contiguous to its properties, for the protection, preservation, and use of the scenic beauty and natural environment for the properties or the lands and to collect admission or use fees for the recreational features where deemed appropriate.

The district by or through its board of supervisors, or other board or officers at any time succeeding to the duties or functions of its board of supervisors, is hereby authorized and empowered to warrant and defend the title to all land and interests therein so conveyed to the United States of America or to any agency and its respective assigns; to covenant and agree to indemnify and keep indemnified and to hold and save harmless and exonerated the United States of America or any agency, to which lands or any interest therein are so conveyed by the district, from and against all demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any defect or defects whatsoever in the title to any land or interest in land so conveyed by the district; to reimburse and save harmless and exonerated the United States of America or any agency for any and all amounts, paid, and expenses incurred, in the compromise or settlement of any demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any claim to or defect or defects whatsoever in the title to any land or interests in land so conveyed by the district; to pay all just compensation, costs and expenses, which may be incurred in any condemnation proceeding deemed necessary by the United States of America or that agency, in order to perfect title to any land or interests in land, including without limitation all attorneys' fees, court costs and fees, costs of abstracts and other evidences of title, and all other costs, expenses or damages incurred or suffered by the United States of America or that agency; and consent is hereby given to the bringing of suit or other legal proceedings against the district by the United States of America or that agency, as the case may be, in the proper district court of the United States, upon any cause of action arising out of any conveyance, contract or covenant made or entered into by the district pursuant to the authority granted in this act, or to enforce any claims, damages, loss or expenses arising out of or resulting from any defect

whatsoever in the title to the land or any interest therein or any claims of others in or to the land or interest therein.

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ATTACHMENT B-23

Assembly Bill No. 2403

CHAPTER 78

An act to amend Section 53750 of the Government Code, relating to local government.

[Approved by Governor June 28, 2014. Filed with Secretary of State June 28, 2014.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2403, Rendon. Local government: assessments, fees, and charges.

Articles XIII C and XIII D of the California Constitution generally require that assessments, fees, and charges be submitted to property owners for approval or rejection after the provision of written notice and the holding of a public hearing. Existing law, the Proposition 218 Omnibus Implementation Act, prescribes specific procedures and parameters for local jurisdictions to comply with Articles XIII C and XIII D of the California Constitution and defines various terms for these purposes.

This bill would modify the definition of water to mean water from any source. The bill would also make legislative findings and declarations in this regard.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) The provisions of the Proposition 218 Omnibus Implementation Act (Article 4.6 (commencing with Section 53750) of Chapter 4 of Part 1 of Division 2 of Title 5 of the Government Code) shall be liberally construed to effectuate its purposes of limiting local government revenue and enhancing taxpayer consent.

(b) This act is in furtherance of the policy contained in Section 2 of Article X of the California Constitution and the policy that the use of potable domestic water for nonpotable uses, including, but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available.

(c) This act is declaratory of existing law.

SEC. 2. Section 53750 of the Government Code is amended to read:

53750. For purposes of Article XIII C and Article XIII D of the California Constitution and this article:

(a) "Agency" means any local government as defined in subdivision (b) of Section 1 of Article XIII C of the California Constitution.

(b) "Assessment" means any levy or charge by an agency upon real property that is based upon the special benefit conferred upon the real property by a public improvement or service, that is imposed to pay the capital cost of the public improvement, the maintenance and operation expenses of the public improvement, or the cost of the service being provided. "Assessment" includes, but is not limited to, "special assessment," "benefit assessment," "maintenance assessment," and "special assessment tax."

(c) "District" means an area that is determined by an agency to contain all of the parcels that will receive a special benefit from a proposed public improvement or service.

(d) "Drainage system" means any system of public improvements that is intended to provide for erosion control, for landslide abatement, or for other types of water drainage.

(e) "Extended," when applied to an existing tax or fee or charge, means a decision by an agency to extend the stated effective period for the tax or fee or charge, including, but not limited to, amendment or removal of a sunset provision or expiration date.

(f) "Flood control" means any system of public improvements that is intended to protect property from overflow by water.

(g) "Identified parcel" means a parcel of real property that an agency has identified as having a special benefit conferred upon it and upon which a proposed assessment is to be imposed, or a parcel of real property upon which a proposed property-related fee or charge is proposed to be imposed.

(h) (1) "Increased," when applied to a tax, assessment, or property-related fee or charge, means a decision by an agency that does either of the following:

(A) Increases any applicable rate used to calculate the tax, assessment, fee, or charge.

(B) Revises the methodology by which the tax, assessment, fee, or charge is calculated, if that revision results in an increased amount being levied on any person or parcel.

(2) A tax, fee, or charge is not deemed to be "increased" by an agency action that does either or both of the following:

(A) Adjusts the amount of a tax, fee, or charge in accordance with a schedule of adjustments, including a clearly defined formula for inflation adjustment that was adopted by the agency prior to November 6, 1996.

(B) Implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved by the agency is not revised so as to result in an increase in the amount being levied on any person or parcel.

(3) A tax, assessment, fee, or charge is not deemed to be "increased" in the case in which the actual payments from a person or property are higher than would have resulted when the agency approved the tax, assessment, fee, or charge, if those higher payments are attributable to events other than

an increased rate or revised methodology, such as a change in the density, intensity, or nature of the use of land.

(i) "Notice by mail" means any notice required by Article XIII C or XIII D of the California Constitution that is accomplished through a mailing, postage prepaid, deposited in the United States Postal Service and is deemed given when so deposited. Notice by mail may be included in any other mailing to the record owner that otherwise complies with Article XIII C or XIII D of the California Constitution and this article, including, but not limited to, the mailing of a bill for the collection of an assessment or a property-related fee or charge.

(j) "Record owner" means the owner of a parcel whose name and address appears on the last equalized secured property tax assessment roll, or in the case of any public entity, the State of California, or the United States, means the representative of that public entity at the address of that entity known to the agency.

(k) "Registered professional engineer" means an engineer registered pursuant to the Professional Engineers Act (Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code).

(*l*) "Vector control" means any system of public improvements or services that is intended to provide for the surveillance, prevention, abatement, and control of vectors as defined in subdivision (k) of Section 2002 of the Health and Safety Code and a pest as defined in Section 5006 of the Food and Agricultural Code.

(m) "Water" means any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water from any source.

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ATTACHMENT B-24

AB-2554 Los Angeles County Flood Control District: fees and charges. (2009-2010)

SHARE THIS:

Assembly Bill No. 2554

CHAPTER 602

An act to amend Sections 2 and 16 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), relating to the Los Angeles County Flood Control District.

[Approved by Governor September 30, 2010. Filed with Secretary of State September 30, 2010.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2554, Brownley. Los Angeles County Flood Control District: fees and charges.

Existing law, the Los Angeles County Flood Control Act, establishes the Los Angeles County Flood Control District and authorizes the district to control and conserve the flood, storm, and other wastewater of the district. The act declares the district to be a body corporate and politic, and to have various powers, including the power to cause taxes to be levied and collected for the purpose of paying any obligation of the district.

This bill would authorize the district to impose a fee or charge, in compliance with Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and providing services to improve water quality and reduce stormwater and urban runoff pollution in the district in accordance with specified criteria. The bill would require that any fees imposed be levied and collected together with taxes for county purposes, and the revenues paid into the county treasury to the credit of the district. The bill would require the county board of supervisors to expend the funds to pay for those costs and expenses, to be allocated as prescribed.

The act authorizes the board of the district, subject to certain limitations, to do all acts or things necessary or useful for the promotion of the work or the control of the floodwater and stormwater of the district, to conserve those waters for beneficial and useful purposes, and to protect from damage from floodwater and stormwater, the harbors, waterways, public highways, and property of the district. One limitation upon the authority of the board of the district is that it is not authorized to raise money for the district by any method or system other than by issuing bonds, or the levying of a tax upon the assessed value of all the real property of the district, except from the sale and lease of its property.

This bill would instead provide that the board of the district is not authorized to raise money for the district by any method or system other than by issuing bonds, the levying of a tax, or the imposition of a fee or charge in compliance with Article XIII D of the California Constitution.

Vote: majority Appropriation: no Fiscal Committee: no Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 2 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), as amended by Section 33 of Chapter 1276 of the Statutes of 1975, is amended to read:

Sec. 2. The objects and purposes of this act are to provide for the control and conservation of the flood, storm and other waste waters of said district, and to conserve these waters for beneficial and useful purposes by spreading, storing, retaining or causing to percolate into the soil within the district, or to save or conserve in any manner, all or any of these waters, and to protect from damage from flood or storm waters, the harbors, waterways, public highways and property in the district.

The Los Angeles County Flood Control District is hereby declared to be a body corporate and politic, and has all the following powers:

1. To have perpetual succession.

2. To sue and be sued in the name of the district in all actions and proceedings in all courts and tribunals of competent jurisdiction.

3. To adopt a seal and alter it at pleasure.

4. To take by grant, purchase, gift, devise or lease, hold, use, enjoy, and to lease or dispose of real or personal property of every kind within or without the district necessary to the full exercise of its power.

5. To acquire or contract to acquire lands, rights-of-way, easements, privileges and property of every kind, and construct, maintain and operate any and all works or improvements within or without the district necessary or proper to carry out any of the objects or purposes of this act, and to complete, extend, add to, repair or otherwise improve any works or improvements acquired by it as herein authorized. Construction or improvement of existing facilities may involve landscaping and other aesthetic treatment in order that the facility will be compatible with existing or planned development in the area of improvement.

6. To exercise the right of eminent domain, either within or without the district, to take any property necessary to carry out any of the objects or purposes of this act.

7. To incur indebtedness, and to issue bonds in the manner herein provided.

7a. To borrow money from the United States of America, any agency or department thereof, or from any nonprofit corporation, organized under the laws of this state, to which the Reconstruction Finance Corporation, a corporation organized and existing under and by virtue of an act of Congress, entitled "Reconstruction Finance Corporation Act," or other agency, or department, of the United States government, has authorized, or shall hereafter authorize, a loan to enable nonprofit corporation to lend money to the Los Angeles County Flood Control District, for any flood control work authorized under this act, and to repay the same, in annual installments, over a period of not to exceed twenty (20) years, with interest at a rate of not to exceed four and one-fourth per centum (41/4%) per annum, payable semiannually, and, without the necessity of an election when authorized by resolution of the board of supervisors, as evidences of that indebtedness, the district is hereby authorized to execute and deliver a note, or a series of notes, or bonds, or other evidences of indebtedness, signed by the chairperson of the board of supervisors of the district, which notes, bonds, or other evidences of indebtedness, shall be negotiable instruments if so declared in the resolution of the board of supervisors providing for their issuance, and notes, bonds, or other evidences of indebtedness, may have interest coupons attached to evidence interest payments, signed by the facsimile signature of the chairperson of the board. All applications for these loans shall specify the particular flood control work or projects for which the funds will be expended, and when received, the money shall be deposited in a special fund, and shall be expended for those purposes only which are described and referred to in the applications. If a surplus remains after the completion of the work, the surplus shall be applied to the payment of the note, notes, bonds, or other evidences of indebtedness, executed as aforesaid, for the loan including interest coupons. The board of supervisors shall annually levy a tax upon the taxable real property of the district, clearly sufficient to pay the interest and installments of principal, as the same shall become due and payable, under any loan made pursuant to the authority of this section, and to create and maintain a reserve fund to assure the prompt payment thereof, as may be provided by resolution of the board of supervisors. However, the amount of taxes levied in any year, pursuant to this subsection, shall, pro tanto, reduce the authority of the board of supervisors, during any year, to levy taxes under Section 14 of this act, but this proviso shall not be a limitation upon the power and duty to levy and collect taxes under this subsection. Notwithstanding any other provisions of law, interest earned on funds representing the proceeds of bonds of the district shall be deposited and retained in the reserve fund of the district to meet the principal and interest falling due on these bonds.

Notwithstanding anything in this subsection to the contrary, the total amount the district may borrow under the authority of any or all of the provisions of this subsection is limited to and shall not exceed in the aggregate the sum of four million five hundred thousand dollars ($4,500,000).

7b. The power granted in the next preceding subsection is hereby extended to authorize the issuance and sale of bonds or other evidences of indebtedness of the district to the County of Los Angeles and the purchase thereof by the county in accordance with "An act authorizing the investment and reinvestment and disposition of any surplus moneys in the treasury of any county, city and county, incorporated city or town or municipal utility district or flood control district," approved April 23, 1913, as amended; all subject to the provisions and limitations of the next preceding subsection relative to the disposition and use of funds, interest rate, period of repayment, tax rate and mode of issuance. The total amount of bonds or other evidence of indebtedness, in the aggregate, which the district may issue and sell under the authority of subsection 7a and of this subsection is limited to and shall not exceed four million five hundred thousand dollars ($4,500,000).

8. To cause taxes to be levied and collected for the purpose of paying any obligation of the district in the manner provided in this section.

8a. To impose a fee or charge, in compliance with the applicable provisions of Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and providing services to improve water quality and reduce stormwater and urban runoff pollution in the district in accordance with criteria established by the ordinance adopted pursuant to subsection 8c. Any fee that is imposed pursuant to this subsection shall be levied and collected together with, and not separately from, taxes for county purposes, and the revenues derived from the fees shall be paid into the county treasury to the credit of the district, and the board of supervisors shall expend these funds to pay for costs and expenses in accordance with this subsection.

8b. The district shall allocate the revenues derived from any fee or charge imposed pursuant to subsection 8a as follows:

(A) Ten percent shall be allocated to the district for implementation and administration of water quality programs, as determined by the district, including activities such as planning, water quality monitoring, and any other related activities, and for payment of the costs incurred in connection with the levy and collection of the fee and the distribution of the funds generated by imposition of the fee, as established by the ordinance adopted pursuant to subsection 8c.

(B) Forty percent shall be allocated to cities within the boundaries of the district and to the County of Los Angeles, in the same proportion as the amount of fees collected within each jurisdiction and within the unincorporated territories, to be expended by those cities within the cities' respective jurisdictions and by the County of Los Angeles within the unincorporated territories that are within the boundaries of the district, for water quality improvement programs, as established by the ordinance adopted pursuant to subsection 8c.

(C) Fifty percent shall be allocated to nine watershed authority groups that shall be authorized by the ordinance adopted pursuant to subsection 8c, in the same proportion as the amount of fees collected within each watershed, to implement collaborative water quality improvement plans or programs in the watersheds as established by the ordinance adopted pursuant to subsection 8c. Those nine watershed authority groups shall be established for the Ballona Creek, Dominguez Channel, Upper Los Angeles River, Lower Los Angeles River, Rio Hondo, Upper San Gabriel River, Lower San Gabriel River, Santa Clara River, and Santa Monica Bay watersheds. The watershed authority groups shall be established pursuant to Article 1 (commencing with Section 6500) of Chapter 5 of Division 7 of Title 1 of the Government Code. The implementation of a collaborative water quality improvement plan or program by a watershed authority group shall require the consent of any watershed authority group member whose jurisdiction comprises more than 40 percent of the total land area in a watershed.

8c. The governing board of the district shall adopt an ordinance to implement the authority granted pursuant to subsections 8a and 8b.

9. To make contracts, and to employ for temporary services only, expert appraisers, consultants and technical advisers, and to do all acts necessary for the full exercise of all powers vested in the district, or any of the officers thereof, by this act.

10. To grant or otherwise convey to counties, cities and counties, cities or towns easements for street and highway purposes, over, along, upon, in, through, across or under any real property owned by the Los Angeles County Flood Control District.

11. To remove, carry away and dispose of any rubbish, trash, debris or other inconvenient matter that may be dislodged, transported, conveyed or carried by means of, through, in, or along the works and structures operated or maintained hereunder and deposited upon the property of the district or elsewhere.

12. To pay premiums on bonds of contractors required under any contract if the amount payable to the contractor exceeds five million dollars ($5,000,000); provided, that the specifications in these cases shall specifically so provide and state that the bidder shall not include in his or her bids the cost of furnishing the required bonds.

13. To lease, sell or dispose of any property (or any interest therein) whenever in the judgment of the board of supervisorsof the property, or any interest therein or part thereof, is no longer required for the purposes of the district, or may be leased for any purpose without interfering with the use of the same for the purposes of the district, and to pay any compensation received therefor into the general fund of the district and use the same for the purposes of this act. However, nothing herein shall authorize the board of supervisors or other governing body of the district or any officer thereof to sell, lease or otherwise dispose of any water, water right, reservoir space or storage capacity or any interest or space therein except to public agencies for recreational purposes when the use is not inconsistent with the use thereof by the district for flood control and water conservation purposes; or except as provided by Section 17 of this act. However, the district may grant and convey to the United States of America, or to any federal agency authorized to accept and pay for the land or interests in land, all lands and interests in land, now owned or hereafter acquired, lying within any channel, dam or reservoir site, improved or constructed, in whole or in part, with federal funds, upon payment to the district of sums equivalent to actual expenditures made by it in acquiring the lands and interests in land so conveyed and deemed reasonable by the Secretary of War and the Chief of Engineers.

14. To provide, by agreement with other public agencies or private persons or entities or otherwise, for the recreational use of the lands, facilities, and works of the district which shall not interfere, or be inconsistent, with the primary use and purpose of the lands, facilities, and works by the district.

15. In addition to its other powers, the district shall have the power to preserve, enhance, and add recreational features to its properties and upon a finding by the board of supervisors that the acquisition is necessary for those purposes, to acquire, preserve, enhance, and add recreational features to lands or interests in lands contiguous to its properties, for the protection, preservation, and use of the scenic beauty and natural environment for the properties or the lands and to collect admission or use fees for the recreational features where deemed appropriate.

The district by or through its board of supervisors, or other board or officers at any time succeeding to the duties or functions of its board of supervisors, is hereby authorized and empowered to warrant and defend the title to all land and interests therein so conveyed to the United States of America or to any agency and its respective assigns; to covenant and agree to indemnify and keep indemnified and to hold and save harmless and exonerated the United States of America or any agency, to which lands or any interest therein are so conveyed by the district, from and against all demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any defect or defects whatsoever in the title to any land or interest in land so conveyed by the district; to reimburse and save harmless and exonerated the United States of America or any agency for any and all amounts, paid, and expenses incurred, in the compromise or settlement of any demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any claim to or defect or defects whatsoever in the title to any land or interests in land so conveyed by the district; to pay all just compensation, costs and expenses, which may be incurred in any condemnation proceeding deemed necessary by the United States of America or that agency, in order to perfect title to any land or interests in land, including without limitation all attorneys' fees, court costs and fees, costs of abstracts and other evidences of title, and all other costs, expenses or damages incurred or suffered by the United States of America or that agency; and consent is hereby given to the bringing of suit or other legal proceedings against the district by the United States of America or that agency, as the case may be, in the proper district court of the United States, upon any cause of action arising out of any conveyance, contract or covenant made or entered into by the district pursuant to the authority granted in this act, or to enforce any claims, damages, loss or expenses arising out of or resulting from any defect whatsoever in the title to the land or any interest therein or any claims of others in or to the land or interest therein.

SEC. 2. Section 16 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), as amended by Section 6 of Chapter 1276 of the Statutes of 1975, is amended to read:

Sec. 16. (a) The board of supervisors of the district shall have power to make and enforce all needful rules and regulations for the administration and government of the district, and to perform all other acts necessary or proper to accomplish the purposes of this act.

(b) The board of supervisors shall have power to do all work and to construct and acquire all improvements necessary or useful for carrying out any of the purposes of this act; and the board of supervisors shall have power to acquire either within or without the boundaries of the district, by purchase, donation or by other lawful means in the name of the district, from private persons, corporations, reclamation districts, swampland districts, levee districts, protection districts, drainage districts, irrigation districts, or other public corporations or agencies or districts, all lands, rights-of-way, easements, property or materials necessary or useful for carrying out any of the purposes of this act; to make contracts to indemnify or compensate any owner of land or other property for any injury or damage necessarily caused by the exercise of the powers conferred by this act, or arising out of the use, taking or damage of any property, rights-of-way or easements, for any of these purposes; to compensate any reclamation district, protection district, drainage district, irrigation district or other district, public corporation or agency or district, for any right-of-way, easement or property taken over or acquired by the Los Angeles County Flood Control District as a part of its work of flood control or conservation or protection provided for in this act, and any reclamation district, protection district, drainage district, irrigation district or other district or public corporation or agency is hereby given power and authority to distribute compensation in any manner that may be now or hereafter allowed by law; to maintain actions to restrain the doing of any act or thing that may be injurious to carrying out any of the purposes of this act by the district, or that may interfere with the successful execution of that work, or for damages for injury thereto; to do any and all things necessary or incident to the powers hereby granted, or to carry out any of the objects and purposes of this act; to require, by appropriate legal proceedings, the owner or owners of any bridge, trestle, wire line, viaduct, embankment or other structure which shall be intersected, traversed or crossed by any channel, ditch, bed of any stream, waterway, conduit or canal, so to construct or alter the same as to offer a minimum of obstruction to the free flow of water through or along any channel, ditch, bed of any stream, waterway, conduit or canal, and whenever necessary in the case of existing works or structures, to require the removal or alteration thereof for that purpose. However, nothing in this act contained shall be deemed to authorize the district in exercising any of its powers to take, damage or destroy any property or to require the removal, relocation, alteration or destruction of any bridge, railroad, wire line, pipeline, facility or other structure unless just compensation therefor be first made, in the manner and to the extent required by the Constitution of the United States and the Constitution of California.

The board of supervisors of the district is hereby vested with full power to do all other acts or things necessary or useful for the promotion of the work of the control of the floodwater and stormwater of the district, and to conserve those waters for beneficial and useful purposes, and to protect from damage from floodwater and stormwater, the harbors, waterways, public highways, and property in the district. However, this act does not authorize the district, or any person or persons, to divert the waters of any river, creek, stream, irrigation system, canal or ditch, from its channel, to the detriment of any person or persons having any interest in such river, creek, stream, irrigation system, canal or ditch, or the waters thereof or therein, unless previous compensation be first ascertained and paid therefor, under the laws of this state authorizing the taking of private property for public uses. This act does not affect the plenary power of any incorporated city, city and county, or town, or municipal or county water district, to provide for a water supply of that public corporation, or as affecting the absolute control of any properties of that public corporations necessary for the water supply, and this act does not vest any power of control over the properties in the Los Angeles County Flood Control District, or in any officer thereof, or in any person referred to in this act. This act does not authorize the board of supervisors to raise money for the district by any method or system other than that by the issuing of bonds, the levying of a tax, or the imposition of a fee or charge in compliance with Article XIII D of the California Constitution, in the manner in this act provided, except from the sale and lease of its property as provided in this act.

ATTACHMENT B-25

Barclays Official California Code of Regulations Currentness
Title 23. Waters
Division 3. State Water Resources Control Board and Regional Water Quality Control Boards
Chapter 9. Waste Discharge Reports and Requirements
Article 3. Waste Discharges from Point Sources to Navigable Waters

23 CCR § 2235.2

§ 2235.2. Compliance with Regulations of the U.S. Environmental Protection Agency.

Waste discharge requirements for discharge from point sources to nagivable waters shall be issued and administered in accordance with the currently applicable federal regulations for the National Pollutant Discharge Elimination System (NPDES) program.

Note: Authority cited: Section 1058, Water Code. Reference: Chapter 5.5 (commencing with Section 13370) of Division 7, Water Code.

This database is current through 5/11/18 Register 2018, No. 19

23 CCR § 2235.2, 23 CA ADC § 2235.2

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ATTACHMENT B-26

23 CCR § 2235.3

§ 2235.3. Additional Requirements.

In addition to the federal regulations, waste discharge requirements prescribed for discharges to navigable water shall be in compliance with applicable state regulations, including, when appropriate, the requirements of Sections 2230(c), 2232 and 2233.

Note: Authority cited: Sections 185 and 1058, Water Code. Reference: Section 13263, Water Code.

HISTORY

1. Amendment filed 4-16-82; effective upon filing pursuant to Government Code Section 11346.2(d) (Register 82, No. 16).

This database is current through 5/11/18 Register 2018, No. 19

23 CCR § 2235.3, 23 CA ADC § 2235.3

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ATTACHMENT C-1

KeyCite Yellow Flag - Negative Treatment
Declined to Follow by Conservation Law Foundation v. Hannaford Bros. Co., D.Vt., May 14, 2004

568 F.2d 1369
United States Court of Appeals,
District of Columbia Circuit.

NATURAL RESOURCES DEFENSE COUNCIL, INC. *
v.
Douglas M. COSTLE, Administrator, Environmental Protection Agency, et al., National Forest Products Association, Appellant.
NATURAL RESOURCES DEFENSE COUNCIL, INC., etc.
v.
Douglas M. COSTLE, Administrator, Environmental Protection Agency, et al., National Milk Producers Federation, Appellant.
NATURAL RESOURCES DEFENSE COUNCIL, INC., etc.
v.
Douglas M. COSTLE, Administrator, and Environmental Protection Agency, et al., Appellants.
NATURAL RESOURCES DEFENSE COUNCIL, INC.
v.
Douglas M. COSTLE, Administrator, Environmental Protection Agency, Colorado River Water Conservation District, Appellant.

Nos. 75-2056, 75-2066, 75-2067 and 75-2235.
|
Argued Dec. 3, 1976.
|
Decided Nov. 16, 1977.

The National Resources Defense Council, Inc. challenged authority of the Environmental Protection Agency Administrator to exempt categories of point sources from permit requirements of the Federal Water Pollution Control Act Amendments of 1972. The United States District Court for the District of Columbia, Thomas A. Flannery, J., 396 F.Supp. 1393, granted summary judgment to the NRDC and the Administrator and others appealed. The Court of Appeals, Leventhal, Circuit Judge, held that: (1) legislative history shows that National Pollution Discharge Elimination System permit is the only means by which discharger may escape total prohibition of discharges from point sources found in FWPCA; (2) national effluent limitations need not be uniform as precondition for NPDES program to include pollution from agricultural, silvicultural, and storm runoff point sources, and while technological or administrative infeasibility of such limitations may warrant adjustments in permit program it does not authorize Administrator to exclude relevant point sources; (3) where numeric effluent limitations are infeasible, permit conditions may proscribe industry practices that aggravate problems of point source pollution as well as require monitoring and reporting of effluent level; and (4) a number of administrative devices, including general or area permits are available to aid EPA in practical administration of NPDES program, and FWPCA, however tight in some respects, leaves some leeway to EPA in interpretation of that statute and affords agency some means to consider matters of feasibility.

Affirmed in accordance with opinion.

MacKinnon, Circuit Judge, filed a concurring opinion.

West Headnotes (8)

[1] **Environmental Law** Discharge of Pollutants

Legislative history clearly shows that Congress intended that the national pollution discharge elimination system permit be the only means by which a discharger of pollutant may escape total prohibition of discharges from point sources found in Federal Water Pollution Control Act Amendments. Federal Water Pollution Control Act, §§ 301, 301(a), 402 as amended 33 U.S.C.A. §§ 1311, 1311(a), 1342.

33 Cases that cite this headnote

[2] **Environmental Law** Discharge of Pollutants

Use of word "may" in that section of Federal Water Pollution Control Act Amendment providing that the administrator may issue permit for discharge of any pollutant means only that the administrator has the discretion either to issue permit or to leave pollutant discharger subject to total proscription of statute making discharge of any pollutant by any person unlawful except as provided in Act. Federal Water Pollution Control Act, §§ 301(a), 302, 304 as amended 33 U.S.C.A. §§ 1311(a), 1342, 1344.

17 Cases that cite this headnote

[3] **Environmental Law** Substances, Sources, and Activities Regulated

Environmental Law Discharge of Pollutants

Existence of uniform national effluent limitations is not a necessary precondition for incorporating into the national pollutant discharge elimination system program pollution from agricultural, silvicultural, and storm water runoff point sources; technological or administrative infeasibility of such limitations may result in adjustments in permit programs but does not authorize administrator to exclude relevant point sources from program. Federal Water Pollution Control Act, §§ 301, 402, 404, 1362(12, 14), as amended 33 U.S.C.A. §§ 1311, 1342, 1344, 502(12, 14).

63 Cases that cite this headnote

[4] **Environmental Law** Conditions and Limitations

Where numeric effluent limitations are infeasible, point of discharge permits may proscribe industry practices which aggravate problems of point source pollution as well as require monitoring and reporting of effluent levels contrary to claim that any limitations must be issued in terms of a numerical effluent standard. Federal Water Pollution Control Act, §§ 302(a), 402, 402(a) as amended 33 U.S.C.A. §§ 1312(a), 1342, 1342(a).

25 Cases that cite this headnote

[5] **Environmental Law** Discharge of Pollutants

Federal Water Pollution Control Act Amendments merely require that point of discharge permits be in compliance with limitations section of Act and as a result the use of area or general permits is allowed. Federal Water Pollution Control Act, § 402 as amended 33 U.S.C.A. § 1342.

5 Cases that cite this headnote

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[6] **Environmental Law** Water Pollution

Power to define point and nonpoint sources of pollution is vested in Environmental Protection Agency under the Federal Water Pollution Control Act Amendments, and exercise of that power should be reviewed by court only after opportunity for full agency review and examination. Federal Water Pollution Control Act, § 402 as amended 33 U.S.C.A. § 1342.

8 Cases that cite this headnote

[7] **Environmental Law** Administrative Agencies and Proceedings

Federal Water Pollution Control Act Amendments, however tight in some respects, leave some leeway to Environmental Protection Agency in interpretation and affords agency some means to consider matter of feasibility. Federal Water Pollution Control Act, §§ 1-26, 101-517 as amended 33 U.S.C.A. §§ 1151-1175, 1251-1376.

Cases that cite this headnote

[8] **Administrative Law and Procedure** Statutory Basis and Limitation

It is not what court thinks that is generally appropriate to regulatory process, but what Congress intended.

2 Cases that cite this headnote

***1370 **148** *Syllabus by the Court*

The National Resources Defense Council, Inc. (NRDC) challenged the authority of the EPA Administrator to exempt categories of point sources from the permit requirements of s 402 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. s 1342 (Supp. V 1975). On appeal from a grant of summary judgment to NRDC, held:

1. The legislative history makes clear that Congress intended the National Pollution Discharge Elimination System (NPDES) permit to be the only means by which a discharger may escape the total prohibition of discharges from point sources found in FWPCA s 301(a), 33 U.S.C. s 1311(a) (Supp. V 1975).

2. It is not necessary that national effluent limitations be uniform as a precondition for the NPDES program to include pollution from agricultural, silvicultural, and storm water runoff point sources. The technological or administrative infeasibility ***1371 **149** of such limitations may warrant adjustments in the permit program, but it does not authorize the Administrator to exclude the relevant point source from the NPDES program.

3. Where numeric effluent limitations are infeasible, permit conditions may proscribe industry practices that aggravate the problems of point source pollution as well as require monitoring and reporting of effluent levels.

4. A number of administrative devices, including general or area permits, are available to aid EPA in the practical administration of the NPDES program. The FWPCA, however tight in some respects, leaves some leeway to EPA in the interpretation of that statute and, in that regard, affords the agency some means to consider matters of feasibility.

Appeals from the United States District Court for the District of Columbia (D.C. Civil 1629-73).

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Attorneys and Law Firms

Irvin B. Nathan, Washington, D. C., with whom Burton J. Mallinger, Washington, D. C., was on the brief, for appellant in No. 75-2056.

Charles W. Bills, Washington, D. C., with whom James R. Murphy, Washington, D. C., was on the brief for appellant in No. 75-2066.

G. William Frick, Atty., Dept. of Justice, Kansas City, Mo., of the bar of the Supreme Court of Missouri, pro hac vice by special leave of court for appellants in No. 75-2067. Peter R. Taft, Asst. Atty. Gen., Robert V. Zener, Gen. Counsel, Environmental Protection Agency, Edmund B. Clark, Lloyd S. Guerci, Larry A. Boggs, Attys., Dept. of Justice and Pamela P. Quinn, Atty., Environmental Protection Agency, Washington, D. C., were on the brief for appellants in No. 75-2067.

Christopher D. Williams, Washington D. C., with whom Kenneth Balcomb and Robert L. McCarty, Washington, D. C., were on the brief for appellant in No. 75-2235.

J. G. Speth, Washington, D. C., for appellee.

Theodore O. Torve, Asst. Atty. Gen., State of Washington, Olympia, Wash., filed a brief on behalf of the State of Washington as amicus curiae urging reversal in No. 75-2056.

Richard E. Schwartz, Jefferson City, Mo., filed a brief on behalf of Iron and Steel Institute, as amicus curiae urging reversal in No. 75-2067.

John L. Hill, Atty. Gen., State of Texas, and David M. Kendall, Jr., First Asst. Atty. Gen., State of Texas, Austin, Tex., filed a brief on behalf of State of Texas as amicus curiae urging reversal in No. 75-2067.

Before BAZELON, Chief Judge, and LEVENTHAL and MacKINNON, Circuit Judges.

Opinion

Opinion for the Court filed by LEVENTHAL, Circuit Judge.

Concurring Opinion filed by MacKINNON, Circuit Judge.

LEVENTHAL, Circuit Judge:

In 1972 Congress passed the Federal Water Pollution Control Act Amendments (hereafter referred to as the "FWPCA" or the "Act" [1]). It was a dramatic response to accelerating environmental degradation of rivers, lakes and streams in this country. The Act's stated goal is to eliminate the discharge of pollutants into the Nation's waters by 1985. This goal is to be achieved through the enforcement of the strict timetables and technology-based effluent limitations established by the Act.

The FWPCA sets up a permit program, the National Pollutant Discharge Elimination System (NPDES), as the primary means of enforcing the Act's effluent limitations. [2] At issue in this case is the authority ***1372 **150** of the Administrator of the Environmental Protection Agency to make exemptions from this permit component of the FWPCA.

Section 402 of the FWPCA, 33 U.S.C. s 1342 (Supp. V 1975), provides that under certain circumstances the EPA Administrator "may . . . issue a permit for the discharge of any pollutant" notwithstanding the general proscription of pollutant discharges found in s 301 of the Act. 33 U.S.C. s 1311 (Supp. V 1975). The discharge of a pollutant is defined in the FWPCA as "any addition of any pollutant to navigable waters from any point source" or "any addition of any

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pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or floating craft." 33 U.S.C. s 1362(12) (Supp. V 1975). In 1973 the EPA Administrator issued regulations that exempted certain categories of "point sources" of pollution from the permit requirements of s 402. [3] The Administrator's purported authority to make such exemptions turns on the proper interpretation of s 402.

A "point source" is defined in s 502(14) as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." [4]

The 1973 regulations exempted discharges from a number of classes of point sources from the permit requirements of s 402, including all silvicultural point sources; all confined animal feeding operations below a certain size; all irrigation return flows from areas of less than 3,000 contiguous acres or 3,000 noncontiguous acres that use the same drainage system; all nonfeedlot, nonirrigation agricultural point sources; and separate storm sewers containing only storm runoff uncontaminated by any industrial or commercial activity. [5] The EPA's ***1373 **151** rationale for these exemptions is that in order to conserve the Agency's enforcement resources for more significant point sources of pollution, it is necessary to exclude these smaller sources of pollutant discharges from the permit program.

The National Resources Defense Council, Inc. (NRDC) sought a declaratory judgment that the regulations are unlawful under the FWPCA. Specifically, NRDC contended that the Administrator does not have authority to exempt any class of point source from the permit requirements of s 402. It argued that Congress in enacting ss 301, 402 of the FWPCA intended to prohibit the discharge of pollutants from all point sources unless a permit had been issued to the discharger under s 402 or unless the point source was explicitly exempted from the permit requirements by statute. The District Court granted NRDC's motion for summary judgment. It held that the FWPCA does not authorize the Administrator to exclude any class of point sources from the permit program. NRDC v. Train, 396 F.Supp. 1393 (D.D.C.1975). The EPA has appealed to this court. It is joined on appeal by a number of defendant-intervenors, National Forest Products Association (NFPA), National Milk Producers Federation (NMPF), and the Colorado River Conservation District. [6]

This case thus presents principally a question of statutory interpretation. EPA also argues that even if Congress intended to include the pertinent categories in the permit program, the regulations exempting them should be upheld on a doctrine of administrative infeasibility, i. e., the regulations should be upheld as a deviation from the literal terms of the FWPCA that is necessary to permit the Agency to realize the principal objectives of the Act.

I. LEGISLATIVE HISTORY

The principal purpose of the FWPCA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." [7] The Act's ultimate objective, to eliminate the discharge of pollutants into navigable waters by 1985, is to be achieved by means of two intermediate steps. As of July 1, 1977, all point sources other than publicly owned treatment works were to have achieved effluent limitations that require application of the "best practicable control technology." [8] These same point sources must reduce their effluent discharges by July 1, 1983, to meet limitations determined by application of the "best available technology economically achievable" for each category of point source. [9]

The technique for enforcing these effluent limitations is straightforward. Section 301(a) of the FWPCA provides:

> Except as in compliance with this section and sections 302, 306, 307, 318, 402, and 404 of this Act, the discharge of any pollutant by any person shall be unlawful. [10]

Appellants concede that if the regulations are valid, it must be because they are authorized ***1374 **152** by s 402; none of the other sections listed in s 301(a) afford grounds for relieving the exempted point sources from the prohibition of s 301. [11]

Section 402 provides in relevant part that the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 301(a), upon condition that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308, and 403 of this Act, or prior to the taking of the necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act.

The NPDES permit program established by s 402 is central to the enforcement of the FWPCA. It translates general effluent limitations into the specific obligations of a discharger. As this court noted in NRDC v. Train, 166 U.S.App.D.C. 312, 315, 510 F.2d 692, 695 (1975), the Act "relies primarily on a permit program for the achievement of effluent limitations . . . to attain its goals." The comments in floor debates of Senator Muskie, the leading Congressional sponsor of the Act, makes this clear. [12]

The appellants argue that s 402 not only gives the Administrator the discretion to grant or refuse a permit, but also gives him the authority to exempt classes of point sources from the permit requirements entirely. They argue that this interpretation is supported by the legislative history of s 402 and the fact that unavailability of this exemption power would place unmanageable administrative burdens on the EPA.

[1] Putting aside for the moment the appellants' administrative infeasibility argument, we agree with the District Court that the legislative history makes clear that Congress intended the NPDES permit to be the only means by which a discharger from a point source may escape the total prohibition of s 301(a). This intention is evident in both Committee Reports. In discussing s 301 the House Report stressed:

> Any discharge of a pollutant without a permit issued by the Administrator under section 318, or by the Administrator or the State under section 402 or by the Secretary of the Army under section 404 is unlawful. Any discharge of a pollutant not in compliance with the conditions or limitations of such a permit is also unlawful. [13]

The Senate Report echoed this interpretation:

(Section 301) clearly establishes that the discharge of pollutants is unlawful. Unlike its predecessor program which permitted the discharge of certain amounts of pollutants under the conditions described above, this legislation would clearly establish that no one has the right ***1375 **153** to pollute that pollution continues because of technological limits, not because of any inherent rights to use the nation's waterways for the purpose of disposing of wastes.

The program proposed by this Section will be implemented through permits issued in Section 402. The Administrator will have the capability and the mandate to press technology and economics to achieve those levels of effluent reduction which he believes to be practicable in the first instance and attainable in the second. [14]

[2] The EPA argues that since s 402 provides that "the Administrator may . . . issue a permit for the discharge of any pollutant" (emphasis added), he is given the discretion to exempt point sources from the permit requirements altogether. This argument, as to what Congress meant by the word "may" in s 402, is insufficient to rebut the plain language of the statute and the committee reports. We say this with due awareness of the deference normally due "the construction of a new statute by its implementing agency." NRDC v. Train, 166 U.S.App.D.C. at 326, 510 F.2d at 706; see Zuber v. Allen, 396 U.S. 168, 192, 90 S.Ct. 314, 24 L.Ed.2d 345 (1969); Udall v. Tallman, 380 U.S. 1, 16, 85 S.Ct. 792, 13 L.Ed.2d 616 (1965). The use of the word "may" in s 402 means only that the Administrator has discretion either to issue a permit or to leave the discharger subject to the total proscription of s 301. This is the natural reading, and the one that retains the fundamental logic of the statute.

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Under the EPA's interpretation the Administrator would have broad discretion to exempt large classes of point sources from any or all requirements of the FWPCA. This is a result that the legislators did not intend. Rather they stressed that the FWPCA was a tough law that relied on explicit mandates to a degree uncommon in legislation of this type. A statement of Senator Jennings Randolph of West Virginia, Chairman of the Senate Committee responsible for the Act, is illustrative.

I stress very strongly that Congress has become very specific on the steps it wants taken with regard to environmental protection. We have written into law precise standards and definite guidelines on how the environment should be protected. We have done more than just provide broad directives for administrators to follow. . . .

In the past, too many of our environmental laws have contained vague generalities. What we are attempting to do now is provide laws that can be administered with certainty and precision. I think that is what the American people expect that we do. [15]

There are innumerable references in the legislative history to the effect that the Act is founded on the "basic premise that a discharge of pollutants without a permit is unlawful and that discharges not in compliance with the limitations and conditions for a permit are unlawful." [16] Even when infeasibility arguments were squarely raised, ***1376 **154** the legislature declined to abandon the permit requirement. [17] We stand by our previous interpretation of the Act's scheme for the enforcement of effluent limitations:

After dates set forth in (s 301(b)), a person must obtain a permit and comply with its terms in order to discharge any pollutant. The conditions of the permit must assure that any discharge complies with the applicable requirements of numerous sections including the effluent limitations of section 301(b).

NRDC v. Train, 166 U.S.App.D.C. at 316, 510 F.2d at 696 (emphasis added; footnotes omitted).

We also note that all the Supreme Court decisions referring to s 402 view the permit as the only means by which a point source polluter can avoid the ban on discharges found in s 301. Strictly speaking these expressions may be dicta, for they do not touch directly on the interpretation of s 402. But they are at least a considered reading of what the Act appears to mean.

In Train v. Colorado Public Interest Research Group, Inc., 426 U.S. 1, 96 S.Ct. 1938, 48 L.Ed.2d 434 (1976), Justice Marshall characterized the enforcement scheme of the FWPCA as follows:

> (E)ffluent limitations are enforced through a permit program. The discharge of "pollutants" into water is unlawful without a permit issued by the Administrator of the EPA or, if a State has developed a program that complies with the FWPCA, by the State. . . .

Id. at 7, 96 S.Ct. at 1941 (footnote omitted).

In EPA v. State Water Resources Control Board, 426 U.S. 200, 96 S.Ct. 2022, 48 L.Ed.2d 578 (1976), the issue was whether federal installations were subject to state NPDES programs. Justice White's majority opinion describes NPDES at 205, 96 S.Ct. at 2025 (footnote omitted):

> Under NPDES, it is unlawful for any person to discharge a pollutant without obtaining a permit and complying with its terms. An NPDES permit serves to transform generally applicable effluent limitations and other standards including those based on water quality into the obligations (including a timetable for compliance) of the individual discharger, and the Amendments provide for direct administrative and judicial enforcement of permits.

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In E. I. du Pont de Nemours v. Train, 430 U.S. 112, 97 S.Ct. 965, 51 L.Ed.2d 204 (1977), the Court held that under FWPCA the EPA can set uniform effluent limitations through industry-wide regulations rather than develop them on an individual basis during the permit issuance process. But the Court, per Justice Stevens, clearly indicated ***1377 **155** that those limitations were translated into obligations of the discharger through their inclusion in an NPDES permit. Id. at 119-20, 97 S.Ct. 965.

The wording of the statute, legislative history, and precedents are clear: the EPA Administrator does not have authority to exempt categories of point sources from the permit requirements of s 402. Courts may not manufacture for an agency a revisory power inconsistent with the clear intent of the relevant statute. In holding that the FPC does not have authority to exempt the rates of small producers from regulation under the Natural Gas Act, the Supreme Court observed:

> It is not the Court's role . . . to overturn congressional assumptions embedded into the framework of regulation established by the Act. This is a proper task for the Legislature where the public interest may be considered from the multifaceted points of view of the representational process.

FPC v. Texaco, Inc., 417 U.S. 380, 400, 94 S.Ct. 2315, 2327, 41 L.Ed.2d 141 (1974).

II. ADMINISTRATIVE INFEASIBILITY

The appellants have stressed in briefs and at oral argument the extraordinary burden on the EPA that will be imposed by the above interpretation of the scope of the NPDES program. The spectre of millions of applications for permits is evoked both as part of appellants' legislative history argument that Congress could not have intended to impose such burdens on the EPA and as an invitation to this court to uphold the regulations as deviations from the literal terms of the FWPCA necessary to permit the agency to realize the general objectives of that act. During oral argument we asked for supplemental briefs so that the appellants could expand on their infeasibility arguments. We consider EPA's infeasibility contentions in turn.

A. Uniform National Effluent Limitations

EPA argues that the regulatory scheme intended under Titles III and IV of the FWPCA requires, first, that the Administrator establish national effluent limitations [18] and, second, that these limitations be incorporated in the individual permits of dischargers. EPA argues that the establishment of such limitations is simply not possible with the type of point sources involved in the 1973 regulations, which essentially involve the discharge of runoff i. e., wastewaters generated by rainfall that drain over terrain into navigable waters, picking up pollutants along the way.

There is an initial question, to what extent point sources are involved in agricultural, silvicultural, and storm sewer runoff. The definition of point source in s 502(14), including the concept of a “discrete conveyance”, suggests that there is room here for some exclusion by interpretation. We discuss this issue subsequently. Meanwhile, we assume that even taking into account what are clearly point sources, there is a problem of infeasibility which the EPA properly opens for discussion.

EPA contends that certain characteristics of runoff pollution make it difficult to promulgate effluent limitations for most of the point sources exempted by the 1973 regulations:

> The major characteristic of the pollution problem which is generated by runoff . . . is that the owner of the discharge point . . . has no control over the quantity of the flow or the nature and amounts of the pollutants picked up by the runoff. The amount of flow obviously is unpredictable because it results from the duration and intensity of the rainfall event, the topography, the type of ground cover and the saturation point of the land due to any previous ***1378 **156** rainfall. Similar factors affect the types of pollutants which will be picked up by that runoff, including the type of farming practices employed, the rate and type of pesticide and fertilizer application, and the conservation practices employed . . .

An effluent limitation must be a precise number in order for it to be an effective regulatory tool; both the discharger and the regulatory agency need to have an identifiable standard upon which to determine whether the facility is in compliance. That was the principal of the passage of the 1972 Amendments.

Federal Appellants' Memorandum on "Impossibility" at 7-8 (footnote omitted). Implicit in EPA's contentions is the premise that there must be a uniform effluent limitation prior to issuing a permit. That is not our understanding of the law.

In NRDC v. Train, we described the interrelationship of the effluent limitations and the NPDES permit program, 166 U.S.App.D.C. at 327, 510 F.2d at 707 (footnotes omitted):

The Act relies on effluent limitations on individual point sources as the "basis of pollution prevention and elimination." . . . Section 301(b) contains a broad description of phase one and phase two effluent limitations, to be achieved by July 1, 1977 and July 1, 1983, respectively. The limitations established under section 301(b) are to be imposed upon individual point sources through permits issued under the National Pollutant Discharge Elimination System (NPDES) established by section 402. Those permits are to contain schedules which will assure phased compliance with the effluent limitations no later than the final dates set forth in section 301(b). Section 304(b) calls for the publication of regulations containing guidelines for effluent limitations for classes and categories of point sources. These guidelines are intended to assist in the establishment of section 301(b) limitations that will provide uniformity in the permit conditions imposed on similar sources within the same category by diverse state and federal permit authorities.

As noted in NRDC v. Train, the primary purpose of the effluent limitations and guidelines was to provide uniformity among the federal and state jurisdictions enforcing the NPDES program and prevent the "Tragedy of the Commons" [19] that might result if jurisdictions can compete for industry and development by providing more liberal limitations than their neighboring states. 166 U.S.App.D.C. at 329, 510 F.2d at 709. The effluent limitations were intended to create floors that had to be respected by state permit programs.

But in NRDC v. Train it was also recognized that permits could be issued before national effluent limitations were promulgated and that permits issued subsequent to promulgation of uniform effluent limitations could be modified to take account of special characteristics of subcategories of point sources.

> Prior to the promulgation of effluent limitations under section 301, the director of a state program is instructed merely to impose such terms and conditions in each permit as he determines are necessary to carry out the provisions of the Act. Once ***1379 **157** an effluent limitation is established, however, the state director and the regional EPA Administrator are required to apply the specified, uniform effluent limitations, modified only as necessary to take account of fundamentally different factors pertaining to particular point sources within a given class or category. Any variation in the uniform limitations adopted for specific dischargers must be approved by the Administrator.

166 U.S.App.D.C. at 330, 510 F.2d at 710 (footnotes omitted).

Another passage in NRDC v. Train touches on the infeasibility problem. We noted that "(t)he statutory framework is not so tightly drawn as to require guidelines for each and every class and category of point source regardless of the need for uniform guidelines or to mandate that all guidelines be published prior to December 31 (1974) regardless of their quality or the burden that task would place upon the agency." Id. at 320-21, 510 F.2d at 710-11. In that case this court fully appreciated that technological and administrative constraints might prevent the Administrator from developing guidelines and corresponding uniform numeric effluent limitations for certain point sources anytime in the near future. The Administrator was deemed to have the burden of demonstrating that the failure to develop the guidelines on schedule

was due to administrative or technological infeasibility. 166 U.S.App.D.C. at 333, 510 F.2d at 713. Yet the underlying teaching was that technological or administrative infeasibility was a reason for adjusting court mandates to the minimum extent necessary to realize the general objectives of the Act. [20] It is a number of steps again to suggest that these problems afford the Administrator the authority to exempt categories of point sources from the NPDES program entirely.

With time, experience, and technological development, more point sources in the categories that EPA has now classed as exempt may be amenable to national effluent limitations achieved through end-of-pipe technology or other means of pollution control. EPA has noted its own success with runoff from mining operations:

> EPA has found that in the area of runoff from mining operations, there is sufficient predictability because of a longer history of regulation and the relatively confined nature of the operations that numerical limitations can be established. Thus, consistent with EPA's position stated earlier that it will expand the permit program where its capability of establishing effluent limitations allows, appropriate limitations have been created and the permit program expanded.

Federal Appellants' Memorandum on "Impossibility" at 8.

[3] In sum, we conclude that the existence of uniform national effluent limitations is not a necessary precondition for incorporating into the NPDES program pollution from agricultural, silvicultural, and storm water runoff point sources. The technological or administrative infeasibility of such limitations may result in adjustments in the permit programs, as will be seen, but it does not authorize the Administrator to exclude the relevant point source from the NPDES program.

B. Alternative Permit Conditions under s 402(a)

EPA contends that even if it is possible to issue permits without national effluent limitations, ***1380** ****158** the special characteristics of point sources of runoff pollution make it infeasible to develop restrictions on a case-by-case basis. EPA's implicit premise is that whether limitations are promulgated on a class or individual source basis, it is still necessary to articulate any limitation in terms of a numerical effluent standard. That is not our understanding.

[4] Section 402 provides that a permit may be issued upon condition "that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308 and 403 of this Act, or prior to taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act." 33 U.S.C. s 1342(a) (Supp. V 1975) (emphasis added). This provision gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges. The permit may proscribe industry practices that aggravate the problem of point source pollution. [21]

EPA's counsel caricatures the matter by stating that recognition of any such authority would give EPA the power "to instruct each individual farmer on his farming practices." Federal Appellants Memorandum on "Impossibility" at 12. Any limitation on a polluter forces him to modify his conduct and operations. For example, an air polluter may have a choice of installing scrubbers, burning different fuels or reducing output. Indeed, the authority to prescribe limits consistent with the best practicable technology may be tantamount to prescribing that technology. Of course, when alternative techniques are available, Congress intended to give the discharger as much flexibility as possible in choosing his mode of compliance. See, e. g., H.Rep.No.92-911, 92d Cong., 2d Sess. 107, reprinted in Legislative History at 794. We only indicate here that when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels. This may well mean opting for a gross reduction in pollutant discharge rather than the fine-tuning suggested by numerical limitations. But this ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.

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It may be appropriate in certain circumstances for the EPA to require a permittee simply to monitor and report effluent levels; EPA manifestly has this authority. [22] Such permit conditions might be desirable where the full extent of the pollution problem is not known.

C. General Permits

Finally, EPA argues that the number of permits involved in the absence of an exemption authority will simply overwhelm the Agency. Affidavits filed with the District Court indicate, for example, that the number of silviculture point sources may be over 300,000 and that there are approximately 100,000 separate storm sewer point sources. [23] We are and must be sensitive to ***1381** ****159** EPA's concerns of an intolerable permit load. But the District Court and the various parties have suggested devices to mitigate the burden to accommodate within a practical regulatory scheme Congress's clear mandate that all point sources have permits. All that is required is that EPA makes full use of its interpretational authority. The existence of a variety of options belies EPA's infeasibility arguments.

[5] Section 402 does not explicitly describe the necessary scope of a NPDES permit. The most significant requirement is that the permit be in compliance with limitation sections of the Act described above. As a result NRDC and the District Court have suggested the use of area or general permits. The Act allows such techniques. Area-wide regulation is one well-established means of coping with administrative exigency. An instance is area pricing for natural gas producers, which the Supreme Court upheld in Permian Basin Area Rate Cases, 390 U.S. 747, 88 S.Ct. 1344, 20 L.Ed.2d 312 (1968). [24] A more dramatic example is the administrative search warrant, which may be issued on an area basis despite the normal Fourth Amendment requirement of probable cause for searching specific premises. Camara v. Municipal Court, 387 U.S. 523, 87 S.Ct. 1727, 18 L.Ed.2d 930 (1967).

In response to the District Court's order, EPA promulgated regulations that make use of the general permit device. 42 Fed.Reg. 6846-53 (Feb. 4, 1977). The general permit is addressed to a class of point source dischargers, subject to notice and opportunity for public hearing in the geographical area covered by the permit. Although we do not pass on the validity of the February, 1977, regulations, they serve to dilute an objection of wholesale infeasibility. [25]

Our approach is not fairly subject to the criticism that it elevates form over substance that the end result will look very much like EPA's categorical exemption. It is the function of the courts to require agencies to comply with legislative intent when that intent is clear, and to leave it to the legislature to make adjustments when the result is counterproductive. [26] At the same time, where intent on an issue is unclear, ***1382** ****160** we are instructed to afford the administering agency the flexibility necessary to achieve the general objectives of the Act. Weinberger v. Bentex Pharmaceuticals, Inc., 412 U.S. 645, 653,93 S.Ct. 2448,37 L.Ed.2d 235 (1973); United States v. Southwestern Cable Co., 392 U.S. 157, 177-78, 88 S.Ct. 1994, 20 L.Ed.2d 1001 (1968); Permian Basin Area Rate Cases, 390 U.S. 747, 780, 88 S.Ct. 1344, 20 L.Ed.2d 312 (1968). These lines of authority conjoin in our approach. We insist, as the Act insists, that a permit is necessary; the Administrator has no authority to exempt point sources from the NPDES program. But we concede necessary flexibility in the shaping of the permits that is not inconsistent with the clear terms of the Act.

There is also a very practical difference between a general permit and an exemption. An exemption tends to become indefinite: the problem drops out of sight, into a pool of inertia, unlikely to be recalled in the absence of crisis or a strong political protagonist. In contrast, the general or area permit approach forces the Agency to focus on the problems of specific regions and requires that the problems of the region be reconsidered at least every five years, the maximum duration of a permit. [27]

D. Other Interpretational Powers

[6] Many of the intervenor-appellants appear to argue that the District Court should be reversed because the categories exempted by EPA are nonpoint sources and are not, in fact, point sources. [28] We agree with the District Court "that the

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power to define point and nonpoint sources is vested in EPA and should be reviewed by the court only after opportunity for full agency review and examination." 396 F.Supp. at 1396. The only issue precisely confronted by all the parties and properly framed for our consideration is whether the Administrator has authority to exempt point sources from the NPDES program. We also think that we should, for similar reasons, not consider at this time the appropriate definition of "discharge of any pollutant" as used in s 402. The American Iron and Steel Institute as amicus curiae has pressed upon us the argument that the term "discharge" as used in s 402 was intended to encompass only "volitional flows" that add pollutants to navigable waters. Most forms of runoff, it is argued, do not involve volitional flows.

[7] We assume that FWPCA, however tight in some respects, leaves some leeway to EPA in the interpretation of that statute, and in that regard affords the Agency some means to consider matters of feasibility. However, for reasons already noted, we do not consider these particular contentions as to interpretation on the merits.

III. CONCLUSION

[8] As the Supreme Court recently stated in a FWPCA case, "(t)he question . . .is ****161 *1383** not what a court thinks is generally appropriate to the regulatory process, it is what Congress intended . . .." E. I. du Pont de Nemours & Co. v. Train, 430 U.S. 112, 138, 97 S.Ct. 965, 980, 51 L.Ed.2d 204 (1977). We find a plain Congressional intent to require permits in any situation of pollution from point sources. We also discern an intent to give EPA flexibility in the structure of the permits, in the form of general or area permits. We are aware that Congress hoped that more of the NPDES permit program would be administered by the states at this point.[29] But it also made provision for continuing EPA administration. Imagination conjoined with determination will likely give EPA a capability for practicable administration. If not, the remedy lies with Congress.

So ordered.

MacKINNON, Circuit Judge, concurring:

I concur in the very sound and practical construction set forth in the foregoing opinion. Any person concerned with the actual application and enforcement of laws would necessarily be concerned by the application of the relevant legislation to all point sources in agriculture and particularly to irrigated agriculture. Concern would also lie in the congressional admission that present technology is inadequate to enable our citizens to meet the standards and deadlines the Act imposes; in passing the law, Congress was relying on the future "invention (of) new and imaginative developments that will allow us to meet the objectives of our bill."[1] In gambling parlance, Congress in enacting the law was "betting on the come." It is relying on our citizens in the near future to develop the complex technology to meet all the law's standards and objectives on time. The difficulty with that approach is that the hopes of Congress in this respect, like that of any gambler, might not be realized. The agency in this case, however, has shown that it takes a realistic view of both the situation and the task of meeting the difficult requirements and objectives of the Act. I sincerely hope that the ability of the agency to issue section 402 permits including general area permits[2] will permit it to meet the present and future compliance problems posed by the Act in a practical way.

All Citations

568 F.2d 1369, 10 ERC 2025, 186 U.S.App.D.C. 147, 8 Envtl. L. Rep. 20,028

Footnotes

* For convenience the court will refer to this case hereafter as NRDC v. Costle (Runoff Point Sources).

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1 33 U.S.C. ss 1251-1376 (Supp. V 1975). Although characterized in the official title as "amendments", the 1972 FWPCA actually substitutes its provisions for those of the pre-1972 Federal Water Pollution Control Act as amended, id. ss 1151-1175 (1970).

2 This case deals with s 402 of the FWPCA, 33 U.S.C. s 1342 (Supp. V 1975), which sets out the permitting authority of the EPA Administrator as well as that of the states under EPA-approved state permit programs. The Secretary of the Army also has a permitting authority in certain circumstances. Under s 404 of the FWPCA, 33 U.S.C. s 1344 (Supp. V 1975), he may issue permits for the discharge of dredged or fill material into navigable waters.

3 40 C.F.R. s 125.4 (1975). See 38 Fed.Reg. 18000-04 (1973).

4 33 U.S.C. s 1362(14) (Supp. V 1975).

5 40 C.F.R. s 125.4 (1975):

The following do not require an NPDES permit:

(f) Uncontrolled discharges composed entirely of storm runoff when these discharges are uncontaminated by any industrial or commercial activity, unless the particular storm runoff discharge has been identified by the Regional Administrator, the State water pollution control agency or an interstate agency as a significant contributor of pollution. (It is anticipated that significant contributors of pollution will be identified in connection with the development of plans pursuant to section 303(e) of the Act. This exclusion applies only to separate storm sewers. Discharges from combined sewers and bypass sewers are not excluded.)

(j) Discharges of pollutants from agricultural and silvicultural activities, including irrigation return flow and runoff from orchards, cultivated crops, pastures, rangelands, and forest lands, except that this exclusion shall not apply to the following:

(1) Discharges from animal confinement facilities, if such facility or facilities contain, or at any time during the previous 12 months contained, for a total of 30 days or more, any of the following types of animals at or in excess of the number listed for each type of animal:

(i) 1,000 slaughter and feeder cattle;

(ii) 700 mature dairy cattle (whether milkers or dry cows);

(iii) 2,500 swine weighing over 55 pounds;

(iv) 10,000 sheep;

(v) 55,000 turkeys;

(vi) If the animal confinement facility has continuous overflow watering, 100,000 laying hens and broilers;

(vii) If the animal confinement facility has liquid manure handling systems, 30,000 laying hens and broilers;

(viii) 5,000 ducks;

(2) Discharges from animal confinement facilities, if such facility or facilities contain, or any time during the previous 12 months contained for a total of 30 days or more, a combination of animals such that the sum of the following numbers is 1,000 or greater: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied by 1.4, plus the number of swine weighing over 55 pounds multiplied by 0.4, plus the number of sheep multiplied by 0.1;

(3) Discharges from aquatic animal production facilities;

(4) Discharges of irrigation return flow (such as tailwater, tile drainage, surfaced ground water flow or bypass water), operated by public or private organizations or individuals, if: (1) There is a point source of discharge (e. g., a pipe, ditch, or other defined or discrete conveyance, whether natural or artificial) and; (2) the return flow is from land areas of more than 3,000 contiguous acres, or 3,000 non-contiguous acres which use the same drainage system; and

(5) Discharges from any agricultural or silvicultural activity which have been identified by the Regional Administrator or the Director of the State water pollution control agency or interstate agency as a significant contributor of pollution.

6 Briefs as amicus curiae were filed by the American Iron and Steel Institute, the State of Texas, and the State of Washington, Department of Natural Resources.

7 33 U.S.C. s 1251(a) (Supp. V 1975).

8 33 U.S.C. s 1311(b)(1)(A) (Supp. V 1975).

9 Id. s 1311(b)(2)(A).

10 Id. s 1311(a).

11 Section 302, 33 U.S.C. s 1312 (Supp. V 1975), permits the Administrator to set water quality related effluent limitations or control strategies where technology-based limitations are inadequate. Section 306, 33 U.S.C. s 1316 (Supp. V 1975), instructs the EPA Administrator to promulgate standards of performance for new sources of pollution constructed after those standards are proposed. Section 307, 33 U.S.C. s 1317 (Supp. V 1975), gives the EPA Administrator the authority to issue generally applicable effluent standards with respect to toxic substances and to require pretreatment of some pollutants before their introduction into treatment works. By virtue of s 318, 33 U.S.C. s 1328 (Supp. V 1975), the Administrator may "permit the discharge of a specific pollutant or pollutants under controlled conditions associated with an approved aquaculture project

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under Federal or State supervision." Section 404, 33 U.S.C. s 1344 (Supp. V 1975), gives the Secretary of the Army authority to issue permits for the discharge of dredged or fill material into the navigable waters at specified disposal sites.

12 "The Administrator of the Environmental Protection Agency is authorized to regulate discharge of pollutants through the use of an expanded permit program." 117 Cong.Rec. 38800 (1971) (Senator Muskie) (emphasis added), reprinted in 2 Environmental Policy Div., Congressional Reference Serv., A Legislative History of the Water Pollution Control Act Amendments of 1972, at 1259 (Senate Public Works Comm. Print 1973) (hereinafter cited as Legislative History).

13 H.Rep.No.92-911, 92d Cong., 2d Sess. 100 (1972), reprinted in Legislative History at 787.

14 S.Rep.No.92-414, 92d Cong., 1st Sess. 42 (1971), reprinted in Legislative History at 1460; U.S.Code Cong. & Admin.News 1972, pp. 3668, 3709.

15 117 Cong.Rec. 38805 (1971), reprinted in Legislative History at 1272. See also the comments of Senator Montoya on the original Senate bill.

Your committee has placed before you a tough bill. This body and this Nation would not have it be otherwise. Our legislation contains an important principle of psychology: Men seldom draw the best from themselves unless pressed by circumstances and deadlines. This bill contains deadlines and it imposes rather tough standards on industry, municipalities, and all other sources of pollution. Only under such conditions are we likely to press the technological threshold of invention into new and imaginative developments that will allow us to meet the objectives stated in our bill.

117 Cong.Rec. 38808 (1971), reprinted in Legislative History at 1278.

16 118 Cong.Rec. 10215 (1972) (Rep. Clausen), reprinted in Legislative History at 378. See, e. g., H.R.Rep.No.92-911 92d Cong., 2d Sess. 100 (1972), reprinted in Legislative History at 787; S.Rep.No.92-414; 92d Cong., 1st Sess. 42-43 (1971), reprinted in Legislative History at 1460-61; 118 Cong.Rec. 10661 (1972) (Rep. Podell), reprinted in Legislative History at 574.

17 The House rejected an amendment designed to avoid the problems of including irrigation return flows in the permit program. Congressman Teno Roncalio of Wyoming offered an amendment on the floor of the House that would have explicitly exempted irrigated agriculture from the NPDES permit program.

Mr. RONCALIO. . . .

I offer my amendment so that a serious omission to H.R. 11896 can be corrected before we end up with a law that would be virtually impossible to enforce. My amendment would specifically exempt irrigated agriculture from sections 301(a), 302 and 304 of the Federal Water Pollution Control Act.

I think my colleagues will agree that the type of salinity problems created by irrigation runoff are simply not as alarming as the more common pollutants discharged by industrial and municipal facilities. Substantial salinity concentrations have little effect on recreational use of water or its suitability for the propagation of fish.

My amendment is necessary, Mr. Chairman, because at the present time we could not enforce pollution control on irrigation systems. It is virtually impossible to trace pollutants to specific irrigation lands, making these pollutants a nonpoint source in most cases. Second, we do not have the technology to deal with irrigation runoff (as contrasted to industrial pollution) and if we begin making laws to control something that cannot be handled with our given technological knowledge, we will be doing many thousand farmers and ranchers a great disservice. In fact, we will be doing the Federal Government a great disservice if we actually pass a Federal water pollution control bill that cannot be fully enforced.

118 Cong.Rec. 10764-65 (1972), reprinted in Legislative History at 651. The amendment was rejected.

18 See FWPCA s 502(11), 33 U.S.C. s 1362(11) (Supp. V 1975):

The term "effluent limitation" means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.

19 As one commentator has recently written:

The Tragedy of the Commons arises in noncentralized decisionmaking under conditions in which the rational but independent pursuit by each decisionmaker of its own self-interest leads to results that leave all decisionmakers worse off than they would have been had they been able to agree collectively on a different set of policies.

Stewart, Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy, 86 Yale L.J. 1196, 1211 (1977). The classic account of the Tragedy of the Commons can be found in Hardin, The Tragedy of the Commons, 162 Science 1243 (1968). Hardin makes the point in the context of sheep-grazing. Put simply, even over-simply, Hardin shows that if no one is authorized to set limits to preserve open pasture land as a whole, allowing sheep to graze on that land may lead to serious overgrazing, as each herdsman thinks only of his own advantage. The solution lies in some mandate, from above or by agreement, with sanctions to compel conformance.

20 In NRDC v. Train, this court stated:

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A federal equity court may exercise its discretion to give or withhold its mandate in furtherance of the public interest, including specifically the interest in effectuating the congressional objective incorporated in regulatory legislation. We think the court may forebear the issuance of an order in those cases where it is convinced by the official involved that he has in good faith employed the utmost diligence in discharging his statutory responsibilities. The sound discretion of an equity court does not embrace enforcement through contempt of a party's duty to comply with an order that calls him "to do an impossibility."
166 U.S.App.D.C. at 333, 510 F.2d at 713 (footnotes omitted). For reasons stated in this opinion, we conclude that to require the EPA Administrator to include silvicultural, agricultural, and storm sewer point sources in the NPDES program is not to require him "to do an impossibility."

21 That Congress did not regard numeric effluent limitations as the only permissible limitation on a discharger is supported by s 302(a) of the Act, 33 U.S.C. s 1312(a) (Supp. V 1975):
Whenever, in the judgment of the Administrator, discharges of pollutants from a point source or group of point sources, with the application of effluent limitations required under (s 301(b) of the Act), would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitations (including alternative effluent control strategies) for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.
The emphasis has been added.

22 FWPCA s 402(a)(3), (b)(2)(B), 33 U.S.C. s 1342(a)(3), (b)(2)(B) (Supp. V 1975). EPA concedes that it has this authority. Federal Appellants' Memorandum on "Impossibility" at 14.

23 Affidavit of William H. McCredie, Director, Industrial Forestry, of the NFPA; Affidavit of Walter G. Gilbert, Chief of the Municipal Operations Branch, Municipal Waste Water Systems Div., EPA Office of Air and Water Programs.

24 In Permian Basin the Supreme Court observed:
The Commission has asserted, and the history of producer regulation has confirmed, that the ultimate achievement of the Commission's regulatory purposes may easily depend upon the contrivance of more expeditious administrative methods. The Commission believes that the elements of such methods may be found in area proceedings. "(C)onsiderations of feasibility and practicality are certainly germane" to the issues before us. . . . We cannot, in these circumstances, conclude that Congress has given authority inadequate to achieve with reasonable effectiveness the purposes for which it has acted.
390 U.S. at 777, 88 S.Ct. at 1365.

25 It is also of some, albeit limited, significance that the House Committee on Government Operations found EPA's administrative problems with applying the permit program to animal feedlots "grossly exaggerated." It was of the opinion that the Administrator did not have authority to exempt point sources from the NPDES program. H.Rep.No.93-1012, 93d Cong., 2d Sess. 15-30 (1974).

26 The Supreme Court recently reiterated this instruction in Union Electric Co. v. EPA, 427 U.S. 246, 96 S.Ct. 2518, 49 L.Ed.2d 474 (1976). There the Court held that the EPA Administrator could not consider claims of technological or economic infeasibility when approving state implementation plans under the Clean Air Act Amendments of 1970, 42 U.S.C. ss 1857a-1857*l* (1970). Such claims were held only to be cognizable by the states in the plan design stage or by the Administrator when drawing up compliance orders. Justice Marshall, writing for the Court, emphasized that federal courts are not to ignore clear expressions of Congressional intent in order to accommodate claims of technological or economic infeasibility.
Allowing such claims to be raised by appealing the Administrator's approval of an implementation plan . . . would frustrate congressional intent. It would permit a proposed plan to be struck down as infeasible before it is given a chance to work, even though Congress clearly contemplated that some plans would be infeasible when proposed. And it would permit the Administrator or a federal court to reject a State's legislative choices in regulating air pollution, even though Congress plainly left with the States, so long as the national standards were met, the power to determine which sources would be burdened by regulation and to what extent. Technology forcing is a concept somewhat new to our national experience and it necessarily entails certain risks. But Congress considered those risks in passing the 1970 Amendments and decided that the dangers posed by uncontrolled air pollution made them worth taking. Petitioner's theory would render that considered legislative judgment a nullity, and that is a result we refuse to reach.
427 U.S. at 268-69, 96 S.Ct. at 2531 (footnote omitted). See also Wilderness Society v. Morton, 156 U.S.App.D.C. 121, 171, 479 F.2d 842, 892 (1973), cert. denied, 411 U.S. 917, 93 S.Ct. 1550, 36 L.Ed.2d 309 (quoting United States v. City and County of San Francisco, 310 U.S. 16, 31-32, 60 S.Ct. 749, 84 L.Ed. 1050 (1940): " 'We cannot accept the contention that administrative rulings such as those relied on can thwart the plain purpose of a valid law.' ")

27 33 U.S.C. s 1342(a)(3), (b)(1)(B) (Supp. V 1975).

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28 This appears to be the position of the Colorado River Water Conservation District and the NFPA with respect to silvicultural activities, and NMPF, less obviously, with respect to small dairy farms.
We would put in the same category EPA's contention that the exempt categories are best handled under the areawide waste treatment management planning process of s 208 of the FWPCA, 33 U.S.C. s 1288 (Supp. V 1975). By its terms that section is concerned with areawide waste treatment plans that identify and control "agriculturally and silviculturally related non-point sources of pollution." Id. s 1288(b)(2)(F).

29 See, e. g., 118 Cong.Rec. 10235 (1972) (Rep. Ichord) reprinted in Legislative History at 428.

1 Comments of Senator Montoya, 117 Cong.Rec. 38808 (1971), quoted in court's opinion at 12, reprinted in Legislative History at 1278.

2 As an example, an area permit with appropriate conditions and modifications could issue for the agricultural point sources within the Grand River Irrigation District, or the watershed of the Roaring Fork River and tributaries, etc.

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ATTACHMENT C-2

KeyCite Yellow Flag - Negative Treatment
Distinguished by Northwest Environmental Advocates v. U.S. E.P.A., N.D.Cal., March 30, 2005

966 F.2d 1292
United States Court of Appeals,
Ninth Circuit.

NATURAL RESOURCES DEFENSE COUNCIL, INC., Petitioner,
v.
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent,
Battery Council International, et al., Respondents–Intervenors.

Nos. 90–70671, 91–70200.
|
Argued and Submitted Oct. 9, 1991.
|
Decided June 4, 1992.

Environmental group sought review of Environmental Protection Agency's (EPA's) Clean Water Act storm water discharge rule. The Court of Appeals, Ferguson, Senior Circuit Judge, held that: (1) the EPA's failure to include deadlines for permit approval or denial and compliance consistent with Clean Water Act was arbitrary and capricious, although injunctive relief was not warranted; (2) EPA's definition of municipal separate storm sewer serving a population was not arbitrary and capricious; and (3) EPA rule excluding various types of light industry and construction sites of less than five acres from application of rule was arbitrary and capricious.

Petition for review granted in part and denied in part.

O'Scannlain, Circuit Judge, filed an opinion concurring in part and dissenting in part.

West Headnotes (15)

[1] **Declaratory Judgment** Federal officers and boards

Question of whether Environmental Protection Agency (EPA) is bound by statutory scheme set by Congress is legal one, and, thus, request for declaratory relief from EPA's failure to issue storm water permitting regulations by particular date was ripe for consideration by court. Federal Water Pollution Control Act Amendments of 1972, §§ 101–606, 101(a), 402(*l*, p), 502(14), as amended, 33 U.S.C.A. §§ 1251–1387, 1251(a), 1342(*l*, p), 1362(14).

8 Cases that cite this headnote

[2] **Declaratory Judgment** Necessity, utility and propriety

Declaratory Judgment Termination or settlement of controversy

For purposes of granting declaratory relief, court considers whether judgment will clarify and settle legal relations at issue and whether it will afford relief from uncertainty and controversy giving rise to proceedings.

19 Cases that cite this headnote

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[3] **Environmental Law** Regulations and rulemaking in general

Environmental Protection Agency (EPA) lacks authority to ignore unambiguous deadlines set by Congress for issuing regulations.

1 Cases that cite this headnote

[4] **Injunction** Ease or difficulty of enforcement

Injunctive relief may be inappropriate if it requires constant supervision by the court.

16 Cases that cite this headnote

[5] **Environmental Law** Injunction

Court of Appeals would not enjoin Environmental Protection Agency (EPA) from further extensions of deadline for permit applications for municipal and industrial discharges as to do so would require extensive supervision of EPA by Court; Court would operate on assumption that EPA would follow dictates of Congress and Court.

3 Cases that cite this headnote

[6] **Environmental Law** Discharge of pollutants

Environmental Protection Agency's (EPA's) failure to include final approval and compliance deadlines for permit applications for storm water discharges associated with industrial activities in large municipalities was arbitrary and capricious exercise of its responsibility to issue regulations pursuant to Clean Water Act. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(4)(A, B), as amended, 33 U.S.C.A. § 1342(p)(4)(A, B).

6 Cases that cite this headnote

[7] **Environmental Law** Discharge of pollutants

Even if Environmental Protection Agency (EPA) was failing to proceed so that regulations for approval and compliance with permit applications for storm water discharges would be in place for small systems by deadline in Clean Water Act, small systems could not be put on same schedule as medium ones, as Clean Water Act did not require regulation of small systems prior to expiration of moratorium. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(1), (p)(4)(A, B), (p)(6), as amended, 33 U.S.C.A. § 1342(p)(1), (p)(4)(A, B), (p)(6).

Cases that cite this headnote

[8] **Environmental Law** Discharge of pollutants

Despite Environmental Protection Agency's (EPA's) unlawful delay in establishing comprehensive program for permit approval and compliance with Clean Water Act storm water discharge rule, EPA's schedule calling for immediate municipal system applications due six months after applications for large municipal systems was within statutory scheme in its relation to schedule for large systems and was not unreasonable. Federal Water Pollution Control Act Amendments of 1972, § 402(p), (p)(2)(C, D), (p)(4)(B), as amended, 33 U.S.C.A. § 1342(p), (p)(2)(C, D), (p)(4)(B).

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Cases that cite this headnote

[9] **Environmental Law** Sewage and sewers

Environmental Protection Agency's (EPA's) definition of phrase "municipal separate store sewer system serving a population" in regulations for implementing the Clean Water Act storm water discharge rule, while complex and possibly convoluted, was not arbitrary and capricious; EPA defined phrase by considering factors such as its own workload, the incorporation status of municipalities, and urban density. Federal Water Pollution Control Act Amendments of 1972, §§ 402(p)(2), 502, 502(4), as amended, 33 U.S.C.A. §§ 1342(p)(2), 1362, 1362(4).

15 Cases that cite this headnote

[10] **Environmental Law** Substances, Sources, and Activities Regulated

Environmental Protection Agency's (EPA's) rules excluding various types of light industry and construction sites of less than five acres from application of Clean Water Act storm water discharge rule were arbitrary and capricious absent support in record for assumption that industrial activity or light industry would take place indoors and generate minimal amounts of particles and emissions. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(2)(B), as amended, 33 U.S.C.A. § 1342(p)(2)(B).

7 Cases that cite this headnote

[11] **Environmental Law** Substances, Sources, and Activities Regulated

Environmental Protection Agency's (EPA's) exemption from Clean Water Act storm water discharge rule for construction sites of less than five acres, as increased from original proposal of exemption for sites of less than one acre, was arbitrary and capricious absent support in record for EPA's perception that construction activities on less than five acres were nonindustrial in nature. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(2)(B), as amended, 33 U.S.C.A. § 1342(p)(2)(B).

8 Cases that cite this headnote

[12] **Environmental Law** Substances, Sources, and Activities Regulated

For purposes of setting rules for application of storm water discharge regulations in Clean Water Act, EPA lacked agency power to make categorical exemptions where result was de minimis. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(2)(B), as amended, 33 U.S.C.A. § 1342(p)(2)(B).

7 Cases that cite this headnote

[13] **Environmental Law** Sewage and sewers

Environmental Protection Agency's (EPA's) exemption from permit requirements under Clean Water Act storm water discharge rule for uncontaminated runoff from mining, oil, and gas facilities was not arbitrary and capricious; conference report gave administrator discretion to determine when contamination had occurred with respect to overburden, raw materials, waste products, and other items. Federal Water Pollution Control Act Amendments of 1972, § 402(*l*)(2), as amended, 33 U.S.C.A. § 1342(*l*)(2).

12 Cases that cite this headnote

[14] **Environmental Law** Substances, Sources, and Activities Regulated

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Environmental Protection Agency (EPA) established substantive controls for municipal storm water discharges required by amendments to Clean Water Act as result of administrator's discretion to determine which controls were necessary. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3)(A, B), as amended, 33 U.S.C.A. § 1342(p)(3)(A, B).

5 Cases that cite this headnote

[15] **Administrative Law and Procedure** Notice and comment, necessity

Environmental Law Discharge of pollutants

Environmental Protection Agency's (EPA's) group permit application process for industrial dischargers under Clean Water Act storm sewage discharge rules was not invalid despite its failure to provide for notice and comment, as approval of part 1 application was essentially factual determination. 5 U.S.C.A. §§ 551(4), 553.

11 Cases that cite this headnote

Attorneys and Law Firms

***1294** Robert W. Adler, Natural Resources Defense Council, Washington, D.C., for petitioner.

Daniel S. Goodman, U.S. Dept. of Justice, Washington, D.C., for respondent.

***1295** Petition for Review of a Rule Promulgated by the Environmental Protection Agency.

Before PREGERSON, FERGUSON, and O'SCANNLAIN, Circuit Judges.

Opinion

FERGUSON, Senior Circuit Judge:

The Natural Resources Defense Council ("NRDC") challenges aspects of the Environmental Protection Agency's ("EPA") recent Clean Water Act storm water discharge rule. [1] NRDC argues that the deadlines contained in the rule and the scope of its coverage are unlawful under section 402(*l*), (p) of the Clean Water Act, 33 U.S.C. § 1342(*l*), (p). We grant partial relief.

I. BACKGROUND

In 1972 Congress enacted significant amendments to the Clean Water Act ("CWA"), [2] 33 U.S.C. §§ 1251–1387 (1988), "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). One major focus of the CWA is the control of "point source" pollution. A "point source" is "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel ... from which pollutants are or may be discharged." 33 U.S.C. § 1362(14). The CWA also established the National Pollutant Discharge Elimination System ("NPDES"), requiring permits for any discharge of pollutants from a point source pursuant to section 402 of the CWA, 33 U.S.C. § 1342. The CWA empowers EPA or an authorized state to conduct an NPDES permitting program. 33 U.S.C. § 1342(a)–(b). Under the program, as long as the permit issued contains conditions that implement the requirements of the CWA, the EPA may issue a permit for discharge of any pollutant. 33 U.S.C. § 1342(a)(1).

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This case involves runoff from diffuse sources that eventually passes through storm sewer systems and is thus subject to the NPDES permit program. *See* National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Application Deadlines, 56 Fed.Reg. 56,548 (1991). One recent study concluded that pollution from such sources, including runoff from urban areas, construction sites, and agricultural land, is now a leading cause of water quality impairment. 55 Fed.Reg. at 47,991. [3]

A. Efforts to Regulate Storm Water Discharge.

Following the enactment of the CWA amendments in 1972, EPA promulgated NPDES permit regulations exempting a number of classes of point sources, including uncontaminated storm water discharge, on the basis of "administrative infeasibility," i.e., the extraordinary administrative burden imposed on EPA should it have to issue permits for possibly millions of point sources of runoff. *Natural Resources Defense Council v. Costle,* 568 F.2d 1369, 1372 & n. 5, 1377 (D.C.Cir.1977). NRDC ***1296** challenged the exemptions. Relying on the language of the statute, its legislative history and precedent, the D.C. Circuit held that the EPA Administrator did not have the authority to create categorical exemptions from regulation. *Id.* at 1379. However, the court acknowledged the agency's discretion to shape permits in ways "not inconsistent with the clear terms of the Act." *Id.* at 1382.

Following this litigation, EPA promulgated regulations covering storm water discharges in 1979, 1980 and 1984. 56 Fed.Reg. 56,548. NRDC challenged various aspects of these rules both at the administrative level as well as in the courts.

Recognizing both the environmental threat posed by storm water runoff [4] and EPA's problems in implementing regulations, [5] Congress passed the Water Quality Act of 1987 [6] containing amendments to the CWA ("the 1987 amendments"), portions of which set up a new scheme for regulation of storm water runoff. Section 402(p), as amended, established deadlines by which certain storm water dischargers must apply for permits, the EPA or states must act on permits and dischargers must implement their permits. *See* Appendix A. The Act also set up a moratorium on permitting requirements for most storm water discharges, which ends on October 1, 1992. There are five exceptions that are required to obtain permits before that date:

> (A) A discharge with respect to which a permit has been issued under this section before February 4, 1987.
>
> (B) A discharge associated with industrial activity.
>
> (C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.
>
> (D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000.
>
> (E) A discharge for which the Administrator or the State, ... determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

CWA § 402(p)(2); 33 U.S.C. § 1342(p)(2).

Section 402(p) also outlines an incremental or "phase-in" approach to issuance of storm water discharge permits. The purpose of this approach was to allow EPA and the states to focus their attention on the most serious problems first. 133 Cong.Rec. 991 (1987). Section 402(p) requires EPA to promulgate rules regulating permit application procedures in a staggered fashion.

Responding to the 1987 amendments requiring the EPA to issue permit application requirements for storm water discharges associated with industrial activities and large municipalities, the EPA issued final rules on November 16, 1990,

almost two years after its deadline ("the November 1990 rule"). 55 Fed.Reg. at 47,990. EPA issued amended rules on March 21, 1991 ("the March 1991 rule"). 56 Fed.Reg. at 12,098. It is to portions of these rules that NRDC objects.

B. Jurisdiction.

We have jurisdiction pursuant to CWA § 509(b)(1), 33 U.S.C. § 1369(b)(1). Section 509(b)(1) describes six types of actions by the EPA administrator that are subject to review in the court of appeals. Although the parties do not specify the section upon which they rely, § 509(b)(1)(F), 33 U.S.C. § 1369(b)(1)(F) allows the court to review ***1297** the issuance or denial of a permit under CWA § 402, 33 U.S.C. § 1342. The court also has the power to review rules that regulate the underlying permit procedures. *NRDC v. EPA,* 656 F.2d 768, 775 (D.C.Cir.1981); *cf. E.I. DuPont de Nemours & Co. v. Train,* 430 U.S. 112, 136, 97 S.Ct. 965, 979, 51 L.Ed.2d 204 (1977). NRDC filed timely petitions for review of the final rules at issue here pursuant to CWA § 509(b)(1), 33 U.S.C. 1369(b)(1).

C. Standing.

Any "interested person" may seek review of designated actions of the EPA Administrator. 33 U.S.C. § 1369(b)(1). This court has held that the injury-in-fact rule for standing of *Sierra Club v. Morton,* 405 U.S. 727, 733, 92 S.Ct. 1361, 1365, 31 L.Ed.2d 636 (1972) covers the "interested person" language. *Trustees for Alaska v. EPA,* 749 F.2d 549, 554 (9th Cir.1984) (adopting the analysis in *Montgomery Environmental Coalition v. Costle,* 646 F.2d 568, 578 (D.C.Cir.1980)). A petitioner under *Sierra Club* must suffer adverse affects to her economic interests or "[a]esthetic and environmental well-being." *Sierra Club,* 405 U.S. at 734, 92 S.Ct. at 1366. Intervenors are various industry and trade groups subject to regulation under the rules at issue. NRDC claims, inter alia, that EPA has delayed unlawfully promulgation of storm water regulations and that its regulations, as published, inadequately control storm water contaminants. NRDC's allegations and the potential economic impact of the rules on the intervenors satisfy the broad standing requirement applicable here.

II. DISCUSSION

A. Standard of Review.

5 U.S.C. § 706(2)(A) (1988) authorizes the court to "set aside agency action ... found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." Under this standard a court must find a "rational connection between the facts found and the choice made." *Sierra Pacific Indus.,* 866 F.2d 1099, 1105 (9th Cir.1989) (citing *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29, 43, 103 S.Ct. 2856, 2866, 77 L.Ed.2d 443 (1983)). The court must decide whether the agency considered the relevant factors and whether there has been a clear error of judgment. *Citizens to Preserve Overton Park, Inc. v. Volpe,* 401 U.S. 402, 416, 91 S.Ct. 814, 823, 28 L.Ed.2d 136 (1971).

On questions of statutory construction, courts must carry out the unambiguously expressed intent of Congress. If a statute is "silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute." *Chevron U.S.A. Inc. v. Natural Resources Defense Council Inc.,* 467 U.S. 837, 843, 104 S.Ct. 2778, 2782, 81 L.Ed.2d 694 (1984). Congress may leave an explicit gap, thus delegating legislative authority to an agency subject to the arbitrary and capricious standard. *Id.* at 843–44, 104 S.Ct. at 2781–82. If legislative delegation is implicit, courts must defer to an agency's statutory interpretation as long as it is reasonable. *Id.* at 844, 104 S.Ct. at 2782. This is because an agency has technical expertise as well as the authority to reconcile conflicting policies. *See id.* Nevertheless, questions of congressional intent that can be answered with "traditional tools of statutory construction" are still firmly within the province of the courts. *INS v. Cardoza–Fonseca,* 480 U.S. 421, 447–48, 107 S.Ct. 1207, 1221, 94 L.Ed.2d 434 (1987).

B. EPA's Extension of Statutory Deadlines.

1. *Background.*

NRDC challenges EPA's extension of certain statutory deadlines in the November 1990 and March 1991 rules. The statutory scheme calls for EPA to consider permit applications from the most serious sources of pollutants first: industrial dischargers and large municipal separate storm sewer systems ("large systems"). [7] The statute required EPA to establish regulations ***1298** for permit application requirements for these two groups by February 4, 1989; to receive applications for permits one year later, February 4, 1990; and to approve or deny the permits by February 4, 1991. Permittees may be given up to three years to comply with their permits. CWA § 402(p)(4)(A), 33 U.S.C. § 1342(p)(4)(A). Medium sized municipal separate storm sewer systems ("medium systems") (those serving a population of 100,000 or more but less than 250,000) are on a similar schedule, except that the deadlines are two years later. CWA § 402(p)(4)(B), 33 U.S.C. § 1342(p)(4)(B). The temporary statutory exemption for all storm water sources expires on October 1, 1992. CWA § 402(p)(1), 33 U.S.C. § 1342(p)(1). EPA states that discharges from municipal separate storm sewer systems serving a population of under 100,000 are to be regulated after that date.

The EPA rules at issue changed the statutory deadlines as follows:

Deadlines pursuant to CWA § 402(p) [8]			**EPA Deadlines** [9]
Discharge type	**Deadline to issue rules**	**Deadline for application and approval of permits**	**Application deadlines**
Industrial	2/4/89	2/4/90–applications due 2/4/91–approval due	See below
Large municipal systems	2/4/89	2/4/90–applications due 2/4/91–approval	Part 1–11/18/91 Part 2–11/16/92
Medium municipal systems	2/4/91	2/4/92–applications due 2/4/93–approval due	Part 1–5/18/92 Part 2–5/17/93

EPA Application Deadlines for "Industrial Activity" Dischargers

Individual	***Group***
due 11/18/91	Part 1–9/30/91; Part 2–10/1/92

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As the chart illustrates, EPA made other elaborations on the statutory scheme in addition to extending the deadlines. Medium and large municipal systems and industrial dischargers are now subject to a two-part application process. 55 Fed.Reg. at 48,072. The November 1990 rules allow industrial dischargers to apply for either individual or group permits. *Id.* at 48,066– ***1299** 67. The March 1991 rules further extended the deadline for part 1 of the group industrial discharger permits to September 30, 1991. [10] 56 Fed.Reg. at 12,098. A final rule published on April 2, 1992 extended the deadline for the part 2 group application for industrial dischargers from May 18, 1992 to October 1, 1992. 57 Fed.Reg. at 11,394. The EPA rules at issue contain neither deadlines for final EPA or state approval of permits nor deadlines for compliance with the permit terms.

Seeking to compel the EPA to conform to the statutory scheme, NRDC asks this court:

a) to declare unlawful EPA's failure to issue certain of the storm water permitting regulations by February 4, 1989 and EPA's extension of certain statutory deadlines;

b) to enjoin EPA from granting future extensions of the deadlines;

c) to compel EPA to include deadlines for permit approval or denial and permit compliance consistent with the statute; and

d) to compel EPA to require that medium and small municipal systems meet the same deadlines as large systems.

2. *Discussion.*

a. Request for Declaratory Relief.

NRDC asks the court to (1) declare unlawful EPA's failure to issue storm water permitting regulations by February 4, 1989; and (2) declare unlawful EPA's extension of deadlines for submission of permit applications by large and medium systems and individual industrial dischargers.

[1] A request for declaratory relief in a challenge to an agency action is ripe for review if the action at issue is final and the questions involved are legal ones. *Public Util. Dist. No. 1 v. Bonneville Power Admin.,* 947 F.2d 386, 390 n. 1 (9th Cir.1991) (citations omitted), *cert. denied,* 503 U.S. 1004, 112 S.Ct. 1759, 118 L.Ed.2d 422 (1992). Here, the agency regulations are final. *See* 55 Fed.Reg. at 47,990, 56 Fed.Reg. at 12,096. The question of whether the EPA is bound by the statutory scheme set by Congress is a legal one. The request for declaratory relief is therefore ripe for consideration by this court.

[2] The granting of declaratory relief "rests in the sound discretion of the [ ] court exercised in the public interest." 10A Charles A. Wright, Arthur R. Miller & Mary K. Kane, *Federal Practice & Civil Procedure* § 2759, at 645 (1983). The guiding principles are whether a judgment will clarify and settle the legal relations at issue and whether it will afford relief from the uncertainty and controversy giving rise to the proceedings. *McGraw–Edison Co. v. Preformed Line Products Co.,* 362 F.2d 339, 342 (9th Cir.) (citing Borchard, *Declaratory Judgments* 299 (2d ed. 1941)), *cert. denied,* 385 U.S. 919, 87 S.Ct. 229, 17 L.Ed.2d 143 (1966). A court declaration delineates important rights and responsibilities and can be "a message not only to the parties but also to the public and has significant educational and lasting importance." *Bilbrey by Bilbrey v. Brown,* 738 F.2d 1462, 1471 (9th Cir.1984). Because of the importance of the interests and the principles at stake, we grant declaratory relief.

[3] EPA does not have the authority to ignore unambiguous deadlines set by Congress. *Delaney v. EPA,* 898 F.2d 687, 691 (9th Cir.), *cert. denied,* 498 U.S. 998, 111 S.Ct. 556, 112 L.Ed.2d 563 (1990). In arguing against injunctive relief, EPA points to cases recognizing factors indicating that equitable relief may be inappropriate. *See, e.g., In re*

Barr Laboratories, Inc., 930 F.2d 72, 74 (D.C.Cir.) (agency's choice of priorities is an important factor in considering whether to grant equitable relief), *cert. denied,* 502 U.S. 906, 112 S.Ct. 297, 116 L.Ed.2d 241 (1991); *Natural Resources Defense Council v. Train,* 510 F.2d 692, 712 (D.C.Cir.1975) (court may need to give ***1300** agency some leeway due to budgetary commitments or technological problems); *Environmental Defense Fund v. Thomas,* 627 F.Supp. 566, 569–70 (D.D.C.1986) (EPA's good faith is a factor). None of these factors militates against an award of declaratory relief. They do not grant an executive agency the authority to bypass explicit congressional deadlines. The deadlines are not aspirational—Congress set them and expected compliance. *See* 132 Cong.Rec. 32,381–82 (remarks of Senator Stafford, commenting on EPA delay and the establishment of statutory deadlines as "outside dates.") This court must uphold adherence to the law, and cannot condone the failure of an executive agency to conform to express statutory requirements. For these reasons, we grant NRDC's request for declaratory relief. EPA's failure to abide by the statutory deadlines is unlawful.

b. Request for Injunction.

NRDC asks the Court to enjoin the EPA from further extensions for permit applications from municipal and industrial dischargers. Injunctions are an extraordinary remedy issued at a court's discretion when there is a compelling need. 11 Charles A. Wright & Arthur R. Miller, *Federal Practice & Procedure* § 2942, at 365, 368–69 (1973). We decline to enjoin the EPA on discretionary grounds.

[4] Injunctive relief could involve extraordinary supervision by this court. Injunctive relief may be inappropriate where it requires constant supervision. *Id.* at 376. At issue are deadlines for the three major categories of dischargers, each of which has a two-part application. The permitting process will go on for several years. While recognizing the importance of the interests involved, we nevertheless decline to engage in the active management of such a remedy.

[5] In this situation, we must operate on the assumption that an agency will follow the dictates of Congress and the court. As noted above, the EPA does not have the authority to predicate future rules or deadlines in disagreement with this opinion. *See Allegheny General Hosp. v. NLRB,* 608 F.2d 965, 970 (3rd Cir.1979). We presume that the EPA will duly perform its statutory duties. *See Upholstered Furniture Action Council v. California Bureau of Home Furnishing,* 442 F.Supp. 565, 568 (E.D.Cal.1977) (three judge court). Because we decline to take on potentially extensive supervision of the EPA, Congress may need to find other ways to ensure compliance if the agency is recalcitrant.

c. Deadlines for Permit Approval and Compliance.

NRDC requests that the court compel EPA to revise the rules to include deadlines for permit approval or denial and permit compliance consistent with the statute. Section 402(p)(4)(A) calls for the EPA to issue or deny permits for industrial and large municipalities by February 4, 1991, which is one year after the applications are submitted, and states that "[a]ny such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of the issuance of such permit." CWA § 402(p)(4)(A), 33 U.S.C. § 1342(p)(4)(A). The statute sets out a similar schedule for medium municipalities, except that the deadlines are two years later. CWA § 402(p)(4)(B), 33 U.S.C. § 1342(p)(4)(B).

[6] The regulations promulgated by the EPA contain neither final approval deadlines nor compliance deadlines for industrial dischargers or medium and large municipalities. 55 Fed.Reg. at 48,072. By failing to regulate final approval and compliance, EPA has omitted a key component of the statutory scheme. To ensure adherence to the statutory time frame, especially in the face of deadlines already missed, the regulated community must be informed of these deadlines. EPA's failure to include these important deadlines is an arbitrary and capricious exercise of its responsibility to issue regulations pursuant to the statute.

We see no need for additional delay while supplemental regulations are issued. Given the extraordinary delays already encountered, EPA must avoid further delay. ***1301** The regulations should inform the regulated community of the statute's outside dates for compliance. [11] *See* CWA § 402(p)(4)(A)–(B), 33 U.S.C. § 1342(p)(4)(A)–(B).

d. Timeline for Small and Medium Systems.

[7] The parties disagree on when small systems (those serving a population of less than 100,000) should be regulated. As noted above, the temporary statutory exemption for all storm water sources expires on October 1, 1992. The statute requires EPA to establish a comprehensive program to regulate point sources subject to the moratorium, such as small municipalities, by that date. CWA § 401(p)(1), (6), 33 U.S.C. § 1342(p)(1), (6).

Pointing to a perceived statutory gap, NRDC argues that small systems should be subject to the same permitting schedule applicable to medium systems, to assure that they are regulated when the permitting moratorium ends on October 1, 1992. However, the plain language of the statute prohibits this. Section 402(p)(1) forbids requiring a permit for entities not listed as exceptions (such as small municipalities) before October 1, 1992. Yet the deadline for part 1 of the application for medium systems is currently May 18, 1992. 55 Fed.Reg. at 48,072.

Even if NRDC is correct that EPA is not proceeding so that regulations will be in place on October 1, 1992, we cannot ignore the plain language of the statute by adopting NRDC's solution. The CWA does not require regulation of such systems prior to expiration of the moratorium. We therefore reject NRDC's proposal that small systems be put on the same schedule as medium ones.

[8] NRDC asks the court to put the medium systems on the same schedule as the large systems, in order to achieve closer compliance with the timeline set out in § 402(p)(4)(B). However, EPA's current schedule for medium systems, although delayed, is still within the statutory scheme in its relation to the schedule for large systems. That is, Congress placed the medium systems on a staggered permitting schedule to start two years after the large systems and industrial users. The EPA schedule now has medium municipal system applications due six months after the applications for the large municipal systems. 55 Fed.Reg. at 48,072. For this reason, the current deadline for medium municipalities does not appear to be unreasonable despite the unlawful delay.

C. Exclusion of Certain Sources from Regulation.

1. *Definition of "Municipal Separate Storm Sewer System."*

Section 402(p) refers to "municipal separate storm sewer system[s] serving a population" of a specified size. CWA § 402(p)(2)(C), (D), 33 U.S.C. § 1342(p)(2)(C), (D). NRDC contends that EPA's definition of this term violates the plain language of the statute, fails to take into account the statutory definition of the word "municipality" and is arbitrary and capricious because the agency considered improper factors when it defined the term. All of this, according to NRDC, results in an impermissible narrowing of the municipalities covered by the first two rounds of permitting.

The 1987 amendments to the CWA did not contain definitions of "municipal" or "separate storm sewer system," but the CWA amendments enacted in 1972 defined "municipality" as follows:

> [e]xcept as otherwise specifically provided, when used in this chapter: .... (4) The term "municipality" means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved ***1302** management agency under section 1288 of this title [33 U.S.C. § 1288].

33 U.S.C. § 1362.

In the November 1990 regulations, the EPA defined "municipal separate storm sewer" as: "a conveyance or system of conveyances ... [o]wned or operated by a State, city, town, borough, county, parish, district, association or other public body...." 55 Fed.Reg. at 48,065 (to be codified at 40 C.F.R. § 122.26(b)(8)). This definition echoes the language of 33 U.S.C. § 1362(4). However, when defining large and medium municipal separate storm sewer *systems serving a population* of a specified size, EPA brought in other factors. 55 Fed.Reg. at 48,064 (to be codified at 40 C.F.R. § 122.26(b)(4), (7)). EPA defines medium and large separate storm sewer systems using two main categories:

1) separate storm sewer systems located in an incorporated place with the requisite population, and

2) separate storm sewer systems located in unincorporated, urbanized portions of counties containing the requisite population (as listed in Appendices H and I to the rule), excluding those municipal separate sewers located in incorporated places, townships or towns within such counties. [12] 55 Fed.Reg. at 48,064. NRDC opposes this definition for municipal separate storm sewer systems for the reasons explained below.

First, NRDC argues that according to the definitional section cited above and principles of statutory construction, general definitions apply wherever the defined term appears elsewhere in the law. *See* 33 U.S.C. § 1362 ("[e]xcept as otherwise specifically provided" the definitions apply throughout the act); *Sierra Club v. Clark,* 755 F.2d 608, 613 (8th Cir.1985). NRDC argues that the scope of the statutory definition of "municipality" in 33 U.S.C. § 1362(4) and the scope of the phrase "municipal separate storm sewer system serving a population" are the same. NRDC thus proposes that the correct definition is a system of conveyances owned or operated by the full range of entities described at 33 U.S.C. § 1362(4), (cities, towns, etc.) with populations within the ranges designated at § 402(p)(2), i.e., 250,000 or more for large systems and between 100,000 and 250,000 for medium systems.

However, we do not believe that the entire phrase used in the act, "municipal separate storm sewer system serving a population of [a specified size]" can be equated with the term "municipality" in the manner that NRDC proposes. The act contains no definition of either "system" or "serving a population." The word "system" is particularly ambiguous in the context of storm sewers. [13] We therefore agree with EPA that there is no single, plain meaning for the disputed words.

Because the term is ambiguous, we must look first to whether Congress addressed the issue in another way. *See Abourezk v. Reagan,* 785 F.2d 1043, 1053 (D.C.Cir.1986) (" [i]f the court finds that Congress had a specific intent ..., the court stops there and enforces that intent regardless of the agency's interpretation") (citing *Chevron U.S.A. Inc. v. Natural Resources Defense Council Inc.,* 467 U.S. 837, 842–43 & n. 9, 104 S.Ct. 2778, 2781 & n. 9, 81 L.Ed.2d 694 (1984)), *aff'd by an equally divided court,* 484 U.S. 1, 108 S.Ct. 252, 98 L.Ed.2d 1 (1987). The legislative history is not illuminating. Although it explains that a purpose of the permitting scheme was to attack the most serious sources of discharge first, [14] this general goal is not helpful in discerning the specific meaning of "municipal separate storm sewer system serving a population." Without clear guidance from Congress, we turn to the agency's justifications ***1303** for its choices in the face of NRDC's objections.

NRDC claims that EPA's definition is arbitrary and capricious because EPA considered improper factors, including its own work load, the incorporation status of municipalities, and urban density. "[A]n agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins.,* 463 U.S. 29, 43, 103 S.Ct. 2856, 2866, 77 L.Ed.2d 443 (1983).

EPA's final definition took into account many issues and concerns of the regulated community. *See* 55 Fed.Reg. at 48,039. EPA considered eight different options for defining large and medium municipal separate storm sewer systems. 55 Fed.Reg. at 48,038–43. EPA considered focusing on ownership or operation of a system by an incorporated place, but found that this approach did not take into account systems operated by flood control districts, state transportation systems, or concerns relating to watershed management. It instead fashioned a multi-faceted approach. This choice of approach is not unreasonable.

NRDC challenges EPA's consideration of incorporation as a factor. It claims that limiting regulation to incorporated places of the appropriate size excludes portions of 378 counties that contain over 100,000 people. NRDC essentially contends that because counties are a type of municipality, storm water conveyances in all counties with populations over 100,000 should come within the definition of either medium or large municipal separate storm sewer systems. We have already rejected NRDC's claim that the definition of regulated "systems" must include conveyances in all "municipalities."

EPA's use of incorporation as a factor is not arbitrary and capricious or inconsistent with the statute. The agency proceeded on the reasonable assumption that cities possess the police powers needed effectively to control land use within their borders. *See* 55 Fed.Reg. at 48,039, 48,043. The first major category within the definition of regulated "systems," municipal separate storm sewers located within incorporated places having the requisite population, is reasonable.

NRDC questions EPA's second major category, which covers storm sewers located in unincorporated urbanized areas of counties with the designated population, but excludes conveyances located in incorporated places with populations under 100,000 within those counties. The exclusion, however, has a legitimate statutory basis. The statute prohibits EPA from requiring permits for systems serving under 100,000 persons prior to October 1, 1992. CWA § 402(p)(1), 33 U.S.C. § 1342(p)(1). EPA reasonably concluded that conveyances within small incorporated places should be considered parts of small systems limited to those incorporated places, rather than parts of larger systems serving whole counties. EPA's definition attempts to capture population centers of over 100,000 (by including urbanized, unincorporated areas) without violating the congressional stricture against regulation of areas with populations under 100,000 (thus excluding incorporated areas of less than 100,000 within a county).

In arriving at its definition of "municipal separate storm sewer systems serving" a designated population, EPA investigated numerous options and considered comments from a range of viewpoints. We find "a rational connection between the facts found and the choices made." *Motor Vehicle Mfrs. Ass'n,* 463 U.S. at 43, 103 S.Ct. at 2866.

NRDC objects to EPA's use of 1980 census data and EPA's definition of urban density. While it appears that NRDC has solid arguments as to why it would be preferable to use 1990 census figures and adopt its method of determining urban density, our role is not to determine whether EPA has chosen the best among all possible ***1304** methods. We can only determine if its choices are rational. EPA chose the 1980 census data because it was the most widely available decennial census data at the time of rule formulation and promulgation. Neither this choice nor its use of the Census Bureau's definition of urbanized area is arbitrary and capricious.

EPA took agency work load into account in arriving at its definition. 55 Fed.Reg. at 48,039. NRDC objects on the basis that Congress considered the issue of work load when it developed the "phase-in" approach and allowed permit applications on a system- or jurisdiction-wide basis. However, this broad congressional scheme does not prohibit further consideration of EPA's work load as one among many factors in its attempt to fashion a workable program.

[9] In summary, NRDC's argument that the phrase "municipal separate storm sewer system serving a population" has the plain meaning NRDC proposes is not persuasive. Although EPA's definition in the face of the statute's ambiguity is complex, if not convoluted, it is not arbitrary and capricious, and we therefore reject NRDC's request that the definition be declared invalid.

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2. *EPA Exemption for Light Industry.*

[10] NRDC challenges the portion of the EPA rule excluding various types of "light industry" from the definition of "discharge associated with industrial activity."

Under CWA § 402(p)(2)(B), a "discharge associated with industrial activity" is an exception to the permit moratorium. In the November rule, EPA modified the statutory scheme by drawing distinctions among light and heavy industry and considering actual exposure to industrial materials. Although the statute does not define "associated with industrial activity," the EPA definition excludes industries it considers more comparable to retail, commercial or service industries. The excluded categories are manufacturers of pharmaceuticals, paints, varnishes, lacquers, enamels, machinery, computers, electrical equipment, transportation equipment, glass products, fabrics, furniture, paper board, food processors, printers, jewelry, toys and tobacco products. 55 Fed.Reg. at 48,008. These types of facilities need apply for permits only if certain work areas or actual materials are exposed to storm water. *Id.* EPA justifies these exemptions on the assumption that most of the activity at these types of manufacturers takes place indoors, and that emissions from stacks, use of unhoused manufacturing equipment, outside material storage or disposal, and generation of large amounts of dust and particles will all be minimal. 55 Fed.Reg. at 48,008.

Thus, EPA considers actual exposure to certain materials or stormwater for the light industry categories, but does not consider actual exposure for the other industrial categories. After careful review of the statutory language and the record, we conclude that this distinction is impermissible.

We note that the language "discharges associated with industrial activity" is very broad. The operative word is "associated." It is not necessary that storm water be contaminated or come into direct contact with pollutants; only association with any type of industrial activity is necessary.

There is a brief discussion of the issue in the legislative history: "[a] discharge is associated with industrial activity if it is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. Discharges which do not meet this definition include those discharges associated with parking lots and administrative and employee buildings." 133 Cong.Rec. 985 (1987); *see also* 132 Cong.Rec. 31,968 (1986) (same). EPA argues that the words "directly related" indicate Congress's intent to require permits for only those materials that come in contact with industrial materials. *See* 55 Fed.Reg. at 48,007. However, the examples given—parking lots and administrative buildings—indicate that the intent was to exclude only those facilities or parts of a facility that are completely non-industrial.

EPA's definition follows the language quoted above: "Storm water discharge associated with industrial activity means the ***1305** discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant." 40 C.F.R. § 122.26(b)(14). EPA applies this definition differently depending on type of industry. EPA bases its regulation of industrial activity on Standard Industrial Classification ("SIC") categories. For most of the industrial SIC categories (identified at 40 C.F.R. § 122.26(b)(i-x)), the EPA definition includes all stormwater discharges from plant yards, access roads and rail lines, material handling sites, storage and disposal sites, shipping and receiving areas, and manufacturing buildings. 40 C.F.R. § 122.26(b)(14). However, for the "light industry" categories identified in 40 C.F.R. § 122.26(b)(14)(xi), stormwater must be actually exposed to raw materials, by-products, waste, etc., before permitting is required.

EPA justifies this difference on the ground that for "light industry," industrial activity will take place indoors, and that generation of large amounts of particles and emissions will be minimal. There is nothing in the record submitted to the Court however, which supports this assumption. *See, e.g.,* 55 Fed.Reg. at 48,008. Without supportable facts, we are unable to rely on our usual assumption that the EPA has rationally exercised the duties delegated to it by Congress. To exempt these industries from the normal permitting process based on an unsubstantiated assumption about the this group of facilities is arbitrary and capricious.

In addition, by designating these light industries as a group that need only apply for permits if actual exposure occurs, EPA impermissibly alters the statutory scheme. The statute did set up a similar approach for oil, gas, and mining industries. However, no other classes of industrial activities are subject to the more lenient "actual exposure" test. To require actual exposure entirely shifts the burden in the permitting scheme. Most industrial facilities will have to apply for permits and show the EPA or state that they are in compliance. Light industries will be relieved from applying for permits unless actual exposure occurs. The permitting scheme then will work only if these facilities self-report, or the EPA searches out the sources and shows that exposure is occurring. We do not know the likelihood of either self-reporting or EPA inspection and monitoring of light industries, and the regulations appear to contemplate neither for these industries. For this reason, the proposed regulation is also arbitrary and capricious.

In conclusion, we hold that the rule for light industries is arbitrary and capricious, vacate the rule, and remand for further proceedings.

3. *Exclusion of Construction Sites of Less than Five Acres.*

[11] NRDC challenges the exemption for construction sites of less than five acres. EPA concedes that the construction industry should be subject to storm water permitting because at a high level of intensity, construction is equivalent to other regulated industrial activities. 55 Fed.Reg. at 48,033. Construction sites can pollute with soil sediments, phosphorus, nitrogen, nutrients from fertilizers, pesticides, petroleum products, construction chemicals and solid wastes. *Id.* EPA states that such substances can be toxic to aquatic organisms, and affect water used for drinking and recreation. *Id.*

Following its characterization of construction sites as suitable for regulation, EPA defined its task as determining "an acreage limit [ ] appropriate for identifying sites that amount are (sic) to industrial activity." 55 Fed.Reg. at 48,036. EPA originally proposed regulations that exempted operations that disturb less than one acre of land and are not part of a common plan of development or sale. 55 Fed.Reg. at 48,035–36. In response to comments by the regulated community about the administrative burden presented by the regulation, EPA increased the exemption to five acres. 55 Fed.Reg. at 48,036. EPA also noted that larger sites will involve heavier equipment for removing vegetation and bedrock than smaller sites. *Id.* at 48,036.

***1306** We find that EPA's rationale for increasing the limit from one to five acres inadequate and therefore arbitrary and capricious. EPA cites no information to support its perception that construction activities on less than five acres are non-industrial in nature.

[12] EPA also claims agency power, inherent in statutory schemes, to make categorical exemptions when the result is *de minimis*. *Alabama Power Co. v. Costle,* 636 F.2d 323, 360 (D.C.Cir.1979). However, if construction activity is industrial in nature, and EPA concedes that it is, EPA is not free to create exemptions from permitting requirements for such activity. *See Natural Resources Defense Council, Inc. v. Costle,* 568 F.2d 1369, 1377 (D.C.Cir.1977) (once Congress has delineated an area that requires permits, EPA is not free to create exemptions).

Further, we find the *de minimis* principle inapplicable here. The *de minimis* exemption is only available where a regulation would "yield a gain of trivial or no value." *Alabama Power Co., supra,* at 361. Because of the lack of data, we cannot know whether exempting sites of less than five acres will indeed have only a *de minimis* effect.

The *de minimis* concept is based on the principle that the law does not concern itself with trifling matters. *Id.* at 360. We question its applicability in a situation such as this where the gains from application of the statute are being weighed against administrative burdens to the regulated community. *See id.* at 360–361 (implied authority to make cost-benefit decisions must derive from statute, and not general *de minimis* doctrine).

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Further, EPA's claim that the five-acre exemption is *de minimis* is contradicted by the admission that even small construction sites can have a significant impact on local water quality. The EPA acknowledges that "[o]ver a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades." 55 Fed.Reg. at 48,033. Without data supporting the expanded exemption, we owe no deference to EPA's line-drawing. We thus hold that EPA's choice of a five-acre limit is arbitrary and capricious, invalidate that portion of the rule exempting construction sites of five acres or less from permitting requirements, and remand for further proceedings.

4. *Exemption for oil and gas activities.*

The 1987 amendments created an exemption from the permit requirement for uncontaminated runoff from mining, oil and gas facilities. *See* Appendix, CWA § 402(*l*)(2), 33 U.S.C. §§ 1342(*l*)(2). Section 402(*l*)(2) states that a permit is not required for discharges of storm water runoff from mining, oil or gas operations composed entirely of flows from conveyance systems used for collecting precipitation runoff and "which are not contaminated by contact with, or do not come into contact with any overburden, raw material, intermediate products, finished product, byproduct, or waste products". NRDC claims that the November 1990 rule sets up an impermissible standard for determining contamination at oil and gas facilities. The relevant portion of the rule states that at these facilities, an operator is not required to submit a permit application unless the facility has had a discharge of a reportable quantity [15] since November 1987, or contributes to a violation of a water quality standard. 55 Fed.Reg. 48,067 (to be codified at 40 C.F.R. § 122.26(c)(1)(iii)). A facility which has had a release of oil or a hazardous substance in excess of RQs since ***1307** 1987 must submit a permit application. *Id.*; 55 Fed.Reg. at 48,029–30.

NRDC claims that oil and gas operations should be subject to the stricter standards which apply to mining operations. [16] It also objects to EPA's use of RQs as the only test for contamination of runoff from oil and gas storm water dischargers, claiming it is inconsistent with the legislative history. We conclude that the legislative history does not support NRDC's position.

The conference report states:

> [P]ermits are not required where stormwater runoff is diverted around mining operations or oil and gas operations and does not come in contact with overburden, raw material, product, or process wastes. In addition, where stormwater runoff is not contaminated by contact with such materials, *as determined by the administrator,* permits are also not required. With respect to oil or grease or hazardous substances, the determination of whether stormwater is "contaminated by contact with" such materials, *as established by the Administrator,* shall take into consideration whether these materials are present in such stormwater runoff in excess of reportable quantities under section 311 of the Clean Water Act ..., or in the case of mining operations, above natural background levels.

H.R.Rep. No. 1004, 99th Cong., 2d Sess., at 151 (emphasis added).

[13] Thus, the EPA Administrator has discretion to determine whether or not storm water runoff at an oil, gas or mining operation is contaminated with two types of materials: (1) overburden, raw material, product, or process wastes and (2) oil, grease or hazardous substances. The report sets out factors for the Administrator to consider in determining contamination for the latter group of pollutants.

NRDC first claims that because section 402(*l*)(2) treats oil, gas and mining together, the EPA rule must do the same. NRDC's second objection is based on its interpretation of the language in the conference report. Because the conference report lists RQs as only one factor to be taken into consideration, NRDC insists EPA cannot make it the only factor to measure contamination for oil and gas facilities.

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Both of these arguments must fail in light of the conference report, which gives the Administrator discretion to determine when contamination has occurred with respect to the substances listed in the statute, i.e., overburden, raw materials, waste products, etc. *See* CWA § 402(*l*)(2). The conference report states that the Administrator shall take certain factors into account, but the report is clear that the determination of whether storm water is contaminated is within the Administrator's discretion.

NRDC argues that the remarks of certain congressmen during congressional debate show that the mining, oil, and gas exemptions were to apply only if the discharges were entirely free of contaminants. We find these examples less persuasive than the clear language of the conference report. Moreover, in light of the discretion granted the Administrator in the conference report, we cannot say that the rule as promulgated is an arbitrary and capricious exercise of that discretion.

NRDC also contends that Congress intended that EPA consider reportable quantities only in determining if a discharge is contaminated with oil, grease, or hazardous substances. Other pollutants, according to NRDC, must be found to contaminate the discharge if they exceed background levels.

EPA did not, in fact, limit itself to reportable quantities in determining which oil or gas facilities must apply for a permit. The rule requires a permit for any facility which "[c]ontributes to a violation of a water quality standard." 40 C.F.R. § 122.26(c)(1)(iii)(C). This requirement addresses contamination with substances other than oil and hazardous substances. We find no support in the statute or the legislative history for NRDC's claim that, with respect ***1308** to these substances, levels above background must be considered "contamination." The conference report quoted above requires consideration of background levels of any pollutant only with respect to mining operations.

D. Lack of Controls for Municipal Storm Water Discharge.

[14] NRDC contends that EPA has failed to establish substantive controls for municipal storm water discharges as required by the 1987 amendments. Because Congress gave the administrator discretion to determine what controls are necessary, NRDC's argument fails.

Prior to 1987, municipal storm water dischargers were subject to the same substantive control requirements as industrial and other types of storm water. In the 1987 amendments, Congress retained the existing, stricter controls for industrial storm water dischargers but prescribed new controls for municipal storm water discharge. CWA § 402(p)(3)(A), (B), 33 U.S.C. § 1342(p)(3)(A)–(B). The Act states that permits for discharges from municipal storm sewers:

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, *and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.*

Section 402(p)(3)(B), 33 U.S.C. § 1342(p)(3)(B) (emphasis added).

NRDC charges that the EPA regulations accomplish neither of the goals above, i.e., they do not effectively prohibit non-storm water discharges nor do they require the controls described in ¶ (iii), above. NRDC argues that Congress granted the moratorium precisely to give EPA the opportunity to develop new, substantive standards for storm water control of municipal sources and instead EPA wrote vague regulations containing no minimum criteria or performance standards. [17] However, the language in ¶ (iii), above, requires the Administrator or a state to design controls. Congress did not mandate a minimum standards approach or specify that EPA develop minimal performance requirements. NRDC also claims that the testing requirements are inadequate because there is only limited sampling at a limited number

of sites. However, we must defer to EPA on matters such as this, where EPA has supplied a reasoned explanation of its choices. *See* 55 Fed.Reg. at 48,049.

NRDC's argument that the EPA rule is inadequate cannot prevail in the face of the clear statutory language and our standard of review. Congress could have written a statute requiring stricter standards, and it did not. We therefore reject NRDC's argument that EPA's storm water control regulations fail to comply with the statute. [18]

E. Lack of Notice and Comment on the Approval of Part 1 of Industrial Group Storm Water Applications.

NRDC objects to the lack of opportunity for notice and comment before EPA approval of part 1 of group applications for industrial dischargers. Each member of a proposed group must submit part 1 of the application. [19] If EPA approves part 1, only ***1309** a small subset of the member facilities need submit part 2 of the application. 55 Fed.Reg. at 48,072 (to be codified at 40 C.F.R. 122.26(e)(2)). NRDC claims that because approval of part 1 waives the requirement of filing part 2 for most members of a group, EPA's decision on part 1 is equivalent to a "rule" requiring notice and comment from the public. The issue thus presented is whether EPA's decision on a part 1 group permit application is a "rule" as defined in 5 U.S.C. § 551(4) (1988) [20] requiring public notice and opportunity to comment under 5 U.S.C. § 553 (1988), or is otherwise subject to the notice and comment requirement.

[15] NRDC argues that approval or disapproval of a part 1 application requires public comment because it has "general applicability" pursuant to 5 U.S.C. § 551(4) and because it will have a "palpable effect" in that it will relieve the majority of entities in the group from submitting data in part 2 of the application. NRDC cites *NRDC v. EPA,* 683 F.2d 752 (3rd Cir.1982) and *Council of Southern Mountains, Inc. v. Donovan,* 653 F.2d 573 (D.C.Cir.1981) in support of its argument. Both cases involved the postponement of regulations. *See NRDC,* 683 F.2d at 753–54, 764 (indefinite postponement of effective date of final amendments to regulations dealing with the discharge of toxic pollutants requires notice and comment because it has a substantial impact on the public and the industry); *Council of Southern Mountains, Inc.,* 653 F.2d at 575, 580 n. 28 (deferral of implementation of regulations requiring coal operators to supply life-saving equipment ordinarily would require notice and comment because it has a "palpable effect" upon the industry and the public).

We find these cases to be distinguishable. Both involve the postponement of rules of general applicability to an entire industry, or to a large class of pollutants. In contrast, although the part 1 application process will relieve some entities from the need to furnish further data, the decision is specific to a particular permit application and approval of a preliminary application will not implement, interpret or prescribe any general law or policy pursuant to 5 U.S.C. § 551(4). Rulemaking ordinarily involves "broad judgments, legislative in nature rather than the resolution of a particular dispute of facts." *Washington Utilities & Transportation Com'n v. Federal Communication Commission,* 513 F.2d 1142, 1160 (9th Cir.1975), *cert. denied,* 423 U.S. 836, 96 S.Ct. 62, 46 L.Ed.2d 54 (1975). The decision to approve a part 1 permit application, although it may affect a large number of applicants, is nevertheless focused on a specific factual question: whether the application adequately designates a representative smaller group subject to the more extensive data gathering requirements in part 2 of the application. *See* 55 Fed.Reg. at 48,028. Because the decision involves a discrete, factual issue, the better view is that it is neither a rule nor otherwise subject to the notice and comment requirement.

Because approval of a part 1 application is essentially a factual determination, we hold that EPA's group permit application process for industrial dischargers is not invalid by its failure to provide for notice and comment.

III. CONCLUSION

In summary, we grant and deny relief as follows:

1. "*Deadlines" issue.* We grant the request for declaratory relief and deny the request for injunctive relief. We deny the request to place small, medium and large municipalities on the same permitting schedule. We hold that EPA's failure to include deadlines for permit approval or denial and compliance consistent with CWA § 402(p) is arbitrary and capricious.

2. *Exclusion of Sources from Regulation.* We uphold the definition of "municipal ***1310** separate storm sewers serving a population." We hold that the exemption for construction sites of less than five acres is arbitrary and capricious and remand for further proceedings. Based on the record before us, we vacate that portion of the rule regulating "light industry" and remand for further proceedings.

3. *Other issues.* We uphold the rule as to oil and gas operations and storm water control. We further hold that EPA approval of part 1 of a group application for an industrial discharger is not a rule requiring notice and comment from the public.

Petition for Review GRANTED IN PART and DENIED IN PART.

APPENDIX A

CWA § 402, 33 USCA § 1342

(*l*) Limitation on permit requirement

....

(2) Stormwater runoff from oil, gas, and mining operations
The Administrator shall not require a permit under this section, nor shall the Administrator directly or indirectly require any State to require a permit, for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

....

(p) Municipal and industrial stormwater discharges

(1) General rule
Prior to October 1, 1992, the Administrator or the State (in the case of a permit program approved under this section) shall not require a permit under this section for discharges composed entirely of stormwater.

(2) Exceptions
Paragraph (1) shall not apply with respect to the following stormwater discharges:

(A) A discharge with respect to which a permit has been issued under this section before February 4, 1987.

(B) A discharge associated with industrial activity.

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000 .

(E) A discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) Permit requirements

(A) Industrial discharges

Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 of this title.

(B) Municipal discharge

Permits for discharges from municipal storm sewers—

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or ***1311** the State determines appropriate for the control of such pollutants.

(4) Permit application requirements

(A) Industrial and large municipal discharges

Not later than 2 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after February 4, 1987. Not later than 4 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(B) Other municipal discharges

Not later than 4 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after February 4, 1987. Not later than 6 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(5) Studies

The Administrator, in consultation with the States, shall conduct a study for the purposes of—

(A) identifying those stormwater discharges or classes of stormwater discharges for which permits are not required pursuant to paragraphs (1) and (2) of this subsection;

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(B) determining, to the maximum extent practicable, the nature and extent of pollutants in such discharges; and

(C) establishing procedures and methods to control stormwater discharges to the extent necessary to mitigate impacts on water quality.

Not later than October 1, 1988, the Administrator shall submit to Congress a report on the results of the study described in subparagraphs (A) and (B). Not later than October 1, 1989, the Administrator shall submit to Congress a report on the results of the study described in subparagraph (C).

(6) Regulations
Not later than October 1, 1992, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

O'SCANNLAIN, Circuit Judge, concurring in part and dissenting in part:
I concur in Parts I, II.A, II.C.1, II.C.4, II.E, and much of Part II.B of the majority opinion. I dissent from Part II.B.2.c, directing EPA to issue supplemental regulations. I dissent also from Parts II.C.2 and II.C.3, in which the court invalidates EPA's exclusion of storm water discharges from certain light industrial and small construction sites from the definition of "discharges associated with industrial activity." Finally, I concur in the result, but not the reasoning, of Part II.D, holding that EPA has not acted unlawfully by failing to include specific control requirements in the permit application regulations.

***1312** I

The majority holds that EPA has violated statutory requirements by failing to set dates for approval of, and compliance with, permits as part of its permit application program. *Ante* at 1300. Despite the holding in Part II.B.2.b that injunctive relief is inappropriate (with which I agree), the majority in Part II.B.2.c orders EPA to issue supplemental regulations setting such deadlines immediately.

I am not convinced that the statute requires EPA to set these deadlines as part of the permit application process. The provision at issue reads, in relevant part:

(4) Permit application requirements

(A) Industrial and large municipal discharges

Not later than 2 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after February 4, 1987. Not later than 4 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

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(B) Other municipal discharges

Not later than 4 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after February 4, 1987. Not later than 6 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

CWA § 402(p)(4); 33 U.S.C. § 1342(p)(4) (1988).

While the statute establishes a time line EPA must follow, it does not, in my view, require that EPA include the deadline for permit approval in the permit application regulations. I agree that, given EPA's past delays and the fact that the statutory dates for issuance or denial of permits are now long past, it is appropriate for this court to declare that the statute requires EPA to issue or deny permits within one year of the application deadline. I do not, however, see that any purpose is served by requiring EPA to issue supplemental regulations setting out these deadlines, and I doubt our authority to do so.

With respect to compliance deadlines, the statute contemplates that such deadlines will be set in individual permits as they are issued. *See* CWA § 402(p)(4)(A), (B) ("Any such permit shall provide for compliance...."). Each permit must contain a compliance deadline, which may not exceed three years from the date of issuance. Nothing in the statute requires EPA to establish compliance deadlines now, before any permits have been issued. Accordingly, in my view, NRDC's challenge to the lack of compliance deadlines in EPA's current regulations is premature. I therefore dissent from Part II.B.2.c of the majority opinion.

II

I dissent also from Parts II.C.2 and II.C.3. In my view, EPA's definition of "discharge associated with industrial activity" is a reasonable construction of an ambiguous statute, entitled to deference. While my colleagues acknowledge that we may not overturn an agency rule that represents a "permissible construction" of a statute, *ante* at 1297 (quoting *Chevron, U.S.A., Inc. v. NRDC,* 467 U.S. 837, 843, 104 S.Ct. 2778, 2781, 81 L.Ed.2d 694 (1984)), they fail to apply that axiom.

A

EPA's rule excludes from the permitting requirement certain light industry facilities at which "areas where material handling equipment or activities, raw materials, intermediate ***1313** products, final products, waste materials, byproducts, or industrial machinery" are not exposed to storm water. *See* 40 C.F.R. § 122.26(b)(14). EPA determined that discharges from such facilities do not fall within the definition of "discharges associated with industrial activity." In my view, this determination was reasonable.

The majority concedes that the statute does not define "discharge associated with industrial activity." *Ante* at 1304. The operative phrase, as my colleagues note, is "associated with." *See id.* For purposes of evaluating the light industry exemption, I concede that manufacturing falls within the generally accepted meaning of "industrial activity," and that many of the facilities exempted by the EPA rule are manufacturers. Nonetheless, that concession does not compel the conclusion that discharges from such facilities are "associated with industrial activity."

The majority concludes, without explanation, that the phrase "discharges associated with industrial activity" is "very broad." *Ante* at 1304. Neither the plain meaning of the term "associated" nor the legislative history of the statute support

this conclusion. "Associated with" means closely related to or connected with. *See Webster's Ninth New Collegiate Dictionary* 110 (1986). To the extent it casts any light on the subject, the legislative history supports a narrow reading of the phrase "associated with." Four members of the House, in the course of floor debates on the measure both before and after President Reagan's veto, explained that:

> [a] discharge is associated with industrial activity if it is *directly related to manufacturing, processing or raw materials storage areas* at an industrial plant. Discharges which do not meet this definition include those discharges associated with parking lots and administrative and employee buildings.

133 Cong.Rec. 985 (1987) (statement of Rep. Hammerschmidt) (emphasis added). [1] The underscored language suggests that Congress intended to regulate only discharges directly related to certain activities at industrial facilities. EPA's interpretation, that discharges are "directly related" to these activities only if storm water may reasonably be expected to come into contact with them before its discharge, is eminently logical.

The majority opinion interprets the exclusion of parking lots as an expression of congressional intent "to exclude only those facilities or parts of a facility that are completely nonindustrial." *Ante* at 1304. My colleagues' reliance on the second sentence of the statement quoted above to establish this intent, however, is misplaced. The sentence relied on cannot assist us in our search for the meaning of "associated with" because it employs that very term. Moreover, it does not pretend to establish an exhaustive list of areas excluded from regulation. Legislators listed discharges from parking lots and administrative and employee buildings as *among those* not directly related to industrial activity; no one suggested that *only* discharges associated with those structures were to be excluded.

EPA's definition is consistent with the plain words of the statute and, to the extent any intent is discernible, the congressional intent. EPA has defined the term "storm water discharge associated with industrial activity" to cover only those discharges reasonably expected to come into contact with industrial activities. A large number of facilities automatically fall within EPA's definition and are required to ***1314** apply for permits. Because facilities falling within certain specified classifications under the Standard Industrial Classification manual generally conduct their operations entirely indoors, minimizing the likelihood of contact with storm water, EPA has not automatically included them within the regulations. However, these facilities *are* required to apply for permits if "areas where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts, or industrial machinery at these facilities are exposed to storm water." 40 C.F.R. § 122.26(b)(14). If a storm water discharge is in fact directly related to or associated with the industrial activity carried on at a facility falling within the light industry category, the facility must obtain a permit. [2]

In my view, the statute's treatment of oil and gas facilities supports EPA's reading of the term "associated with industrial activity." Congress specifically exempted from the permit requirement discharges from oil and gas facilities and mining operations which have not come in contact with raw materials, finished products, or waste products. CWA § 402(*l*)(2). This section indicates a congressional intent to exempt uncontaminated discharges which have not come into contact with "industrial activities" from regulation. For oil, gas, and mining operations, Congress in this section supplied a specific, and quite limited, definition of "industrial activities." For other facilities, that definition was left to the discretion of EPA, which has adopted a much broader definition, encompassing contact with such things as industrial machinery and materials handling equipment. *See* 40 C.F.R. § 122.26(b)(14).

I do not mean to suggest that the majority's construction of the statute is untenable. It may even be preferable to the reading chosen by the agency. Nonetheless, in my view the statute is ambiguous and the legislative history does not demonstrate any clear congressional intent. The question before this court, therefore, is not whether "the agency construction was the only one it permissibly could have adopted" or even whether it is the "reading the court would have reached if the question initially had arisen in a judicial proceeding." *Chevron, U.S.A. v. NRDC,* 467 U.S. 837, 843 n. 11,

104 S.Ct. 2778, 2782 n. 11, 81 L.Ed.2d 694 (1984). We need only inquire if the agency's construction is a permissible one. *Id.* at 843, 104 S.Ct. at 2781. EPA's definition falls well within permissible bounds, and should be upheld.

B

Although the issue is closer, I also am not persuaded that EPA's exemption for construction sites under five acres should be struck down. EPA has not conceded that "construction activity is industrial in nature." *Ante* at 1306. In the preamble to its final rule, EPA noted that "Construction activity *at a high level of intensity is comparable to other activity that is traditionally viewed as industrial,* such as natural resource extraction." [3] 55 Fed.Reg. 48,033 (1990) (emphasis added). EPA explained that it was "attempting to focus [regulation] only on those construction activities ***1315** that *resemble* industrial activity." 55 Fed.Reg. at 48,035 (emphasis added).

Neither NRDC nor the majority point to anything in the statute or the legislative history that would require the agency to define "industrial activity" as including all construction operations. Accordingly, I believe deference is due EPA's definition, provided it is not arbitrary, capricious, or manifestly contrary to the statute. *Chevron, U.S.A.,* 467 U.S. at 844, 104 S.Ct. at 2782.

In trying to determine when construction should be treated as industrial activity, EPA considered a number of possible approaches. *See* 55 Fed.Reg. at 48,035. Exempting construction that would be completed within a certain designated time frame was deemed inappropriate, because the work could be both intensive and expansive but nonetheless take place over a short period of time. Basing the limit on quantity of soil removed was also rejected as not relating to the amount of land surface disturbed. EPA finally settled on the surface area disturbed by the construction project as a feasible and appropriate mechanism for "identifying sites that are [sic] amount to industrial activity." 55 Fed.Reg. at 48,036.

Having determined that not all construction amounts to industrial activity, and that the appropriate basis for differentiation is land area disturbed, EPA then had to determine where to draw the line. Initially, EPA proposed to exempt all construction operations disturbing less than one acre of land, as well as single family residential projects disturbing less than five acres. 53 Fed.Reg. 49,431 (1988). In the final rule, however, EPA adopted a five-acre minimum for all construction projects. 55 Fed.Reg. 48,066 (1990); 40 C.F.R. § 122.26(b)(14)(x).

Admittedly, the final rule contains little in the way of justification for treating two-acre sites differently than five-acre ones, but that does not necessarily make it arbitrary and capricious. Line-drawing is often difficult. NRDC was apparently willing to accept EPA's proposed one-acre/five-acre rule. Although NRDC now challenges the blanket five-acre rule, it offers no evidence that sites excluded from the permitting requirement constitute "industrial activity." In such absence of any evidence in the record undermining EPA's conclusion on an issue squarely within its expertise, I believe the rule must be upheld. [4]

III

Finally, while I concur in the result reached by the majority in Part II.D, rejecting NRDC's claim that EPA has unlawfully failed to require substantive controls on municipal discharges, I disagree with the majority's reasoning. In my view, NRDC's claim is premature, and we should decline to address its merits.

NRDC contends that the 1987 amendments require EPA to establish substantive controls for municipal storm water discharges. In support of this argument, NRDC relies on CWA § 402(p)(3)(B), 33 U.S.C. § 1342(p)(3)(B), which provides:

> Permits for discharges from municipal storm sewers—

* * * * * *

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable....

This section refers only to *permits,* and says nothing about permit applications. Because EPA has yet to issue any permits, NRDC's claim on this point is premature. In the absence of any indication to the contrary, we must assume that any permit issued will comply with all applicable statutory requirements. The statute does not require that EPA detail the substantive controls to be imposed when establishing permit application requirements. Accordingly, I would reject NRDC's claim without ***1316** reaching the issue of the Administrator's discretion in selecting those controls.

IV

In sum, I join much of my colleagues' opinion. However, I would not require EPA to issue supplemental regulations detailing the time line for issuance of and compliance with permits, and I would uphold EPA's definition of "discharge associated with industrial activity." Finally, I would reject NRDC's claim that EPA is required to detail control measures in the permit application regulations on the grounds that the statute requires control measures only in the permits themselves.

All Citations

966 F.2d 1292, 34 ERC 2017, 61 USLW 2015, 22 Envtl. L. Rep. 20,950

Footnotes

1 National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, 55 Fed.Reg. 47,990 (1990) (to be codified at 40 C.F.R. § 122.26); National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Application Deadline for Group Applications, 56 Fed.Reg. 12,098 (1991) (to be codified at 40 C.F.R. § 122.26(e)).

2 The Act is popularly known as the Clean Water Act or the Federal Water Pollution Control Act. 33 U.S.C. § 1251. For more background on the CWA, see *EPA v. State Water Resources Control Bd.,* 426 U.S. 200, 202–09, 96 S.Ct. 2022, 2023–26, 48 L.Ed.2d 578 (1976); *Sierra Club v. Union Oil of California,* 813 F.2d 1480, 1483 (9th Cir.1987), *vacated on other grounds,* 485 U.S. 931, 108 S.Ct. 1102, 99 L.Ed.2d 264 (1988); and *Natural Resources Defense Council v. Train,* 510 F.2d 692, 695–97 (D.C. Cir.1975).

3 The Nationwide Urban Runoff Program (NURP) conducted from 1978 through 1983 found that urban runoff from residential, commercial and industrial areas produces a quantity of suspended solids and chemical oxygen demand that is equal to or greater than that from secondary treatment sewage plants. 55 Fed.Reg. at 47,991. A significant number of samples tested exceeded water quality criteria for one or more pollutants. *Id.* at 47,992. Urban runoff is adversely affecting 39% to 59% of the harvest-limited shellfish beds in the waters off the East Coast, West Coast and in the Gulf of Mexico. 56 Fed.Reg. at 56,548.

4 *See* 132 Cong. Rec. 32,381 (1986).

5 Senator Stafford, speaking in favor of the conference report for the Water Quality Act, noted that "EPA should have developed this program long ago. Unfortunately, it did not. The conference substitute provides a short grace period during which EPA and the States generally may not require permits for municipal separate storm sewers." 132 Cong. Rec. 32,381 (1986). Senator Chafee stated "[t]he Agency has been unable to move forward with a [storm water discharge control] program, because the current law did not give enough guidance to the Agency. This provision provides such guidance, and I expect EPA to move rapidly to implement this control program." 133 Cong. Rec. 1,264 (1987).

6 Pub.L. No. 100–4, 101 Stat. 7 (1987) (codified as amended in scattered sections of 33 U.S.C.).

7 Large municipal systems are those serving a population of 250,000 or more. § 402(p)(2)(C).

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8 Since NRDC filed this action, Congress has passed certain legislation affecting some of the deadlines at issue. Congress ratified the date of September 30, 1991 for part 1 of group applications for industrial dischargers. *See* Dire Emergency Supplemental Appropriations Act of 1991, Pub.L. No. 102–27, § 307, 105 Stat. 130, 152 (1991).

Section 1068 of the Intermodal Surface Transportation Efficiency Act of 1991 ("ISTEA") clarifies the deadlines for storm water discharges associated with industrial activity from facilities owned or operated by a municipality. Pub.L. No. 102–240, § 1068, 105 Stat.1914, 2007 (1991). ISTEA deadlines are being reviewed in a separate case. Nothing in this opinion should be viewed as requiring EPA to comply with deadlines that have been altered or superseded by the ISTEA.

9 *See* 55 Fed.Reg. at 48,071–722 (to be codified at 40 C.F.R. § 122.26(e)); 67 Fed.Reg. at 12,100 (to be codified at 40 C.F.R. § 122.26(e)(2)(iii)). EPA changed certain of these deadlines after this case was submitted. These changes are the subject of a separate case.

The EPA rules at issue set no date for final approval or denial of applications from municipal or industrial dischargers, nor for compliance by these regulated entities. *See* 55 Fed.Reg. at 48,072.

10 NRDC initially claimed that this extension was unlawful because it was granted without proper notice and comment. However, Congress approved this extended deadline in a supplemental appropriations bill. Dire Emergency Supplemental Appropriations Act of 1991, Pub.L. No. 102–27 § 307, 105 Stat. 130, 152 (1991). This Act moots the procedural and substantive challenge to this extended deadline.

11 In addition, pursuant to the statute, compliance deadlines applicable to each facility shall be contained in its permit.

12 The rule also permits the Administrator to include certain other systems as part of a medium or large system due to the physical interconnections between the systems, their locations, or certain other factors. *See* 40 C.F.R. § 122.26(b)(4)(iii), (iv) and (b)(7)(iii), (iv).

13 Storm sewers located within the boundaries of a city might be part of a state highway system, a flood control district, or a system operated by the state or county. *See* 55 Fed.Reg. at 48,041.

14 *See, e.g.,* 133 Cong. Rec. 991 (1987) (statement of Rep. Stangeland).

15 "Reportable Quantities" (RQs) are not effluent guidelines setting up permissible limits for pollutants. Rather, they are quantities the discharge of which "may be harmful to the public health or welfare of the United States." CWA § 311(b)(4), 33 U.S.C. § 1321(b)(4). EPA has established RQs for a large number of substances, pursuant to both CWA section 311, 33 U.S.C. § 1321, and the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") section 102, 42 U.S.C. § 9602. *See* 40 C.F.R. Parts 110, 117, 302. The operator of any vessel or facility which releases the RQ of any substance must immediately notify the National Response Center. *See, e.g.,* 40 C.F.R. § 110.10.

16 Operators of mines must submit permit applications whenever storm water discharges come into contact with overburden, waste products, etc. 40 C.F.R. § 122.26(c)(1)(iv).

17 The requirements for permit applications are set forth at 40 C.F.R. § 122.26(d). Individual NPDES permit writers (EPA or state officials) will decide whether application proposals are adequate. Applicants must submit information on source control methods and estimate the annual pollutant load reduction to be achieved from their proposed management programs, but they are not required to achieve any specified level of reduction of any pollutants. *See* 55 Fed.Reg. at 48,070–71.

18 We base our holding on NRDC's challenge to the regulations at issue. Whether a specific permit complies with the requirements of section 402(p)(3)(B) would, of course, be another matter not controlled by this decision.

19 Part I must include the identity of the group's participants, a description of the participants' industrial activities, a list of significant materials exposed to precipitation and the identity of the subset of the group's members who will submit quantitative data in part 2 of the application. 55 Fed.Reg. at 48,067.

20 A rule means "the whole or part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements of an agency...." 5 U.S.C. § 551(4).

1 This statement was repeated verbatim by Reps. Stangeland and Snyder. 133 Cong. Rec. at 991–92; 132 Cong. Rec. at 31,959, 31,964 (1986). Rep. Rowland offered a slight variation on the theme:

> One of the discharge categories is "a discharge associated with an industrial activity." A discharge is not considered to be associated with industrial activity unless it is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Such discharges include [sic] those from parking lots and administrative areas and employee buildings.

132 Cong. Rec. at 31,968. Rep. Rowland apparently misspoke; he probably meant, like the other legislators who addressed the topic, to say "[s]uch discharges *do not* include" those from parking lots.

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2 Thus, nothing turns on the assumption, attacked by my colleagues as unsupported by the record, *ante* at 1304, that industrial activities at this category of facilities will take place largely indoors. Where the assumption does not hold true, the permit requirement applies with full force. I also note that NRDC has pointed us to no evidence undermining EPA's assumption.

Unlike my colleagues, I decline to assume that EPA will not carry out its responsibility to identify and to require permits of facilities where industrial activities are in fact exposed to storm water, or that such facilities will ignore their statutory duty to apply for permits. Should that occur, a lawsuit challenging EPA's failure to enforce its regulations might well be in order. An unsubstantiated suspicion that EPA may not vigorously enforce its regulations, however, does not make those regulations arbitrary or capricious.

3 EPA did admit that "[e]ven small construction sites may have a significant negative impact on water quality in localized areas," 55 Fed.Reg. at 48,033. In the absence of any indication of what EPA meant by "small," however, that statement does not undermine EPA's exemption of sites under five acres.

4 Because I conclude that the rule falls within the permissible bounds of the statutory definition of "discharges associated with industrial activity," I need not consider the applicability of the *de minimis* exception.

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ATTACHMENT C-3

KeyCite Yellow Flag - Negative Treatment
Opinion Amended on Denial of Rehearing by Defenders of Wildlife v. Browner, 9th Cir., December 7, 1999

191 F.3d 1159
United States Court of Appeals,
Ninth Circuit.

DEFENDERS OF WILDLIFE and The Sierra Club, Petitioners,
v.
Carol M. BROWNER, in her official capacity as Administrator of the United States Environmental Protection Agency, Respondent.
City of Tempe, Arizona; City of Tucson, Arizona; City of Mesa, Arizona; Pima County, Arizona; and City of Phoenix, Arizona, Intervenors–Respondents.

No. 98–71080.
|
Argued and Submitted Aug. 11, 1999.
|
Decided Sept. 15, 1999.

Environmental organizations sought review of Environmental Protection Agency (EPA) decision to issue National Pollution Discharge Elimination System (NPDES) permits to five municipalities, for their separate storm sewers, without requiring numeric limitations to ensure compliance with state water-quality standards. The Court of Appeals, Graber, Circuit Judge, held that: (1) organizations had standing; (2) municipal storm-sewer discharges did not have to strictly comply with state water-quality standards; but (3) EPA had discretion to require that municipal discharges comply with such standards.

Petition denied.

West Headnotes (8)

[1] **Environmental Law** Cognizable interests and injuries, in general

For purpose of statute authorizing any interested person to seek judicial review of Environmental Protection Agency (EPA) decision issuing or denying any National Pollution Discharge Elimination System (NPDES) permit, "any interested person" means any person that satisfies the injury-in-fact requirement for Article III standing. U.S.C.A. Const. Art. 3, § 2, cl. 1; Federal Water Pollution Control Act Amendments of 1972, § 509(b)(1)(F), 33 U.S.C.A. § 1369(b)(1)(F).

2 Cases that cite this headnote

[2] **Environmental Law** Organizations, associations, and other groups

Environmental organizations had standing to seek judicial review of Environmental Protection Agency (EPA) decision to issue National Pollution Discharge Elimination System (NPDES) permits for municipalities' storm sewers based on allegation that organizations' members used and enjoyed ecosystems affected by storm water discharges and sources thereof governed by the permits. U.S.C.A. Const. Art. 3, § 2, cl. 1; Federal Water Pollution Control Act Amendments of 1972, § 509(b)(1)(F), 33 U.S.C.A. § 1369(b)(1)(F).

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6 Cases that cite this headnote

[3] **Environmental Law** Permit and certification proceedings

Although best practicable control technology (BPT) requirement for National Pollution Discharge Elimination System (NPDES) permits takes into account issues of practicability, the Environmental Protection Agency (EPA) also is under a specific obligation to require that level of effluent control which is needed to implement existing water quality standards without regard to the limits of practicability. Federal Water Pollution Control Act Amendments of 1972, §§ 301(b)(1)(A, C), 402(a)(1), 33 U.S.C.A. §§ 1311(b)(1)(A, C), 1342(a)(1).

11 Cases that cite this headnote

[4] **Environmental Law** Discharge of pollutants

Water Quality Act amendments to the Clean Water Act do not require municipal storm-sewer discharges to strictly comply with state water-quality standards, in order to obtain National Pollution Discharge Elimination System (NPDES) permit, but instead prescribe separate standard requiring reduction of discharge of pollutants to maximum extent practicable, in view of Act's distinction between municipal and industrial discharges. Federal Water Pollution Control Act Amendments of 1972, §§ 301(b)(1)(C), 402(p)(3)(B)(iii), 33 U.S.C.A. §§ 1311(b)(1)(C), 1342(p)(3)(B)(iii).

15 Cases that cite this headnote

[5] **Administrative Law and Procedure** Plain, literal, or clear meaning;ambiguity

Questions of congressional intent that can be answered with traditional tools of statutory construction are still firmly within the province of the courts under *Chevron*, which governs review of an agency's interpretation of a statute.

5 Cases that cite this headnote

[6] **Statutes** Language and intent, will, purpose, or policy

Statutes Statute as a Whole;Relation of Parts to Whole and to One Another

Using traditional tools of statutory construction when interpreting a statute, courts look first to the words that Congress used, and, rather than focusing just on the word or phrase at issue, courts look to the entire statute to determine Congressional intent.

5 Cases that cite this headnote

[7] **Statutes** Express mention and implied exclusion;expressio unius est exclusio alterius

Where Congress includes particular language in one section of a statute but omits it in another section of the same act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.

5 Cases that cite this headnote

[8] **Environmental Law** Conditions and limitations

Environmental Protection Agency (EPA) is not prohibited from requiring, under Clean Water Act, that municipal storm-sewer discharges strictly comply with state water-quality standards, but has discretion to

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determine appropriate pollution controls. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3)(B)(iii), 33 U.S.C.A. § 1342(p)(3)(B)(iii).

13 Cases that cite this headnote

Attorneys and Law Firms

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***1161** David Burchmore, Squire, Sanders & Dempsey, Cleveland, Ohio, for amici curiae.

Petition to Review a Decision of the Environmental Protection Agency. EPA No. 97–3.

Before: NOONAN, THOMPSON, and GRABER, Circuit Judges.

Opinion

GRABER, Circuit Judge:

Petitioners challenge the Environmental Protection Agency's (EPA) decision to issue National Pollution Discharge Elimination System (NPDES) permits to five municipalities, for their separate storm sewers, without requiring numeric limitations to ensure compliance with state water-quality standards. Petitioners sought administrative review of the decision within the EPA, which the Environmental Appeals Board (EAB) denied. This timely petition for review ensued. For the reasons that follow, we deny the petition.

FACTUAL AND PROCEDURAL BACKGROUND

Title 26 U.S.C. § 1342(a)(1) authorizes the EPA to issue NPDES permits, thereby allowing entities to discharge some pollutants. In 1992 and 1993, the cities of Tempe, Tucson, Mesa, and Phoenix, Arizona, and Pima County, Arizona (Intervenors), submitted applications for NPDES permits. The EPA prepared draft permits for public comment; those draft permits did not attempt to ensure compliance with Arizona's water-quality standards.

Petitioner Defenders of Wildlife objected to the permits, arguing that they must contain numeric limitations to ensure strict compliance with state water-quality standards. The State of Arizona also objected.

Thereafter, the EPA added new requirements:

> To ensure that the permittee's activities achieve timely compliance with applicable water quality standards (Arizona Administrative Code, Title 18, Chapter 11, Article 1), the permittee shall implement the [Storm Water Management Program], monitoring, reporting and other

> requirements of this permit in accordance with the time frames established in the [Storm Water Management Program] referenced in Part I.A.2, and elsewhere in the permit. This timely implementation of the requirements of this permit shall constitute a schedule of compliance authorized by Arizona Administrative Code, section R18–11–121(C).

The Storm Water Management Program included a number of structural environmental controls, such as storm-water detention basins, retention basins, and infiltration ponds. It also included programs to remove illegal discharges.

With the inclusion of those "best management practices," the EPA determined that the permits ensured compliance with state water-quality standards. The Arizona Department of Environmental Quality agreed:

> The Department has reviewed the referenced municipal NPDES storm-water permit pursuant to Section 401 of the Federal Clean Water Act to ensure compliance with State water quality standards. We have determined that, based on the information provided in the permit, and the fact sheet, adherence to provisions and requirements set forth in the final municipal permit, will protect the water quality of the receiving water.

On February 14, 1997, the EPA issued final NPDES permits to Intervenors. Within 30 days of that decision, Petitioners requested an evidentiary hearing with the regional administrator. *See* 40 C.F.R. § 124.74. Although Petitioners requested a hearing, they conceded that they raised only a legal issue and that a hearing was, in fact, unnecessary. Specifically, Petitioners raised only the legal question whether the Clean Water Act (CWA) requires numeric limitations to ensure strict compliance with state water-quality standards; they did not raise the factual question whether the management practices that the EPA chose would be effective.

***1162** On June 16, 1997, the regional administrator summarily denied Petitioners' request. Petitioners then filed a petition for review with the EAB. *See* 40 C.F.R. § 124.91(a). On May 21, 1998, the EAB denied the petition, holding that the permits need not contain numeric limitations to ensure strict compliance with state water-quality standards. Petitioners then moved for reconsideration, *see* 40 C.F.R. § 124.91(i), which the EAB denied.

JURISDICTION

[1] **[2]** Title 33 U.S.C. § 1369(b)(1)(F) authorizes "any interested person" to seek review in this court of an EPA decision "issuing or denying any permit under section 1342 of this title." "Any interested person" means any person that satisfies the injury-in-fact requirement for Article III standing. *See Natural Resources Defense Council, Inc. v. EPA,* 966 F.2d 1292, 1297 (9th Cir.1992) [*NRDC II*]. It is undisputed that Petitioners satisfy that requirement. Petitioners allege that "[m]embers of Defenders and the Club use and enjoy ecosystems affected by storm water discharges and sources thereof governed by the above-referenced permits," and no other party disputes those facts. *See Lujan v. Defenders of Wildlife,* 504 U.S. 555, 565–66, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992) ("[A] plaintiff claiming injury from environmental damage must use the area affected by the challenged activity."); *see also NRDC II,* 966 F.2d at 1297 ("NRDC claims, inter alia, that [the] EPA has delayed unlawfully promulgation of storm water regulations and that its regulations, as published, inadequately control storm water contaminants. NRDC's allegations ... satisfy the broad standing requirement applicable here.").

Intervenors argue, however, that they were not parties when this action was filed and that this court cannot redress Petitioners' injury without them. Their real contention appears to be that they are indispensable parties under Federal Rule of Civil Procedure 19. We need not consider that contention, however, because in fact Intervenors have been permitted to intervene in this action and to present their position fully. In the circumstances, Intervenors have suffered no injury.

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DISCUSSION

A. *Standard of Review*

The Administrative Procedures Act (APA), 5 U.S.C. §§ 701–06, provides our standard of review for the EPA's decision to issue a permit. *See American Mining Congress v. EPA,* 965 F.2d 759, 763 (9th Cir.1992). Under the APA, we generally review such a decision to determine whether it was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

On questions of statutory interpretation, we follow the approach from *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.,* 467 U.S. 837, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). *See NRDC II,* 966 F.2d at 1297 (so holding). In *Chevron,* 467 U.S. at 842–44, 104 S.Ct. 2778, the Supreme Court devised a two-step process for reviewing an administrative agency's interpretation of a statute that it administers. *See also Bicycle Trails Council of Marin v. Babbitt,* 82 F.3d 1445, 1452 (9th Cir.1996) ("The Supreme Court has established a two-step process for reviewing an agency's construction of a statute it administers."). Under the first step, we employ "traditional tools of statutory construction" to determine whether Congress has expressed its intent unambiguously on the question before the court. *Chevron,* 467 U.S. at 843 n. 9, 104 S.Ct. 2778. "If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 842–43, 104 S.Ct. 2778 (footnote omitted). If, instead, Congress has left a gap for the administrative agency to fill, we proceed to step two. *See id.* at 843, 104 S.Ct. 2778. At step two, we must uphold the administrative regulation unless it is "arbitrary, capricious, or manifestly contrary to the statute." *Id.* at 844, 104 S.Ct. 2778.

***1163** B. *Background*

The CWA generally prohibits the "discharge of any pollutant," 33 U.S.C. § 1311(a), from a "point source" into the navigable waters of the United States. *See* 33 U.S.C. § 1362(12)(A). An entity can, however, obtain an NPDES permit that allows for the discharge of some pollutants. *See* 33 U.S.C. § 1342(a)(1).

[3] Ordinarily, an NPDES permit imposes effluent limitations on such discharges. *See* 33 U.S.C. § 1342(a)(1) (incorporating effluent limitations found in 33 U.S.C. § 1311). First, a permit-holder "shall ... achiev [e] ... effluent limitations ... which shall require the application of the best practicable control technology [BPT] currently available." 33 U.S.C. § 1311(b)(1)(A). Second, a permit-holder "*shall ... achiev[e] ... any more stringent limitation,* including those *necessary to meet water quality standards,* treatment standards or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title)." 33 U.S.C. § 1311(b)(1)(C) (emphasis added). Thus, although the BPT requirement takes into account issues of practicability, *see Rybachek v. EPA,* 904 F.2d 1276, 1289 (9th Cir.1990), the EPA also "is under a specific obligation to require that level of effluent control which is needed to implement existing water quality standards without regard to the limits of practicability," *Oklahoma v. EPA,* 908 F.2d 595, 613 (10th Cir.1990) (internal quotation marks omitted), *rev'd on other grounds sub nom. Arkansas v. Oklahoma,* 503 U.S. 91, 112 S.Ct. 1046, 117 L.Ed.2d 239 (1992). *See also Ackels v. EPA,* 7 F.3d 862, 865–66 (9th Cir.1993) (similar).

The EPA's treatment of storm-water discharges has been the subject of much debate. Initially, the EPA determined that such discharges generally were exempt from the requirements of the CWA (at least when they were uncontaminated by any industrial or commercial activity). *See* 40 C.F.R. § 125.4 (1975).

The Court of Appeals for the District of Columbia, however, invalidated that regulation, holding that "the EPA Administrator does not have authority to exempt categories of point sources from the permit requirements of § 402 [33 U.S.C. § 1342]." *Natural Resources Defense Council, Inc. v. Costle,* 568 F.2d 1369, 1377 (D.C.Cir.1977). "Following this

decision, [the] EPA issued proposed and final rules covering storm water discharges in 1980, 1982, 1984, 1985 and 1988. These rules were challenged at the administrative level and in the courts." *American Mining Congress,* 965 F.2d at 763.

Ultimately, in 1987, Congress enacted the Water Quality Act amendments to the CWA. *See NRDC II,* 966 F.2d at 1296 ("Recognizing both the environmental threat posed by storm water runoff and [the] EPA's problems in implementing regulations, Congress passed the Water Quality Act of 1987 containing amendments to the CWA.") (footnotes omitted). Under the Water Quality Act, from 1987 until 1994, [1] most entities discharging storm water did not need to obtain a permit. *See* 33 U.S.C. § 1342(p).

Although the Water Quality Act generally did not require entities discharging storm water to obtain a permit, it did require such a permit for discharges "with respect to which a permit has been issued under this section before February 4, 1987," 33 U.S.C. § 1342(p)(2)(A); discharges "associated with industrial activity," 33 U.S.C. § 1342(p)(2)(B); discharges from a "municipal separate sewer system serving a population of [100,000] or more," 33 U.S.C. § 1342(p)(2)(C) & (D); and "[a] discharge for which the Administrator ... determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States," 33 U.S.C. § 1342(p)(2)(E).

***1164** When a permit is required for the discharge of storm water, the Water Quality Act sets two different standards:

> (A) Industrial discharges
>
> Permits for discharges associated with industrial activity shall meet all applicable provisions of this section *and section 1311* of this title.
>
> (B) Municipal discharge
>
> Permits for discharges from municipal storm sewers—
>
> (i) may be issued on a system or jurisdiction-wide basis;
>
> (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
>
> (iii) *shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator ... determines appropriate for the control of such pollutants.*

33 U.S.C. § 1342(p)(3) (emphasis added).

C. *Application of Chevron*

[4] The EPA and Petitioners argue that the Water Quality Act is ambiguous regarding whether Congress intended for municipalities to comply strictly with state water-quality standards, under 33 U.S.C. § 1311(b)(1)(C). Accordingly, they argue that we must proceed to step two of *Chevron* and defer to the EPA's interpretation that the statute does require strict compliance. *See Zimmerman v. Oregon Dep't of Justice,* 170 F.3d 1169, 1173 (9th Cir.1999) ("At step two, we must uphold the administrative regulation unless it is arbitrary, capricious, or manifestly contrary to the statute.") (citation and internal quotation marks omitted), *cert. denied,* 531 U.S. 1189, 121 S.Ct. 1186, 149 L.Ed.2d 103, 68 USLW 3129 (1999).

Intervenors and *amici,* on the other hand, argue that the Water Quality Act expresses Congress' intent unambiguously and, thus, that we must stop at step one of *Chevron. See, e.g., National Credit Union Admin. v. First Nat'l Bank & Trust Co.,* 522 U.S. 479, 118 S.Ct. 927, 938–39, 140 L.Ed.2d 1 (1998) ("Because we conclude that Congress has made it clear

that the *same* common bond of occupation must unite each member of an occupationally defined federal credit union, we hold that the NCUA's contrary interpretation is impermissible under the first step of *Chevron.*") (emphasis in original); *Sierra Club v. EPA,* 118 F.3d 1324, 1327 (9th Cir.1997) ("Congress has spoken clearly on the subject and the regulation violates the provisions of the statute. Our inquiry ends at the first prong of *Chevron.*"). We agree with Intervenors and *amici:* For the reasons discussed below, the Water Quality Act unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C). That being so, we end our inquiry at the first step of the *Chevron* analysis.

[5] **[6]** "[Q]uestions of congressional intent that can be answered with 'traditional tools of statutory construction' are still firmly within the province of the courts" under *Chevron. NRDC II,* 966 F.2d at 1297 (citation omitted). "Using our 'traditional tools of statutory construction,' *Chevron,* 467 U.S. at 843 n. 9, 104 S.Ct. 2778, 81 L.Ed.2d 694, when interpreting a statute, we look first to the words that Congress used." *Zimmerman,* 170 F.3d at 1173 (alterations, citations, and internal quotation marks omitted). "Rather than focusing just on the word or phrase at issue, we look to the entire statute to determine Congressional intent." *Id.* (alterations, citations, and internal quotation marks omitted).

As is apparent, Congress expressly required *industrial* storm-water discharges to comply with the requirements of 33 U.S.C. § 1311. *See* 33 U.S.C. § 1342(p)(3)(A) ("Permits for discharges associated with industrial activity *shall meet all applicable provisions of* this section and *section 1311* of this title.") (emphasis added). By incorporation, then, industrial ***1165** storm-water discharges "*shall ... achiev[e] ... any more stringent limitation,* including those necessary to meet water quality standards, treatment standards or schedules of compliance, established pursuant to any State law or regulation (under authority preserved by section 1370 of this title)." 33 U.S.C. § 1311(b)(1)(C) (emphasis added); *see also* Sally A. Longroy, *The Regulation of Storm Water Runoff and its Impact on Aviation,* 58 J. Air. L. & Com. 555, 565–66 (1993) ("Congress further *singled out* industrial storm water dischargers, all of which are on the high-priority schedule, and requires them to satisfy all provisions of section 301 of the CWA [33 U.S.C. § 1311].... Section 301 further mandates that NPDES permits include requirements that receiving waters meet water quality based standards.") (emphasis added). In other words, industrial discharges must comply strictly with state water-quality standards.

Congress chose not to include a similar provision for municipal storm-sewer discharges. Instead, Congress required municipal storm-sewer discharges "to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator ... determines appropriate for the control of such pollutants." 33 U.S.C. § 1342(p)(3)(B)(iii).

[7] The EPA and Petitioners argue that the difference in wording between the two provisions demonstrates ambiguity. That argument ignores precedent respecting the reading of statutes. Ordinarily, "[w]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion." *Russello v. United States,* 464 U.S. 16, 23, 104 S.Ct. 296, 78 L.Ed.2d 17 (1983) (citation and internal quotation marks omitted); *see also United States v. Hanousek,* 176 F.3d 1116, 1121 (9th Cir.1999) (stating the same principle), *petition for cert. filed,* 68 USLW 3138 (Aug. 23, 1999). Applying that familiar and logical principle, we conclude that Congress' choice to require industrial storm-water discharges to comply with 33 U.S.C. § 1311, but not to include the same requirement for municipal discharges, must be given effect. When we read the two related sections together, we conclude that 33 U.S.C. § 1342(p)(3)(B)(iii) does not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C).

Application of that principle is significantly strengthened here, because 33 U.S.C. § 1342(p)(3)(B) *is not merely silent* regarding whether municipal discharges must comply with 33 U.S.C. § 1311. Instead, § 1342(p)(3)(B)(iii) *replaces* the requirements of § 1311 with the requirement that municipal storm-sewer dischargers "reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator ... determines appropriate for the control

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of such pollutants." 33 U.S.C. § 1342(p)(3)(B)(iii). In the circumstances, the statute unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C).

Indeed, the EPA's and Petitioners' interpretation of 33 U.S.C. § 1342(p)(3)(B)(iii) would render that provision superfluous, a result that we prefer to avoid so as to give effect to all provisions that Congress has enacted. *See Government of Guam ex rel. Guam Econ. Dev. Auth. v. United States,* 179 F.3d 630, 634 (9th Cir.1999) ("This court generally refuses to interpret a statute in a way that renders a provision superfluous."), *as amended,* 1999 WL 604218 (9th Cir. Aug.12, 1999). As all parties concede, § 1342(p)(3)(B)(iii) creates a lesser standard than § 1311. Thus, if § 1311 continues to apply to municipal storm-sewer discharges, ***1166** the more stringent requirements of that section always would control.

Contextual clues support the plain meaning of § 1342(p)(3)(B)(iii), which we have described above. The Water Quality Act contains other provisions that undeniably exempt certain discharges from the permit requirement altogether (and therefore from § 1311). For example, "[t]he Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture." 33 U.S.C. § 1342(*l*)(1). Similarly, a permit is not required for certain storm-water runoff from oil, gas, and mining operations. *See* 33 U.S.C. § 1342(*l*)(2). Read in the light of those provisions, Congress' choice to exempt municipal storm-sewer discharges from strict compliance with § 1311 is not so unusual that we should hesitate to give effect to the statutory text, as written.

Finally, our interpretation of § 1342(p)(3)(B)(iii) is supported by this court's decision in *NRDC II.* There, the petitioner had argued that "the EPA has failed to establish substantive controls for municipal storm water discharges as required by the 1987 amendments." *NRDC II,* 966 F.2d at 1308. This court disagreed with the petitioner's interpretation of the amendments:

> Prior to 1987, municipal storm water dischargers were subject to the same substantive control requirements as industrial and other types of storm water. In the 1987 amendments, *Congress retained the existing, stricter controls for industrial storm water dischargers but prescribed new controls for municipal storm water discharge.*

Id. (emphasis added). The court concluded that, under 33 U.S.C. § 1342(p)(3)(B)(iii), "*Congress did not mandate a minimum standards approach.* " *Id.* (emphasis added). The question in *NRDC II* was not whether § 1342(p)(3)(B)(iii) required strict compliance with state water-quality standards, *see* 33 U.S.C. § 1311(b)(1)(C). Nonetheless, the court's holding applies equally in this action and further supports our reading of 33 U.S.C. § 1342(p).

In conclusion, the text of 33 U.S.C. § 1342(p)(3)(B), the structure of the Water Quality Act as a whole, and this court's precedent all demonstrate that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C).

D. *Required Compliance with 33 U.S.C. § 1311(b)(1)(C)*

[8] We are left with Intervenors' contention that the EPA may not, under the CWA, require strict compliance with state water-quality standards, through numerical limits or otherwise. We disagree.

Although Congress did not require municipal storm-sewer discharges to comply strictly with § 1311(b)(1)(C), § 1342(p)(3)(B)(iii) states that "[p]ermits for discharges from municipal storm sewers ... shall require ... *such other provisions as the Administrator ... determines appropriate for the control of such pollutants.*" (Emphasis added.) That provision gives the EPA discretion to determine what pollution controls are appropriate. As this court stated in *NRDC II,* "Congress gave the administrator discretion to determine what controls are necessary.... NRDC's argument that the EPA rule is inadequate cannot prevail in the face of the clear statutory language." 966 F.2d at 1308.

Under that discretionary provision, the EPA has the authority to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants. The EPA also has the authority to require less than strict compliance with state water-quality standards. The EPA has adopted an interim approach, which "uses best management practices (BMPs) in first-round storm water permits ... to provide for the attainment of water quality standards." The EPA applied that approach to the permits at issue here. Under 33 U.S.C. § 1342(p)(3)(B)(iii), the EPA's choice to include ***1167** either management practices or numeric limitations in the permits was within its discretion. *See NRDC II,* 966 F.2d at 1308 ("Congress did not mandate a minimum standards approach or specify that [the] EPA develop minimal performance requirements."). In the circumstances, the EPA did not act arbitrarily or capriciously by issuing permits to Intervenors.

PETITION DENIED.

All Citations

191 F.3d 1159, 30 Envtl. L. Rep. 20,116, 99 Cal. Daily Op. Serv. 7618, 1999 Daily Journal D.A.R. 9661, 1999 Daily Journal D.A.R. 12,369

Footnotes

1 As enacted, the Water Quality Act extended the exemption to October 1, 1992. Congress later amended the Act to change that date to October 1, 1994. *See* Pub.L. No. 102–580.

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ATTACHMENT C-4

KeyCite Yellow Flag - Negative Treatment
Declined to Follow by Mrosek v. City of Peachtree City, N.D.Ga., December 22, 2014

344 F.3d 832
United States Court of Appeals,
Ninth Circuit.

ENVIRONMENTAL DEFENSE CENTER, INC., Petitioner,
Natural Resources Defense Council, Inc., Petitioner–Intervenor,
v.
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent.
American Forest & Paper Association; National Association of Home Builders, Petitioners,
v.
United States Environmental Protection Agency, Respondent,
Natural Resources Defense Council, Inc., Applicant–Intervenor.
Texas Cities Coalition on Stormwater; Texas Counties Storm Water Coalition, Petitioners,
v.
United States Environmental Protection Agency, Respondent,
Natural Resources Defense Council, Inc., Respondent–Intervenor.

Nos. 00–70014, 00–70734, 00–70822.
|
Argued and Submitted Dec. 3, 2001.
|
Filed Sept. 15, 2003.

Environmental, municipal, and industry groups brought petitions for review of Environmental Protection Agency (EPA) rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements. On denial of rehearing, the Court of Appeals, James R. Browning, Circuit Judge, held that: (1) EPA had authority to impose rule; (2) rule did not violate the Tenth Amendment; (3) rule improperly failed to provide for review of notices of intent and public participation in NPDES permitting process; (4) EPA's failure to designate industrial sources of storm water pollution for permitting requirements was not arbitrary and capricious; (5) challenge to rule's exclusion of forest roads was not time-barred; (6) forestry trade association lacked standing to challenge rule; (7) EPA properly consulted with state and local officials; (8) sites subject to rule were properly designated; and (9) EPA properly retained authority to designate future sources of storm water pollution for regulation.

Petitions for review granted in part and denied in part.

Tallman, Circuit Judge, filed opinion concurring in part and dissenting in part, and would have granted petition for rehearing.

Opinion, 319 F.3d 398, vacated.

West Headnotes (33)

[1] **Environmental Law** Sewage and sewers

Environmental Law Discharge of pollutants

Storm sewers are established "point sources" subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA). Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

4 Cases that cite this headnote

[2] **Environmental Law** Substances, Sources, and Activities Regulated

Diffuse runoff, such as rainwater that is not channeled through point source, is considered "nonpoint source" pollution and is not subject to federal regulation under Clean Water Act (CWA). Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

3 Cases that cite this headnote

[3] **Constitutional Law** Resolution of non-constitutional questions before constitutional questions

Court of Appeals avoids considering constitutionality of a rule if an issue may be resolved on narrower grounds.

5 Cases that cite this headnote

[4] **Environmental Law** Discharge of pollutants

Environmental Protection Agency (EPA) interpretation of rule promulgated under Clean Water Act (CWA), whereby EPA would require that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, was reasonable, and thus EPA acted within its statutory mandate in formulating permit program under rule; even though permitting was not included on statutory list of elements for EPA's comprehensive program to regulate small sewer systems, list was non-exclusive, and statutory language requiring imposition of permits for "municipal storm sewers" was reasonably interpreted to extend to small systems. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(6), 33 U.S.C.A. § 1342(p)(6).

9 Cases that cite this headnote

[5] **Environmental Law** Conditions and limitations

Minimum measures set forth by rule as conditions for issuance of stormwater discharge permit to operator of small municipal storm sewers did not exceed authority of Environmental Protection Agency (EPA) under Clean Water Act (CWA), as statute's list of elements for regulatory program was nonexclusive, and rule included at least one alternative to minimum measures. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(6), 33 U.S.C.A. § 1342(p)(6); 40 C.F.R. §§ 122.26(d), 122.26, 122.33(b)(1), 122.34(b), (d)(1)(i).

4 Cases that cite this headnote

[6] **States** Surrender of state sovereignty and coercion of state

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Under the Tenth Amendment, the Federal Government may not compel States to implement, by legislation or executive action, federal regulatory programs. U.S.C.A. Const.Amend. 10.

1 Cases that cite this headnote

[7] **States** Surrender of state sovereignty and coercion of state

Under the Tenth Amendment, the federal government may not force the States to regulate third parties in furtherance of a federal program. U.S.C.A. Const.Amend. 10.

1 Cases that cite this headnote

[8] **States** Powers of United States and Infringement on State Powers

Protections of Tenth Amendment, whereby federal government may not compel States to implement federal regulatory programs by legislation or executive action, nor force the States to regulate third parties in furtherance of a federal program, extend to municipalities. U.S.C.A. Const.Amend. 10.

1 Cases that cite this headnote

[9] **United States** State and local governments and agencies

While federal government may not compel them to do so, it may encourage States and municipalities to implement federal regulatory programs; for example, the federal government may make certain federal funds available only to those States or municipalities that enact a given regulatory regime. U.S.C.A. Const.Amend. 10.

Cases that cite this headnote

[10] **States** Surrender of state sovereignty and coercion of state

The crucial proscribed element under the Tenth Amendment, as to federal government's ability to have states implement federal programs, is coercion; the residents of the State or municipality must retain the ultimate decision as to whether or not the State or municipality will comply with the federal regulatory program, but as long as the alternative to implementing a federal regulatory program does not offend the Constitution's guarantees of federalism, the fact that the alternative is difficult, expensive, or otherwise unappealing is insufficient to establish a Tenth Amendment violation. U.S.C.A. Const.Amend. 10.

1 Cases that cite this headnote

[11] **Environmental Law** Validity

States Surrender of state sovereignty and coercion of state

Environmental Protection Agency (EPA) rule promulgated under Clean Water Act (CWA), whereby discharges from small municipal storm sewers and construction sites were subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, did not wrongfully compel municipalities to regulate third parties under federal law as condition of receiving permit to operate, as would contravene Tenth Amendment; although one means of obtaining permit would require municipality to adopt various enforcement procedures, permit applicants retained option of applying for Alternative Permit. U.S.C.A. Const.Amend. 10; Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.; 40 C.F.R. §§ 122.26(d), 122.34.

1 Cases that cite this headnote

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[12] **Constitutional Law** Political speech, beliefs, or activity in general

Environmental Law Discharge of pollutants

Environmental Protection Agency (EPA) adoption of "Public Education" and "Illicit Discharge" Minimum Measures within rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), did not wrongfully compel municipalities to deliver EPA's political messages, and thus did not violate municipalities' free speech rights under First Amendment; requiring providers of storm sewers that discharged into national waters to educate public about impacts of storm water discharge, and to inform affected parties, including public, about hazards of improper waste disposal fell short of compelling political speech, since they did not dictate specific ideological message. U.S.C.A. Const.Amend. 1; Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

10 Cases that cite this headnote

[13] **Administrative Law and Procedure** Notice and comment, sufficiency

In determining whether notice to interested parties was adequate under informal rulemaking strictures of Administrative Procedure Act (APA) when final regulation has varied from proposal, court must consider whether new round of notice and comment would have provided first opportunity for interested parties to offer comments that could have persuaded agency to modify its ruling. 5 U.S.C.A. § 553.

3 Cases that cite this headnote

[14] **Environmental Law** Notice and comment

Environmental Protection Agency (EPA) adoption of Alternative Permit option within rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), properly complied with minimum notice and comment procedures required in informal rulemaking under Administrative Procedure Act (APA), since Alternative Permit option was logical outgrowth of comments received by EPA in response to proposed rule, and option contained no elements that were not part of proposed rule, even though it was configured differently. 5 U.S.C.A. § 553; Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

3 Cases that cite this headnote

[15] **Environmental Law** Ripeness

Challenge to Environmental Protection Agency (EPA) rule allowing operators of small municipal storm sewers to pursue general permit option to meet National Pollutant Discharge Elimination System (NPDES) requirements under Clean Water Act (CWA) was ripe for review, as issue did not involve merits of any specific permit but was purely one of statutory interpretation that would not benefit from further factual development; issue specifically was whether EPA accomplished the substantive controls for municipal stormwater that Congress mandated in the CWA. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

11 Cases that cite this headnote

[16] **Environmental Law** Discharge of pollutants

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General permitting scheme of Environmental Protection Agency (EPA) rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) requirements under Clean Water Act (CWA), improperly allowed sewer system operators to design storm water pollution control programs without adequate regulatory and public oversight, and thus contravened CWA, since permitting scheme did not require EPA to review content of dischargers' notices of intent, and did not contain express requirements for public participation in NPDES permitting process. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3), 33 U.S.C.A. § 1342(p)(3); 40 C.F.R. § 122.34.

6 Cases that cite this headnote

[17] **Administrative Law and Procedure** Administrative construction

Administrative Law and Procedure Theory and grounds of administrative decision

Court of Appeals normally defers to an agency's interpretations of its own regulations, but it may decline to defer to the post hoc rationalizations of appellate counsel.

8 Cases that cite this headnote

[18] **Environmental Law** Discharge of pollutants

Failure of Environmental Protection Agency (EPA) to designate industrial sources of storm water pollution for discharge permit program, whereby such discharges would become subject to National Pollutant Discharge Elimination System (NPDES) requirements, was not arbitrary and capricious, and thus did not violate Clean Water Act (CWA); rather than designating industrial discharge sources on nationwide basis under NPDES program, EPA sought to establish local and regional designation authority for such sources. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., as amended, 33 U.S.C.A. § 1251 et seq.

10 Cases that cite this headnote

[19] **Environmental Law** Accrual, computation, and tolling

Petitioners' challenge to failure of Environmental Protection Agency (EPA) to regulate stormwater drainage from forest roads did not have to be raised either when EPA initially promulgated silviculture regulations excluding certain silvicultural activities from National Pollutant Discharge Elimination System (NPDES) permitting requirements, or when EPA considered amending such regulations but chose not to do so, and challenge was thus not time-barred, to extent that present challenge was made to EPA's decision not to address forest roads under later-enacted portion of Clean Water Act (CWA) directed to municipal and industrial stormwater discharges. Federal Water Pollution Control Act Amendments of 1972, §§ 402(p), 509(b)(1), 33 U.S.C.A. §§ 11342(p), 1369(b)(1); 40 C.F.R. § 122.27(b)(1).

11 Cases that cite this headnote

[20] **Environmental Law** Water pollution

Petitioners' comments during rulemaking process in connection with Environmental Protection Agency (EPA) rule governing municipal and industrial stormwater discharges pursuant to Clean Water Act (CWA) were not so inadequate as to preclude appellate court jurisdiction to hear petitioners' subsequent challenge to rule's failure to address stormwater drainage from forest roads; comments comprised two paragraphs, with footnotes, stating objections and providing support, EPA was aware of forest road sedimentation problem at time of rulemaking,

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and EPA responded to comments without disputing that problem was serious. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

2 Cases that cite this headnote

[21] **Environmental Law** Organizations, associations, and other groups

Forestry and paper association lacked sufficient standing to challenge Environmental Protection Agency (EPA) rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), since association's interest in avoiding future regulation of forest roads was not actually or imminently affected by rule at issue. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

6 Cases that cite this headnote

[22] **Environmental Law** Permit and certification proceedings

Environmental Protection Agency (EPA), in promulgating rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, properly consulted with state and local officials, and thus did not violate Clean Water Act (CWA); draft of first report pertaining to proposed rule was circulated to states and municipalities, EPA regional offices, professional associations and other stakeholders, and rule was revised based upon comments received. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

2 Cases that cite this headnote

[23] **Environmental Law** Organizations, associations, and other groups

Environmental Law Government entities, agencies, and officials

Home builders' association and municipalities possessed sufficient standing to challenge designation by Environmental Protection Agency (EPA) of municipal storm sewers and construction sites for regulation under Clean Water Act (CWA), whereby National Pollutant Discharge Elimination System (NPDES) permits would be required for discharges by such entities, since association and municipalities were able to allege procedural harm from purported lack of notice or from effects of regulation itself. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

Cases that cite this headnote

[24] **Environmental Law** Discharge of pollutants

Designation by Environmental Protection Agency (EPA) of municipal storm sewers to be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, according to areas defined by Census Bureau as "urbanized," was not arbitrary and capricious, as would violate Clean Water Act (CWA), since EPA articulated reasoned basis for its conclusion that Census Bureau's designation was correlated to actual levels of pollution runoff in storm water; record evidence demonstrated compelling and widespread relationship between urban storm water runoff and deleterious impacts on water quality. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

5 Cases that cite this headnote

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[25] **Environmental Law** Discharge of pollutants

Decision by Environmental Protection Agency (EPA) to subject construction sites disturbing between one and five acres of land to National Pollutant Discharge Elimination System (NPDES) permitting requirements was not arbitrary and capricious, as would violate Clean Water Act (CWA); record evidence included numerous studies of sedimentation from construction sites, which EPA specifically reviewed in promulgating challenged regulation, and EPA's extrapolation of data from studies involving larger sites had reasonable basis. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

10 Cases that cite this headnote

[26] **Environmental Law** Discharge of pollutants

Allowance by Environmental Protection Agency (EPA) of regulatory waivers for small construction sites not likely to cause adverse water quality impacts, as would exempt such sites from National Pollutant Discharge Elimination System (NPDES) permit requirements, was not arbitrary and capricious, as would violate Clean Water Act (CWA); EPA's waiver approach promoted fairness and efficiency in permitting process, and did not create presumption applicable to evidentiary hearing. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

Cases that cite this headnote

[27] **Environmental Law** Discharge of pollutants

Decision by Environmental Protection Agency (EPA) to subject small construction sites to National Pollutant Discharge Elimination System (NPDES) permitting requirements was consistent with its decisions to exempt other potential storm water runoff sources from such requirements, notwithstanding alleged lack of quantifiable data regarding runoff, and thus was not arbitrary and capricious, as would violate Clean Water Act (CWA); record evidence demonstrated that construction sites of all sizes had greater erosion rates than almost any other land use, and thus were not similarly situated to potential polluters that EPA chose not to regulate. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

4 Cases that cite this headnote

[28] **Environmental Law** Substances, Sources, and Activities Regulated

Language in Clean Water Act (CWA) conferring authority to Environmental Protection Agency (EPA) to regulate "a discharge" determined to threaten water quality does not preclude EPA from designating entire categories of discharge sources for regulation. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

4 Cases that cite this headnote

[29] **Environmental Law** Discharge of pollutants

Residual designation authority retained by Environmental Protection Agency (EPA) for subjecting storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system was not ultra vires as to Clean Water Act (CWA); applicable statutory sections authorized designation of class of discharges to be identified on case-by-case, location-specific bases by NPDES permitting authority, consistent with comprehensive program to protect water quality. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

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3 Cases that cite this headnote

[30] **Constitutional Law** Environment and natural resources

Environmental Law Discharge of pollutants

Residual designation authority retained by Environmental Protection Agency (EPA) for subjecting storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system under Clean Water Act (CWA) did not effect unconstitutional delegation of legislative power, since such authority manifested statutory directive to restore and maintain chemical, physical and biological integrity of national waters. U.S.C.A. Const. Art. 1, § 1; Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

1 Cases that cite this headnote

[31] **Environmental Law** Notice and comment

Environmental Protection Agency (EPA) provided proper notice and comment for rule allowing agency to retain residual designation authority subjecting categories of storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system under Clean Water Act (CWA), even though proposed rule would have only allowed such designation on case-by-case basis, since final rule was logical outgrowth of comments received by EPA; elements in proposed rule explicitly envisioned categorical designation of sources at watershed level. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

4 Cases that cite this headnote

[32] **Administrative Law and Procedure** Economic or social impact statement

Under Regulatory Flexibility Act (RFA), federal agency must prepare regulatory flexibility analysis and assessment of economic impact of proposed rule on small business entities, unless agency certifies that proposed rule will not have significant economic impact on a substantial number of small entities, and provides a factual basis for that certification. 5 U.S.C.A. § 604.

4 Cases that cite this headnote

[33] **Environmental Law** Permit and certification proceedings

Environmental Protection Agency (EPA), in promulgating rule subjecting categories of storm water discharge sites to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), reasonably certified that rule would not have significant economic impact on small business entities, as required under Regulatory Flexibility Act (RFA); EPA convened small business advocacy review panel before publishing notice of proposed rule, and included provisions in rule designed to minimize impacts on such entities. 5 U.S.C.A. § 604; Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

3 Cases that cite this headnote

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On Petition for Review of an Order of the Environmental Protection Agency. EPA No. Clean Water 40 CFR.

Before BROWNING, REINHARDT, and TALLMAN, Circuit Judges.

Opinion by Judge JAMES R. BROWNING; Partial Concurrence and Partial Dissent by Judge TALLMAN.

ORDER AND OPINION

ORDER

The opinion and dissent filed in this case on January 14, 2003, and published at 319 F.3d 398 are vacated. They are replaced by the Opinion and Dissent filed today.

With the filing of the new Opinion and Dissent, the panel has voted to deny the petitions for rehearing and the petition for rehearing en banc. (Judge Tallman would grant the petition for rehearing filed by ***840** the Environmental Protection Agency.) The full court has been advised of the new Opinion, new Dissent, and petition for rehearing en banc. No judge has requested a vote on the petition for rehearing en banc. Fed. R.App. P. 35.

The petitions for rehearing and the petition for rehearing en banc are DENIED. The clerk is instructed not to accept for filing any new petitions for rehearing or petitions for rehearing en banc in this case.

Each party shall bear its own costs in this appeal.

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OPINION

JAMES R. BROWNING, Circuit Judge.

Petitioners challenge a rule issued by the United States Environmental Protection Agency pursuant to the Clean Water Act, 33 U.S.C. §§ 1251–1387, to control pollutants introduced into the nation's waters by storm sewers.

Storm sewers drain rainwater and melted snow from developed areas into water bodies that can handle the excess flow. Draining stormwater picks up a variety of contaminants as it filters through soil and over pavement on its way to sewers. Sewers are also used on occasion as an easy (if illicit) means for the direct discharge of unwanted contaminants. Since storm sewer systems generally channel collected runoff into federally protected water bodies, they are subject to the controls of the Clean Water Act.

In October of 1999, after thirteen years in process, the Environmental Protection Agency ("EPA") promulgated a final administrative rule (the "Phase II Rule" [1] or "the Rule") under § 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p), mandating that discharges from small municipal separate storm sewer systems and from construction sites between one and five acres in size be subject to the permitting requirements of the National Pollutant Discharge Elimination System ("NPDES"), 33 U.S.C. §§ 1311(a), 1342. EPA preserved authority to regulate other harmful stormwater discharges in the future.

In the three cases consolidated here, petitioners and intervenors challenge the Phase II Rule on twenty-two constitutional, statutory, and procedural grounds. We remand three aspects of the Rule concerning the issuance of notices of intent under the Rule's general permitting scheme, and a fourth aspect concerning the regulation of forest roads. We affirm the Rule against all other challenges.

I.

BACKGROUND

A. The Problem of Stormwater Runoff

Stormwater runoff is one of the most significant sources of water pollution in the nation, at times "comparable to, if not greater than, contamination from industrial and sewage sources." [2] Storm sewer waters carry suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and other toxic contaminants into streams, rivers, lakes, ***841** and estuaries across the United States. [3] In 1985, three-quarters of the States cited urban stormwater runoff as a major cause of waterbody impairment, and forty percent reported construction site runoff as a major cause of impairment. [4] Urban runoff has been named as the foremost cause of impairment of surveyed ocean waters. [5] Among the sources of stormwater contamination are urban development, industrial facilities, construction sites, and illicit discharges and connections to storm sewer systems. [6]

B. Stormwater and the Clean Water Act

Congress enacted the Clean Water Act in 1948 to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a) (originally codified as the Federal Water Pollution Control Act, 62 Stat. 1155). The Clean Water Act prohibits the discharge of pollutants from a "point source" [7] into the waters of the United States without a permit issued under the terms of the National Pollutant Discharge Elimination System, 33 U.S.C. §§ 1311(a),

1342, which requires dischargers to comply with technology-based pollution limitations (generally according to the "best available technology economically achievable," or "BAT" standard). 33 U.S.C. § 1311(b)(2)(A). NPDES permits are issued by EPA or by States that have been authorized by EPA to act as NPDES permitting authorities. 33 U.S.C. § 1342(a)-(b). The permitting authority must make copies of all NPDES permits and permit applications available to the public, 33 U.S.C. §§ 1342(j), 1342(b)(3); state permitting authorities must provide EPA notice of each permit application, 33 U.S.C. § 1342(b)(4); and a permitting authority must provide an opportunity for a public hearing before issuing any permit, 33 U.S.C. §§ 1342(a)(1), 1342(b)(3); *cf.* 33 U.S.C. § 1251(e) (requiring public participation).

[1] **[2]** Storm sewers are established point sources subject to NPDES permitting requirements. *Natural Res. Def. Council v. Costle,* 568 F.2d 1369, 1379 (D.C.Cir.1977) (holding unlawful EPA's exemption of stormwater discharges from NPDES permitting requirements); *Natural Res. Def. Council v. EPA,* 966 F.2d 1292, 1295 (9th Cir.1992). [8] In 1987, to better regulate pollution conveyed by stormwater runoff, Congress enacted Clean Water Act § 402(p), 33 U.S.C. § 1342(p), "Municipal and Industrial Stormwater Discharges." Sections 402(p)(2) and 402(p)(3) mandate NPDES permits for stormwater discharges "associated with industrial activity," discharges from large and medium-sized municipal storm sewer systems, and certain other discharges. Section 402(p)(4) sets out a timetable for promulgation of the first of a ***842** two-phase overall program of stormwater regulation. *Id.* at § 1342(p)(2)-(4); *Natural Res. Def. Council,* 966 F.2d at 1296. In 1990, pursuant to § 402(p)(4), EPA issued the Phase I Rule regulating large discharge sources. [9]

C. The Phase II Stormwater Rule

In Clean Water Act § 402(p), Congress also directed a second stage of stormwater regulation by ordering EPA to identify and address sources of pollution not covered by the Phase I Rule. Section 402(p)(1) placed a temporary moratorium (expiring in 1994) on the permitting of other stormwater discharges pending the results of studies mandated in § 402(p)(5) to identify the sources and pollutant content of such discharges and to establish procedures and methods to control them as "necessary to mitigate impacts on water quality." 33 U.S.C. § 1342(p)(5). Section 402(p)(6) required that EPA establish "a comprehensive program to regulate" these stormwater discharges "to protect water quality," following the studies mandated in § 402(p)(5) and consultation with state and local officials. *Id.* at § 1342(p)(6).

EPA proposed the Phase II Rule in January of 1998. [10] In October, 1999, Congress passed legislation precluding EPA from promulgating the new Rule until EPA submitted an additional report to Congress supporting certain anticipated aspects of the Rule. [11] EPA was also required to publish its report in the Federal Register for public comment. Pub. L. No. 106–74, § 431(c), 113 Stat. at 1097. Later that month, EPA submitted the required ("Appropriations Act") study and promulgated the Rule. [12]

Under the Phase II Rule, NPDES permits are required for discharges from small municipal separate storm sewer systems ("small MS4s") and stormwater discharges from construction activity disturbing between one and five acres ("small construction sites"). 40 C.F.R. §§ 122.26(a)(9)(i)(A)-(B). Small MS4s may seek permission to discharge by submitting an individualized set of best-management plans in six specified categories, *id.* at § 122.34, either in the form of an individual permit application, or in the form of a notice of intent to comply with a general permit. *Id.* at § 122.33(b). Small MS4s may also seek permission to discharge through an alternative process, under which a permit may be sought without requiring the operator to regulate third parties, *id.* at §§ 122.33(b)(2)(ii), 122.26(d). [13] Small construction sites may ***843** apply for individual NPDES permits or seek coverage under a promulgated general permit. *Id.* at § 122.26(c). EPA also preserved authority to regulate other categories of harmful stormwater discharges on a regional, as-needed basis. *Id.* at § 122.26(a)(9)(i)(C)-(D).

D. Facial Challenges to the Phase II Rule

The Rule was challenged in the Fifth, Ninth, and D.C. Circuits in three separate actions ultimately consolidated before the Ninth Circuit.

The Texas Cities Coalition on Stormwater and the Texas Counties Stormwater Coalition (collectively, "the Municipal Petitioners") assert that EPA lacked authority to require permitting, that its promulgation of the Rule was procedurally defective, that the Rule establishes categories that are arbitrary and capricious, and that the Rule impermissibly requires municipalities to regulate their own citizens in contravention of the Tenth Amendment and to communicate a federally mandated message in contravention of the First Amendment. The Natural Resources Defense Council ("NRDC") intervened on behalf of EPA.

Environmental Defense Center, joined by petitioner-intervenor NRDC ("the Environmental Petitioners"), asserts that the regulations fail to meet minimum Clean Water Act statutory requirements because they constitute a program of impermissible self-regulation, fail to provide required avenues of public participation, and neglect to address stormwater runoff associated with forest roads and other significant sources of runoff pollution.

The American Forest & Paper Association ("AF&PA") and the National Association of Home Builders ("the Industrial Petitioners") assert that promulgation of the Rule was procedurally defective and violated the Regulatory Flexibility Act, that EPA's retention of authority to regulate future sources of runoff pollution is *ultra vires,* and that the decision to regulate discharge from construction sites one to five acres in size is arbitrary and capricious. NRDC again intervened on behalf of EPA.

We have jurisdiction pursuant to section 509(b)(1) of the Clean Water Act, 33 U.S.C. § 1369(b)(1) (assigning review of EPA effluent and permitting regulations to the Federal Courts of Appeals).

II.

DISCUSSION

A. The Permit Requirements

[3] The Municipal Petitioners' primary contention is that the Phase II Rule compels small MS4s to regulate citizens as a condition of receiving a permit to operate, and that EPA lacks both statutory and constitutional authority to impose such a requirement. Because we avoid considering constitutionality if an issue may be resolved on narrower grounds, *Greater New Orleans Broadcasting Ass'n v. United States,* 527 U.S. 173, 184, 119 S.Ct. 1923, 144 L.Ed.2d 161 (1999), we first ask whether the Phase II Rule is supported by statutory authority.

1. Statutory Authority

[4] The Municipal Petitioners assert that the statutory command in Clean Water Act § 402(p)(6) that EPA develop a "comprehensive program to regulate" small MS4s did not authorize a program based on NPDES permits. Petitioners argue that because § 402(p)(6) explicitly indicates elements that the program may ***844** contain (performance standards, guidelines, etc.) without mentioning "permits," Congress must have intended that the program exclude permitting. [14]

The fact that "permitting" is not included on a statutory list of elements that the program "may" include is not determinative, because the list is manifestly nonexclusive. The only constraints are that the § 402(p)(6) regulations be based on the § 402(p)(5) studies, that they be issued in consultation with state and local officials, and that—"at a minimum"—they establish priorities, requirements for state stormwater management programs, and expeditious deadlines, and constitute a comprehensive program "to protect water quality." 33 U.S.C. § 1342(p)(6). EPA was free to adopt any regulatory program, including a permitting program, that included these elements. *See Chevron, U.S.A.*

v. Natural Res. Def. Council, 467 U.S. 837, 842–43, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984) (deference to an agency's reasonable interpretation is required unless Congress expressed its intent unambiguously). It is more reasonable to interpret congressional silence about permits as an indication of EPA's flexibility not to use them than as an outright prohibition. [15]

The Municipal Petitioners further contend that their interpretation is supported by the structure of § 402(p), which expressly requires permits for large and medium sized MS4s in a separate section, § 402(p)(3)(B). [16] However, as EPA counters, the language in § 402(p)(3) requiring permits for municipal storm sewers may be interpreted to apply both to Phase I *and* Phase II MS4s. Moreover, as respondent-intervenor NRDC notes, the mere existence of the § 402(p)(1) permitting moratorium, designed to apply only to Phase II dischargers, necessarily implies that EPA has the authority to require permits from these sources after the 1994 expiration of the moratorium.

Since there would have been no need to establish a permitting moratorium for these sources if the sources could *never* be subject to permitting requirements, petitioners' interpretation violates the bedrock principle that statutes not be interpreted to render any provision superfluous. *See Burrey v. Pacific Gas & Elec. Co.,* 159 F.3d 388, 394 (9th Cir.1998). EPA's interpretation of its mandate under § 402(p)(6) was reasonable and EPA acted within its statutory authority in formulating the Phase II Rule as a permitting program.

2. The Tenth Amendment

The Municipal Petitioners contend that the Phase II Rule on its face compels ***845** operators of small MS4s to regulate third parties in contravention of the Tenth Amendment. We conclude that the Rule does not violate the Tenth Amendment, because it directs no unconstitutional coercion.

The Phase II Rule contemplates several avenues through which a small MS4 may obtain permission to discharge. First, if the NPDES Permitting Authority overseeing the small MS4 has issued an applicable general permit, the small MS4 may submit a notice of intent wherein the small MS4 agrees to comply with the terms of the general permit and specifies plans for implementing six "Minimum Measures" designed to protect water quality. 40 C.F.R. §§ 122.33(b)(1), 122.34(d)(1)(i), 122.34(b). Second, the small MS4 may apply for an individual permit under 40 C.F.R. § 122.34, which would again require compliance with the six Minimum Measures. *Id.* at §§ 122.33(b)(2)(i), 122.34(a), 122.34(b). Third, under an "Alternative Permit" option, the small MS4 may apply for an individualized permit under 40 C.F.R. § 122.26(d), the permitting program established by the Phase I Rule for large and medium-sized MS4s. *Id.* at §§ 122.33(b)(2)(ii), 122.26(d). [17]

[5] The Minimum Measures mentioned above require small MS4s to implement programs for: (1) conducting public education and outreach on stormwater impacts, *id.* at § 122.34(b)(1); (2) engaging public participation in the development of stormwater management programs, *id.* at § 122.34(b)(2); (3) detecting and eliminating illicit discharges to the MS4, *id.* at § 122.34(b)(3); (4) reducing pollution to the MS4 from construction activities disturbing one acre or more, *id.* at § 122.34(b)(4); (5) minimizing water quality impacts from development and redevelopment activities that disturb one acre or more, *id.* at § 122.34(b)(5); and (6) preventing or reducing pollutant runoff from municipal activities, *id.* at § 122.34(b)(6). [18]

***846** The Municipal Petitioners contend that the measures regulating illicit discharges, small construction sites, and development activities unconstitutionally compel small MS4 operators to regulate third parties, *i.e.,* upstream dischargers. The Illicit Discharge Detection and Elimination measure requires that a permit seeker prohibit non-stormwater discharges to the MS4 and implement appropriate enforcement procedures. 40 C.F.R. § 122.34(b)(3)(ii)(B). [19] The Construction Site Stormwater Runoff Control measure requires a permit seeker to implement and enforce a program to reduce stormwater pollutants from small construction sites. *Id.* at §§ 122.34(b)(4)(i)-(ii). [20] It mandates

erosion and sedimentation controls, site plan reviews that take account of water quality impacts, site inspections, and the consideration of public comment, and requires that construction site operators implement erosion, sedimentation, and waste management best management practices. *Id.* The Post–Construction/New Development measure requires permit seekers to address post-construction runoff from new development and redevelopment projects disturbing one acre or more. *Id.* at § 122.34(b)(5)(ii)(B). [21]

Noting that most MS4s are operated by municipal governments, and that "[t]he drainage of a city in the interest of the public health and welfare is one of the most important purposes for which the police power can be exercised," *New Orleans Gaslight Co. v. Drainage Comm'n,* 197 U.S. 453, 460, 25 S.Ct. 471, 49 L.Ed. 831 (1905), the Municipal Petitioners argue that requiring operators of small MS4s to implement "through ordinance or other regulatory mechanism" the regulations required by the Minimum Measures contravenes the Tenth Amendment. *See, e.g., New York v. United States,* 505 U.S. 144, 188, 112 S.Ct. 2408, 120 L.Ed.2d 120 (1992).

EPA counters that the Phase II Rule does not violate the Tenth Amendment because operators of small MS4s may opt to avoid the Minimum Measures by seeking a permit under the Alternative Permit ***847** option, 40 C.F.R. § 122.33(b)(2)(ii). [22]

[6] **[7]** **[8]** Under the Tenth Amendment, "the Federal Government may not compel States to implement, by legislation or executive action, federal regulatory programs." *Printz v. United States,* 521 U.S. 898, 925, 117 S.Ct. 2365, 138 L.Ed.2d 914 (1997); *see also New York,* 505 U.S. at 188, 112 S.Ct. 2408. Similarly, the federal government may not force the States to regulate third parties in furtherance of a federal program. *See Reno v. Condon,* 528 U.S. 141, 151, 120 S.Ct. 666, 145 L.Ed.2d 587 (2000) (upholding a federal statutory scheme because it "does not require the States in their sovereign capacity to regulate their own citizens"). These protections extend to municipalities. *See, e.g., Printz* 521 U.S. at 931 n. 15, 117 S.Ct. 2365.

[9] **[10]** However, while the federal government may not *compel* them to do so, it may *encourage* States and municipalities to implement federal regulatory programs. *See New York,* 505 U.S. at 166–68, 112 S.Ct. 2408. For example, the federal government may make certain federal funds available only to those States or municipalities that enact a given regulatory regime. *See, e.g., South Dakota v. Dole,* 483 U.S. 203, 205–08, 107 S.Ct. 2793, 97 L.Ed.2d 171 (1987) (upholding federal statute conditioning state receipt of federal highway funds on state adoption of minimum drinking age of twenty-one). The crucial proscribed element is coercion; the residents of the State or municipality must retain "the ultimate decision" as to whether or not the State or municipality will comply with the federal regulatory program. *New York,* 505 U.S. at 168, 112 S.Ct. 2408. However, as long as "the alternative to implementing a federal regulatory program does not offend the Constitution's guarantees of federalism, the fact that the alternative is difficult, expensive or otherwise unappealing is insufficient to establish a Tenth Amendment violation." *City of Abilene v. EPA,* 325 F.3d 657, 662 (5th Cir.2003).

[11] With the Phase II Rule, EPA gave the operators of small MS4s a choice: either implement the regulatory program spelled out by the Minimum Measures described at 40 C.F.R. § 122.34(b), or pursue the Alternative Permit option and seek a permit under the Phase I Rule as described at 40 C.F.R. § 122.26(d). Thus, unless § 122.26(d) itself offends the Constitution's guarantees of federalism, the Phase II Rule does not violate the Tenth Amendment.

Pursuing a permit under the Alternative Permit option does require permit seekers, in their application for a permit to discharge, to propose management programs that address substantive concerns similar to those addressed by the Minimum Measures. *See* 40 C.F.R. § 122.26(d). However, § 122.26(d) lists the requirements for an *application* for a permit to discharge, not the requirements of the permit itself. Therefore, nothing in § 122.26(d) requires the operator of an MS4 to implement a federal regulatory program in order to receive a permit to discharge, because nothing in § 122.26(d) specifies the contents of the permit that will result from the application process.

City of Abilene, 325 F.3d 657, provides a helpful illustration. The cities of Abilene and Irving, Texas, have populations between 100,000 and 250,000, and so were ***848** required to apply for permits under the Phase I Rule, 40 C.F.R. § 122.26(d). *City of Abilene,* 325 F.3d at 659–60. Under § 122.26(d) the cities were required to submit proposed stormwater management programs. *Id.* at 660. They negotiated the terms of those programs with EPA, and EPA eventually presented the cities with proposed management permits that contained conditions requiring the implementation of stormwater regulatory programs, and potentially requiring the regulation of third parties. *Id.* But, as the Fifth Circuit noted, this did not mean that the cities had no choice but to implement a federal regulatory program. Instead:

> The Cities filed comments objecting to those conditions, and negotiations continued until the EPA offered the Cities the option of pursuing numeric end-of-pipe permits, which would have required the Cities to satisfy specific effluent limitations rather than implement management programs. The Cities declined this offer, electing to continue negotiations on the management permits.

Id. The Fifth Circuit rejected the cities' contention that the resulting permits violated the Tenth Amendment by requiring the cities to regulate third parties according to federal standards. *Id.* at 661–63. Because the cities chose to pursue the management permits despite the fact that EPA provided them with an option for obtaining permits that would not have involved implementing a management program or regulating third parties, no unconstitutional coercion occurred. *Id.* at 663. The ultimate decision to implement the federal program remained with the cities.

Any operator of a small MS4 that wishes to avoid the Minimum Measures may seek a permit under § 122.26(d), and, as *City of Abilene* demonstrates, nothing in § 122.26(d) will compel the operator of a small MS4 to implement a federal regulatory program or regulate third parties, because § 122.26(d) specifies application requirements, not permit requirements. Therefore, by presenting the option of seeking a permit under § 122.26(d), the Phase II Rule avoids any unconstitutional coercion. The Municipal Petitioners' claim that the Phase II Rule violates the Tenth Amendment therefore fails.

3. The First Amendment and the Minimum Measures

The Municipal Petitioners contend that the Public Education and Illicit Discharge Minimum Measures compel municipalities to deliver EPA's political message in violation of the First Amendment. The Phase II Rule's "Public Education and Outreach" Minimum Measure directs regulated small MS4s to "distribute educational materials to the community ... about the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff." 40 C.F.R. § 122.34(b)(1)(i). The "Illicit Discharge Detection and Elimination" measure requires regulated small MS4s to "[i]nform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste." 40 C.F.R. § 122.34(b)(3)(ii)(D).

[12] The Municipal Petitioners argue that the First Amendment prohibits EPA from compelling small MS4s to communicate messages that they might not otherwise wish to deliver. They further contend that EPA's interpretation of § 402(p) as authorizing these Measures does not warrant *Chevron* deference because it raises serious constitutional issues, but that even if deference were given, the resulting rule is unconstitutional because neither Congress nor EPA may dictate the speech of MS4s. They contend that municipalities are protected by the First Amendment, ***849** *Pacific Gas & Elec. v. Public Utilities Comm'n,* 475 U.S. 1, 8, 106 S.Ct. 903, 89 L.Ed.2d 1 (1986) ("Corporations and other associations, like individuals, contribute to the [discourse] that the First Amendment seeks to foster...."), which applies as much to compelled statements of "fact" as to those of "opinion." *Riley v. Nat'l Fed. of the Blind,* 487 U.S. 781, 797–98, 108 S.Ct. 2667, 101 L.Ed.2d 669 (1988).

We conclude that the purpose of the challenged provisions is legitimate and consistent with the regulatory goals of the overall scheme of the Clean Water Act, *cf. Glickman v. Wileman Bros. & Elliott, Inc.,* 521 U.S. 457, 476, 117 S.Ct. 2130, 138 L.Ed.2d 585 (1997), and does not offend the First Amendment.[23] The State may not constitutionally require an individual to disseminate an ideological message, *Wooley v. Maynard,* 430 U.S. 705, 713, 97 S.Ct. 1428, 51 L.Ed.2d 752

(1977), but requiring a provider of storm sewers that discharge into national waters to educate the public about the impacts of stormwater discharge on water bodies and to inform affected parties, including the public, about the hazards of improper waste disposal falls short of compelling such speech. [24] These broad requirements do not dictate a specific message. They require appropriate educational and public information activities that need not include any specific speech at all. A regulation is facially unconstitutional only when every possible reading compels it, *Meinhold v. U.S. Dep't of Def.,* 34 F.3d 1469, 1476 (9th Cir.1994), [25] but this is clearly not the case here.

As in *Zauderer v. Office of Disciplinary Counsel of the Sup. Ct. of Ohio,* 471 U.S. 626, 105 S.Ct. 2265, 85 L.Ed.2d 652 (1985), where the Supreme Court upheld certain disclosure requirements in attorney advertising, "[t]he interests at stake in this case are not of the same order as those discussed in *Wooley* [invalidating a law requiring that drivers display the motto 'Live Free or Die' on New Hampshire license plates] ... and *Barnette* [forbidding the requirement that public school students salute the flag because the State may not impose on the individual 'a ceremony so touching matters of opinion and political attitude']." *Id.* at 651. EPA has not attempted to "prescribe what shall be orthodox in politics, nationalism, religion, or other matters of opinion or force citizens to confess by word or act their faith therein." *West Virginia State Bd. of Ed. v. Barnette,* 319 U.S. 624, 642, 63 S.Ct. 1178, 87 L.Ed. 1628 (1943).

***850** Informing the public about safe toxin disposal is non-ideological; it involves no "compelled recitation of a message" and no "affirmation of belief." *Prune Yard Shopping Ctr. v. Robins,* 447 U.S. 74, 88, 100 S.Ct. 2035, 64 L.Ed.2d 741 (1980) (upholding state law protecting petitioning in malls and noting that "*Barnette* is inapposite because it involved the compelled recitation of a message containing an affirmation of belief"). It does not prohibit the MS4 from stating its own views about the proper means of managing toxic materials, or even about the Phase II Rule itself. Nor is the MS4 prevented from identifying its dissemination of public information as required by federal law, or from making available federally produced informational materials on the subject and identifying them as such.

Even if such a loosely defined public information requirement could be read as compelling speech, the regulation resembles another regulation that the Supreme Court has held permissible. In *Glickman,* 521 U.S. 457, 117 S.Ct. 2130, 138 L.Ed.2d 585, the Court upheld a generic advertising assessment promulgated by the Department of Agriculture on behalf of California tree fruit growers because the order was consistent with an overall regulatory program that did not abridge protected speech:

> Three characteristics of the regulatory scheme at issue distinguish it from laws that we have found to abridge the freedom of speech protected by the First Amendment. First, the marketing orders impose no restraint on the freedom of any producer to communicate any message to any audience. Second, they do not compel any person to engage in any actual or symbolic speech. Third, they do not compel the producers to endorse or to finance any political or ideological views. Indeed, since all of the respondents are engaged in the business of marketing California nectarines, plums, and peaches, it is fair to presume that they agree with the central message of the speech that is generated by the generic program.

Id. at 469–70, 117 S.Ct. 2130 (footnotes omitted). Here, as in *Glickman,* the Phase II regulations impose no restraint on the freedom of any MS4 to communicate any message to any audience. They do not compel any specific speech, nor do they compel endorsement of political or ideological views. And since all permittees are engaged in the handling of stormwater runoff that must be conveyed in reasonably unpolluted form to national waters, it is similarly fair to presume that they will agree with the central message of a public safety alert encouraging proper disposal of toxic materials. [26] The Phase II regulation departs only from the second element in the *Glickman* analysis, because the public information requirement may compel a ***851** regulated party to engage in some speech at some time; but unlike the offensive messages in *Maynard* and *Barnette* (and even the inoffensive advertising messages at issue in *Glickman*) that speech is not specified by the regulation. [27]

The public information requirement does not impermissibly compel speech, and nothing else in the Phase II Rule offends the First Amendment. [28] The Rule does not compel a recitation of a specific message, let alone an affirmation of belief. To the extent MS4s are regulated by the public information requirement, the regulation is consistent with the overall regulatory program of the Clean Water Act and the responsibilities of point source dischargers.

4. Notice and Comment on the Alternative Permit Option

The Municipal Petitioners contend that, in adopting the Alternative Permit option, EPA did not comply with the minimum notice and comment procedures required in informal rulemaking by the Administrative Procedures Act ("APA"), 5 U.S.C. § 553. The APA requires an agency to publish notice of a proposed rulemaking that includes "either the terms or substance of the proposed rule or a description of the subjects and issues involved." *Id.* at § 553(b)(3).

[13] We have held that a "final regulation that varies from the proposal, even substantially, will be valid as long as it is 'in character with the original proposal and a logical outgrowth of the notice and comments.' " *Hodge v. Dalton,* 107 F.3d 705, 712 (9th Cir.1997). In determining whether notice was adequate, we consider whether the complaining party should have anticipated that a particular requirement might be imposed. The test is whether a new round of notice and comment would provide the first opportunity for interested parties to offer comments that could persuade the agency to modify its rule. *Am. Water Works Ass'n v. EPA,* 40 F.3d 1266, 1274 (D.C.Cir.1994).

The Municipal Petitioners argue that the Alternative Permit option is not a logical outgrowth of EPA's proposed rule because, although numerous alternatives were discussed in the Preamble to the proposed rule, 63 Fed. Reg. at 1554–1557, the Alternative Permit option eventually adopted was not. EPA counters that the proposed rule included a supplementary alternative permitting system based on concepts similar to those in the Minimum ***852** Measures, including "simplified individual permit application requirements." [29] EPA contends that the Alternative Permit option was a logical outgrowth of the comments it received on the proposal expressing concern that the Minimum Measures might violate the Tenth Amendment. 64 Fed. Reg. at 68,765.

[14] The Alternative Permit option passes the *Hodge* test. The proposed rule suggested an individualized permitting option to be developed in response to comments during the notice and comment period. The Alternative option contains no elements that were not part of the original rule, even if they are configured differently in the final rule. Petitioners had, and took, their opportunity to object to the aspects of the Rule that they did not support in their comments on the Minimum Measures.

B. The General Permit Option and Notices of Intent

The Environmental Petitioners contend that the general permitting scheme of the Phase II Rule allows regulated small MS4s to design stormwater pollution control programs without adequate regulatory and public oversight, and that it contravenes the Clean Water Act because it does not require EPA to review the content of dischargers' notices of intent and does not contain express requirements for public participation in the NPDES permitting process.

In reviewing a federal administrative agency's interpretation of a statute it administers, we first determine whether Congress has expressed its intent unambiguously on the question before the court. *See Chevron,* 467 U.S. 837, 842–44, 104 S.Ct. 2778, 81 L.Ed.2d 694 ("If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress."). "If, instead, Congress has left a gap for the administrative agency to fill, we proceed to step two. At step two, we must uphold the administrative regulation unless it is arbitrary, capricious, or manifestly contrary to the statute." *Defenders of Wildlife v. Browner,* 191 F.3d 1159, 1162, *amended by* 197 F.3d 1035 (9th Cir.1999) (citations and internal quotations omitted).

[15] We conclude that the Phase II General Permit option violates the Clean Water Act's requirement that permits for discharges "require controls to reduce the discharge of pollutants to the maximum extent practicable," 33 U.S.C. § 1342(p)(3)(B)(iii). We also conclude that the Phase II General Permit option violates the Clean Water Act because it does not contain express requirements for public participation in the NPDES permitting process. We remand these aspects of the Phase II Rule. [30]

853** ***1. Phase II General Permits and Notices of Intent

Primary responsibility for enforcement of the requirements of the Clean Water Act is vested in the Administrator of the EPA. 33 U.S.C. § 1251(d); *see also* 33 U.S.C. § 1361(a) ("The Administrator [of EPA] is authorized to prescribe such regulations as are necessary to carry out his functions under this chapter."). The Clean Water Act renders illegal any discharge of pollutants not specifically authorized by a permit. 33 U.S.C. § 1311(a) ("Except in compliance with this section and [other sections detailing permitting requirements] of this title, the discharge of any pollutant by any person shall be unlawful."). Under the Phase II Rule, dischargers may apply for an individualized permit with the relevant permitting authority, or may file a "Notice of Intent" ("NOI") to seek coverage under a "general permit." 40 C.F.R. § 122.33(b).

A general permit is a tool by which EPA regulates a large number of similar dischargers. Under the traditional general permitting model, each general permit identifies the output limitations and technology-based requirements necessary to adequately protect water quality from a class of dischargers. Those dischargers may then acquire permission to discharge under the Clean Water Act by filing NOIs, which embody each discharger's agreement to abide by the terms of the general permit. Because the NOI represents no more than a formal acceptance of terms elaborated elsewhere, EPA's approach does not require that permitting authorities review an NOI before the party who submitted the NOI is allowed to discharge. General permitting has long been recognized as a lawful means of authorizing discharges. *Natural Res. Def. Council v. Costle,* 568 F.2d 1369 (D.C.Cir.1977).

The Phase II general permitting scheme differs from the traditional general permitting model. The Clean Water Act requires EPA to ensure that operators of small MS4s "reduce the discharge of pollutants to the maximum extent practicable." 33 U.S.C. § 1342(p)(3)(B). To ensure that operators of small MS4s achieve this "maximum extent practicable" standard, the Phase II Rule requires that each NOI contain information on an individualized pollution control program that addresses each of the six general criteria specified in the Minimum Measures; thus, according to the Phase II Rule, submitting an NOI and implementing the Minimum Measures it contains "constitutes compliance with the standard of reducing pollutants to the 'maximum extent practicable.' " 40 C.F.R. § 122.34(a).

Because a Phase II NOI establishes what the discharger will do to reduce discharges to the "maximum extent practicable," the Phase II NOI crosses the threshold from being an item of procedural correspondence to being a substantive component of a regulatory regime. The text of the Rule itself acknowledges that a Phase II NOI is a permit application that is, at least in some regards, functionally equivalent to a detailed application for an individualized permit. *See, e.g.,* 40 C.F.R. § 122.34(d)(1) ("In your permit application (either a notice of intent for coverage under a general permit or an individual permit application), you must identify and submit to your NPDES permitting authority the following information...."). For this reason, EPA rejected the possibility of providing a "form NOI" to Phase II permittees, explaining that "[w]hat will be required on an MS4's NOI ... is more extensive than what is usually required on ***854** an NOI, so a 'form' NOI for MS4s may be impractical." 64 Fed. Reg. at 68,764.

2. Failure to Regulate

The Environmental Petitioners argue that, by allowing NPDES authorities to grant dischargers permits based on unreviewed NOIs, the Rule creates an impermissible self-regulatory system. [31] Petitioners contend the Rule impermissibly fails to require that the permitting authority review an NOI to assure compliance with Clean Water Act

standards, including the standard that municipal stormwater pollution be reduced to "the maximum extent practicable." 33 U.S.C. § 1342(p)(3)(B)(iii). *See* 40 C.F.R. § 123.35 (setting out requirements for permitting authorities, but not requiring review of NOI); 64 Fed. Reg. at 68,764 ("EPA disagrees that formal approval or disapproval by the permitting authority is needed").

EPA maintains that the Phase II permit system is fully consistent with the authorizing statute. It contends that § 402(p)(6) granted EPA flexibility in designing the Phase II "comprehensive program," and notes that while the statute does not require general permits, neither does it preclude them. EPA contends that Congress delegated the task of designing the program to EPA, and that EPA reasonably adopted a "flexible version" of the NPDES permit program to suit the unique needs of the Phase II program. It disputes that the general permit program creates "paper tigers," especially since EPA, States, and citizens may initiate enforcement actions. Finally, EPA argues that the Rule does not create a self-regulatory program, but that even if it did, nothing in § 402(p)(6) precludes such a program.

Reviewing the Phase II Rule under the first step of *Chevron,* we note that the plain language of § 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p), expresses unambiguously Congress's intent that EPA issue no permits to discharge from municipal storm sewers unless those permits "require controls to reduce the discharge of pollutants to the maximum extent practicable."

Phase II general permits will likely impose requirements that ensure that operators of small MS4s comply with many of the standards of the Clean Water Act. Thus, general permits issued under Phase II will ordinarily contain numerous substantive requirements, just as did the permits issued under Phase I. *See* 40 C.F.R. §§ 123.35 & 123.35(a) ("§ 123.35 As the NPDES Permitting Authority for regulated small MS4s, what is my role? (a) You must comply with the requirements for all NPDES permitting authorities under Parts 122, 123, 124 and 125 of this chapter."); *see also* 40 C.F.R. § 122.28 (outlining requirements for NPDES authorities issuing general permits). And every operator of a small MS4 who files an NOI under Phase II "must comply with other applicable NPDES permit requirements, standards, and conditions established in ***855** the ... general permit." *See* 40 C.F.R. §§ 122.34 & 122.34(f).

[16] However, while each Phase II general permit will likely ensure that operators of small MS4s comply with certain standards of the Clean Water Act, they will not "require controls to reduce the discharge of pollutants to the maximum extent practicable." According to the Phase II Rule, the operator of a small MS4 has complied with the requirement of reducing discharges to the "maximum extent practicable" when it implements its stormwater management program, *i.e.*, when it implements its Minimum Measures. 40 C.F.R. § 122.34(a); *see also* 64 Fed. Reg. at 68753 (stating EPA's anticipation that limitations more stringent that the minimum control measures "will be unnecessary"). Nothing in the Phase II regulations requires that NPDES permitting authorities review these Minimum Measures to ensure that the measures that any given operator of a small MS4 has decided to undertake will *in fact* reduce discharges to the maximum extent practicable. [32]

See 40 C.F.R. § 123.35 ("As the NPDES Permitting Authority for regulated small MS4s, what is my role?"). Therefore, under the Phase II Rule, nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable.

In fact, under the Phase II Rule, in order to receive the protection of a general permit, the operator of a small MS4 needs to do nothing more than decide for itself what reduction in discharges would be the maximum practical reduction. No one will review that operator's decision to make sure that it was reasonable, or even good faith. [33] Therefore, as the Phase II Rule stands, EPA would allow permits to issue that would do less than *require* controls to reduce the discharge of pollutants to the maximum extent practicable. [34] *See* ***856** 64 Fed. Reg. at 68753 (explaining that the minimum control measures will protect water quality if they are "properly implemented"). We therefore must reject this aspect of

the Phase II Rule as contrary to the clear intent of Congress. *Cf. Natural Res. Def. Council,* 966 F.2d at 1305 (rejecting as arbitrary and capricious a permitting system that allowed regulated industrial stormwater dischargers to "self-report" whether they needed permit coverage).

Involving regulated parties in the development of individualized stormwater pollution control programs is a laudable step consistent with the directive to consult with state and local authorities in the development of the § 402(p)(6) comprehensive program. But EPA is still required to ensure that the individual programs adopted are consistent with the law. Our holding should not prevent the Phase II general permitting program from proceeding mostly as planned. Our holding does not preclude regulated parties from designing aspects of their own stormwater management programs, as contemplated under the Phase II Rule. However, stormwater management programs that are designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulating entity to ensure that each such program reduces the discharge of pollutants to the maximum extent practicable. We therefore remand this aspect of the Rule.

3. Public Participation

The Environmental Petitioners contend that the Phase II Rule fails to provide for public participation as required by the Clean Water Act, because the public receives neither notice nor opportunity for hearing regarding an NOI. The EPA replies on the one hand by arguing that NOIs are not "permits" and therefore are not subject to the public availability and public hearing requirements of the Clean Water Act, and on the other hand by arguing that the combination of the public involvement minimum measure, 40 C.F.R. § 122.34(b)(2), the Federal Freedom of Information Act, 5 U.S.C. § 552, and state freedom of information acts would fulfill any such requirements if NOIs were permits.

Reviewing the Phase II Rule under *Chevron* step one, we conclude that clear Congressional intent requires that NOIs be subject to the Clean Water Act's public availability and public hearings requirements. The Clean Water Act requires that "[a] copy of each permit application and each permit issued under [the NPDES permitting program] shall be available to the public," 33 U.S.C. § 1342(j), and that the public shall have an opportunity for a hearing before an permit application is approved, 33 U.S.C. § 1342(a)(1). Congress identified public participation rights as a critical means of advancing the goals of the Clean Water Act in its primary statement of the Act's approach and philosophy. *See* 33 U.S.C. § 1251(e); *see also Costle v. Pacific Legal Found.,* 445 U.S. 198, 216, 100 S.Ct. 1095, 63 L.Ed.2d 329 (1980) (noting the "general policy of encouraging public participation is applicable to the administration of the NPDES permit program"). EPA has acknowledged that technical issues relating to the issuance of NPDES permits should be decided in "the most open, accessible forum possible, ***857** and at a stage where the [permitting authority] has the greatest flexibility to make appropriate modifications to the permit." 44 Fed. Reg. 32,854, 32,885 (June 7, 1979).

As we noted above, under the Phase II Rule it is the NOIs, and not the general permits, that contain the substantive information about how the operator of a small MS4 will reduce discharges to the maximum extent practicable. Under the Phase II Rule, NOIs are functionally equivalent to the permit applications Congress envisioned when it created the Clean Water Act's public availability and public hearing requirements. Thus, if the Phase II Rule does not make NOIs "available to the public," and does not provide for public hearings on NOIs, the Phase II Rule violates the clear intent of Congress. EPA's first argument—that NOIs are not subject to the public availability and public hearings requirements of the Clean Water Act—therefore fails.

We therefore reject the Phase II Rule as contrary to the clear intent of Congress insofar as it does not provide for public hearings on NOIs as required by 33 U.S.C. § 1342(a)(1). However, Congress has not directly addressed the question of what would constitute an NOI being "available to the public" as required by 33 U.S.C. § 1342(j). Under *Chevron* step two, we must defer to EPA's interpretation of "available to the public" unless it is arbitrary, capricious, or manifestly contrary to the statute.

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[17] EPA argues that the NOIs are "available to the public" as a result of the combined effects of the public participation minimum measures, and of federal and state freedom of information acts. This argument is unconvincing. First, the public participation Minimum Measure only requires dischargers to design a program minimally consistent with State, Tribal, and local requirements. 40 C.F.R. § 122.34(b)(2). Second, the federal Freedom of Information Act only applies to documents that are actually in EPA's possession, not to documents that are in the possession of state or tribal NPDES authorities, *see* 40 C.F.R. § 2 (providing EPA's policy for releasing documents under the federal Freedom of Information Act), and nothing in the Phase II Rule provides that EPA obtain possession of every NOI that is submitted to a NPDES permitting authority. *See* 40 C.F.R. § 123.41(a) (making information provided to state NPDES authorities available to EPA only *upon request*). Thus, under the Phase II Rule, NOIs will only "be available to the public" subject to the vagaries of state and local freedom of information acts. We conclude that EPA's interpretation of 33 U.S.C. § 1342(j), as embodied in the provisions of the Phase II Rule providing for the public availability of NOIs, is manifestly contrary to the Clean Water Act, which contemplates greater scope, greater certainty, and greater uniformity of public availability than the Phase II Rule provides. We therefore reject this aspect of the Phase II Rule. [35]

***858** In sum, we conclude that EPA's failure to require review of NOIs, which are the functional equivalents of permits under the Phase II General Permit option, and EPA's failure to make NOIs available to the public or subject to public hearings contravene the express requirements of the Clean Water Act. We therefore vacate those portions of the Phase II Rule that address these procedural issues relating to the issuance of NOIs under the Small MS4 General Permit option, and remand so that EPA may take appropriate action to comply with the Clean Water Act.

C. Failure to Designate

We reject the Environmental Petitioners' contention that EPA's failure to designate for Phase II regulation serious sources of stormwater pollution, including certain industrial ("Group A") sources and forest roads, was arbitrary and capricious. *See Marsh v. Oregon Natural Res. Council,* 490 U.S. 360, 378, 109 S.Ct. 1851, 104 L.Ed.2d 377 (1989). [36]

1. "Group A" Facilities

In addition to the small MS4s and construction sites ultimately designated for regulation under the Phase II Rule, EPA evaluated a variety of other point-source discharge categories for potential Phase II regulation. One group of dischargers (referred to as the "Group A" facilities) included sources that "are very similar, or identical" to regulated stormwater discharges associated with industrial activity that were not designated for Phase I regulation for administrative reasons unrelated to their environmental impacts. [37] 64 Fed. Reg. at 68,779. EPA estimates that Group A includes approximately 100,000 facilities, including auxiliary facilities and secondary activities ("*e.g.,* maintenance of construction equipment and vehicles, local trucking for an unregulated facility such as a grocery store," *id.*) and facilities intentionally omitted from Phase I designation ("*e.g.,* publicly owned treatment works with a design flow of less than 1 million gallons per day, landfills that have not received industrial waste," *id.*).

***859** The Environmental Petitioners contend that EPA should have designated the Group A facilities for categorical Phase II regulation after finding (1) that stormwater discharges from these facilities are the same as those from the industrial sources regulated under Phase I, and (2) that such discharges may cause "adverse water quality impacts." *Id.* Petitioners argue that these findings, and EPA's failure to provide individualized analysis regarding whether any specific source category within Group A requires regulation, render EPA's decision not to regulate any of these sources under the Rule arbitrary and capricious. They maintain that EPA's "line-drawing," which regulates some pollution sources but leaves nearly identical sources unregulated without any persuasive rationale, is necessarily arbitrary and capricious. *See Natural Res. Def. Council,* 966 F.2d at 1306 (EPA's decision not to regulate construction sites smaller than five acres was arbitrary when EPA provided no data to justify the five-acre threshold and admitted that unregulated sites could have significant water quality impacts).

Petitioners argue that § 402(p)(6) at least required EPA to make findings with respect to individual Group A categories, and that data collected from Phase I permit applications could be used to evaluate the pollutant potential of the identical Group A sources. They contend that these findings should have sufficed as a basis for designating at least some Group A sources, and that EPA's conclusion that it lacked adequate nationwide data upon which to designate any of these sources is not supported by the record evidence. Comparing EPA's identification of the serious polluting potential of some of these sources with its statutory mandate under § 402(p)(6) "to protect water quality," they argue that EPA fails even the forgiving standard of arbitrary and capricious review in that it has "offered an explanation for its decision that runs counter to the evidence before [it]" and "is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *See Motor Vehicle Mfrs.,* 463 U.S. at 43, 103 S.Ct. 2856.

EPA maintains that it considered Group A facilities' similarity to already regulated sources as only one of several criteria that it used in designating sources for regulation under Phase II, 64 Fed. Reg. at 68,780, and that sources that appear "similarly situated" under one criterion are not necessarily similarly situated under all. EPA asserts that nothing in § 402(p)(6) implied a responsibility to make individualized findings regarding each Group A subcategory, and it maintains that it simply lacked sufficient data to support nationwide designation of the Group A facilities. EPA notes that, after failing to receive requested comment providing such data, it proposed instead "to protect water quality" by allowing regional regulation of problem Group A facilities under the residual designation authority. EPA contends that agencies must be afforded deference in determining the data necessary to support regulatory decisionmaking and that it reasonably determined the quantum of data it would need to support the designation of additional sources on a nationwide basis. *See Sierra Club v. EPA,* 167 F.3d 658, 662 (D.C.Cir.1999).

[18] We conclude that sufficient evidence supports EPA's decision not to designate Group A sources on a nationwide basis, and instead to establish local and regional designation authority to account for these sources and protect water quality. Although we are troubled by the purely administrative basis for the distinction between facilities regulated under the Phase I Rule and the Group A facilities ***860** that remain unregulated under Phase II, [38] EPA's choice of the Phase I standard for designation is not the issue before us. Before us is whether EPA acted arbitrarily in declining to designate the Group A sources on a nationwide basis under the Phase II Rule, and we cannot say that it did.

EPA has articulated a rational connection between record facts indicating insufficient data to categorically regulate Group A facilities and its corresponding conclusion not to do so, and we defer to that decision. *See Washington v. Daley,* 173 F.3d 1158, 1169 (9th Cir.1999). In the text of the Rule, EPA explains that the process behind its decision not to nationally designate Group A sources for Phase II regulation focused not only on the likelihood of contamination from a source category, but also on the sufficiency of national data about each category and whether pollution concerns were adequately addressed by existing environmental regulations. [39] We cannot say that EPA relied on factors Congress had not intended it to consider, that it failed to consider an important aspect of the problem, or that its rationale is implausible. *See Motor Vehicle Mfrs.,* 463 U.S. at 43, 103 S.Ct. 2856. Nor did EPA's decision run counter to the evidence before it. *Id.* The Environmental Petitioners allege that its decision not to regulate Group A facilities runs counter to evidence that similar sources are highly polluting, but as EPA considered evidence beyond those similarities that persuaded it not to regulate, we cannot say that EPA's decision is unsupported by the record. Nothing in § 402(p)(6) unambiguously requires EPA to evaluate the Group A source categories individually, and we defer to EPA's interpretation of the statute it is charged with administering. *See Royal Foods Co. v. RJR Holdings,* 252 F.3d 1102, 1106 (9th Cir.2001).

2. Forest Roads

The Environmental Petitioners also contend that EPA arbitrarily failed to regulate forest roads under the Rule despite clear evidence in the record documenting the need for stormwater pollution control ***861** of drainage from these roads. Petitioners again contend that this agency action is arbitrary, because EPA has offered an explanation for its decision that runs counter to the evidence before it.

Petitioners point to EPA's own conclusion that forest roads "are considered to be the major source of erosion from forested lands, contributing up to 90 percent of the total sediment production from forestry operations."[40] They note that both unimproved forest roads and construction sites create large expanses of non-vegetated soil subject to stormwater erosion, and argue that construction site data thus also support regulation of forest roads. Petitioners observe that EPA has cited no contrary evidence indicating that forest roads are not sources of stormwater pollutant discharges to U.S. waters, and they argue that Phase II regulation is necessary "to protect water quality," because proper planning and road design can minimize erosion and prevent stream sedimentation. Petitioners note that this court has previously held that, in the absence of such "supportable facts," EPA is not entitled to the usual assumption that it has "rationally exercised the duties delegated to it by Congress." *Natural Res. Def. Council,* 966 F.2d at 1305.

[19] EPA's response is that we have no jurisdiction to hear this challenge, chiefly because, it believes, the challenge is time-barred by Clean Water Act § 509(b)(1), 33 U.S.C. § 1369(b)(1) (providing that "application for review shall be made within 120 days from the date of [agency action]"). EPA promulgated silviculture regulations in 1976 that exclude from NPDES permit requirements certain silvicultural activities that EPA determined constitute non-point source activities, including "surface drainage, or road construction and maintenance from which there is natural runoff." 40 C.F.R. § 122.27(b)(1).[41] EPA asserts that the exclusion applies to forest roads in general, not only to "construction" and "maintenance"—an assertion disputed by Petitioners—and that any challenge to the decision not to regulate forest roads should have been brought within 120 days of the promulgation of that rule. *See* 33 U.S.C. § 1369(b)(1).

EPA's argument might be more persuasive if Petitioners' contention could be understood essentially as a direct challenge to the 1976 silviculture regulations, but this is not the case. Even were we to assume that EPA exempted forest roads from NPDES permit requirements in 1976 under 40 C.F.R. § 122.27(b)(1), that would not resolve the question whether EPA should have addressed forest roads in its "comprehensive program ... to protect ***862** water quality" under § 402(p)(6), because § 402(p)(6) was not enacted until 1987. Petitioners challenge EPA's decision not to regulate under the new portion of the statute, not the decision not to regulate under other provisions that were in effect earlier.

EPA argues in the alternative that Petitioners should have sought judicial review when EPA considered amending § 122.27(b)(1)—to delete the language that it asserts renders forest roads non-point sources—but then determined not to make the amendment. However, we are aware of no statute or legal doctrine providing that a party's failure to challenge an agency's decision *not* to amend its rules in one proceeding deprives the party of the right to challenge, in a contemporaneous proceeding, the promulgation of an entire new rule which could have, but did not, provide the full relief the party seeks. Assuming that EPA is correct that § 122.27(b)(1) defines forest roads as non-point sources, both the Phase II Rule proceedings and the proceedings in which the proposed amendment to § 122.27(b)(1) was considered and rejected were proper proceedings in which to raise the issue whether discharges from forest roads should be regulated. Petitioners chose to raise the issue in their comments to the proposed Phase II Rule, because they believed that Clean Water Act § 402(p)(6) mandates the regulation of forest roads. They did not lose their right to challenge the final Phase II Rule's failure to regulate forest roads simply because they did not also raise a challenge to EPA's failure to adopt an amendment to § 122.27(b)(1) that the agency initially proposed. (We note, incidentally, that it appears that even a successful challenge to § 122.27(b)(1) would likely not have achieved the objective the Environmental Petitioners sought: it would only have allowed case-by-case coverage for forest roads, and not for overall coverage.)

[20] Finally, EPA suggests that Petitioners' comments during the Phase II rulemaking process were too short to create jurisdiction in this court to hear this challenge. However, EPA exaggerates the slightness of those comments, which comprised two paragraphs, with footnotes, stating objections and providing support. We also agree with Petitioners that EPA was aware of the forest road sedimentation problem at the time of the rulemaking.[42] Indeed, EPA responded to the comments without disputing that the problem is serious. 3 EPA, *Response to Public Comments* 8 (Oct. 29, 1999).

Rather, the agency relied on 40 C.F.R. § 122.27(b)(1), indicating that it was barred from acting under the Phase II Rule by § 122.27(b)(1).

EPA does not seriously address the merits of Petitioners' objections to the Rule in its brief to this court. Instead, EPA relies almost entirely on its assertion that we lack jurisdiction to decide this question. It does, however, strongly imply that its failure to adopt its own proposed amendment in the proceeding pertaining to § 122.27(b)(1) relieves it of its obligation to consider including forest roads in the Phase II Rule proceedings. We reject any such contention. Petitioners' assertion that § 402(p)(6) requires that the Phase II Rule contain provisions regulating forest roads necessitates a response from EPA on the merits.

***863** Having concluded that the objections of the Environmental Petitioners are not time-barred, and that we have jurisdiction to hear them, but that EPA failed to consider those objections on the merits, we remand this issue to the EPA, so that it may consider in an appropriate proceeding Petitioners' contention that § 402(p)(6) requires EPA to regulate forest roads. EPA may then either accept Petitioners' arguments in whole or in part, or reject them on the basis of valid reasons that are adequately set forth to permit judicial review.

D. AF&PA's Standing

The American Forestry & Paper Association (AF&PA), a national trade association representing the forest, pulp, paperboard, and wood products industry, is one of the two Industry Petitioners asserting the remaining claims. [43] Before considering these challenges, however, we consider whether AF&PA has standing to raise them.

EPA argues that AF&PA lacks standing because it cannot show that it represents entities that suffer a cognizable injury under the Phase II Rule as promulgated. EPA argues that the interests of AF&PA entities might have supported standing had EPA decided to regulate forest roads as Phase II stormwater dischargers, but since EPA declined to do so, none of AF&PA's members are currently subject to the Rule. AF&PA contends that its members have a cognizable legal interest in the Rule because they risk becoming subject to regulation at any future time under the continuing designation authority.

[21] We agree that AF&PA lacks standing. A claimant meeting Article III standing requirements must show that "(1) it has suffered an 'injury in fact' ...; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision." *Friends of the Earth v. Laidlaw Envtl. Servs. (TOC),* 528 U.S. 167, 180–81, 120 S.Ct. 693, 145 L.Ed.2d 610 (2000). Standing requires an injury that is "actual or imminent, not 'conjectural or hypothetical.' " *Lujan v. Defenders of Wildlife,* 504 U.S. 555, 560, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992). AF&PA's interest in avoiding future regulation of forest roads is not actually or imminently threatened by any potential result in this case. No ripe claim about misuse of the residual authority to regulate forest road discharge, or any other kind of discharge, is before the court. Should members of AF&PA become subject to Phase II regulation through subsequent administrative action, it will have standing to challenge those actions at that time. In the meanwhile, we proceed to the merits of the remaining claims on behalf of AF&PA's co-petitioner, the National Association of Home Builders, which has established its standing to raise them.

E. Consultation with State and Local Officials

The Industry Petitioners contend that EPA failed to consult with the States on the Phase II Rule as required by § 402(p)(5), which instructs EPA to conduct studies "in consultation with the States," and § 402(p)(6), which instructs the Administrator to issue regulations based on these studies "in consultation with State and local officials." 33 U.S.C. §§ 1342(p)(5)-(6). We conclude that EPA satisfied its statutory duty of consultation. *See Marsh,* 490 U.S. at 378, 109 S.Ct. 1851.

***864** Petitioners concede several instances in which EPA circulated drafts of the Phase II Rule to state and local authorities, but argue that these consultations were meaningless because (1) the reports were circulated too far in advance of the actual rulemaking, (2) the rulemaking wrongfully proceeded based on other sources of input, (3) standard APA notice and comment procedures could not suffice because Congress must have intended something more when it added the consultation requirements to the language of § 402, and (4) consultation at the final stage of rulemaking was inadequate because comment was sought on the final report only after it had been submitted to Congress and the Phase II Rule had been promulgated. Petitioners provide examples of state feedback that allegedly went unheeded by EPA in its promulgation of the final Rule.

EPA maintains that it consulted extensively with States and localities in developing the Phase II Rule, discharging its obligations under §§ 402(p)(5) & (6). EPA contends that the comments Petitioners cite as unheeded by EPA demonstrate that EPA *did* consult with States concerning the Rule, even if some States did not concur in EPA's ultimate conclusion, and that the final rule adopted a good measure of the flexibility sought by state representatives. EPA argues that Industry Petitioners cannot complain that consultation was inadequate simply because it did not result in the adoption of Petitioners' preferred views.

EPA also disputes Petitioners' allegation that while EPA did comply with the terms of the 1999 Appropriations Act (requiring EPA to defend the proposed Phase II Rule before Congress and then publish the final report for public comment), it demonstrated its failure to adequately consult by publishing the report for public comment *after* the Phase II Rule had been formally promulgated, rendering any subsequent public comment meaningless. EPA counters that these actions do not indicate that it failed to satisfy Congress's directive that it consult with state and local officials, because EPA had engaged in extensive consultation before Congress requested the Appropriations Act report, and Congress did not require further consultation when it conditioned promulgation of the Rule only on the submission of this final report. EPA claims that while Congress required it to publish the report after its submission, public comment on the report was not required before promulgation, and that the statutory deadline structure rendered any other interpretation impossible.

[22] We conclude that the overall record indicates EPA met its statutory duty of consultation. A draft of the first report was circulated to States, EPA regional offices, the Association of State and Interstate Water Pollution Control Administrators ("ASIWPCA"), and other stakeholders in November, 1993, and was revised based on comments received. EPA established the Urban Wet Weather Flows Federal Advisory Committee ("FACA Committee"), balancing membership between EPA's various outside stakeholder interests, including representatives from States, municipalities, Tribes, commercial and industrial sectors, agriculture, and environmental and public interest groups. 64 Fed. Reg. 68,724. The 32 members of the Phase II FACA Subcommittee, reflecting the same balance of interests, met fourteen times over three years and state and municipal representatives provided substantial input regarding the draft reports, the ultimate Phase II Rule, and the supporting data.[44] *Id.* EPA ***865** instituted the Phase II Subcommittee meetings in addition to the standard APA notice and comment procedures, which EPA also followed.

The fact that the Rule did not conform to Petitioners' hopes and expectations does not bear on whether EPA adequately consulted state and local officials. Although required to consult with States and localities, EPA was free to chart the substantive course it saw fit. EPA was not required to consult with States on the Appropriations Act report. Even if EPA should have sought further comment at that late stage, failure to do so does not outweigh the evidence demonstrating extensive consultation and cooperation with local authorities on development of the Rule.

F. Designation of Certain Small MS4s and Construction Sites

The Industry Petitioners contend that, in designating certain small MS4s and construction sites for regulation under the Phase II Rule, EPA failed to adhere to the statutorily required regulatory basis and misinterpreted record evidence. We disagree.

1. Regulatory Basis

The Industry Petitioners and the Municipal Petitioners contend that EPA violated the statutory command to base the Phase II regulations on § 402(p)(5) studies. We review EPA's interpretation of its statutory authority under the *Chevron* standard, 467 U.S. at 842–44, 104 S.Ct. 2778, and affirm.

Petitioners argue that the studies mandated by § 402(p)(5) were intended to provide the sole substantive basis for the "comprehensive program" envisioned in § 402(p)(6), but that EPA also (and thus improperly) based its designation of small MS4s and construction sites on (1) public comment received in the aftermath of judicial invalidation of the scope of construction sites regulated by the Phase I Rule, [45] and (2) additional research discussed in the Preamble to the Phase II Rule. [46]

EPA contends that the statute did not require it to base its designations exclusively on the § 402(p)(5) studies, and that it was in fact required to take account of information from other sources in promulgating the regulations. It argues that it based the Phase II Rule on conclusions reported in the § 402(p)(5) studies, but then appropriately supported these results with data described in the additional study requested by Congress in the Appropriations Act, comments submitted during the statutorily required notice-and-comment process, and other available information. To read the authorizing statute as limiting reliance to the § 402(p)(5) studies, EPA claims, would preclude it from relying on recommendations received through the separate, post-study requirement to "consult with State and local officials" under ***866** § 402(p)(6), and through the notice and comment process mandated by the APA, 5 U.S.C. § 553(b).

Respondent-intervenor NRDC adds that the Phase II Rule is consistent with the § 402(p)(5) studies reported in 1995, and moreover, that the Industry Petitioners lack standing to raise the "regulatory basis" claim because they cannot show the requisite injury. *See Friends of the Earth,* 528 U.S. at 180–81, 120 S.Ct. 693.

a. Standing. Industry Petitioners [47] contend that they have suffered injury in fact, because their members are now either automatically regulated by the permitting requirements or subject to future regulation (under the residual authority, discussed below) that otherwise would not have been authorized, and that this is a direct result of EPA's failure to adhere to the framework of the 1995 Report, which allegedly would have precluded these aspects of the Rule. NRDC contends that the Industry Petitioners lack standing because they cannot show that being subject to NPDES permitting is the causal result of the procedural injury they urge, and because they cannot base standing on hypothetical injury that may arise in the future.

NRDC argues that the injuries Petitioners allege are not consistent with the guidelines laid out in *Friends of the Earth,* 528 U.S. at 180–81, 120 S.Ct. 693. It insists that Petitioners' only possible claims of injury from the alleged "regulatory basis" violation are purported harm to members caused by the final Phase II Rule itself or harm to members caused by EPA's alleged failure to provide adequate notice of future regulatory requirements in the 1995 Report. However, NRDC contends that Petitioners have not suffered the requisite injury, because they had actual notice that EPA might regulate small construction sites, 63 Fed. Reg. at 1583, and they can show no chain of causation linking their alleged injury from the Rule itself to the actions challenged here.

NRDC's causation argument is complex. Although the Petitioners purport to challenge EPA's failure to follow all of the 1995 Report's recommendations in the final Phase II Rule, NRDC contends, they are really challenging the subsequent proceedings through which EPA developed the final Rule. Even if there were some unlawful variance between the 1995 report and final rule, NRDC continues, the cause of that variance would have been some failure to abide by rulemaking standards during administrative proceedings that produced the text of the final Rule—not EPA's attention to sources of input other than the 1995 Report. NRDC maintains that these intervening acts of rulemaking (e.g., Phase II Subcommittee activities and the notice-and-comment process) break the requisite chain of causation between EPA's alleged failure to adhere to recommendations in the 1995 report and the flaws Petitioners allege in the Phase II Rule,

which NRDC claims would have been due to "purportedly unlawful EPA decisions on the merits during the subsequent administrative proceedings." *See Northside Sanitary Landfill v. Thomas,* 804 F.2d 371, 381–84 (7th Cir.1986) (finding no standing to challenge EPA statements concerning the fate of a hazardous waste facility when subsequent state administrative acts, not EPA comments, would determine the facility's actual fate).

[23] We note that NRDC's standing arguments apply equally to the Municipal Petitioners, who can also assert only the ***867** harms resulting to members from the Rule itself or from a lack of notice, and that we are thus not only considering the standing of the Industry Petitioners but also that of the Municipal Petitioners to raise the "regulatory basis" claim. [48] That established, we find standing for both.

NRDC essentially argues that petitioners lack standing because (1) they cannot show that being subject to NPDES permitting is the causal result of the procedural injury they urge, (2) they cannot claim any actual notice injury from the alleged procedural wrong because notice was actually given, and (3) they cannot claim standing based on hypothetical injury that may (or may not) arise from future regulation under the residual authority. We can readily agree with the latter two contentions. As discussed above, the "actual injury" requirement of Article III standing precludes judicial consideration of exactly the kind of hypothetical harm the Industry Petitioners allege may follow from use of Phase II authority for future designations of regional sources. *Friends of the Earth,* 528 U.S. at 180–81, 120 S.Ct. 693. If future Phase II designations cause identifiable injury to Petitioners, they will then be free to pursue that ripe claim. And because EPA clearly issued notice to all regulated parties that they may be subject to regulation under the proposed rule, 63 Fed. Reg. at 1568 (MS4s) and 1582 (construction), petitioners cannot show injury from lack of actual notice.

However, NRDC's causation argument is less persuasive. NRDC correctly argues that the petitioners cannot establish a definite chain of causation between the EPA's alleged failure to limit their regulatory basis to the § 402(p)(5) studies and the fact that they now must obtain permits. But this will almost always be true of petitions challenging an agency's failure to abide by statutory procedural requirements. Because all administrative decisionmaking following an alleged procedural irregularity could always be considered an intervening factor breaking the chain of causation, NRDC's interpretation of the requisite chain of causation would dubiously shield administrative decisions from procedural review.

For this reason, we have held that the failure of an administrative agency to comply with procedural requirements in itself establishes sufficient injury to confer standing, even though the administrative result might have been the same had proper procedure been followed. *City of Davis v. Coleman,* 521 F.2d 661, 671 (9th Cir.1975) (agency's failure to comply with National Environmental Policy Act's procedural requirements constituted injury sufficient to support standing of a geographically related plaintiff regardless of potentially similar regulatory outcome). In *City of Davis,* we noted that the standing inquiry represents "a broad test, but because the nature and scope of environmental consequences are often highly uncertain before study we think it an appropriate test." *Id.* A plaintiff who shows that a causal relation is "probable" has standing, even if the chain cannot be definitively established. *Johnson v. Stuart,* 702 F.2d 193, 195–96 (9th Cir.1983) (school students and their parents had standing to challenge a statute that limited the texts that might be selected for teaching, even ***868** though it could not be shown whether any specific book had been rejected under this statute or for other reasons).

The Supreme Court has also acknowledged that standing may be established by harm resulting indirectly from the challenged acts, *Warth v. Seldin,* 422 U.S. 490, 504–05, 95 S.Ct. 2197, 45 L.Ed.2d 343 (1975), and that causation may be established if the plaintiff shows a good probability that, absent the challenged action, the alleged harm would not have occurred, *Arlington Heights v. Metro. Hous. Dev. Corp.,* 429 U.S. 252, 262–64, 97 S.Ct. 555, 50 L.Ed.2d 450 (1977).

Thus, although the petitioners cannot show with certainty that the alleged "regulatory basis" violation caused them to be wrongfully subjected to Phase II permitting requirements, we hold that they have alleged a procedural injury sufficient to support their standing to bring the claim.

b. Merits. Although we resolve the standing issue in favor of the petitioners, we nevertheless affirm the Rule against their claim that EPA violated procedural constraints implied by the authorizing statute, § 402(p)(6).

Congress intended EPA to use all sources of information in developing a comprehensive program to protect water quality to the maximum extent practicable. The statute unambiguously required EPA to base its regulations both on the § 402(p)(5) studies and on consultation with state and local officials. Congress enacted § 402 with full knowledge that EPA would also be required to take account of public comments during the notice and comment phase of administrative rulemaking prescribed by the APA. [49]

2. MS4s in Urbanized Areas

The Municipal Petitioners contend that the designation of small MS4s for Phase II regulation according to Census Bureau defined areas of population density ("urbanized areas") is arbitrary and capricious. They argue that EPA has not established that the Census Bureau's designation of urbanized areas is correlated with actual levels of pollution runoff in stormwater, and that EPA adopted the designations simply for administrative convenience. We affirm, because the record reflects a reasoned basis for EPA's decision. *See Marsh,* 490 U.S. at 378, 109 S.Ct. 1851.

Conceding that the Preamble cites studies purporting to establish "a high correlation between the degree of development/urbanization and adverse impacts on receiving waters due to stormwater," 64 Fed. Reg. at 68,751, the Municipal Petitioners nevertheless contend that the record contains no "demonstrably correlated, *quantified* basis on which EPA may reasonably have concluded that any particular population, or any population density, *per se* establishes that all urban areas having that same characteristic in gross are necessarily appropriate for inclusion as Phase II sources." Pointing to *Leather Industries of America v. EPA,* 40 F.3d 392, 401 (D.C.Cir.1994) (rejecting as arbitrary EPA's regulation of pollutant levels in the absence of data supporting a relationship between the caps and level of risk), Petitioners argue that EPA simply assumed the relationship Congress contemplated it would establish by the § 402(p)(5) studies.

EPA responds that it extensively documented the relationship between urbanization and harmful water quality impacts from stormwater runoff, pointing to its findings that the degree of surface imperviousness in an area directly corresponds ***869** to the degree of harmful downstream pollution from stormwater runoff, 64 Fed. Reg. at 68,724–27, and that it articulated a rational connection between these record facts and its decision to designate small MS4s serving areas of high population density ("urbanized areas") to protect water quality.

[24] We treat EPA's decision with great deference because we are reviewing the agency's technical analysis and judgments, based on an evaluation of complex scientific data within the agency's technical expertise. *See Baltimore Gas & Elec. Co. v. NRDC,* 462 U.S. 87, 103, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983); *see also Chem. Mfrs. Ass'n v. EPA,* 919 F.2d 158, 167 (D.C.Cir.1990) ("It is not the role of courts to 'second-guess the scientific judgments of the EPA....' "). We conclude that the record supports EPA's choice.

The statute simply called upon EPA to "designate stormwater discharges," other than those designated in Phase I, "to be regulated to protect water quality." 33 U.S.C. § 1342(p)(6). EPA did so, based on record evidence showing a compelling and widespread correlation between urban stormwater runoff and deleterious impacts on water quality. Petitioners' assertion that EPA failed to establish a "quantified" basis for its designation is inapposite. The statute did not require EPA to establish with pinpoint precision a numeric population threshold within urbanized areas that would justify regulation under Phase II. In areas implicating technical expertise and judgment, courts do not require "perfect stud[ies]" or data. *Sierra Club,* 167 F.3d at 662. EPA satisfied the *Leather Industries* standard by adopting a threshold consistent with the criterion of "protecting water quality," and did not assume, but instead sufficiently documented, the relationship between urbanization and harmful stormwater discharge.

3. Small Construction Sites

Industry and Municipal Petitioners also argue that EPA's decision to regulate under Phase II all construction sites disturbing between one and five acres of land ("small construction sites") is arbitrary and unsupported by the record. We do not agree. *See Marsh,* 490 U.S. at 378, 109 S.Ct. 1851.

a. Record Evidence. Municipal Petitioners claim that EPA arrived at the one-acre standard based not on factual findings in the record but instead as a reaction to the earlier Ninth Circuit remand of the Phase I five-acre designation. They allege that the one-acre standard is no more based on supporting data than the rejected five-acre standard, and is thus quantitatively arbitrary.

Industry Petitioners argue that EPA's findings do not support regulation of *all* small construction sites, but indicate only that small construction sites, taken cumulatively, may cause effects similar to large sites in a given area. They contend that EPA's conclusion that adverse effects are possible under certain circumstances cannot support categorical designation of all small construction sites nationwide, and that the Rule is arbitrary because (1) it is based on an analysis that fails to take account of the frequency of negative impacts, (2) it fails to take account of acknowledged factors that determine whether small construction activities cumulatively cause harm (such as the degree of development in a watershed at any given time), and (3) EPA has acknowledged that the actual water quality impact of construction sites of all sizes varies widely from area to area depending on climatological, geological, geographical, ***870** and hydrological influences. [50]

Industry Petitioners further contend that the record does not support the designation of small sites, because almost all of the technical papers EPA relied on focused on larger sites or failed to take account of size, [51] and because the lack of an adequate factual basis for nationwide regulation of small sites makes the Phase II Rule arbitrary and capricious. *Am. Petroleum Inst. v. EPA,* 216 F.3d 50, 58 (D.C.Cir.2000) (invalidating a solid waste rule because EPA "failed to provide a rational explanation for its decision" declining to exclude oilbearing waste waters from the statutory definition of solid waste).

EPA maintains that construction sites regulated under the Phase II Rule degrade water quality across the United States and that the administrative record unambiguously documents that harm. EPA disputes Petitioners' assertion that it failed to establish the need to regulate small sites nationwide, but also contends that it is not required to base every administrative decision on a precise quantitative analysis. *See Sierra Club,* 167 F.3d at 662 ("EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem.").

EPA also disputes petitioners' assertions that data from studies involving larger construction sites are irrelevant to the Phase II Rule. EPA explains that discharges of sediment due to erosion are the result of the interaction of several factors including soils, slope, precipitation, and vegetation:

> For construction sites that are one acre or more, none of the environmental factors contributing to sediment discharges is dependent on the size of the site disturbed. A one-acre site can have the same combination of soils, slope, degree of disturbance and precipitation as a 100–acre site, and consequently can lose soil at the same rate ... and discharge sediments in the same concentrations ... as a 100–acre site.

EPA contends that it is thus reasonable to extrapolate data about small sites from studies of larger ones—and that such an extrapolation may even be forgiving, since small sites are currently less likely to have effective erosion and sedimentation control plans. [52]

***871** Indeed, EPA argues that although adverse water quality impacts of small construction sites have been widely recognized, effective local erosion and sedimentation control programs have not been adopted in many areas. [53] Though not all watersheds are currently adversely effected by small construction sites, [54] EPA notes that the Phase II Rule acts "to protect water quality" both remedially and preventively, and argues that it need not quantify the cumulative effects

of discharges from these sites or identify all watersheds that are currently harmed before acting to limit pollution from small sites. [55]

[25] We reverse under the arbitrary and capricious standard only if the agency has relied on factors Congress did not intend it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision contrary to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *Motor Vehicle Mfrs. Ass'n,* 463 U.S. at 43, 103 S.Ct. 2856. Petitioners' contention that EPA relied on factors Congress did not intend it to consider was rejected in our earlier discussion of the regulatory basis challenge. They submit no evidence that EPA failed to consider an important aspect of the problem. We cannot say that EPA's designation of small construction sites is implausible (especially given the support of twenty-some-odd studies of sedimentation from construction sites that EPA reviewed in promulgating the challenged regulations, 64 Fed. Reg. 68,728–31). We could remand this aspect of the Rule only if, as the petitioners urge, EPA's explanation for its decision to regulate small construction sites were contrary to the record evidence, and it is not.

Petitioners' primary contention is that evidence in the record suggests it is not possible to provide an explicit, quantitative link between small construction sites and an adverse effect on water quality. But even if this were so, EPA's decision to regulate preventively small construction sites "to protect water quality" is not inconsistent with the record. Petitioners contend that EPA's reliance on data from studies of large construction sites is insufficient to support EPA's designation of small sites, but EPA has adequately supported its contention that experts can reasonably ***872** extrapolate projected water quality impacts from large to small sites. We apply the substantial evidence standard when reviewing the factual findings of an agency, *Dickinson v. Zurko,* 527 U.S. 150, 156–58, 119 S.Ct. 1816, 144 L.Ed.2d 143 (1999), [56] and find it satisfied here.

Moreover, EPA is not required to conduct the "perfect study." *Sierra Club,* 167 F.3d at 662. We defer to an agency decision not to invest the resources necessary to conduct the perfect study, and we defer to a decision to use available data unless there is no rational relationship between the means EPA uses to account for any imperfections in its data and the situation to which those means are applied. *Id.; Am. Iron & Steel Inst. v. EPA,* 115 F.3d 979, 1004 (D.C.Cir.1997). The record indicates a reasoned basis for EPA's decision that regulating small construction sites was necessary "to protect water quality" as required by § 402(p)(6).

[26] ***b. Waivers.*** Industry Petitioners further contend that EPA's allowance of regulatory waivers for small construction sites not likely to cause adverse water quality impacts inappropriately supplements the permitting regulations.

Petitioners argue that EPA has the burden of establishing a comprehensive program to control sources as necessary to protect water quality, and that shifting the burden to individual contractors, businesses, and homeowners to prove they do not harm water quality falls short of meeting this statutory obligation. Citing *National Mining Association v. Babbitt,* 172 F.3d 906, 910 (D.C.Cir.1999), they argue that EPA's rebuttable regulatory presumption of water quality impact from small construction activity is unreasonable because the agency has established no scientific likelihood that any given small site will affect water quality. EPA defends the waiver approach as fair and efficient, and argues that the Industrial Petitioners are confusing arguments about the limits of presumptions in evidentiary hearings conducted under the APA. [57]

EPA is correct; the Phase II Rule creates no presumption applicable to an evidentiary hearing, and a regulation creating exemptions by waiver is reviewed under the familiar arbitrary and capricious standard. The use of waivers to allow permit exemptions for small sites unlikely to cause adverse impacts is reasonable under that standard.

[27] ***c. Consistency.*** Industry Petitioners also argue that EPA's decision to regulate all small construction sites under the Phase II Rule is arbitrary and capricious because EPA applied a different standard in regulating small construction projects than it applied to other potential sources of stormwater runoff subject to Phase II regulation.

Petitioners contend that EPA decided not to designate other potential sources identified in the § 402(p)(5) studies because it determined that there are not "sufficient data ... available at this time on which to make a determination of potential adverse water quality impacts for the category of sources." 64 Fed. Reg. at 68,780. Petitioners contend this standard should have been applied to small construction sites as well, but EPA opted to ***873** regulate these sources despite an alleged lack of coherent data on small site impacts as a general category.

EPA counters, once again, that it did have adequate data to regulate small construction sites. It contends that construction sites of all sizes have greater erosion rates than almost any other land use, and thus are not similarly situated to the potential polluters that EPA chose not to regulate at this time.[58] These sources include secondary industrial activities (for example, maintenance of construction equipment or local trucking for an unregulated facility such as a grocery store) and other unregulated commercial activities (for example, car and truck rental facilities). 64 Fed. Reg. at 68,779. EPA reports that it decided not to categorically regulate these potential sources based both on available data about water quality impacts and on the extent to which potentially adverse water quality impacts are mitigated by existing regulations to which these sources are already subject. *Id.* at 68,780.

We find no error. *See Marsh,* 490 U.S. at 378, 109 S.Ct. 1851. EPA acted reasonably in designating all small construction sites for Phase II regulation, and Industry Petitioners point to no record evidence that the nature of pollutant contributions from small construction site discharge is sufficiently similar to pollutants from the non-regulated sources to support the analogy they seek to draw. *New Orleans Channel 20 v. FCC,* 830 F.2d 361, 366 (D.C.Cir.1987) (an agency does not act irrationally when it treats parties differently, unless the parties are similarly situated). Sufficient evidence supports EPA's conclusion that small construction sites are not similar enough to these "other sources" to support petitioner's challenge.

G. Continuing ("Residual") Designation Authority

The Industry Petitioners argue that EPA acted improperly in retaining authority to designate future sources of stormwater pollution for Phase II regulation as needed to protect federal waters. We disagree.

The Phase II Rule preserves authority for EPA and authorized States to designate currently unregulated stormwater dischargers as requiring permits under the Rule if future circumstances indicate that they warrant regulation "to protect water quality" under the terms of § 402(p)(6). 40 C.F.R. § 122.26(a)(9). In the Phase II Preamble, EPA explains this aspect of the Rule:

> Under today's rule, EPA and authorized States continue to exercise the authority to designate remaining unregulated discharges composed entirely of stormwater for regulation on a case-by-case basis.... Individual sources are subject to regulation if EPA or the State, as the case may be, determines that the stormwater discharge from the source contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This standard is based on the text of section CWA 402(p). In today's rule, EPA believes, as Congress did in drafting section CWA 402(p)(2)(E), that individual instances of stormwater discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today's rule preserves the regulatory authority ***874** to subsequently address a source (or category of sources) of stormwater discharges of concern on a localized or regional basis.

64 Fed. Reg. 68,781. The text of the Rule requires a discharger to obtain a permit if the NPDES permit authority determines that "stormwater controls are needed for the discharge based on wasteload allocations that are part of 'total

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maximum daily loads' (TMDLs [59]) that address the pollutant(s) of concern" or that "the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." 40 C.F.R. §§ 122.26(a)(9)(i)(C)-(D).

1. Statutory Authority

The Industry Petitioners contend that this "residual" designation authority, which would allow a NPDES permitting authority to require at any future time a permit from any stormwater discharge not already regulated, is *ultra vires.* Although they concede that Congress authorized case-by-case designation in § 402(p)(2)(E), [60] they argue that this authority attached only during the permitting moratorium that ended in 1994, prior to the Phase II rulemaking. They object that EPA has impermissibly designated a category of "not yet identified" sources and preserved authority to regulate them on a case-by-case basis indefinitely into the future. [61]

[28] Petitioners contend that § 402(p)(6) [62] cannot rescue the residual authority because it does not authorize case-by-case identification of discharges to be regulated, and that Congress, had it intended otherwise, would have included language in § 402(p)(6) similar to the case-by-case authority explicitly granted in § 402(p)(2)(E). [63] They also contend that ***875** continuing authority to designate sources based on waste load allocations that are part of TMDLs exceeds the scope of authority in § 402(p)(2), which nowhere mentions TMDLs. Finally, they argue that the categorical designation authorized by § 402(p)(6) is only permissible when based on the § 402(p)(5) studies and carried out in consultation with state and local authorities, but that the Rule allows future designations based on agency discretion unaccompanied by adequate demonstration that the source itself is a significant threat to water quality.

EPA counters that § 402(p)(6) authorized the designation, made on the basis of statutorily required sources of input and in consultation with the States, of a third class of discharges to be identified on location-specific bases by the NPDES permitting authority. EPA contends that Petitioners mistake the source of its authority for continuing designations as arising only from § 402(p)(2), discounting the full scope of its authority under § 402(p)(6). EPA argues that it permissibly interpreted § 402(p)(6) as allowing the residual designation authority because its language does not expressly preclude it, and because such authority is consistent with (and arguably required by) that section's mandate to establish a "comprehensive program" to protect water quality from adverse stormwater discharges. EPA maintains that the structure of § 402(p) reflects "Congress' intent to assure regulation of all problematic stormwater discharges as expeditiously as reasonably possible—not to limit EPA to a one-time-only opportunity to designate discharges for regulation."

[29] We review EPA's interpretation of the statute it administers with deference, *Royal Foods Co.,* 252 F.3d at 1106, and affirm this aspect of the Phase II Rule as a legitimate exercise of regulatory authority conferred by § 402(p). The residual designation authority is grounded both on § 402(p)(6), which broadly authorizes a comprehensive program to protect water quality, and on § 402(p)(2)(5), which authorizes case-by-case designation of certain polluters and categories of polluters.

While not a blank check, § 402(p)(6) authorizes a comprehensive program that allows regional designation of polluting discharges that compromise water quality locally, even if they have not been established as compromising water quality nationally at the time Phase II was promulgated. In allowing continuing designation authority, EPA permissibly designated a third category of dischargers subject to Phase II regulation—those established locally as polluting U.S. waters—following all required studies and consultation with state and local officials. EPA reasonably determined that discharges other than those from small MS4s and construction sites were likely to require regulation "to protect water quality" in satisfaction of the § 402(p)(6) mandate. EPA reasonably determined that, although it lacked sufficient data to support nationwide, categorical ***876** designation of these sources, particularized data might support their designations

on a more localized basis. EPA reasonably interpreted § 402(p)(6) as authorizing regional designation of sources and regional source categories, based on water quality standards including TMDLs.

Petitioners' § 402(p)(2)(5) argument (that EPA could not draw support for the residual designation authority from § 402(p)(2)(5) because such authority expired in 1994) is contradicted by the plain language of the statute. Respondent-intervenor NRDC correctly notes that § 402(p)(1) sets forth a permitting moratorium for stormwater discharges prior to 1994, and that § 402(p)(2) exempts certain categories of sources from that permitting moratorium, including those to be regulated on a case-by-case basis under § 402(p)(2)(5). Specifically, the statute provides that the 1994 date "shall not apply" to the five categories of discharges listed in § 402(p)(2). The termination of a moratorium that "shall not apply" to the continuing designation authority under § 402(p)(2)(5) cannot rescind EPA's authority to regulate sources in that category. Nothing in § 402(p) suggests that authority to designate these sources ends at any time, and EPA remains free to designate § 402(p)(2)(E) dischargers.

Finally, although Petitioners may be legitimately concerned that a permitting authority may designate a source without adequately establishing its eligibility, this issue must be addressed in the context of an actual case or controversy. Whether a NPDES authority may impose permitting requirements on a discharger without an adequate finding of polluting activity is not yet ripe for judicial review. *Thomas v. Anchorage Equal Rights Comm'n,* 220 F.3d 1134, 1141 (9th Cir.2000) ("A concrete factual situation is necessary to delineate the boundaries of what conduct the government may or may not regulate.").

2. Nondelegation Doctrine

[30] Industry Petitioners contend that EPA's interpretation of § 402(p) to allow the residual designation authority must be rejected because it would render the statute unconstitutional under the nondelegation doctrine. We deny petitioners' claim, both because it is not properly raised and because it rests on an interpretation explicitly overturned by the United States Supreme Court.

Petitioners base their contention on *American Trucking Ass'ns v. EPA,* 175 F.3d 1027, 1034 (D.C.Cir.1999),[64] in which the D.C. Circuit remanded a regulation under the nondelegation doctrine because, although EPA had applied reasonable factors in establishing the air quality standards in question, the agency had articulated no "intelligible principle" to channel its application of these factors. *Id.* Petitioners argue that if § 402(p) authorizes a NPDES permitting authority to require Phase II permitting of any stormwater source deemed to be a "significant contributor" of pollutants to U.S. waters, then that grant of authority likewise constitutes an unconstitutional delegation of legislative authority because —as did the *American Trucking* delegation—it "leaves [EPA] free to pick any point" at which a regulatory burden will attach. *Id.* at 1037.

However, in reversing *American Trucking,* the Supreme Court rejected the notion that an agency has the power to interpret a statute so as to either save it from being, or transform it into, an unconstitutional delegation. *Whitman v. Am. Trucking* ***877** *Ass'ns,* 531 U.S. 457, 473, 121 S.Ct. 903, 149 L.Ed.2d 1 (2001). Whether a statute delegates legislative power "is a question for the courts, and an agency's [interpretation] has no bearing upon the answer." *Id.* Petitioner's argument to the contrary rests on the very reasoning in *American Trucking* that was overturned in *Whitman.* The relevant question is not whether EPA's interpretation is unconstitutional, but whether the statute itself is unconstitutional—a challenge Industry Petitioners do not raise.

But even if the challenge were properly raised, § 402(p) would, like the Clean Air Act standard-setting provision at issue in *Whitman,* survive constitutional review. The Supreme Court has upheld against nondelegation attacks many similar statutes establishing nonquantitative standards. *Am. Power & Light Co. v. SEC,* 329 U.S. 90, 104, 67 S.Ct. 133, 91 L.Ed. 103 (1946) (upholding statute giving SEC authority to modify corporate structures so that they are not "unduly or unnecessarily complicate[d]" and do not "unfairly or inequitably distribute voting power among security holders");

Yakus v. United States, 321 U.S. 414, 419–20, 423–27, 64 S.Ct. 660, 88 L.Ed. 834 (1944) (upholding statute giving agency power to set prices that "will be generally fair and equitable"). In *Yakus,* the Court held that a statutory command to "effectuate the purposes" of the overall statutory scheme withstood scrutiny. *Id.* Section 402(p)(6)'s directive "to protect water quality" summarizes the central purpose of the Clean Water Act, "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," 33 U.S.C. § 1251(a). It establishes a determinate criterion of the kind the Supreme Court upheld in *Yakus* and *American Power & Light.*

3. Notice and Comment

[31] Industry Petitioners also contend that, to the extent it allows the designation of entire categories of sources, rather than individual sources, the residual designation authority violates the APA, 5 U.S.C. § 553(b)(3), because EPA did not provide public notice that it was considering such a rule. *Ober v. EPA,* 84 F.3d 304, 315 (9th Cir.1996) (invalidating EPA rule where it deviated from proposal); *Shell Oil Co. v. EPA,* 950 F.2d 741, 746–47 (D.C.Cir.1991). Petitioners contend that while the proposed rule would have allowed case-by-case designation where an authority "determines that the discharge contributes to a violation," 63 Fed. Reg. at 1635 (proposing 40 C.F.R. § 122.26(a)(9)(i)(D)), the final rule authorizes case-by-case designation where "the discharge, or category of discharges within a geographic area, contributes to a violation," 40 C.F.R. § 122.26(a)(9)(i)(D).

EPA notes that it had proposed to promulgate continuing designation authority in some form, and points to elements in the proposed rule that explicitly envision the categorical designation of sources at the local/watershed level. [65]

***878** According to the "logical outgrowth" standard, a final regulation must be "in character with the original proposal and a logical outgrowth of the notice and comments." *Hodge,* 107 F.3d at 712. EPA emphasized that it was considering continuing designations based on watershed data rather than designating these sources on a national basis, and invited comment regarding this proposal. 63 Fed. Reg. at 1536. This supports the necessary relationship between the proposed and final rule.

H. Regulatory Flexibility Act

The Industry Petitioners contend that the Phase II Rule will impose substantial compliance costs on their members and other small entities, but that EPA failed to conduct the analysis required by the Regulatory Flexibility Act ("RFA"), 5 U.S.C. §§ 601–11. They argue that EPA seeks to excuse its noncompliance by falsely certifying that the Rule does not have a significant impact on a substantial number of small entities. 64 Fed. Reg. at 68,800. We are not persuaded.

[32] The RFA requires a federal agency to prepare a regulatory flexibility analysis and an assessment of the economic impact of a proposed rule on small business entities, 5 U.S.C. § 604, unless the agency certifies that the proposed rule will not have a "significant economic impact on a substantial number of small entities" and provides a factual basis for that certification, *id.* at § 605; *N.W. Mining Ass'n v. Babbitt,* 5 F.Supp.2d 9, 15–16 (D.D.C.1998).

EPA did certify that the Phase II Rule would not yield "significant impacts," 64 Fed. Reg. at 68,800, but Petitioners contend this certification is erroneous because (1) EPA treats as "not significant" costs that are in fact significant, and (2) EPA failed to account for the entire universe of small entities affected (including small home construction contractors) and all significant costs to those entities. They urge that the failure to consider a significant segment of the affected small entity community requires invalidation of the Rule, citing *North Carolina Fisheries Ass'n v. Daley,* 27 F.Supp.2d 650, 659 (E.D.Va.1998) (certification failed to comply with RFA where agency ignored several categories of affected small entities), and *Northwest Mining,* 5 F.Supp.2d at 15 (RFA was violated where improper definition of small entity excluded analysis of affected entities).

EPA maintains that its certification was appropriate, and, moreover, that it has already voluntarily followed the additional RFA procedures that the Industry Petitioners now request. EPA argues that Petitioners have incorrectly

specified the costs that the small entities they represent will bear, referring erroneously to EPA's total annual compliance costs estimates for all entities, rather than to costs estimated for small entities as defined under the RFA. EPA maintains that it did consider economic impacts on small home construction contractors who might be denied discharge permits, and that it evaluated the annual costs of Phase II compliance associated with any land disturbance between one and five acres. 64 Fed. Reg. at 68,800–01.

Respondent-intervenor NRDC contends that Petitioners' reliance on measures of the aggregate impact of the Rule on small entities to determine compliance with the threshold test under the RFA fails as a matter of law because aggregate measures are not consistent with the statutory language setting out that test. NRDC notes that the plain language of § 605(b) sets out a three-component test indicating that EPA need not perform a regulatory flexibility analysis if it finds that the proposed ***879** rule will not have: (1) "a significant economic impact" on (2) "a substantial number" of (3) "small entities." 5 U.S.C. § 605(b). NRDC contends that EPA satisfied the statutory test, and that Petitioners' interpretation, which rewrites the test to omit the "substantial number" component, is erroneous.

[33] We believe NRDC correctly interprets the statute, *Marsh,* 490 U.S. at 378, 109 S.Ct. 1851, and that EPA reasonably certified that the Phase II Rule would not have a significant economic impact in compliance with the Regulatory Flexibility Act. We also conclude that, even if EPA had failed to properly comply with the procedural requirements of the RFA, its actual assessment of the Rule's economic impacts renders any defective compliance harmless error. In granting relief under RFA § 611, a court may order an agency "to take corrective action consistent with" the RFA and APA, including remand to the agency, 5 U.S.C. § 611(a)(4)(A), but EPA has already conducted the economic analyses Petitioners seek when it convened the "Small Business Advocacy Review Panel" before publishing notice of the proposed rule. 64 Fed. Reg. at 68,801. That Panel evaluated the Rule and considered the comments of small entities on a number of issues, consistent with the procedures described in RFA § 603. *Id.* Appendix 5 of EPA's preamble to the proposed rule explained provisions that had been designed to minimize impacts on small entities, based on advice and recommendations from the Panel. 63 Fed. Reg. 1615, 64 Fed. Reg. 68,811. Modifications for small entities included alternative compliance and reporting mechanisms responsive to the resources of small entities, simplified procedures, performance rather than design standards, and waivers.

Any hypothetical noncompliance would thus have been harmless, since the available remedy would simply require performance of the economic assessments that EPA actually made. Like the Notice and Comment process required in administrative rulemaking by the APA, the analyses required by RFA are essentially procedural hurdles; after considering the relevant impacts and alternatives, an administrative agency remains free to regulate as it sees fit. We affirm the Rule against this challenge. [66]

III.

CONCLUSION

We conclude that the EPA's failure to require review of NOIs, which are the functional equivalents of permits under the Phase II General Permit option, and its failure to make NOIs available to the public or subject to public hearings contravene the express requirements of the Clean Water Act. We therefore remand these aspects of the Small MS4 General Permit option so that EPA may take appropriate action to comply with the Clean Water Act. We also remand so that EPA may consider in an appropriate proceeding the Environmental Petitioners' contention that § 402(p)(6) requires EPA to regulate forest roads. We affirm all other aspects of the Phase II Rule against the statutory, administrative, and constitutional challenges raised in this action.

***880** Petitions for Review GRANTED IN PART and DENIED IN PART.

TALLMAN, Circuit Judge, concurring in part and dissenting in part:
I concur in most of the majority's opinion, but I dissent from Section II.B, which remands the Phase II Rule because its system of general permits is "arbitrary and capricious." I believe EPA's design of a system of general permits supported by notices of intent was a reasonable exercise of EPA's administrative discretion. We must give deference to EPA's interpretation of the laws it is charged with enforcing, so long as EPA's reading of those laws is permissible. Because EPA acted reasonably in designing a National Pollutant Discharge Elimination System ("NPDES") based on general permits and supported by NOIs, I respectfully dissent from the court's decision to remand this portion of the Phase II Rule.

I

As the majority concedes, we evaluate EPA's interpretation of the Clean Water Act with deference. Majority Op. 13796. If Congress's intent is unclear as to whether a system of general permits supplemented by NOIs is allowed, we simply ask "whether EPA's interpretation is permissible." *Ober v. Whitman,* 243 F.3d 1190, 1193 (9th Cir.2001).

II

As an initial matter, then, we must ask if Congress was clear in its intent concerning the propriety of a system of general permits augmented by NOIs.

Five legislative commands guide this inquiry. First, 33 U.S.C. § 1342(p)(6) charges EPA with creating a system to regulate stormwater discharges. Plainly, nothing in this section speaks to whether EPA may utilize a general permit approach in regulating stormwater discharge.

Second, 33 U.S.C. § 1311(a) makes it illegal to discharge pollutants "except as in compliance" with several sections of the Clean Water Act. Again, nothing in this section addresses whether EPA may make use of general permits reinforced by NOIs.

Third, 33 U.S.C. § 1342 in general (as opposed to the limited charge in section 1342(p)(6) discussed above) authorizes EPA to issue NPDES permits, provided that the permits satisfy several conditions. But nothing in section 1342 prohibits the use of a system of general permits.

Fourth, the Clean Water Act mandates that "a copy of each permit application and each permit issued under" the NPDES permitting program be made available to the public for inspection and photocopying. 33 U.S.C. § 1342(j). The Act does not elaborate on this naked requirement. There is no explanation of the manner in which NPDES permits and applications are to be made publicly available. Nor does the Act define what constitutes a "permit" that would trigger these requirements.

And fifth, the Clean Water Act authorizes the issuance of an NPDES "permit" "after opportunity for public hearing." 33 U.S.C. § 1342(a)(1). The Act does not provide a definition of "permit," nor does it further detail what triggers the requirement of a public hearing.

In short, the Clean Water Act fails to address the propriety of a general permit system, or whether NOIs ought to be considered "permits." Therefore, we should uphold EPA's creation of a system of general permits buttressed by NOIs so long as it is "permissible." *See* ***881** *Chevron, U.S.A., Inc. v. Natural Resources Defense Council,* 467 U.S. 837, 843–

44, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). Our duty to defer to EPA in such a situation is based on sound policy. Given the overwhelming challenge and complexity of the programs administered by federal agencies today, it is sensible to trust agencies with the design of those programs so long as the programs are reasonable interpretations of congressional mandates.

The central issues regarding EPA's general permit system are whether the Clean Water Act allows such a system and whether NOIs should be considered "permits." The resolution of these issues requires a complicated weighing of policies (e.g., administrative streamlining vs. robust inquiry) that is precisely what agencies are designed to do and courts are without the resources or expertise to do. "[I]f the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction." *Chevron,* 467 U.S. at 843, 104 S.Ct. 2778.

III

The Phase II Rule promulgates a system of general permits. EPA contemplated that these general permits will be issued on a watershed basis, with individual stormwater dischargers then filing NOIs to operate under general permits. The federal regulations implementing this system repeatedly emphasize that "[t]he use of general permits, instead of individual permits, reduces the administrative burden of permitting authorities, while also limiting the paperwork burden on regulated parties." 64 Fed. Reg. 68,722, 68,737, 68,762 (Dec. 8, 1999).

The use of a general permit system for the administration of the NPDES system has been considered and approved before. In *NRDC v. Costle,* 568 F.2d 1369 (D.C.Cir.1977), the District of Columbia Circuit considered a challenge to EPA's regulations under the Federal Water Pollution Control Act, which was the precursor to the Clean Water Act. In *Costle,* EPA sought approval of its design for the NPDES system. EPA had issued regulations exempting broad categories of point sources from the requirement that an NPDES permit be obtained before discharging into federal waters. Part of EPA's rationale in creating the exempted categories was that otherwise EPA would be overwhelmed by the administrative burden of issuing NPDES permits. *Id.* at 1377–79. The *Costle* court affirmed the lower court's rejection of these exemptions because the legislation in question plainly required that all point sources obtain some kind of NPDES permit. *Id.* But in rejecting EPA's regulations, the *Costle* court discussed the options available to EPA in promulgating an NPDES system that was considerate of the enormous burden such a system could impose on EPA. *Id.* at 1380–81. In particular, the court recommended "the use of area or general permits. *The Act allows such techniques.* Area-wide regulation is one well-established means of coping with administrative exigency." *Id.* at 1381 (emphasis added).

Against this backdrop, EPA's creation of a general permit system was entirely permissible. And if the creation of a general permit system is permissible, then it does not matter whether NOIs are given a public airing.

The majority contends that the general permit system prevents EPA from fulfilling its duty to make sure that municipalities do not discharge pollutants in violation of the Clean Water Act. The majority reasons that by failing to require EPA review of NOIs, the Rule fails to ensure that a regulated MS4's stormwater pollution control program will satisfy the Clean Water Act requirement that the MS4 "reduce ***882** discharges to the maximum extent practicable." Majority Op. 855. But the majority's analysis ignores the effects of the general permit. By filing an NOI, a discharger obligates itself to comply with the limitations and controls imposed by the general permit under which it intends to operate. EPA mandates that all permits (including general permits) condition their issuance on satisfaction of pollution limitations imposed by the Clean Water Act. 40 C.F.R. § 122.44. In particular, EPA requires permits to satisfy the restrictions imposed by Clean Water Act section 307(a). *Id.* at § 122.44(b)(1). Therefore, the *general permit* imposes the obligations with which the discharger must comply (including applicable Clean Water Act standards), and EPA's decision not to review every NOI is not a failure to insure compliance with the Clean Water Act.

The majority also objects to EPA's general permit system because it fails to allow for sufficient public participation in the NOIs. Majority Op. 856–858. The majority's position fails to give deference to EPA and imposes the majority's own wishes instead. EPA would have been justified in creating a system entirely reliant on general or area permits. Its imposition of NOIs is an indulgence to certain policy prerogatives, namely public involvement and the collection of additional information. But the power to create a general permit system necessarily implies the power to require subordinate steps for NOIs that do not quite reach the level of inquiry associated with actual permits.

IV

We function as an adjudicator of disputes, not as a policy-making body. Where an agency promulgates rules after a deliberative process, it is incumbent upon us to respect the agency's decisions or else risk trivializing the function of that agency. In this case, EPA made a permissible decision to create a general permit program supported by NOIs. Therefore, I respectfully dissent from Section II.B of the majority's opinion.

All Citations

344 F.3d 832, 57 ERC 1039, 33 Envtl. L. Rep. 20,269, 03 Cal. Daily Op. Serv. 8398, 2003 Daily Journal D.A.R. 10,479

Footnotes

1 The "Phase II Rule" reviewed here is the product of the second stage of EPA's two-phase stormwater rulemaking effort. The "Phase I Rule," governing larger-scale stormwater discharges, was issued in 1990 and reviewed by this court in *Natural Res. Def. Council v. EPA,* 966 F.2d 1292 (9th Cir.1992).

2 Richard G. Cohn–Lee and Diane M. Cameron, *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation,* THE ENVIRONMENTAL PROFESSIONAL, Vol. 14, p. 10, at 10 (1992); *see also Natural Res. Def. Council,* 966 F.2d at 1295 (citing a study by the Nationwide Urban Runoff Program).

3 Regulation for Revision of the Water Pollution Control Program Addressing Storm Water, 64 Fed. Reg. 68,722, 68,724, 68,727 (Dec. 8, 1999) (codified at 40 C.F.R. pts. 9, 122, 123, and 124).

4 *Id.* at 68,726.

5 *Id.*

6 *Id.* at 68,725–31.

7 A point source is "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14).

8 Diffuse runoff, such as rainwater that is not channeled through a point source, is considered nonpoint source pollution and is not subject to federal regulation. *Oregon Natural Desert Ass'n v. Dombeck,* 172 F.3d 1092, 1095 (9th Cir.1998).

9 National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges, 55 Fed. Reg. 47,990 (Nov. 16, 1990) (codified at 40 C.F.R. pt. 122–124). The Phase I rule was challenged in this court in *Natural Res. Def. Council,* 966 F.2d at 1292. We held, *inter alia,* that EPA must impose deadlines for permit approvals, *id.* at 1300, that EPA's decision to regulate construction sites only over five acres in size was arbitrary and capricious, *id.* at 1306, and that EPA did not act capriciously in defining "municipal," *id.* at 1304, or in placing differently-sized municipalities on different permitting schedules, *id.* at 1301.

10 Proposed Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 63 Fed. Reg. 1536 (proposed Jan. 9, 1998).

11 Pub. L. No. 106–74, § 431(a), 113 Stat. 1047, 1096 (1999) ("Appropriations, 2000—Department of Veterans Affairs and Housing and Urban Development, and Independent Agencies").

12 Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. 68,722 (Dec. 8, 1999) (codified at 40 C.F.R. pts. 9, 122, 123, and 124).

13 The Rule also allows a small MS4 to be regulated under an individual NPDES permit covering a nearby large or medium MS4, with provisions adapted to address the small MS4. 40 C.F.R. § 122.33(b)(3).

14 The text of that section reads: "Not later than October 1, 1993, [EPA], in consultation with state and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate." 33 U.S.C. § 1342(p)(6).

15 The lesser category of "permits" may also be implied by the inclusion of "performance standards" in the list of possible program features.

16 "Where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion." *Bates v. United States,* 522 U.S. 23, 29–30, 118 S.Ct. 285, 139 L.Ed.2d 215 (1997).

17 The Phase II Rule also allows a small MS4 to be regulated under an NPDES permit covering a nearby large or medium-sized MS4, with provisions adapted to address the small MS4. 40 C.F.R. § 122.33(b)(3).

18 The Municipal Petitioners argue that the Minimum Measures exceed EPA's statutory authority under § 402(p) of the Clean Water Act. We disagree. The list of elements for a regulatory program that appears in § 402(p)(6) is nonexclusive, and EPA's adoption of the Minimum Measures represents a permissible interpretation of its authority under § 402(p)(6). *See Chevron,* 467 U.S. at 843–44, 104 S.Ct. 2778.

The Municipal Petitioners argue that EPA is not entitled to *Chevron* deference, and that the Minimum Measures must be rejected absent a clear statement of congressional intent that EPA enact the Minimum Measures. The Municipal Petitioners argue that this clear statement requirement arises because there are "significant constitutional questions" about the permissibility of the Minimum Measures under the Tenth Amendment, and because the Minimum Measures alter "the federal-state framework by permitting federal encroachment upon a traditional state power." *Solid Waste Agency of N. Cook County v. Army Corps of Eng'rs,* 531 U.S. 159, 173, 121 S.Ct. 675, 148 L.Ed.2d 576 (2001).

As we explain, because the Phase II Rule includes at least one alternative to the Minimum Measures, *i.e.*, the option of seeking a permit under 40 C.F.R. § 122.26(d), the Minimum Measures do not present significant Tenth Amendment problems demanding a clear statement of congressional intent. Nor does the Phase II Rule alter the federal-state balance. To the contrary, the option of seeking a permit under 40 C.F.R. § 122.26(d) maintains precisely the same federal-state balance as existed prior to the Phase II Rule. *See, e.g., Natural Res. Def. Council v. EPA,* 966 F.2d 1292 (9th Cir.1992) (reviewing Phase I Rule); *Natural Res. Def. Council v. Costle,* 568 F.2d 1369, 1379 (D.C.Cir.1977) (denying EPA authority to exempt MS4s from regulation under the Clean Water Act). Furthermore, even if a clear statement of congressional intent were necessary, § 402(p) of the Clean Water Act is replete with clear statements that Congress intended EPA to require MS4s either to obtain NPDES permits or to stop discharging stormwater.

19 This subsection provides that permit seekers must, "[t]o the extent allowable under State, Tribal, or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into your storm sewer systems and implement appropriate enforcement procedures and actions...." 40 C.F.R. § 122.34(b)(3)(ii)(B).

20 This subsection provides that permit seekers "must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.... [The] program must include the development and implementation of, at a minimum: (A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law; (B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices; (C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality; (D) Procedures for site plan review which incorporate consideration of potential water quality impacts; (E) Procedures for receipt and consideration of information submitted by the public, and (F) Procedures for site inspection and enforcement control measures." 40 C.F.R. §§ 122.34(b)(4)(i)-(ii).

21 This subsection provides that permit seekers must "[u]se an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects [disturbing one acre or more] to the extent allowable under State, Tribal or local law." 40 C.F.R. §§ 122.34(b)(5)(ii)(B).

22 EPA and NRDC also argue that the Minimum Measures are facially constitutional, and that the Phase II Rule presents no Tenth Amendment difficulties because operators of small MS4s may avoid stormwater regulation entirely by electing not to discharge stormwater into federal waters in the first place. In light of our holding with regard to the Alternative Permit option, we do not consider these arguments.

23 We decline to address two further arguments raised by EPA: first, that municipalities do not receive full First Amendment protections, under *Muir v. Alabama Educational Television Commission,* 688 F.2d 1033, 1038 n. 12 (5th Cir.1982) (*en banc*) ("Government expression, being unprotected by the First Amendment, may be subject to legislative limitation which would be impermissible if sought to be applied to private expression ...."), and *Aldrich v. Knab,* 858 F.Supp. 1480, 1491 (W.D.Wash.1994) (holding that "unlike private broadcasters, the state itself does not enjoy First Amendment rights"), and second, that even if the First Amendment were fully applicable, the Phase II regulations would satisfy them because MS4s may avoid the compulsion to speak by seeking a permit under the Alternative option, 40 C.F.R. § 122.26(d)(2)(iv), rather than under the Minimum Measures.

24 As a subsidiary matter, we note that it also falls short of compelling the MS4 to "regulate" third parties in contravention of the Tenth Amendment. Dispensing information to facilitate public awareness about safe disposal of toxic materials constitutes "encouragement," not regulation.

25 "When the constitutional validity of a statute or regulation is called into question, it is a cardinal rule that courts must first determine whether a construction is possible by which the constitutional problem may be avoided." *Meinhold,* 34 F.3d at 1476.

26 In its most recent treatment of compelled speech, the Supreme Court held that a generic advertising campaign violated free speech where the message was specific and antagonistic to the preferred advertising message of the plaintiff, and the regulation compelling participation was not part of a broader regulatory apparatus already constraining the plaintiff's autonomy in the relevant arena. *United States Dep't. of Agriculture v. United Foods,* 533 U.S. 405, 410–17, 121 S.Ct. 2334, 150 L.Ed.2d 438 (2001). The court distinguished this advertising program from the one in *Glickman* on the latter point: "[t]he program sustained in *Glickman* differs from the one under review in a most fundamental respect. In *Glickman* the mandated assessments for speech were ancillary to a more comprehensive program restricting market autonomy." *Id.* at 411, 121 S.Ct. 2334. Although the Phase II Rule is not an advertising or marketing regulation, it constitutes a "comprehensive program" restricting the autonomy of MS4s in the relevant arena of controlling toxic discharges to storm sewers that drain to U.S. waters.

27 In deciding the similar question of whether a regulation impermissibly compelled speech by requiring manufacturers of mercury-containing products to inform consumers how to dispose safely of the toxic material, the Second Circuit held that "mandated disclosure of accurate, factual, commercial information does not offend the core First Amendment values of promoting efficient exchange of information or protecting individual liberty interests." *Nat'l Elec. Mfrs. Ass'n v. Sorrell,* 272 F.3d 104, 114 (2d Cir.2001). What speech may follow from the Phase II directive will not be "commercial" in the same sense that manufacturer labeling is, but it will be similar in substance to *Sorrell* to the extent that it informs the public how to dispose safely of toxins. We think the policy considerations underlying the commercial speech treatment of labeling requirements, *see, e.g.,* the Federal Cigarette Labeling and Advertising Act, 15 U.S.C. §§ 1333–39, apply similarly in the context of the market-participant municipal storm sewer provider.

28 The Alternative option contains a public education requirement that is similar but even less specific, and therefore even less burdensome, than the requirements in the Minimum Measures. *See* § 122.26(d)(2)(iv)(B)(6) (requiring permit seekers to propose programs to counter illicit discharges, including a "description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials").

29 Municipal Petitioners concede that "simplified individual permit application requirements" were discussed, but they contend that the permit requirements discussed are not sufficiently similar to those promulgated to establish a logical outgrowth.

30 EPA argues that the Environmental Petitioner's challenge is not ripe for review because "the question of whether some general permit somewhere might fail to assure that pollutants are reduced to the maximum extent practicable is not ripe for review." But we are not addressing the merits of any specific permit. Rather, the question before us "is purely one of statutory interpretation that would not benefit from further factual development of the issues presented." *Whitman v. American Trucking,* 531 U.S. 457, 479, 121 S.Ct. 903, 149 L.Ed.2d 1 (2001). Specifically, we are addressing whether EPA, in promulgating the Phase II Rule, has accomplished the substantive controls for municipal stormwater that Congress mandated in § 402(p) of the Clean Water Act. As we held in *Natural Resources Defense Council v. EPA,* 966 F.2d at 1296–97, 1308, this question is ripe for review.

31 Petitioners suggest that EPA should be held to the standard it espoused to procure judicial approval for the Phase I program. In 1991, responding to NRDC's assertion that the Phase I Rule failed to set "hard criteria" for review of MS4 stormwater programs, EPA responded that "inadequate proposals will result in the denial of permit applications." Respondent's Brief at 67, *Natural Res. Def. Council v. EPA,* 966 F.2d 1292 (9th Cir.1992) (Nos. 91–70200, 91–70176, & 90–70671). Petitioners contend that this court relied on that representation in ruling for EPA on that issue. *Natural Res. Def. Council v. EPA,* 966 F.2d at 1308 n. 17 ("Individual NPDES permit writers ... will decide whether application proposals are adequate....").

32 That the Rule allows a permitting authority to review an NOI is not enough; every permit must comply with the standards articulated by the Clean Water Act, and unless every NOI issued under a general permit is reviewed, there is no way to ensure that such compliance has been achieved.

> The regulations do require NPDES permitting authorities to provide operators of small MS4s with "menus" of management practices to assist in implementing their Minimum Measures, *see* 40 C.F.R. § 123.35(g), but again, nothing requires that the combination of items that the operator of a small MS4 selects from this "menu" will have the combined effect of reducing discharges to the maximum extent practicable.
>
> Nor is the availability of citizen enforcement actions a substitute for EPA's enforcement responsibility, especially because, as discussed below, the Rule does not require that NOIs be publicly available. Absent review on the front end of permitting, the general permitting regulatory program loses meaning even as a procedural exercise.

33 EPA identifies no other general permitting program that leaves the choice of substantive pollution control requirements to the regulated entity, and we are not persuaded by the analogy it urges to the traditional model of general permitting (where NOIs routinely are not reviewed), because, as we have noted, the Phase II general permit model is substantially dissimilar.

34 In its petition for rehearing, EPA argues for the first time that because the regulations require NPDES Permitting Authorities to include in general permits "any additional measures necessary" to ensure that the maximum extent practicable standard is met, 40 C.F.R. §§ 123.35(h)(1), 123.35(f) (incorporating by reference the "maximum extent practicable" requirement of 40 C.F.R. §§ 122.34(a)), 122.34(f) (requiring small MS4s to comply with additional measures), the Phase II Rule ensures that discharges will be reduced to the maximum extent practicable.

> The trouble with EPA's reasoning is that the Phase II Rule defines the "maximum extent practicable" standard in such a way that no "additional measures" will ever be necessary under § 123.35(h)(1). While a Permitting Authority may impose additional measures, nothing compels it to do so because, merely by implementing the best management practices that the operator of a small MS4 has chosen for itself, that small MS4 will already have met the "maximum extent practicable" standard. *See* 40 C.F.R. § 122.34(a).

35 EPA argues for the first time in its petition for rehearing that NOIs will be publicly available under 40 C.F.R. § 122.34(g)(2). Addressing operators of regulated small MS4s, this section provides: "You must make your records, including a description of your storm water management program, available to the public at reasonable times during regular business hours." While this section does seem to provide for the public availability of a small MS4's records, we are troubled that nothing in EPA's initial briefs indicated that EPA considered NOIs to be subject to this section. We normally defer to an agency's interpretations of its own regulations, but we may decline to defer to the *post hoc* rationalizations of appellate counsel. *See, e.g., Martin v. Occupational Safety and Health Review Commission,* 499 U.S. 144, 150, 156, 111 S.Ct. 1171, 113 L.Ed.2d 117 (1991). If EPA intends this section to provide for the public availability of NOIs—for example because it intends NOIs to be among the records subject to this section—it may clarify on remand.

36 Agency determinations based on the record are reviewed under the "arbitrary and capricious" standard. 5 U.S.C. § 706(2)(A). The standard is narrow and the reviewing court may not substitute its judgment for that of the agency. *Marsh,* 490 U.S. at 378, 109 S.Ct. 1851. However, the agency must articulate a rational connection between the facts found and the conclusions made. *Washington v. Daley,* 173 F.3d 1158, 1169 (9th Cir.1999). The reviewing court must determine whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. *Marsh,* 490 U.S. at 378, 109 S.Ct. 1851. The court may reverse under the "arbitrary and capricious" standard only if the agency:

> has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43, 103 S.Ct. 2856.

37 EPA explains that the Group A facilities were not regulated with the other Phase I sources because EPA used Standard Industrial Classification Index (SIC) codes in defining the universe of regulated industrial activities: "By relying on SIC codes, a classification system created to identify industries rather than environmental impacts from these industries [sic] discharges, some types of storm water discharges that might otherwise be considered 'industrial' were not included in the existing NPDES storm water program." 64 Fed. Reg. at 68,779.

38 As discussed in footnote 37, Group A facilities were not regulated with other Phase I industrial sources based on a government coding system used to distinguish different types of industry (without reference to their similar environmental impacts). *See* 64 Fed. Reg. at 68,779.

39 "In identifying potential categories of sources for designation in today's notice, EPA considered designation of discharges from Group A and Group B facilities. EPA applied three criteria to each potential category in both groups to determine the need for designation: (1) The likelihood for exposure of pollutant sources included in that category, (2) whether such sources

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were adequately addressed by other environmental programs, and (3) whether sufficient data were available at this time on which to make a determination of potential adverse water quality impacts for the category of sources. As discussed previously, EPA searched for applicable nationwide data on the water quality impacts of such categories of facilities...."

> "EPA's application of the first criterion showed that a number of Group A and B sources have a high likelihood of exposure of pollutants.... Application of the second criterion showed that some categories were likely to be adequately addressed by other programs."

"After application of the third criterion, availability of nationwide data on the various storm water discharge categories, EPA concluded that available data would not support any such nationwide designations. While such data could exist on a regional or local basis, EPA believes that permitting authorities should have flexibility to regulate only those categories of sources contributing to localized water quality impairments.... If sufficient regional or nationwide data become available in the future, the permitting authority could at that time designate a category of sources or individual sources on a case-by-case basis." 64 Fed. Reg. at 68,780.

40 *Guidance Specifying Management Measures For Sources of Nonpoint Pollution in Coastal Waters,* EPA guidance paper 840–B–93–001c (Jan. 1993), *available at* http:// www.epa.gov/owow/nps/mmgi/index.html (last visited Sept. 18, 2002) ("Coastal Waters").

41 The provision provides in full as follows:

> Silvicultural point source means any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. The term does not include non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a CWA section 404 permit (See 33 CFR 209.120 and part 233).

40 C.F.R. § 122.27(b)(1).

42 Nonpoint Source Pollution: The Nation's Largest Water Quality Problem, EPA841–F–96–004A ("Pointer # 1") ("The latest *National Water Quality Inventory* indicates that agriculture is the leading contributor to water quality impairments, degrading 60 percent of the impaired river miles and half of the impaired lake acreage surveyed by states, territories, and tribes.").

43 The Municipal Petitioners join in asserting the "regulatory basis" claim at Part II(F)(1).

44 NRDC argues that this claim is not only meritless for the reasons stated by EPA, but also frivolous, since industry petitioner National Association of Home Builders, as a member of the FACA Phase II Subcommittee, participated in and affirmed that such consultation took place.

45 *See Natural Res. Def. Council,* 966 F.2d at 1306 (remanding EPA's decision to regulate only construction sites disturbing more than five acres, after EPA had initially proposed to regulate all sites disturbing more than one acre).

46 The Industry Petitioners contend that EPA lacked authority to issue the Phase II regulation of construction sites based on a process EPA itself characterized as "separate and distinct" from the development of the Report to Congress. 64 Fed. Reg. at 68,732. They add that the Phase II Rule was not "based on" the 1999 Report ultimately requested by Congress in the Appropriations Act, since EPA's report in response was released on the very day that the final Phase II Rule was published.

47 Since we have already determined that AF & PA lacks standing to raise any of its claims, *see* Section D above, this discussion pertains to the remaining Industry Petitioner, National Association of Home Builders.

48 Although the issue of Municipal Petitioners' standing has not been raised by the parties, we are obliged to consider it to determine whether the case-or-controversy requirement of Article III is satisfied. *See, e.g., Boeing Co. v. Van Gemert,* 444 U.S. 472, 488 n. 4, 100 S.Ct. 745, 62 L.Ed.2d 676 (1980); *Juidice v. Vail,* 430 U.S. 327, 331, 97 S.Ct. 1211, 51 L.Ed.2d 376 (1977).

49 Even if the statute *were* ambiguous, we would defer to EPA's reasonable interpretation. *Chevron,* 467 U.S. at 843–44, 104 S.Ct. 2778.

50 The Industrial Petitioners argue that although the Phase I authorizing statute required EPA to regulate all sources associated with "industrial activity," Congress expressly directed that the Phase II regulatory program be focused on sources that require regulation "to protect water quality." They assert that because EPA's rule ignores the variability of water quality impacts nationwide, the Rule is not appropriately targeted on the protection of water quality.

51 Petitioners heavily critique two studies relied on by EPA that dealt specifically with the water quality impacts of small construction sites, noting that one concludes it is impossible to generalize about the impacts of small sites, Lee H. MacDonald, *Technical Justification for Regulating Construction Sites 1–5 Acres in Size,* July 22, 1997, and that the other merely concludes that small sites "can have" significant effects if erosion controls are not implemented, David W. Owens, et al., *Soil Erosion*

from Small Construction Sites. Petitioners contend that the latter study was managed with no erosion controls, intentionally producing worst-case sediment runoff and unreasonable estimates of actual sediment yields for small sites nationwide. EPA vigorously defends the studies.

52 NRDC adds that notwithstanding the clear interest of the National Association of Home Builders ("NAHB," one of the Industry Petitioners), NAHB's multi-year participation in the FACA Phase II Subcommittee Small Construction and No–Exposure Sites Work Group, and NAHB's own submission of detailed comments on the proposed Rule, NAHB failed to enter into the administrative record any study contradicting the proposition that small construction sites cause water quality problems. NRDC points to the record's showing that NAHB had itself proposed that regulation of construction sites of two acres or greater was appropriate, and contends that this is thus not a dispute over whether small construction sites should be regulated on a nationwide basis, but instead a technical disagreement over whether EPA should establish a one-acre threshold or a different threshold on a similar small scale.

53 Whitney Brown and Deborah Caraco, *Controlling Stormwater Runoff Discharges from Small Construction Sites: A National Review,* Task 5 Final Report submitted by the Center for Watershed Protection to the EPA Office of Wastewater Management, March 1997, IP E.R. 633, 643.

54 EPA adds that operators of small sites in areas unlikely to suffer adverse impacts may apply for a permit waiver if little or no rainfall is expected during the period of construction (the "rainfall erosivity waiver") or if regulation is unnecessary based on a location-specific evaluation of water quality (the "water quality waiver"). 64 Fed. Reg. at 68,776.

55 EPA also implies permission to regulate for potential cumulative impacts of small sites from the past directive of this court. When the Phase I industrial discharge regulations were challenged, we found no record data to support that rule's exemption of construction activities on less than five acres and held that small sites did not categorically qualify for a *de minimis* exemption because "even small construction sites can have a significant impact on local water quality." *Natural Res. Def. Council,* 966 F.2d at 1306.

56 The "substantial evidence" standard requires a showing of such relevant evidence as a reasonable mind might accept as adequate to support a conclusion. *Edlund v. Massanari,* 253 F.3d 1152, 1156 (9th Cir.2001).

57 EPA further argues that even if the waiver provision were properly characterized as an evidentiary presumption, it should be sustained because the record demonstrates that the presumed fact of the water quality impact of small sites is more likely true than not.

58 EPA notes that the Phase II Rule empowers regional permitting authorities to regulate local sources of these types known to be responsible for harmful water quality impacts via the continuing "residual designation" authority (an aspect of the Rule that Petitioners also challenge).

59 TMDLs are pollutant loading limits established by NPDES permitting authorities under the Clean Water Act for waters that do not meet a water quality standard due to the presence of a pollutant. *See* 33 U.S.C. § 1313(d).

60 This section enables a NPDES permitting authority to designate for regulation: "[a] discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." 33 U.S.C. § 1342(p)(2)(E).

61 Notably, Industry Petitioner NAHB itself took the position during Phase II Subcommittee proceedings that the power to designate additional sources survived the promulgation of the Phase II Rule. In a 1996 comment letter to EPA, NAHB asserted its understanding that "[t]he permitting authority still reserves the right to designate additional sources if they are shown to be a contributor of water quality impairment." NRDC Supplemental Excerpts of Record at 58.

62 The full text of § 402(p)(6), which specifically authorizes the Phase II program, reads: "Not later than October 1, 1993, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate." 33 U.S.C. § 1342(p)(6).

63 Petitioners further argue that even if EPA could preserve the case-by-case authority conferred in § 402(p)(2)(E), that section confers authority only to regulate "a discharge" determined to threaten water quality, not a category of discharges. However, we agree with respondent-intervenor NRDC's argument that § 402(p)(2)(E) does not preclude EPA from designating entire categories of sources. Petitioners' argument follows from its reliance on the fact that § 402(p)(2)(E) refers to "discharge" in the singular rather than the plural to conclude that EPA may only designate sources meeting the § 402(p)(2)(E) description on a case-by-case basis. But all five of the § 402(p)(2)(5) categories refer to "discharge" in the singular, even in reference to discharges clearly intended for categorical regulation, like "a discharge from a municipal separate storm sewer system serving

a population of 250,000 or more." 33 U.S.C. § 1342(p)(2)(C). The error in petitioners' interpretation is exposed by 1 U.S.C. § 1, which provides that "[i]n determining the meaning of any Act of Congress, unless the context indicates otherwise—words importing the singular include and apply to several persons, parties, or things."

64 This case was reversed in relevant part by the Supreme Court in *Whitman v. Am. Trucking Ass'ns,* 531 U.S. 457, 476, 121 S.Ct. 903, 149 L.Ed.2d 1 (2001).

65 "[T]oday's proposal would encourage [voluntary] control of stormwater discharges ... unless the discharge (or category of discharges) is individually or locally designated as described in the following section. The necessary data to support designation could be available on a local, regional, or watershed basis and would allow the NPDES permitting authority to designate a category of sources or individual sources on a case-by-case basis. If sufficient nationwide data [becomes] available in the future, EPA could at that time designate additional categories of industrial or commercial sources on a national basis. EPA requests comment on the three-pronged analysis used to assess the need to designate additional industrial or commercial sources and invites suggestions regarding watershed-based designation." 63 Fed. Reg. at 1588.

66 Our consideration of the issue at all may be gratuitous, since petitioners failed to submit timely comment disputing the adequacy of EPA's consideration of economic impacts on small businesses proposed at 63 Fed. Reg. at 1605–07. *United States v. L.A. Tucker Truck Lines,* 344 U.S. 33, 37, 73 S.Ct. 67, 97 L.Ed. 54 (1952) ("[C]ourts should not topple over administrative decisions unless the administrative body not only has erred but has erred against objection made at the time appropriate under its practice.").

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ATTACHMENT C-5

KeyCite Yellow Flag - Negative Treatment
Disagreement Recognized by American Farm Bureau Federation v. U.S. E.P.A., 3rd Cir.(Pa.), July 6, 2015

446 F.3d 140
United States Court of Appeals,
District of Columbia Circuit.

FRIENDS OF THE EARTH, INC., Appellant
v.
ENVIRONMENTAL PROTECTION AGENCY, et al., Appellees.

No. 05–5015.
|
Argued March 2, 2006.
|
Decided April 25, 2006.

Synopsis

Background: Environmental group petitioned for review of decision of Environmental Protection Agency (EPA) to approve certain total maximum daily loads (TMDLs) for pollutants discharged into river, alleging that disputed TMDLs, which did not limit daily discharges, violated Clean Water Act (CWA) and implementing regulations. The Court of Appeals, 333 F.3d 184, dismissed petitions and transferred case. The United States District Court for the District of Columbia, 346 F.Supp.2d 182, granted EPA's motion for summary judgment. Environmental group appealed.

Holdings: The Court of Appeals, Tatel, Circuit Judge, held that:

[1] CWA unambiguously required establishment of daily loads, and therefore EPA could not approve seasonal or annual loads;

[2] EPA could not avoid literal interpretation of statutory term "daily" on grounds of absurdity;

[3] purported tension between Combined Sewer Overflow Control (CSO) Policy and TMDLs did not provide basis for interpreting "daily" to mean timeframe other than daily; and

[4] District of Columbia's recent revisions to water quality standards for river did not render action moot.

Reversed and remanded with instructions.

West Headnotes (12)

[1] **Administrative Law and Procedure** Environment and health
Environmental Law Water pollution

Inasmuch as Congress charged Environmental Protection Agency (EPA) with implementation of Clean Water Act (CWA), review of EPA's interpretation of phrase "total maximum daily load" under CWA was governed

by *Chevron* standard. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

3 Cases that cite this headnote

[2] **Administrative Law and Procedure** Plain, literal, or clear meaning;ambiguity

When court reviews agency interpretation of statute under *Chevron* standard, if Congress has directly spoken to the precise question at issue, that is the end of the matter.

2 Cases that cite this headnote

[3] **Environmental Law** Daily maximum load and limited segments

Given determination by Environmental Protection Agency (EPA) that all pollutants were suitable for calculation of total maximum daily loads (TMDLs), Clean Water Act (CWA) required District of Columbia to establish TMDL for each pollutant that contributed to river's violation of water quality standards for dissolved oxygen and turbidity. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

3 Cases that cite this headnote

[4] **Environmental Law** Daily maximum load and limited segments

Clean Water Act (CWA) unambiguously required establishment of total maximum daily loads (TMDLs) for waters failing to achieve water quality standards, and therefore Environmental Protection Agency (EPA) could not approve seasonal or annual loads, notwithstanding EPA's contention that some pollutants were poorly suited to daily load regulation; if certain pollutants were unsuitable for daily load limits, EPA could reconsider its earlier regulation providing that all pollutants were suitable for calculation of TMDLs. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

8 Cases that cite this headnote

[5] **Environmental Law** Daily maximum load and limited segments

Environmental Protection Agency (EPA) could not avoid the congressional intent clearly expressed in text of Clean Water Act (CWA) simply by asserting that its preferred approach would be better policy. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., as amended, 33 U.S.C.A. § 1251 et seq.

2 Cases that cite this headnote

[6] **Administrative Law and Procedure** Plain, literal, or clear meaning;ambiguity

Court cannot set aside statute's plain language simply because agency implementing statute thinks it leads to undesirable consequences in some applications.

1 Cases that cite this headnote

[7] **Administrative Law and Procedure** Plain, literal, or clear meaning;ambiguity

To avoid a literal interpretation of statute it is charged with implementing on grounds of absurdity, agency must show either that, as a matter of historical fact, Congress did not mean what it appears to have said, or that, as a matter of logic and statutory structure, it almost surely could not have meant it.

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6 Cases that cite this headnote

[8] **Environmental Law** Daily maximum load and limited segments

Environmental Protection Agency (EPA) could not avoid, on absurdity grounds, literal interpretation of term "daily" as used in provision of Clean Water Act (CWA) requiring establishment of total maximum daily loads (TMDLs) for waters failing to achieve water quality standards, given EPA's concession that establishing daily loads made sense for many pollutants, precluding finding that, as a matter of logic and statutory structure, Congress almost surely could not have meant to require daily loads. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

4 Cases that cite this headnote

[9] **Environmental Law** Daily maximum load and limited segments

Purported tension between flexible approach to water quality problems presented by combined stormwater-sewer systems taken by Combined Sewer Overflow Control (CSO) Policy and allegedly rigid mandates imposed by total maximum daily loads (TMDLs) required by Clean Water Act (CWA) for waters not achieving water quality standards did not provide basis for interpreting term "daily," as used in CWA provision requiring TMDLs, to mean timeframe other than daily; subsequent amendments to CWA requiring permits for discharges from combined systems to conform to CSO Policy did not provide context in which phrase "total maximum daily load" had to be read, and nothing in CSO Policy validated interpreting "daily" to mean something else. Federal Water Pollution Control Act, § 402(q), 33 U.S.C.A. § 1342(q); Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

Cases that cite this headnote

[10] **Statutes** Post-enactment legislative history

Post-enactment legislative history is inherently entitled to little weight in interpreting statute.

Cases that cite this headnote

[11] **Environmental Law** Mootness

District of Columbia's recent revisions to water quality standards for river did not render "moot" action in which environmental group challenged approval by Environmental Protection Agency (EPA) of total maximum daily loads (TMDLs) that did not limit daily discharges of pollutants, inasmuch as disputed TMDLs were not repealed or superseded, and EPA regulations required discharge permits to incorporate effluent limitations consistent with assumptions and requirements of any available wasteload allocation for the discharge prepared by state and approved by EPA pursuant to its authority to approve TMDLs. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C); D.C. Mun.Regs. tit. 21, § 1104.8; 40 C.F.R. § 122.44(d)(1)(vii)(B).

7 Cases that cite this headnote

[12] **Administrative Law and Procedure** Presumptions

Courts assume that agencies follow their own regulations.

2 Cases that cite this headnote

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***142** Appeal from the United States District Court for the District of Columbia (No. 04cv00092).

Attorneys and Law Firms

Howard I. Fox argued the cause and filed the briefs for appellant.

John A. Bryson, Attorney, U.S. Department of Justice, argued the cause for federal appellees. With him on the brief were Greer S. Goldman, Attorney, and James H. Curtin and Stefania D. Shamet, Counsels, U.S. Environmental Protection Agency.

David E. Evans argued the cause for appellee District of Columbia Water and Sewer Authority. With him on the brief was Stewart T. Leeth.

F. Paul Calamita, John A. Sheehan, and Alexandra Dapolito Dunn were on the brief for amici curiae Combined Sewer Overflow Partnership and National Association of Clean Water Act Agencies in support of appellees.

Before: TATEL, BROWN, and GRIFFITH, Circuit Judges.

Opinion

TATEL, Circuit Judge.

****3** This case poses the question whether the word "daily," as used in the Clean Water Act, is sufficiently pliant to mean a measure of time other than daily. Specifically, the Environmental Protection Agency (EPA) takes the position that Congress, in requiring the establishment of "total maximum daily loads" to cap effluent discharges of "suitable" pollutants into highly polluted waters, left room for EPA to establish seasonal or annual loads for those same pollutants. The district court found EPA's contextual and policy arguments sufficiently persuasive to disregard the plain meaning of "daily," but we do not. Daily means daily, nothing else. If EPA believes using daily loads for certain types of pollutants has undesirable consequences, then it must either amend its regulation designating all pollutants as "suitable" for daily loads or take its concerns to Congress. We therefore reverse and remand with instructions to vacate the non-daily "daily" loads.

I.

Flowing from Maryland through the northeast and southeast quadrants of Washington, D.C. and a stone's throw away from the site for the Washington Nationals' new stadium, the Anacostia River has "the dubious distinction of being one of the ten most polluted rivers in the country." *Kingman Park Civic Ass'n v. EPA,* 84 F.Supp.2d 1, 4 (D.D.C.1999). As such, it falls far short of meeting water quality standards set pursuant to the Clean Water Act (CWA) and designed to protect designated recreational uses like fishing and swimming. 33 U.S.C. § 1311(b)(1)(C) (mandating the achievement of water quality standards); 47 D.C.Reg. 284, 284–85 (Jan. 21, 2000) (to be codified at D.C. Mun. Regs., tit. 21, § 1101.1) (establishing water quality standards ****4** ***143** based on uses including "primary contact recreation" and "consumption of fish & shellfish").

For bodies of water, like the Anacostia River, that fail to meet applicable water quality standards, the CWA requires states (defined by the Act to include the District of Columbia, 33 U.S.C. § 1362(3)) to establish a "total maximum daily load," or TMDL,

> for those pollutants which the Administrator identifies ... as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.

Id. § 1313(d)(1)(C). In 1978, EPA issued a regulation deeming "*[a]ll pollutants* ... suitable for the calculation of total maximum daily loads." Total Maximum Daily Loads Under Clean Water Act, 43 Fed.Reg. 60,662, 60,665 (Dec. 28, 1978) (emphasis added). This regulation remains unchanged today.

Once approved by EPA, TMDLs must be incorporated into permits allocating effluent discharges among all pollution sources, including point sources (like factories) and non-point sources (like storm-water run-off). *See* 33 U.S.C. § 1342(a)(1) (authorizing EPA to issue effluent discharge permits "upon condition that such discharge will meet ... [among other requirements] all applicable requirements under section[ ] 1311"); *id.* § 1311(b)(1)(C) (mandating the achievement of "any more stringent limitation, including those necessary to meet water quality standards"); *see also* 40 C.F.R. § 122.44(d)(1)(vii)(B) (requiring permitting authority to set effluent limits "consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA"). If pollution loads stay below the applicable TMDLs for a given body of water, then in theory the body of water should achieve its water quality standards.

This case arises from the violation of two of the Anacostia's key water quality standards. First, because the river contains many biochemical pollutants that consume oxygen, its dissolved oxygen level has sunk below the applicable water quality standard, putting the river's aquatic life at risk of suffocation. Second, the river is murkier than the applicable turbidity standard allows, stunting the growth of plants that rely on sunlight and impairing recreational use.

To remedy these violations, EPA approved one TMDL limiting the *annual* discharge of oxygen-depleting pollutants, and a second limiting the *seasonal* discharge of pollutants contributing to turbidity. *See* Letter from Rebecca Hanmer, Dir., Water Prot. Div., EPA, to James R. Collier, Chief, Bureau of Envtl. Quality (Dec. 14, 2001) (oxygen-depleting substances); EPA, Total Suspended Solids, Total Maximum Daily Loads for the Anacostia River, D.C. (Mar.2002) (total suspended solids). Neither TMDL limited daily discharges.

Appellant Friends of the Earth (FoE) petitioned this court for review of the TMDL approvals, arguing (among other things) that the CWA requires the establishment of "total maximum *daily* loads," not seasonal or annual loads. Concluding that we lacked subject matter jurisdiction, we transferred the case to the U.S. District Court, *Friends of the Earth v. EPA,* 333 F.3d 184 (D.C.Cir.2003), which granted EPA's motion for summary judgment, *Friends of the Earth v. EPA,* 346 F.Supp.2d 182 (D.D.C.2004). The court held that "the text of the CWA does not ****5** ***144** reveal a clear congressional intent to require EPA to calculate only daily TMDLs," *id.* at 189, found EPA's resolution of the resulting ambiguity reasonable, and concluded that the TMDL approvals were neither arbitrary nor capricious. This appeal followed.

II.

[1] **[2]** Because Congress has charged EPA with the CWA's implementation, we review the agency's interpretation of the phrase "total maximum daily load" under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.,* 467 U.S. 837, 842–43, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). *See Natural Res. Def. Council, Inc. v. EPA,* 859 F.2d 156, 202 (D.C.Cir.1988) (applying *Chevron* to EPA's interpretation of the CWA). Critically, if "Congress has directly spoken to the precise question at issue ..., that is the end of the matter." *Chevron,* 467 U.S. at 842–43, 104 S.Ct. 2778. So here.

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[3] We begin, as always, with the statute's language. For waters that fail to achieve water quality standards, *see* 33 U.S.C. § 1313(d)(1)(A), the CWA provides that "[e]ach state shall establish ... the total maximum *daily* load, for those pollutants which the Administrator identifies ... as suitable for such calculation," *id.* § 1313(d)(1)(C) (emphasis added). Because EPA has found "[a]ll pollutants ... suitable for the calculation of total maximum daily loads," 43 Fed.Reg. at 60,665, it follows that the CWA requires the District of Columbia to establish a "total maximum daily load" for each pollutant that contributes to the Anacostia's violation of the dissolved oxygen and turbidity standards.

[4] Nothing in this language even hints at the possibility that EPA can approve total maximum "seasonal" or "annual" loads. The law says "daily." We see nothing ambiguous about this command. "Daily" connotes "every day." *See Webster's Third New International Dictionary* 570 (1993) (defining "daily" to mean "occurring or being made, done, or acted upon every day"). Doctors making daily rounds would be of little use to their patients if they appeared seasonally or annually. And no one thinks of "[g]ive us this day our daily bread" as a prayer for sustenance on a seasonal or annual basis. *Matthew* 6:11 (King James).

When asked at oral argument how Congress could have spoken more clearly, EPA's counsel responded that "one way it could do that ... is to say that the ... total maximum daily load shall be expressed as a quantity per day or average per day or something like that." Tr. of Oral Arg. at 19. But a load expressed as a quantity per day is no different from a daily load, and we have never held that Congress must repeat itself or use extraneous words before we acknowledge its unambiguous intent. *See New York v. EPA,* 443 F.3d 880, 883 (D.C.Cir.2006) (refusing to require Congress "to use superfluous words"). If Congress wanted seasonal or annual loads, it could easily have authorized them by calling for "total maximum daily, seasonal, or annual loads." Or by providing for the establishment of "total maximum loads," Congress could have left a gap for EPA to fill. Instead, Congress specified "total maximum *daily* loads." We cannot imagine a clearer expression of intent.

EPA urges us to read the phrase in context, emphasizing that TMDLs must "be established at a level necessary to implement the applicable water quality standards." 33 U.S.C. § 1313(d)(1)(C). According to EPA, "[t]hat Congress took the step of elaborating on what a TMDL should be is a strong indication that it was not using the word 'daily' as the exclusive ****6** ***145** expression of its intent on the question of how a TMDL should be established." Fed. Appellees' Br. 26–27. This cannot be right. As written, the statute requires states to establish daily loads that *also* meet applicable water quality standards. The existence of two conditions does not authorize EPA to disregard one of them.

As additional context—albeit context appearing nowhere in the TMDL approvals themselves—EPA tells us that some pollutants are poorly suited to daily load regulation. Discharges of such pollutants, EPA explains, might not immediately affect water quality, but could instead inflict environmental damage over a longer period. For example, oxygen-demanding pollutants could deplete dissolved oxygen quite slowly, perhaps over the course of an entire year. Similarly, turbidity-increasing pollutants could impede plant growth if they block sunlight over the course of a growing season. In EPA's view, bodies of water can therefore sometimes tolerate large one-day discharges of certain pollutants without violating water quality standards or causing undue environmental harm, so long as seasonal or annual discharges remain relatively low. According to EPA, the many ways in which pollutants damage the environment call for a more flexible understanding of "daily."

[5] Even if we assume the validity of this argument, EPA must address it to Congress, which, by using the word "daily," settled the question of what period a "total maximum load" should cover. EPA may not "avoid the Congressional intent clearly expressed in the text simply by asserting that its preferred approach would be better policy." *Engine Mfrs. Ass'n v. EPA,* 88 F.3d 1075, 1089 (D.C.Cir.1996). The agency's claim might have more force if, for some class of pollutants, daily load limits conflicted with the requirement that TMDLs "implement the applicable water quality standards." 33 U.S.C. § 1313(d)(1)(C). But all water bodies can achieve water quality standards if their TMDLs are set low enough—if all else fails, they can be set to zero—and the two requirements therefore never conflict with each other.

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[6] Nor can we set aside a statute's plain language simply because the agency thinks it leads to undesirable consequences in some applications. We made this abundantly clear in *Sierra Club v. EPA,* 294 F.3d 155 (D.C.Cir.2002), where EPA took a strikingly similar position to the one it advances here. There, we considered a challenge to EPA's extension of the District of Columbia's attainment deadline for achieving the Clean Air Act's ozone standards. *Id.* at 158. Justifying the extension, EPA asserted that because the District's ozone pollution came entirely from upwind states, holding the District to a strict statutory deadline would be unnecessarily punitive and run counter to the Act's purposes. *Id.* at 160. "[A]s a matter of logic and statutory structure," EPA argued, "Congress almost surely could not have meant to require the Agency to treat the Washington Area as one of severe nonattainment merely because its attainment has been temporarily stalled due to transported pollution." *Id.* at 161 (internal quotation marks and citations omitted).

Roundly rejecting this argument, we explained:

> The most reliable guide to congressional intent is the legislation the Congress enacted and, as we have seen, the Act itself reveals no intention to allow for an extension in circumstances like those affecting the Washington Area. Similarly, it is of no moment that the extension may be, as the Agency claims, "a reasonable accommodation of ... the statutory attainment date and interstate transport ****7** ***146** provisions"; it is not the accommodation the Congress made.

Id. (omission in original). Here, as in *Sierra Club,* EPA advances a reasonable policy justification for deviating from an environmental statute's plain language. Our answer is the same: "[t]he most reliable guide to congressional intent is the legislation the Congress enacted." *Id.* Just as EPA may not extend a deadline in contravention of a plain congressional mandate, the agency may not fulfill its obligation to establish daily loads by approving non-daily loads, whatever the wisdom of that "accommodation."

We have even less sympathy for EPA's argument given that the agency's predicament is largely of its own creation. The CWA requires the establishment of TMDLs only for "suitable" pollutants, 33 U.S.C. § 1313(d)(1)(C), and although a 1978 EPA regulation provides that "[a]ll pollutants ... are suitable for the calculation of total maximum daily loads," 43 Fed.Reg. at 60,665, EPA conceded at oral argument that nothing forecloses the agency from reconsidering that position. Given that EPA's entire justification for establishing non-daily loads is that certain pollutants are unsuitable for daily load limits, we are at a loss as to why it neglected this straightforward regulatory fix in favor of the tortured argument that "daily" means something other than daily. At any rate, EPA can change its regulation; we cannot rewrite the Clean Water Act.

[7] **[8]** As a fallback, EPA asks us to adopt the reasoning in *Natural Resources Defense Council, Inc. v. Muszynski,* 268 F.3d 91 (2d Cir.2001), in which the Second Circuit held that reading "daily" to mean daily would be "absurd, especially given that for some pollutants, effective regulation may best occur by some other periodic measure than a diurnal one." *Id.* at 99. In this circuit, however, agencies seeking to demonstrate absurdity have an exceptionally high burden: "for the EPA to avoid a literal interpretation ..., it must show either that, as a matter of historical fact, Congress did not mean what it appears to have said, or that, as a matter of logic and statutory structure, it almost surely could not have meant it." *Engine Mfrs. Ass'n,* 88 F.3d at 1089. Here, EPA has failed to make such a showing for a simple reason: as counsel conceded at oral argument, establishing daily loads makes perfect sense for many pollutants. Given this concession, we see no way to conclude that "as a matter of logic and statutory structure, [Congress] almost surely could not have meant" to require daily loads.

[9] We next consider the argument raised by intervenor District of Columbia Water and Sewer Authority (WASA), which operates sewers and wastewater treatment facilities in the District. As background, WASA explains that, as in many older municipalities, part of the District has a "combined sewer system" in which stormwater and sewage travel through the same pipes to the same treatment plants. While this system effectively minimizes pollution discharges most of the time, heavy storms cause it to overflow. When that happens, as it does with some regularity in the District, raw sewage spills from the overtaxed sewer system into nearby waters, including the Anacostia River.

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Acknowledging that combined sewer systems pose delicate water quality problems, Congress amended the CWA in 2000 to provide that every permit issued "for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy [CSO Policy] signed by the Administrator on April 11, 1994." Consolidated Appropriations Act, 2001, Pub.L. No. 106–554, app. D § 112(a) (2000), 114 Stat. ****8** ***147** 2763, 2763A–224 (codified at 33 U.S.C. § 1342(q)). The CSO Policy, in turn, represents EPA's effort to guide municipalities seeking to minimize effluent discharge from their existing sewage infrastructure. To that end, the CSO Policy requires municipalities with combined sewer systems to develop long-term control plans reflecting hard-nosed assessments of cost-effective ways to regulate overflow discharges. Combined Sewer Overflow (CSO) Control Policy, 59 Fed.Reg. 18,688, 18,691–94 (Apr. 19, 1994). The CSO Policy explicitly "recognizes the site-specific nature of [combined sewer overflows] and their impacts and provides the necessary flexibility to tailor controls to local situations. Major elements of the Policy ensure that CSO controls are cost effective and meet the objectives and requirements of the CWA." *Id.* at 18,688.

As WASA sees it, the tension between the CSO Policy's flexible approach and the rigid mandates imposed by daily loads forms part of the context within which we must interpret the word "daily." Indeed, WASA asserts, insisting on daily loads would require the "complete separation" of the sewer system—that is, the prohibitively expensive construction of independent stormwater and sewage pipes. WASA Br. 22 (emphasis omitted). It is for this reason that WASA, like EPA, urges us to interpret the word "daily" more flexibly than normally permitted in the English language.

[10] WASA's argument suffers from at least three defects. First, we fail to see the relevance of the 106th Congress's opinion about what the 92nd Congress meant by "daily." While we agree that we must read the phrase "total maximum daily load" in context, *see FDA v. Brown & Williamson Tobacco Corp.,* 529 U.S. 120, 132–33, 120 S.Ct. 1291, 146 L.Ed.2d 121 (2000), the context here is the Clean Water Act Amendments *of 1972,* Pub.L. No. 92–500, 86 Stat. 816, not amendments enacted almost three decades later. "[P]ost-enactment legislative history," after all, "is not only oxymoronic but inherently entitled to little weight." *Cobell v. Norton,* 428 F.3d 1070, 1075 (D.C.Cir.2005); *see also United States v. Price,* 361 U.S. 304, 313, 80 S.Ct. 326, 4 L.Ed.2d 334 (1960) (holding that "the views of a subsequent Congress form a hazardous basis for inferring the intent of an earlier one"). Second, the tension between the CSO Policy's flexibility and the perceived rigidity of daily loads exists only if daily loads must of necessity be set so low that any storm-event discharge would violate them—a premise unsupported anywhere in the record. And third, even if the record did support the premise, nothing in the CSO Policy validates interpreting "daily" to mean something other than daily. Quite to the contrary, the policy expressly states that following it must "ultimately result in compliance with the requirements of the CWA," 59 Fed.Reg. at 18,691, and one of those requirements is establishing daily loads for waters failing to meet water quality standards.

[11] **[12]** We come next to EPA's last-ditch contention—raised only the day before oral argument—that the District of Columbia's recent revisions to the Anacostia's water quality standards moot this case. *See* 52 D.C.Reg. 9621, 9628–29 (Oct. 28, 2005) (to be codified at D.C. Mun. Regs., tit. 21, § 1104.8). Both WASA and FoE disagree, as do we. The TMDLs at issue here have never been repealed or superseded, and EPA regulations require discharge permits to incorporate effluent limitations "consistent with the assumptions and requirements of *any available wasteload allocation* for the discharge prepared by the State and approved by EPA" pursuant to its authority to approve TMDLs. 40 C.F.R. § 122.44(d)(1)(vii)(B) ****9** ***148** (emphasis added). Because we assume agencies follow their own regulations, *see Citizens to Preserve Overton Park, Inc. v. Volpe,* 401 U.S. 402, 415, 91 S.Ct. 814, 28 L.Ed.2d 136 (1971) (agencies are "entitled to a presumption of regularity"), the case is hardly moot.

III.

For the foregoing reasons, we remand to the district court with instructions to vacate EPA's approvals. *See* 5 U.S.C. § 706(2) (providing that "the reviewing court shall ... hold unlawful and set aside agency action, findings, and conclusions found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law"). In doing so, we

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recognize that neither FoE nor EPA wants the Anacostia River to go without dissolved oxygen and turbidity TMDLs. The district court retains some remedial discretion, however, and the parties may move to stay the district court's order on remand to give either the District of Columbia a reasonable opportunity to establish daily load limits or EPA a chance to amend its regulation declaring "all pollutants ... suitable" for daily loads. *See Cement Kiln Recycling Coal. v. EPA,* 255 F.3d 855, 872 (D.C.Cir.2001) ("Because this decision leaves EPA without standards regulating [hazardous waste conductor] emissions, EPA ... may file a motion to delay issuance of the mandate to request either that the current standards remain in place or that EPA be allowed reasonable time to develop interim standards."); *Nat'l Treasury Employees Union v. Horner,* 854 F.2d 490, 501 (D.C.Cir.1988) ("Because we are not in the best position to determine the shortest reasonable timetable ..., we remand the case for [the] district court to establish, in consultation with the parties, an expedited schedule for further rulemaking proceedings consistent with this opinion."); Kristina Daugirdas, Note, *Evaluating Remand Without Vacatur,* 80 N.Y.U. L.Rev. 278, 307 & n.141 (2005) (recommending as a remedial option "vacating the agency rules upon remand, but delaying issuance of the mandate for a limited period of time"). The merits of any such motion are of course the district court's to evaluate.

IV.

To sum up, nothing in this record tempts us to substitute EPA's policy preference for the CWA's plain language. While Congress almost assuredly never considered combined sewer systems when enacting the CWA, it spoke unambiguously in requiring daily loads. If adherence to this mandate leads to unintended consequences for water quality or for municipal pocketbooks, interested parties should direct their concerns to EPA or to Congress, either of which can take steps to mitigate any fallout from the CWA's unambiguous directive. We, however, have no such authority.

So ordered.

All Citations

446 F.3d 140, 62 ERC 1161, 371 U.S.App.D.C. 1, 36 Envtl. L. Rep. 20,077, 53 A.L.R. Fed. 2d 577

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ATTACHMENT C-6

725 F.3d 1194
United States Court of Appeals,
Ninth Circuit.

NATURAL RESOURCES DEFENSE COUNCIL, INC.; Santa Monica Baykeeper, Plaintiffs–Appellants,
v.
COUNTY OF LOS ANGELES; Los Angeles County Flood Control District; Michael Antonovich, in his official capacity as Supervisor; Yvonne Burke, in her official capacity as Supervisor; Gloria Molina, in her official capacity as Supervisor; Zev Yaroslavsky, in his official capacity as Supervisor; Dean D. Efstathiou, in his official capacity as Acting Director of Los Angeles County Department of Public Works; Don Knabe, in his official capacity as Supervisor, Defendants–Appellees.

No. 10–56017.
|
Aug. 8, 2013.

Synopsis

Background: Environmental organizations brought action against California municipal entities, alleging that they were discharging urban stormwater runoff into navigable waters in violation of the Clean Water Act (CWA). The United States District Court for the Central District of California, A. Howard Matz, J., entered a partial final judgment in favor of defendants, and plaintiffs appealed. On denial of rehearing en banc, the Court of Appeals, 673 F.3d 880, affirmed in part, reversed in part, and remanded. Certiorari was granted. —— U.S. ——, 133 S.Ct. 710, 184 L.Ed.2d 547, reversed and remanded.

[Holding:] On remand, the Court of Appeals, Milan D. Smith, Jr., held that pollution exceedances detected at monitoring stations of County of Los Angeles and Los Angeles County Flood Control District were sufficient to establish County defendants' liability as matter of law for violations of terms of their National Pollutant Discharge Elimination System (NPDES) permit.

Reversed and remanded.

West Headnotes (9)

[1] **Environmental Law** Discharge of pollutants

In nearly all cases, a National Pollutant Discharge Elimination System (NPDES) permit is required before anyone may lawfully discharge a pollutant from a point source into the navigable waters of the United States. Clean Water Act, §§ 301(a), 402, 33 U.S.C.A. §§ 1311(a), 1342.

9 Cases that cite this headnote

[2] **Environmental Law** Reporting, notice, and monitoring requirements

Pollution exceedances detected at monitoring stations of County of Los Angeles and Los Angeles County Flood Control District were sufficient to establish County defendants' liability as matter of law for violations

of terms of their National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to Clean Water Act, since data collected at monitoring stations was intended to determine whether permittees were in compliance with permit, and extrinsic considerations, including Clean Water Act's monitoring requirements, also supported that conclusion; limiting permittee's responsibility to "discharge[s] for which it is the operator" applied to appropriate remedy for permit violations, not to liability for those violations. Clean Water Act, § 402(a)(2), (k), 33 U.S.C.A. § 1342(a)(2), (k); 40 C.F.R. §§ 122.26(d)(2)(i)(F), 122.41(a), 122.44(i)(1); Restatement (Second) of Contracts § 203(a).

9 Cases that cite this headnote

[3] **Federal Courts** Mandate

No opinion of the circuit becomes final until the mandate issues. F.R.A.P.Rule 41(c), 28 U.S.C.A.

3 Cases that cite this headnote

[4] **Federal Courts** Law of the case in general

Federal Courts Mandate

Earlier judgment by Court of Appeal was not final, and it could not be considered the law of the case, since mandate in case had not issued.

3 Cases that cite this headnote

[5] **Environmental Law** Violations and liability in general

A permittee violates the CWA when it discharges pollutants in excess of the levels specified in the permit, or where the permittee otherwise violates the permit's terms. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k); 40 C.F.R. § 122.41(a).

10 Cases that cite this headnote

[6] **Environmental Law** Discharge of pollutants

If the language of a National Pollutant Discharge Elimination System (NPDES) permit, considered in light of the structure of the permit as a whole, is plain and capable of legal construction, the language alone must determine the permit's meaning; however, if the permit's language is ambiguous, a court may turn to extrinsic evidence to interpret its terms. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k); 40 C.F.R. § 122.41(a).

13 Cases that cite this headnote

[7] **Environmental Law** Discharge of pollutants

A court must give effect to every word or term in a National Pollutant Discharge Elimination System (NPDES) permit and reject none as meaningless or surplusage; therefore, a court must interpret the permit in a manner that gives full meaning and effect to all of the permit's provisions and avoid a construction of the permit that focuses only on a few isolated provisions. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k); 40 C.F.R. § 122.41(a); Restatement (Second) of Contracts § 203(a).

5 Cases that cite this headnote

[8] **Environmental Law** Discharge of pollutants

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One of a court's obligations in interpreting an National Pollutant Discharge Elimination System (NPDES) permit is to determine the intent of the permitting authority; thus, a court gives significant weight to any extrinsic evidence that evinces the permitting authority's interpretation of the relevant permit. Clean Water Act, § 402(a)(2), (k), 33 U.S.C.A. § 1342(a)(2), (k); 40 C.F.R. §§ 122.26(d)(2)(i)(F), 122.41(a), 122.44(i)(1).

5 Cases that cite this headnote

[9] **Environmental Law** Discharge of pollutants

A court does not defer to the interpretation of CWA National Pollutant Discharge Elimination System (NPDES) permit by a regional board. Clean Water Act, § 402, 33 U.S.C.A. § 1342.

11 Cases that cite this headnote

Attorneys and Law Firms

***1196** Aaron Colangelo, Natural Resources Defense Council, Washington, D.C.; Daniel Cooper, Lawyers for Clean Water, San Francisco, CA, for Plaintiffs–Appellants.

Andrea Sheridan Ordin, Judith A. Fries, Laurie Dods, Los Angeles County Department of County Counsel, Howard Gest and David W. Burhenn, Burhenn & Gest LLP, Los Angeles, CA, for Defendants–Appellees.

On Remand from the United States Supreme Court. D.C. No. 2:08–cv–01467–AHM–PLA.

Before: HARRY PREGERSON and MILAN D. SMITH, JR., Circuit Judges, and H. RUSSEL HOLLAND, Senior District Judge. *

OPINION

M. SMITH, Circuit Judge:

Plaintiffs–Appellants Natural Resources Defense Council and Santa Monica Baykeeper (collectively, the Plaintiffs) filed suit against the County of Los Angeles and the Los Angeles County Flood Control District (collectively, the County Defendants) alleging that the County Defendants are discharging polluted stormwater in violation of the terms of their National Pollutant Discharge Elimination System (NPDES) permit, issued pursuant to the Federal Water Pollution Control Act (the Clean Water Act, Act, or CWA), 86 Stat. 816, codified as amended at 33 U.S.C. §§ 1251, *et seq.* The district court granted the County Defendants' motion for summary judgment, reasoning that Plaintiffs failed to prove that any *individual* defendant had discharged pollutants in violation of the Clean Water Act, where Plaintiffs' only evidence of violations was monitoring data taken downstream of the County Defendants' (and others') discharge points, as opposed to data sampled at the relevant discharge points themselves. On appeal, we affirmed the district court's judgment in part and reversed in part. *Natural Res. Def. Council, Inc. v. Cnty. of L.A.*, 673 F.3d 880 (9th Cir.2011). On January 8, 2013, the Supreme Court reversed our judgment and remanded this case to us for further proceedings. *L.A. Cnty. Flood Control Dist. v. Natural Res. Def. Council, Inc.*, —— U.S. ——, 133 S.Ct. 710, 184 L.Ed.2d 547 (2013). On February 19, 2013, we ordered the parties to file supplemental briefs addressing the implications of the Supreme Court's ruling. Having considered the Supreme Court's ruling, the responses of the parties in their supplemental briefs, and other matters noted ***1197** herein, we now conclude that the pollution exceedances detected at the County Defendants' monitoring stations are sufficient to establish the County Defendants' liability for NPDES permit violations as a matter of law. Accordingly, we once again reverse the district court's grant of summary judgment in favor of the County

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Defendants, and remand to the district court for a determination of the appropriate remedy for the County Defendants' violations.

FACTUAL BACKGROUND

I. Stormwater Runoff in Los Angeles County

Stormwater runoff is surface water generated by precipitation events, such as rainstorms, which flows over streets, parking lots, commercial sites, and other developed parcels of land. When stormwater courses over urban environs, it frequently becomes polluted with contaminants, such as "suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, [and] pesticides[.]" [1] *Envtl. Def. Ctr., Inc. v. EPA,* 344 F.3d 832, 840 (9th Cir.2003). This polluted stormwater often makes its way into storm drains and sewers, which "generally channel collected runoff into federally protected water bodies," *id.,* such as rivers and oceans. Consequently, stormwater runoff has been recognized as "one of the most significant sources of water pollution in the nation, at times comparable to, if not greater than, contamination from industrial and sewage sources." *Id.* (citation omitted).

Los Angeles County (the County) is home to more than 10 million people and covers a sprawling amalgam of populous incorporated cities and significant swaths of unincorporated land. The Los Angeles County Flood Control District (the District) is a public entity governed by the Los Angeles County Board of Supervisors and the Los Angeles County Department of Public Works. The District comprises 84 cities and some unincorporated areas of the County. The County and the District are separate legal entities.

Each city in the District operates a municipal separate storm sewer system (ms4) [2] that is composed of gutters, catch basins, storm drains, and pipes that collect and convey stormwater. The County also operates its own ms4 that primarily collects and conveys stormwater runoff in the unincorporated areas of the County. Each of these ms4s connects to the District's substantially larger ms4, an extensive flood-control and storm-sewer infrastructure ***1198** consisting of approximately 500 miles of open channels and 2,800 miles of storm drains. Because a comprehensive map of the County Defendants' storm sewer system does not exist, no one knows the exact size of the LA MS4 [3] or the locations of all of its storm drain connections and outfalls. [4] But while the number and location of storm drains and outfalls are too numerous to catalog, it is undisputed that the LA MS4 collects and channels stormwater runoff from across the County. It is similarly undisputed that untreated stormwater is discharged from LA MS4 outfalls into various watercourses, including the Los Angeles and San Gabriel Rivers. [5] These rivers, in turn, drain into several coastal waters, including, among others, the Santa Monica Bay and the Pacific Ocean.

II. The County Defendants' NPDES Permit

[1] Section 301(a) of the CWA prohibits the "discharge of any pollutant" from any "point source" into "navigable waters" unless the discharge complies with certain other sections of the CWA. [6] *See* 33 U.S.C. § 1311(a). One of those sections is section 402, which provides for the issuance of NPDES permits. 33 U.S.C. § 1342. In nearly all cases, an NPDES permit is required before anyone may lawfully discharge a pollutant from a point source into the navigable waters of the United States. *See Arkansas v. Oklahoma,* 503 U.S. 91, 101–02, 112 S.Ct. 1046, 117 L.Ed.2d 239 (1992); *Environmental Law Handbook* 323 (Thomas F.P. Sullivan ed., 21st ed.2011).

Congress has empowered the EPA Administrator to delegate NPDES permitting authority to state agencies. 33 U.S.C. § 1342(b). Pursuant to this authority, the EPA has authorized the State of California to develop water quality standards and issue NPDES permits. Pursuant to the Porter–Cologne Water Quality Control Act, California state law designates the State Water Resources Control Board and ***1199** nine regional boards as the principal state agencies charged with enforcing federal and state water pollution laws and issuing NPDES permits. *See* Cal. Water Code §§ 13000 *et seq.* The

entity responsible for issuing permits in the Los Angeles area is the California State Water Resources Control Board for the Los Angeles Region (the Regional Board).

On June 18, 1990, the Regional Board first issued an NPDES permit (the Permit) regulating stormwater discharges by the County, the District, and the 84 incorporated municipalities in the District (collectively, the Permittees). The Permit has subsequently been renewed or amended several times, and the version of the Permit at issue in this litigation came into force on December 13, 2001. [7] The Permit covers all relevant discharges that occur "within the boundaries of the Permittee municipalities ... over which [the municipalities have] regulatory jurisdiction as well as unincorporated areas in Los Angeles County within the jurisdiction of the Regional Board."

The Permit runs to 99 pages and contains a myriad of rules, regulations, and conditions regarding the Permittees' operation of the LA MS4. However, only two sets of the Permit's provisions are particularly relevant to this appeal; those contained in Part 2, titled "Receiving Water Limitations," and those contained in the section titled "Monitoring and Reporting Program."

Part 2 places limits on the type and amount of pollutants the Permittees may lawfully discharge from the LA MS4. Specifically, Part 2 prohibits "discharges from the [LA] MS4 that cause or contribute to the violation of the Water Quality Standards or water quality objectives." [8] The Permit defines "Water Quality Standards and Water Quality Objectives" as "water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federal approved surface water quality plans." [9] Succinctly put, the Permit incorporates the pollution standards promulgated in other agency documents such as the Basin Plan, and prohibits stormwater discharges that "cause or contribute to the violation" of those incorporated standards. The Permit further provides that the Permittees "shall comply" with the LA MS4 discharge prohibitions outlined in Part 2 "through timely implementation of control measures and other actions to reduce pollutants in the[ir LA MS4] discharges...."

The Monitoring and Reporting Program complements Part 2. Under that program, the Permittees are required to monitor the impacts of their LA MS4 discharges on water quality and to publish the results of all pollution monitoring at least annually. The primary objectives of the monitoring program include "assessing compliance" with the Permit, "measuring and improving the effectiveness" of the Los Angeles Countywide Stormwater Quality Management Program (SQMP), [10] and assessing ***1200** the environmental impact of urban runoff on the receiving waters in the County.

One of the principal ways the Permittees are required to monitor their LA MS4 discharges is through mass-emissions monitoring. Mass-emissions monitoring measures all constituents present in water, and the readings give a cumulative picture of the pollutant load in a waterbody. The Permit requires the District, as Principal Permittee, to conduct mass-emissions monitoring at seven enumerated monitoring stations located throughout the County. The District is also responsible for analyzing the resulting data and submitting a comprehensive report of its findings. [11] According to the Permit, the purpose of mass-emissions monitoring is to: (1) estimate the mass emissions from the LA MS4; (2) assess trends in the mass emissions over time; and (3) determine if the LA MS4 is contributing to exceedances of Water Quality Standards by comparing the monitoring results to the applicable pollution standards promulgated in the Basin Plan and similar documents.

The Permittees sited a mass-emissions monitoring station in both the Los Angeles and San Gabriel Rivers (collectively, the Monitoring Stations). The Los Angeles River monitoring station is located in a channelized portion of the Los Angeles River that runs through the City of Long Beach. [12] The San Gabriel River monitoring station is located in a channelized portion of the San Gabriel River that runs through the City of Pico Rivera. The Monitoring Stations are located downstream of numerous LA MS4 outfalls controlled by the County Defendants and various other non-party Permittees.

Between 2002 and 2008, when this case was filed, the District published annual monitoring reports that contain the data that the District collected at the Monitoring Stations. According to those reports, the Monitoring Stations identified 140 separate exceedances of the Permit's water quality standards, including excessive levels of aluminum, copper, cyanide, zinc, and fecal coliform bacteria in both the Los Angeles and San Gabriel Rivers. The County Defendants do not dispute the accuracy of the monitoring data.

PROCEDURAL BACKGROUND

Using the monitoring data self-reported by the District, Plaintiffs cataloged the ***1201** water quality exceedances measured in various receiving waters in the County. Beginning on May 31, 2007, Plaintiffs sent a series of notice letters to the County Defendants informing them that Plaintiffs believed that they were violating the terms of the Permit. [13] Specifically, Plaintiffs contended that the water quality exceedances documented in the District's monitoring reports demonstrated liability under the CWA. Dissatisfied with the County Defendants' response to these letters, Plaintiffs brought this citizen-enforcement action on March 3, 2008. After the district court dismissed certain elements of the Plaintiffs' initial complaint because notice of the Permit violations was defective, Plaintiffs sent the County Defendants an adequate notice letter on July 3, 2008.

Plaintiffs filed their First Amended Complaint on September 18, 2008. In the complaint, Plaintiffs asserted six causes of action under the CWA. Four of the Plaintiffs' claims, which the district court designated the "Watershed Claims," were initially before us on appeal. The first three Watershed Claims allege that, beginning in 2002 or 2003, the County Defendants caused or contributed to exceedances of water quality standards in the Santa Clara River (Claim 1), the Los Angeles River (Claim 2), and the San Gabriel River (Claim 3), in violation of 33 U.S.C. §§ 1311(a), 1342(p). The fourth Watershed Claim alleges that, beginning in 2002, County Defendants caused or contributed to exceedances of the water quality standards and violated the total maximum daily load limits in Malibu Creek. All of the Watershed Claims rest on the same premise: (1) the Permit incorporates water-quality limits for each receiving water body; (2) mass-emissions monitoring stations have recorded pollutant loads in the receiving water bodies that exceed those permitted under the relevant standards; (3) an exceedance constitutes non-compliance with the Permit and, thereby, the Clean Water Act; and (4) County Defendants, as holders of the Permit and joint operators of the LA MS4, are liable for these exceedances under the Act.

Early in the litigation, the district court bifurcated liability and remedy, and all proceedings related to remedy were stayed until liability was determined. On March 2, 2010, the district court denied all parties' cross-motions for summary judgment with regard to liability. *NRDC v. Cnty. of L.A.,* No. CV 08–1467–AHM, 2010 WL 761287 (C.D.Cal. Mar. 2, 2010), *amended on other grounds,* 2011 WL 666875 (C.D.Cal. Jan. 27, 2011). Although the district court accepted Plaintiffs' arguments that the Permit "clearly prohibits 'discharges from the [LA] MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives,' " 2010 WL 761287, at *6, and that mass-monitoring stations "are the proper monitoring locations to determine if the [LA] MS4 is contributing to exceedances" of the Water Quality Standards or water quality objectives, *id.,* the district court held that Plaintiffs were improperly attempting to use the District's self-reported monitoring data to establish liability without presenting evidence that any individual defendant was discharging pollutants that "cause[d] or contribute[d] to the violation" of the water quality standards. *Id.* The district court observed that although "the District is responsible for the pollutants in the [LA] MS4" at the time they pass the Monitoring Stations, "that does not necessarily determine the question of whether the water passing by these points is a ***1202** 'discharge' within the meaning of the Permit and the Clean Water Act." *Id.* at *7. Unable to determine whether any of the County Defendants' upstream LA MS4 outflows were contributing polluted stormwater to navigable waters, the district court stated that "Plaintiffs would need to present some evidence (monitoring data or an admission) that some amount of a standards-exceeding pollutant is being discharged through at least one District outlet." *Id.* at *8.

Following supplemental briefing, the district court again determined that "Plaintiffs failed to present evidence that the standards-exceeding pollutants passed through the Defendants' [LA] MS4 *outflows* at or near the time the exceedances were observed. Nor did Plaintiffs provide any evidence that the mass emissions stations themselves are located at or near a Defendant's outflow." The district court thus entered summary judgment for the County Defendants on the Watershed Claims.

On June 9, 2010, the district court entered a partial final judgment on the Watershed Claims under Fed.R.Civ.P. 54(b). The court reasoned that an interlocutory appeal was appropriate because the Watershed Claims are "factually and legally severable" from the Plaintiffs' other claims and "[t]he parties and the Court would benefit from appellate resolution of the central legal question underlying the watershed claims: what level of proof is necessary to establish defendants' liability." The Plaintiffs timely appealed.

On appeal, the Plaintiffs pressed the same legal argument they advanced in the district court: that the data published in the County Defendants' annual monitoring reports—data which shows undisputed pollution exceedances at the mass-emissions monitoring stations—conclusively establishes the County Defendants' liability for Permit violations as a matter of law. Like the district court, we rejected this contention and held that the Plaintiffs must submit at least some additional proof of the County Defendants' *individual* contributions to the measured Permit violations. *See Natural Res. Def. Council,* 673 F.3d at 898 (noting that "the Clean Water Act does not prohibit 'undisputed' exceedances; it prohibits 'discharges' that are *not* in compliance with the Act.... While it may be undisputed that exceedances have been detected, responsibility for those exceedances requires proof that some entity discharged a pollutant.").

Nonetheless, we held the District liable for CWA violations in the Los Angeles and San Gabriel Rivers because we concluded that the mass-emissions monitoring stations for each river are "located in a section of the [LA] MS4 owned and operated by the District" and that "when pollutants were detected, they had not yet exited the point source into navigable waters." *Id.* at 899. We further clarified that "[t]he [relevant] discharge from a point source occurred when the still-polluted stormwater flowed out of the concrete channels where the Monitoring Stations are located, through an outfall, and into the navigable waterways. We agree with Plaintiffs that the precise location of each outfall is ultimately irrelevant because there is no dispute that [the LA] MS4 eventually adds stormwater to the Los Angeles and San Gabriel Rivers downstream from the Monitoring Stations." *Id.* at 900.

On October 11, 2011, the District filed a petition for writ of certiorari, 2011 WL 4874090, which was granted in part on June 25, 2012. *L.A. Cnty. Flood Control Dist. v. Natural Res. Def. Council, Inc.,* —— U.S. ——, 133 S.Ct. 23, 183 L.Ed.2d 673 (2012). The Supreme Court granted review in order to answer a single question: "Under the CWA, does a discharge of pollutants occur when polluted water ***1203** flows from one portion of a river that is navigable water of the United States, through a concrete channel or other engineered improvement in the river, and then into a lower portion of the same river?" *L.A. Cnty. Flood Control Dist.,* 133 S.Ct. at 712–13 (internal quotation marks omitted). The Court answered in the negative, and re-affirmed its holding in *S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians,* 541 U.S. 95, 124 S.Ct. 1537, 158 L.Ed.2d 264 (2004), that "pumping polluted water from one part of a water body into another part of the same body is not a discharge of pollutants under the CWA." *L.A. Cnty. Flood Control Dist.,* 133 S.Ct. at 711. The Court did not address any other basis for the District's potential liability for Permit violations and instead reversed our prior judgment and remanded this case to us for additional proceedings. *Id.* at 713–14.

JURISDICTION AND STANDARD OF REVIEW

We have jurisdiction under 28 U.S.C. § 1291. We review the district court's grant of summary judgment de novo. *Assoc. to Protect Hammersley, Eld, & Totten Inlets v. Taylor Res., Inc.,* 299 F.3d 1007, 1009 (9th Cir.2002).

DISCUSSION

I.

[2] Plaintiffs return from the Supreme Court with the same argument they have consistently advanced throughout this litigation—that the County Defendants' monitoring data establishes their liability for Permit violations as a matter of law. We previously rejected this argument, *see Natural Res. Def. Council,* 673 F.3d at 898, and the Supreme Court explicitly declined to address it. [14]

On remand, the County Defendants argue that we may not reconsider our earlier decision because it has become "final," and because "reconsideration of Appellants' monitoring argument would fly in the face of the finality given to decisions of this Court after denial of rehearing or expiration of the time in which to seek such further review." Alternatively, the County Defendants argue that our earlier disposition should be left undisturbed because it has become the law of the case. The County Defendants are mistaken on both counts.

[3] **[4]** "No opinion of this circuit becomes final until the mandate issues[.]" *Carver v. Lehman,* 558 F.3d 869, 878 (9th Cir.2009); *see also* Fed R.App. P. 41(c), 1998 Adv. Comm. Note ("A court of appeals' judgment or order is not final until issuance of the mandate[.]"). Thus, we have explained that a "court of appeals may modify or revoke its judgment at any time prior to issuance of the mandate, sua sponte or by motion of the parties." *United States v. Foumai,* 910 F.2d 617, 620 (9th Cir.1990). The mandate in this case has not issued. Consequently, our earlier judgment is not final. *Carver,* 558 F.3d at 878. Nor can it be considered the law of the case. *See id.* at 878 n. 16 ("[U]ntil the mandate issues, an opinion is not fixed as settled Ninth Circuit law, and reliance on the opinion is a gamble." (citation omitted)); *see also* ***1204** *Key Enters. of Del., Inc. v. Venice Hosp.,* 9 F.3d 893, 898 (11th Cir.1993) ("[B]ecause the panel's mandate had not issued, the panel's decision was never the 'law of the case.' "). Put simply, we are free to reconsider the merits of Plaintiffs' argument, and we now do so.

II.

[5] Where a permittee discharges pollutants in compliance with the terms of its NPDES permit, the permit acts to "shield" the permittee from liability under the CWA. 33 U.S.C. § 1342(k). The permit shield is a major benefit to a permittee because it protects the permittee from any obligation to meet more stringent limitations promulgated by the EPA unless and until the permit expires. *See Piney Run Pres. Ass'n v. Cnty. Comm'rs of Carroll Cnty.,* 268 F.3d 255, 266–69 (4th Cir.2001); *see also The Clean Water Act Handbook* 67 (Mark A. Ryan ed., 3rd ed.2011). Of course, with every benefit comes a cost: a permittee violates the CWA when it discharges pollutants in excess of the levels specified in the permit, or where the permittee otherwise violates the permit's terms. *See Russian River Watershed Prot. Comm. v. City of Santa Rosa,* 142 F.3d 1136, 1138 (9th Cir.1998); *see also* 40 C.F.R. § 122.41(a) ("Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for [an] enforcement action"); *Nw. Envtl. Advocates v. City of Portland,* 56 F.3d 979, 986 (9th Cir.1995) (noting that "[t]he plain language of [the CWA citizen suit provision] authorizes citizens to enforce *all* permit conditions"); *Environmental Law Handbook* 327 ("The primary purpose of NPDES permits is to establish enforceable effluent limitations.").

Plaintiffs allege that the County Defendants are violating the terms of the Permit by discharging pollutants into the Los Angeles and San Gabriel Rivers in excess of the permitted levels. County Defendants do not dispute that they are discharging pollutants from the LA MS4 into these rivers. Nor can the County Defendants dispute that their own monitoring reports demonstrate that pollution levels recorded at the Monitoring Stations are in excess of those allowed under the Permit. Rather, the County Defendants focus on their perception of the evidentiary burden Plaintiffs must

satisfy in order to hold any individual defendant liable for these pollution exceedances. Plaintiffs contend that they may rely exclusively on the District's monitoring reports to establish liability. County Defendants, however, argue that they cannot be held liable for Permit violations based solely on the data published in the District's monitoring reports because: (1) the mass-emissions monitoring required under the Permit was "neither designed nor intended" to measure the compliance of any Permittee; and (2) the monitoring data cannot parse out precisely *whose* discharge(s) contributed to any given exceedance because the Monitoring Stations sample pollution levels downstream from a legion of discharge points (*e.g.,* LA MS4 outfalls) controlled by various Permittees and other non-party entities, as opposed to at the discharge points themselves.

[6] To resolve the parties' contentions, we must interpret the language of the Permit. Although the NPDES permitting scheme can be complex, a court's task in interpreting and enforcing an NPDES permit is not—NPDES permits are treated like any other contract. *See Nw. Envtl. Advocates,* 56 F.3d at 982 ("We review the district court's interpretation of the 1984 permit as we would the interpretation of a contract or other legal document."). [15] If the language of the permit, considered in light of the structure of the permit as a ***1205** whole, "is plain and capable of legal construction, the language alone must determine the permit's meaning." *Piney Run Pres. Ass'n,* 268 F.3d at 270 (citation omitted). If, however, the permit's language is ambiguous, we may turn to extrinsic evidence to interpret its terms. *Id.* Our sole task at this point of the case is to determine what Plaintiffs are required to show in order to establish *liability* under the terms of *this particular* NPDES permit. [16]

A. The Plain Language of the Permit

"[NPDES permit] terms are to be given their ordinary meaning, and when the terms of a [permit] are clear, the intent of the parties must be ascertained from the [permit] itself." *Klamath Water Users Protective Ass'n. v. Patterson,* 204 F.3d 1206, 1210 (9th Cir.1999). Plaintiffs argue that the text of the County Defendants' Permit is clear, and provides that the District's mass-emissions monitoring data will be used to assess the County Defendants' compliance with the Permit, and particularly Part 2, which prohibits "discharges from the [LA] MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives." The County Defendants dispute this notion, and first claim that the District's mass-emissions monitoring is intended to serve only a hortatory purpose. As County Defendants state, "the mass emission monitoring program ... neither measures nor was designed to measure any individual permittee's compliance with the Permit." This argument is clearly belied by the text of the Permit and is rejected.

The Permit establishes a "Monitoring and Reporting Program" with the stated objectives of *both* characterizing stormwater discharges *and* assessing compliance with water-quality standards. The Permit language could not be more explicit in this regard, stating that "[a]ssessing compliance with this [Permit]" is one of the "primary objectives of the Monitoring Program." "The fact that the parties dispute a [permit's] meaning does not establish that the [permit] is ambiguous; it is only ambiguous if reasonable people could find its terms susceptible to more than one interpretation." *Klamath Water Users Protective Ass'n,* 204 F.3d at 1210. No reasonable person could find even the slightest ambiguity in the phrase "[t]he primary objectives of the Monitoring Program include, but are not limited to: Assessing compliance with this [Permit]." Consequently, we decline to embrace the County Defendants' initial argument that "the mass-emission monitoring stations, as a matter of fact, do not assess the compliance of any permittee with the Permit...."

County Defendants' alternative argument, while more facially appealing, fares no better. Specifically, the County Defendants point to certain Permit language they claim shows that the Regional Board did not intend for the mass–emissions monitoring data to be used to establish liability for Permit violations. For instance, ***1206** the County Defendants note that the Permit provides that "[e]ach permittee is responsible only for a discharge for which it is the operator." County Defendants also cite language in Part 2 that reads: "Discharges from the [LA] MS4 of storm water, or non-storm water, *for which a Permittee is responsible* for [sic], shall not cause or contribute to a condition of nuisance." The County Defendants read this language as precluding a finding of liability against them—or any other Permittee

—without independent monitoring data establishing that discharges from a particular entity's ms4 outfalls exceeded standards.

[7] "[A] court must give effect to every word or term" in an NPDES permit "and reject none as meaningless or surplusage...." *In re Crystal Props., Ltd., L.P.,* 268 F.3d 743, 748 (9th Cir.2001) (quotations omitted); *see also* Restatement (Second) of Contracts § 203(a) (1981) ("[A]n interpretation which gives a reasonable, lawful, and effective meaning to all the terms is preferred to an interpretation which leaves a part unreasonable, unlawful, or of no effect."). "Therefore, we must interpret the [Permit] in a manner that gives full meaning and effect to all of the [Permit's] provisions and avoid a construction of the [Permit] that focuses only on" a few isolated provisions. *In re Crystal Props.,* 268 F.3d at 748.

The County Defendants' interpretation of the Permit ultimately must be rejected because it would create an unreasonable result. Reading the clause that "[e]ach permittee is responsible only for a discharge for which it is the operator" to preclude use of the mass-emission monitoring data to "assess [ ] compliance with this [Permit]" would render the monitoring provisions of the Permit largely meaningless. Under the County Defendants' reading of the Permit, individual Permittees could discharge an unlimited amount of pollutants from the LA MS4 but never be held liable for those discharges based on the results of the mass-emissions monitoring, even though that monitoring is explicitly intended to assess whether Permittees are in compliance with Part 2's discharge limitations. We are unwilling to accept such a strained interpretation. *See Mastrobuono v. Shearson Lehman Hutton, Inc.,* 514 U.S. 52, 63, 115 S.Ct. 1212, 131 L.Ed.2d 76 (1995) (holding that courts should be guided by the "cardinal principle of contract construction: that a document should be read to give effect to all of its provisions and to render them consistent with each other"). A better reading of the Permit's putatively conflicting provisions, therefore, is the one proposed by Plaintiffs. Limiting a Permittee's responsibility to "discharge[s] for which it is the operator" applies to the appropriate *remedy* for Permit violations, not to *liability* for those violations. Indeed, Plaintiffs' reading is consistent with the remedial scheme of the Permit itself. If the LA MS4 is found to be contributing to water quality violations, each Permittee must take appropriate remedial measures with respect to its *own* discharges. [17] Thus, a finding of *liability* against the County Defendants would not, as defendants argue, hold any County Defendant responsible for discharges for which they are not "the operator."

In sum, and contrary to the County Defendants' contentions, the language of the Permit is clear—the data collected at the Monitoring Stations is intended to determine whether the Permittees are in compliance with the Permit. If the District's ***1207** monitoring data shows that the level of pollutants in federally protected water bodies exceeds those allowed under the Permit, then, as a matter of permit construction, the monitoring data conclusively demonstrate that the County Defendants are not "in compliance" with the Permit conditions. Thus, the County Defendants are liable for Permit violations.

B. Extrinsic Considerations

Although we believe the plain language of the Permit clearly contemplates that the County Defendants' monitoring data will be used to assess Permit compliance (*i.e.,* establish liability for CWA violations), we note that numerous extrinsic considerations also undercut the County Defendants' position.

First and foremost, the Clean Water Act *requires* every NPDES permittee to monitor its discharges into the navigable waters of the United States in a manner sufficient to determine whether it is in compliance with the relevant NPDES permit. 33 U.S.C. § 1342(a)(2); 40 C.F.R. § 122.44(i)(1) ("[E]ach NPDES permit shall include conditions meeting the following ... monitoring requirements ... to assure compliance with permit limitations."). That is, an NPDES permit is unlawful if a permittee is not required to effectively monitor its permit compliance. *See* 40 C.F.R. § 122.26(d)(2)(i)(F) ("Permit applications for discharges from large and medium municipal storm sewers ... shall include ... monitoring procedures necessary to determine compliance and noncompliance with permit conditions...."). As previously noted, the County Defendants contend that the mass–emissions monitoring program "neither measures nor was designed to

measure any individual permittee's compliance with the Permit." But if the County Defendants are correct, the Permit would be unlawful under the CWA. We must interpret the provisions of the Permit like any other contract and reject an interpretation that would render the Permit unenforceable. *See Walsh v. Schlecht,* 429 U.S. 401, 408, 97 S.Ct. 679, 50 L.Ed.2d 641 (1977) (noting that "contracts should not be interpreted to render them illegal and unenforceable where the wording lends itself to a logically acceptable construction that renders them legal and enforceable"); *see also Nw. Envtl. Advocates,* 56 F.3d at 984; Restatement (Second) of Contracts § 203.

[8] Second, the County Defendants' position has been explicitly rejected by the Regional Board, the entity that issued the Permit. This is important because one of our obligations in interpreting an NPDES permit is "to determine the intent of the permitting authority...." *Piney Run Pres. Ass'n,* 268 F.3d at 270. Thus, we give significant weight to any extrinsic evidence that evinces the permitting authority's interpretation of the relevant permit. *See Nw. Envtl. Advocates,* 56 F.3d at 985 (relying on "significant evidence from [the state permitting agency], the permit author," to determine the proper scope of an NPDES permit).

Here, the record contains an amicus brief filed by the Regional Board in a lawsuit nearly identical to this one.[18] In that suit, these same Plaintiffs sued the City of Malibu, one of the County Defendants' co-permittees, for violating the NPDES Permit at issue in this case. In its brief, the Regional Board stated its position that:

> The Permit recognizes that the inter-connected nature of the system means that it may be difficult to determine exactly where [pollutants] originated ***1208** within the [LA] MS4. This does not mean, however, that the Permit assumes only one permittee may be responsible. Instead, it recognizes that in such an integrated storm sewer system, one or more Permittees may have caused or contributed to violations.... Having constructed a joint sewer system that, by design, co-mingles the [Permittees'] discharges, they cannot avoid enforcement because one cannot determine the original source of pollutants in the waste stream.

[9] The Regional Board also noted that "the monitoring program that the permittees requested (and were granted) does not readily generate the permittee-by-permittee outfall data that the [County Defendants] would require as a precondition to enforcement." As a result, the Regional Board disagreed with any construction of the Permit that would require individualized proof of a Permittees' discharges in order to establish liability. Simply put, the Regional Board indicated that it "does not agree" that the "burden [of proving Permit violations] rests upon the enforcing entity." Although we do not defer to the Regional Board's interpretation of the Permit, *see Orthopaedic Hosp. v. Belshe,* 103 F.3d 1491, 1495 (9th Cir.1997), its rejection of the County Defendants' position is clearly instructive.

Finally, the County Defendants' arguments run counter to the purposes of the CWA, and ignore the inherent complexity of ensuring an ms4's compliance with an NPDES permit that covers thousands of different point sources and outfalls. As we have previously recognized, "[t]he NPDES program fundamentally relies on self-monitoring." *Sierra Club v. Union Oil Co. of Cal.,* 813 F.2d 1480, 1491 (9th Cir.1987), *vacated and remanded on other grounds,* 485 U.S. 931, 108 S.Ct. 1102, 99 L.Ed.2d 264 (1988), *and reinstated and amended by* 853 F.2d 667 (9th Cir.1988). Congress' purpose in adopting this self-monitoring mechanism was to promote straightforward enforcement of the Act. *See id.* at 1492 (noting that Congress wished to "avoid the necessity of lengthy fact finding, investigations, and negotiations at the time of enforcement. Enforcement of violations of requirements under this Act should be based on relatively narrow fact situations requiring a minimum of discretionary decision making or delay") (quoting S.Rep. No. 92–414, 92nd Cong., 1st Sess. 64, *reprinted in* 1972 U.S.Code Cong. & Ad. News 3668, 3730).[19] Or, as one treatise writer has described enforcement of the Act:

> The CWA is viewed by many as the easiest of the federal environmental statutes to enforce. This is because persons regulated under the act normally must report their own compliance and noncompliance to the regulating agency. For example, holders of NPDES permits must file periodic discharge monitoring reports (or DMRs), which must contain the results of all monitoring of discharges, and must indicate where those discharges exceed permit limitations.... Thus,

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> enforcement actions may be brought based on little, if anything, more than the DMRs and other reports submitted by the permittee itself.
>
> *Environmental Law Handbook* at 357–58.

Admittedly, regulating pollution from ms4s is substantially more complicated than regulating pollution from a few defined point sources. Like the LA MS4 at issue here, municipal separate storm sewer systems often cover many square miles and comprise numerous, geographically ***1209** scattered, and sometimes uncharted sources of pollution, including streets, catch basins, gutters, man-made channels, and storm drains. Faced with the difficult task of regulating millions of storm-sewer point sources, Congress amended the CWA in 1987 to grant the EPA the express authority to create a separate permitting program for ms4s. 33 U.S.C. § 1342(p)(2), (3). In enacting these amendments, Congress recognized that for large urban areas like Los Angeles, ms4 permitting cannot be accomplished on a source-by-source basis. The amendments therefore give the EPA, or a state like California to which the EPA has delegated permitting authority, broad discretion to issue permits "on a system-wide or jurisdiction-wide basis," 40 C.F.R. § 122.26(a)(1)(v), rather than requiring cities and counties to obtain separate permits for millions of individual stormwater discharge points. This increased flexibility is crucial in easing the burden of issuing stormwater permits for both permitting authorities and permittees. [20]

But while otherwise more flexible than the traditional NPDES permitting system, nothing in the ms4 permitting scheme relieves permittees of the obligation to monitor their compliance with their NPDES permit in some fashion. *See* 33 U.S.C. § 1342(a)(2) ("The Administrator shall prescribe conditions for [NPDES] permits to assure compliance with the requirements of [the permit], including conditions on data and information collection, reporting, and such other requirements as he deems appropriate."); 40 C.F.R. § 122.44(i)(1) (establishing that every permit "shall include" monitoring "[t]o assure compliance with the permit limitations"). Rather, EPA regulations make clear that while ms4 NPDES permits need not require monitoring of each stormwater source at the precise point of discharge, they may instead establish a monitoring scheme "sufficient to yield data which are *representative of the monitored activity*...." 40 C.F.R. § 122.48(b) (emphasis added). In fact, EPA regulations require permittees, like the County Defendants here, to propose a "monitoring program for *representative data collection* for the term of the permit that describes the location of outfalls or field screening points to be sampled (*or the location of instream stations*)" and explain "why the [chosen] location is *representative*...." 40 C.F.R. § 122.26(d)(2)(iii)(D) (emphases added). Here, the County Defendants did just that. County Defendants themselves chose the locations of the Monitoring Stations, locations that are downstream from a significant number of their outfalls. [21] And, as required by law, the County Defendants chose locations that they certified were necessarily "representative" of the monitored activity (*i.e.,* the Permittees' discharges of stormwater runoff into the navigable waters of the United States). [22] Now, however, County Defendants claim ***1210** that their compliance with the Permit cannot be measured using the results of the representative monitoring they themselves agreed to, that the Regional Board approved, and that the Permit itself contemplates is to be used to assess compliance with its terms. We take this opportunity to reevaluate and reject County Defendants' arguments.

CONCLUSION

Because the results of County Defendants' pollution monitoring conclusively demonstrate that pollution levels in the Los Angeles and San Gabriel Rivers are in excess of those allowed under the Permit, the County Defendants are *liable* for Permit violations as a matter of law. This case is remanded to the district court for further proceedings consistent with this opinion, including a determination of the appropriate *remedy* for the County Defendants' violations.

REVERSED and REMANDED.

*1211 APPENDICES

Appendix A

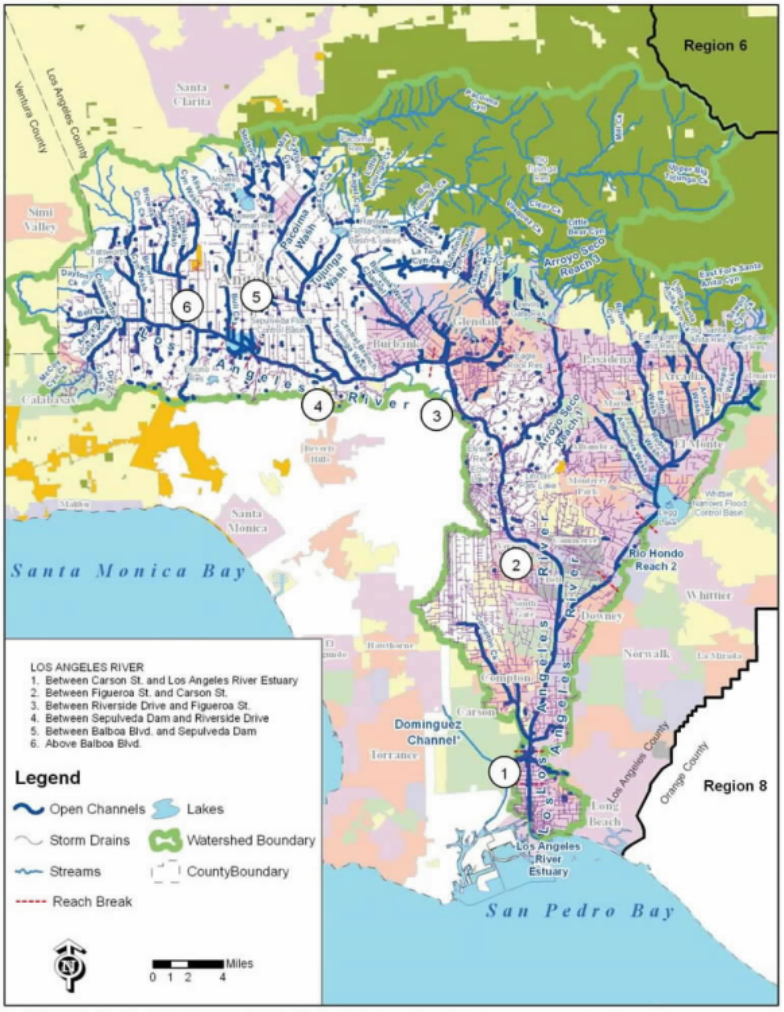

Figure C-4: Los Angeles River Watershed Management Area Flow Schematic.

Appendix B

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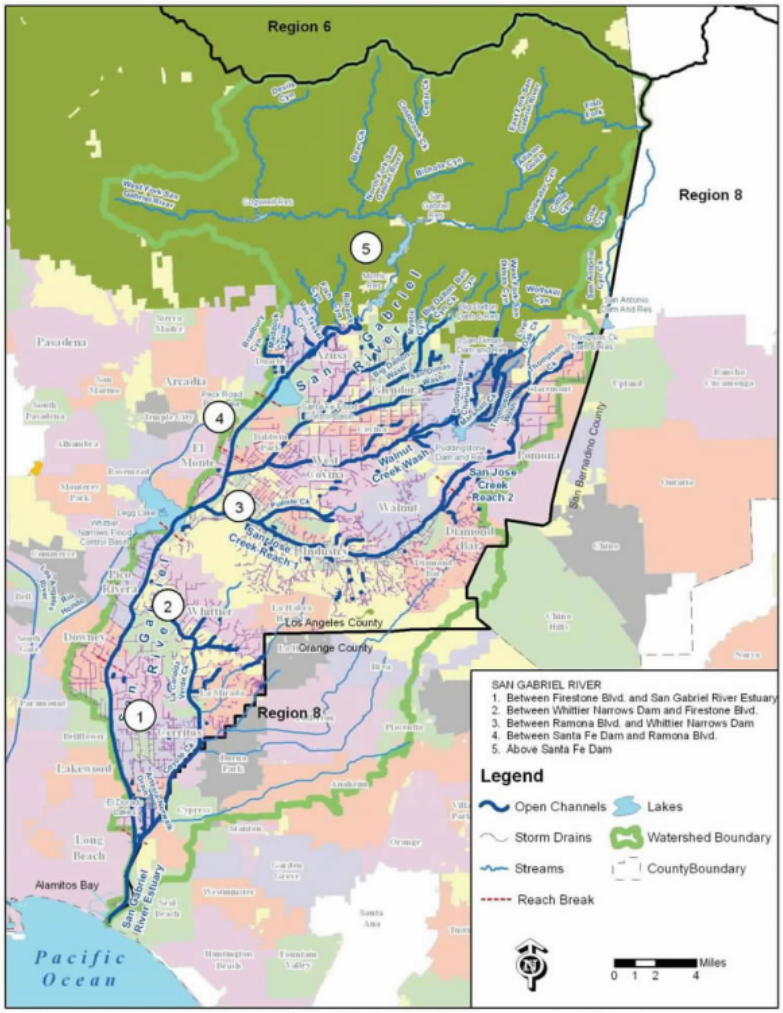

Figure C-5: San Gabriel River Watershed Management Area Flow Schematic.

All Citations

725 F.3d 1194, 13 Cal. Daily Op. Serv. 8623, 2013 Daily Journal D.A.R. 10,619

Footnotes

* The Honorable H. Russel Holland, Senior District Judge for the U.S. District Court for the District of Alaska, sitting by designation.

1 Whereas natural, vegetated soil can absorb rainwater and capture pollutants, paved surfaces and developed land can do neither. Paved facilities with particularly high volumes of motor vehicle traffic—such as parking lots, retail gasoline outlets, and fast food restaurants—are typically responsible for producing higher concentrations of pollutants in storm water runoff.

2 Federal Regulations define an ms4 as:

> a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
> (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body ... having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity ...;
> (ii) Designed or used for collecting or conveying storm water;
> (iii) Which is not a combined sewer; and
> (iv) Which is not part of a Publicly Owned Treatment Works....

40 C.F.R. § 122.26(b)(8). Unlike a sanitary sewer system, which transports municipal sewage for treatment at a wastewater facility, or a combined sewer system, which transports sewage and stormwater for treatment, an ms4 conveys only untreated stormwater. *See* 40 C.F.R. § 122.26(a)(7), (b)(8).

3 Throughout this Opinion, reference is made to both "ms4" and the "LA MS4." The former is a generic reference to an individual municipal separate storm sewer system without regard to its particular location, while the latter specifically refers to the entire flood control and stormsewer infrastructure described *supra* that exists in Los Angeles County, and which is made up of the various interconnected ms4s that are controlled by the County, the District, and the incorporated cities within the District.

4 An "outfall" is defined as a "point source ... at the point where a municipal separate storm sewer discharges to waters of the United States...." 40 C.F.R. § 122.26(b)(9). It is estimated that the LA MS4 contains tens of thousands of outfalls where stormwater runoff is discharged into federally protected water bodies.

5 Plaintiffs originally complained about the County Defendants' discharges into four water bodies: the Los Angeles River, the San Gabriel River, the Santa Clara River, and Malibu Creek. *See Natural Res. Def. Council,* 673 F.3d at 883. On remand to this court, however, Plaintiffs only seek review of the district court's summary judgment ruling regarding the County Defendants' discharges into the Los Angeles and San Gabriel Rivers.

6 A point source is defined as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14). Throughout this litigation, there has been confusion regarding whether the LA MS4 is a "point source" under the CWA. *See Natural Res. Def. Council,* 673 F.3d at 898 (accepting Plaintiffs' argument that "[u]nder the Clean Water Act, the [LA] MS4 is a 'Point Source.' "). The LA MS4 is *not* a single point source. Rather, the LA MS4 is a collection of point sources, including outfalls, that discharge into the navigable waters of the United States.

7 On November 8, 2012, the Regional Board issued a new NPDES permit to the County Defendants and various other permittees.

8 Part 2 also mandates that "[d]ischarges from the [LA] MS4 of storm water, or non-storm water, for which a Permittee is responsible for [sic], shall not cause or contribute to a condition of nuisance."

9 Under California law, regional boards are required to formulate water quality plans, called "basin plans," which designate the beneficial uses of protected water bodies within the boards' jurisdiction, establish water quality objectives for those water bodies, and establish a program for implementing the basin plan. *See City of Burbank v. State Water Res. Control Bd.,* 35 Cal.4th 613, 26 Cal.Rptr.3d 304, 108 P.3d 862, 865 (2005) (citing Cal. Water Code § 13050(j)).

10 The Permit defines the SQMP as "the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with the provisions of the NPDES permit, to comply with applicable federal and state law...."

11 The District publishes these "Stormwater Monitoring Reports" on the internet at: http://ladpw.org/wmd/NPDES/report_directory.cfm. (last accessed August 1, 2013).

12 In a declaration submitted to the district court, the County Defendants described both Monitoring Stations as being located "in a portion of the District's flood control channel." *See also* "Section Two: Site Descriptions," Los Angeles Cnty. Dept. of Pub. Works, *available at* http://dpw.lacounty.gov/wmd/npdes/9899_report/SiteDesc.pdf (last accessed August 1, 2013). Thus, it appears that the pertinent river segments are part of *both* the LA MS4 itself *and* "the waters of the United States" that the CWA protects. But regardless of whether the mass-emissions monitoring stations are *also* part of the LA MS4, there is no dispute that the mass-emissions monitoring stations are located *within* the Los Angeles and San Gabriel Rivers, downstream of a significant number of the County Defendants' LA MS4 outfalls. We misconstrued some of the data before us when we previously held otherwise. *See Natural Res. Def. Council,* 673 F.3d at 899 ("As a matter of law and fact, the [LA] MS4 is distinct from the two navigable rivers; the [LA] MS4 is an intra-state man-made construction—not a naturally occurring Watershed River"); *see also* 53 Fed.Reg. 49,416, 49,453 (Dec. 7, 1988) (EPA observes that "[i]n many situations, waters of the United States that receive discharges from municipal storm sewers can be mistakenly considered to be part of the storm sewer system.").

13 The CWA requires plaintiffs to provide 60 days notice to an alleged violator, the State in which the violation is alleged to be occurring, and the EPA, before filing suit. 33 U.S.C. § 1365(b)(1)(A).

14 *See L.A. Cnty. Flood Control Dist.,* 133 S.Ct. at 713–14 ("Under the permit's terms, the NRDC and Baykeeper maintain, the exceedances detected at instream monitoring stations are by themselves sufficient to establish the District's liability under the CWA for its upstream discharges. This argument failed below. It is not embraced within, or even touched by, the narrow

question on which we granted certiorari. We therefore do not address, and indicate no opinion on, the issue NRDC and Baykeeper seek to substitute for the question we took up for review.").

15 *See also Piney Run Pres. Ass'n.,* 268 F.3d at 269–70; *Am. Canoe Ass'n., Inc. v. D.C. Water & Sewer Auth.,* 306 F.Supp.2d 30, 42 (D.D.C.2004).

16 The question before us is not whether the Clean Water Act mandates any particular result. An NPDES permitting authority has wide discretion concerning the terms of a permit. It could, for example, lawfully write an ms4 permit that provides that all permittees will share liability in some ratio for any measured exceedance of applicable pollutant limits. Or, as a further example, a permitting authority could lawfully write a permit providing that only the co-permittee(s) whose specific discharges are connected to a particular pollutant exceedance may be held liable for the permit violation. *See* 33 U.S.C. § 1342(a)(2) ("The Administrator shall prescribe conditions for [NPDES] permits to assure compliance with the requirements of [33 U.S.C. § 1342(a)(1)], including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.").

17 The relevant Permit provision states: "Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries ... and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees."

18 *Santa Monica Baykeeper, et al. v. City of Malibu,* No. CV–08–01465 (AHM) (C.D.Cal. Mar. 3, 2008).

19 *See also* 44 Fed.Reg. 32,854, 32,863 (June 7, 1979) ("Congress intended that prosecution for permit violations be swift and simple.").

20 *See* 55 Fed.Reg. 47,990, 48,046 (Nov. 16, 1990) (noting that issuing individual permits to cover all ms4 discharges to the waters of the United States is "unmanageable"); *id.* at 48,049–48,050 ("Given the complex, variable nature of storm water discharges from municipal systems, EPA favors a permit scheme where the ... [p]ermit writers have the necessary flexibility to develop monitoring requirements that more accurately reflect the true nature of highly variable and complex discharges.").

21 "Q: Does the County's ms4 outlet to any tributaries of the Los Angeles River? A: Yes. Q: Does it outlet to tributaries of the Los Angeles River upstream of the mass emissions station? A: Yes.... Q: Does [the County's ms4] outlet to the San Gabriel River upstream of the mass emissions station? A: Yes." Pestrella Dep. 697:7–698:6, June 2, 2009.

22 "Q: Who selected the location of those stations, do you know? A: The County selected those locations for a particular purpose. And the purpose was [to be] far enough away from tidal influence *so that you would be characterizing the stormwater runoff as opposed to ocean waters.* Q: And the locations were then approved by Regional Board staff; is that correct? A: Correct." Wamikannu Dep. 130:13–130:19, July 1, 2009 (emphasis added).

End of Document

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ATTACHMENT D-1

KeyCite Yellow Flag - Negative Treatment
Superseded by Statute as Stated in City of San Buenaventura v. United Water Conservation District, Cal.App. 2 Dist., March 17, 2015

15 Cal.4th 866, 937 P.2d 1350, 64 Cal.Rptr.2d 447, 97 Cal. Daily Op. Serv. 5059, 97 Daily Journal D.A.R. 8242

SINCLAIR PAINT COMPANY, Plaintiff and Respondent,
v.
STATE BOARD OF EQUALIZATION, Defendant and Appellant; DEPARTMENT OF HEALTH SERVICES et al., Interveners and Appellants.

No. S054115.
Supreme Court of California
June 26, 1997.

SUMMARY

The trial court granted a paint company summary judgment in the company's action against the Board of Equalization for a refund of fees paid pursuant to an assessment under the Childhood Lead Poisoning Prevention Act of 1991 (Health & Saf. Code, § 105275 et seq.). The trial court found that the fees were taxes, and thus they were invalid since the Legislature passed the act by a simple majority, rather than by the two-thirds majority required by Cal. Const., art. XIII A, § 3 (Prop. 13). (Superior Court of Sacramento County, No. CV541310, Joe S. Gray, Judge.) The Court of Appeal, Third Dist., No. C021559, affirmed.

The Supreme Court reversed the judgment of the Court of Appeal. The court held that the Court of Appeal erred in ruling that "fees" assessed on manufacturers or other persons contributing to environmental lead contamination, pursuant to the Childhood Lead Poisoning Prevention Act of 1991, were in legal effect "taxes" required to be enacted by a two-thirds vote of the Legislature under Prop. 13. Rather, the fees imposed were bona fide regulatory fees. The act requires manufacturers and other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their products created in the community. The shifting of costs of providing evaluation, screening, and medically necessary follow-up services for potential child victims of lead poisoning from the public to those persons deemed responsible for that poisoning is a reasonable police power decision. The fact that the fees were charged after, rather than before, the product's adverse effects were realized was immaterial to the question whether the measure imposed valid regulatory fees rather than taxes. Also, if regulation is the primary purpose of a fee, the mere fact that revenue is also obtained does not make the imposition a tax. (Opinion by Chin, J., with George, C. J., Mosk, Kennard, Baxter, Werdegar, JJ., and Armstrong, J.,* concurring.)

HEADNOTES

Classified to California Digest of Official Reports

(1)
Property Taxes § 7.2--Constitutional Provisions--Proposition 13.
The purpose of Prop. 13 was to assure effective real property tax relief by means of an interlocking package consisting of a real property tax rate limitation (Cal. Const., art. XIII A, § 1), a real property assessment limitation (Cal. Const., art. XIII A, § 2), a restriction on state taxes (Cal. Const., art. XIII A, § 3), and a restriction on local taxes (Cal. Const., art. XIII A, § 4). Since any tax savings resulting from the operation of Cal. Const., art. XIII A, §§ 1 and 2, could be withdrawn or depleted by additional or increased state or local levies of other than property taxes, Cal. Const., art. XIII A, §§ 3 and 4, combine to place restrictions upon the imposition of such taxes.

(2a, 2b, 2c)
Taxation § 2--Validity of Taxation Legislation--Proposition 13--Fees Assessed Under Childhood Lead Poisoning Prevention Act-- Applicability of Supermajority Requirement:Property Taxes § 7.8--Proposition 13.
The Court of Appeal erred in ruling that "fees" assessed on manufacturers or other persons contributing to environmental lead contamination, pursuant to the Childhood Lead Poisoning Prevention Act of 1991 (Health & Saf. Code, § 105275 et seq.), which the Legislature had enacted by a simple majority, were in legal effect "taxes" required to be enacted by a two-thirds vote of the Legislature under Prop. 13 (Cal. Const., art. XIII A, § 3). Rather, the fees imposed were bona fide regulatory fees. The act requires manufacturers and

other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their products created in the community. The shifting of costs of providing evaluation, screening, and medically necessary follow-up services for potential child victims of lead poisoning from the public to those persons deemed responsible for that poisoning is a reasonable police power decision. The fact that the fees were charged after, rather than before, the product's adverse effects were realized was immaterial to the question whether the measure imposed valid regulatory fees rather than taxes. Also, if regulation is the primary purpose of a fee, the mere fact that revenue is also obtained does not make the imposition a tax.

[See 8 Witkin, Summary of Cal. Law (9th ed. 1988) Constitutional Law, § 784.]

(3)
Property Taxes § 7.6--Constitutional Provisions--Proposition 13-- Assessments as Fees or Taxes:Taxation § 3--Construction.
In determining under Prop. 13 (Cal. Const., art. XIII A, § 3), whether impositions are "taxes" or "fees" is a question of law for the appellate courts to decide on independent review of the facts. The term "tax" has no fixed meaning, and the distinction between taxes and fees is frequently blurred, taking on different meanings in different contexts. In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted. Most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges. But compulsory fees may be deemed legitimate fees rather than taxes.

(4a, 4b)
Property Taxes § 7.8--Constitutional Provisions--Proposition 13--Special Taxes:Taxation § 3--Construction.
There are three general categories of fees or assessments involved in disputes concerning whether they are in legal effect "special taxes" required to be enacted by a two-thirds vote of the Legislature under Prop. 13 (Cal. Const., art. XIII A, §§ 3 and 4). They are (1) special assessments, based on the value of benefits conferred on property, (2) development fees, exacted in return for permits or other government privileges, and (3) regulatory fees, imposed under the police power. Special assessments on property or similar business charges, in amounts reasonably reflecting the value of the benefits conferred by improvements, are not "special taxes." Similarly, development fees exacted in return for building permits or other governmental privileges are not special taxes if the amount of the fees bears a reasonable relation to the development's probable costs to the community and benefits to the developer. Also, fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes, are not special taxes.

(5)
Property Taxes § 7.8--Constitutional Provisions--Proposition 13-- Assessments as Regulatory Fee:Taxation § 3--Construction.
In order to show that an imposition is a regulatory fee and not a special tax under Prop. 13 (Cal. Const., art. XIII A, § 3), the government should prove (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity.

COUNSEL
Daniel E. Lungren, Attorney General, Timothy G. Laddish, Assistant Attorney General, Lawrence K. Keethe and William L. Carter, Deputy Attorneys General, for Defendant and Appellant and Interveners and Appellants.
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Carol A. Korade, City Attorney (Alameda), Jerome F. Coleman, City Attorney (Burlingame), Robert G. Boehm, City Attorney (Chico), Scott H. Howard, City Attorney (Glendale), John L. Cook, City Attorney (Indian Wells), Michael D. Milich, City Attorney (Modesto), Daniel J. McHugh, City Attorney (Redlands), Samuel L. Jackson, City Attorney (Sacramento), Louise Renne, City Attorney (San Francisco), Thomas Owen, Deputy City Attorney, Paul M. Valle-Riestra, Assistant City Attorney (Walnut Creek), Ruth Sorensen, Catherine I. Hanson, Ellen G. Widess, Alden, Aronovsky & Sax and Ronald G.

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CHIN, J.

In 1991, by simple majority vote, the Legislature enacted the Childhood Lead Poisoning Prevention Act of 1991 (the Act) (Stats. 1991, ch. 799, § 3, amended Stats. 1995, ch. 415, § 5; see ***870** Health & Saf. Code, § 105275 et seq.). [1] The Act provided evaluation, screening, and medically necessary follow-up services for children who were deemed potential victims of lead poisoning. The Act's program was entirely supported by "fees" assessed on manufacturers or other persons contributing to environmental lead contamination. (See §§ 105305, 105310.) The question arises whether these fees were in legal effect "taxes" required to be enacted by a two-thirds vote of the Legislature. (See Cal. Const., art. XIII A, § 3.)

Contrary to the trial court and Court of Appeal, we conclude that the Act imposed bona fide regulatory fees, not taxes, because the Legislature imposed the fees to mitigate the actual or anticipated adverse effects of the fee payers' operations, and under the Act the amount of the fees must bear a reasonable relationship to those adverse effects. Accordingly, the trial court erred in granting summary judgment to award plaintiff Sinclair Paint Company (Sinclair) a refund of the fees it paid under the Act.

We take the following statement of uncontradicted facts largely from the Court of Appeal opinion in this case. Sinclair paid $97,825.26 in fees for 1991. After the Board of Equalization (the Board) denied Sinclair's administrative claim for refund, Sinclair filed a complaint for refund, alleging the fees assessed under section 105310 were "actually taxes imposed by the California [L]egislature in violation of Proposition 13, Article XIIIA, Section 3 of the California Constitution." The court granted the request of the Department of Health Services (the Department) for leave to intervene. It also granted a similar request to intervene by Ray Cochenour and Cardaryl Commodore, representatives of a class of children suffering from lead poisoning, and People United for a Better Oakland, an unincorporated association whose members include the Act's intended beneficiaries (collectively Cochenour).

Sinclair moved for summary judgment, claiming the Act was invalid on its face because it was not passed by the requisite two-thirds majority vote of the Legislature. The court agreed the Act imposed an unconstitutional tax and granted Sinclair's motion.

The Board, the Department, and Cochenour appealed, contending the Act involves a regulatory fee, not a tax. Appellants also argued the court erred in granting Sinclair summary judgment without compelling it to produce discovery and improperly relied on legislative history in determining the Act's constitutionality. The Court of Appeal affirmed the judgment, concluding that the Act was unconstitutional on its face and rejecting appellants' other claims. We reverse the Court of Appeal's judgment.
***871**

Discussion

I. *The Childhood Lead Poisoning Prevention Act of 1991*

When the Legislature enacted the Act in 1991, it explained the Act's background and purpose in findings that described the numerous health hazards children face when exposed to lead toxicity and declared four state "goals," namely, (1) evaluating, screening, and providing case management for children at risk of lead poisoning, (2) identifying sources of lead contamination responsible for this poisoning, (3) identifying and utilizing programs providing adequate case management for children found to have lead poisoning, and (4) providing education on lead-poisoning detection and case management to state health care providers. (Stats. 1991, ch. 799, § 1.)

The Act directs the Department to adopt regulations establishing a standard of care for evaluation, screening (i.e., measuring lead concentration in blood), and medically necessary follow-up services for children determined to be at risk of lead poisoning. (§ 105285; see § 105280, subd. (e).) If a child is identified as being at risk of lead poisoning, the Department must ensure "appropriate case management," i.e., "health care referrals, environmental assessments, and educational activities" needed to reduce the child's exposure to lead

and its consequences. (§§ 105280, subd. (a), 105290.) Additionally, the Act requires the Department to collect data and report on the effectiveness of case management efforts. (§ 105295.)

The Department has "broad regulatory authority to fully implement and effectuate the purposes" of the Act. (§ 105300.) This authority "include[s], but is not limited to," the development of protocols for screening and for appropriate case management; the designation of laboratories qualified to analyze blood specimens for lead concentrations, and the monitoring of those laboratories for accuracy; the development of reporting procedures by laboratories; reimbursement for state-sponsored services related to screening and case management; establishment of lower lead concentrations in whole blood than those specified by the United States Centers for Disease Control for lead poisoning; notification to parents or guardians of the results of blood-lead testing and environmental assessment; and establishment of a periodicity schedule for evaluating childhood lead poisoning. (§ 105300.)

The Act states that its program of evaluation, screening, and follow-up is supported *entirely* by fees collected under the Act: "Notwithstanding the scope of activity mandated by this chapter, in no event shall this chapter be interpreted to require services necessitating expenditures in any fiscal year in excess of the fees, and earnings therefrom, collected pursuant to Section ***872** 105310. This chapter shall be implemented only to the extent fee revenues pursuant to Section 105310 are available for expenditure for purposes of this chapter." (§ 105305.)

Section 105310 imposes the fees at issue here. In pertinent part, that section imposes fees on manufacturers and other persons formerly and/or presently engaged in the stream of commerce of lead or products containing lead, or who are otherwise responsible for identifiable sources of lead, which have significantly contributed and/or currently contribute to environmental lead contamination. (§ 105310, subd. (a).) The Department must determine fees based on the manufacturer's or other person's past and present responsibility for environmental lead contamination, or its "market share" responsibility for this contamination. (§ 105310, subd. (b).)

Those persons able to show that their industry did not contribute to environmental lead contamination, or that their lead-containing product does not and did not "result in quantifiably persistent environmental lead contamination," are exempt from paying the fees. (§ 105310, subd. (d).)

The Legislature has authorized the Department to adopt regulations establishing the specific fees to be assessed the parties identified in section 105310, subdivision (a). (§ 105310, subd. (b).) The formula for calculating fees attributable to leaded architectural coatings, including ordinary house paint, is set forth in California Code of Regulations, title 17, section 33020.

II. *Proposition 13*

([1]) In June 1978, California voters added article XIII A, commonly known as the Jarvis-Gann Property Tax Initiative or Proposition 13 (article XIII A), to the state Constitution. The initiative's purpose was to assure effective real property tax relief by means of an "interlocking 'package' " consisting of a real property tax rate limitation (art. XIII A, § 1), a real property assessment limitation (art. XIII A, § 2), a restriction on state taxes (art. XIII A, § 3), and a restriction on local taxes (art. XIII A, § 4). (*Amador Valley Joint Union High Sch. Dist.* v. *State Bd. of Equalization* (1978) 22 Cal.3d 208, 231 [149 Cal.Rptr. 239, 583 P.2d 1281] (*Amador Valley*); see also *County of Los Angeles* v. *Sasaki* (1994) 23 Cal.App.4th 1442, 1451 [29 Cal.Rptr.2d 103].)

Section 3 of article XIII A restricts the enactment of changes in state taxes, as follows: "From and after the effective date of this article, any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods ***873** of computation must be imposed by an Act passed by not less than two-thirds of all members ... of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed."

Section 4 of article XIII A imposes similar restrictions on local entities: "Cities, Counties and special districts, by a two-thirds vote of the qualified electors of such district, may impose *special taxes* on such district, except ad valorem taxes on real property or a transaction tax or sales tax on the sale of real property within such City, County or special district." (Italics added.)

As we explained in *Amador Valley*, "... since any tax savings resulting from the operation of sections 1 and

2 [of article XIII A] could be withdrawn or depleted by additional or increased state or local levies of other than property taxes, sections 3 and 4 combine to place restrictions upon the imposition of such taxes." (*Amador Valley*, *supra*, 22 Cal.3d at p. 231.)

III. *Taxes or Fees?*

([2a]) Are the "fees" section 105310 imposes in legal effect "taxes enacted for the purpose of increasing revenues" under article XIII A, section 3, and therefore subject to a two-thirds majority vote? Although we have found no cases that interpret the language of section 3, several California appellate decisions have considered whether various fees are really "special taxes" under article XIII A, section 4. (See also *City and County of San Francisco v. Farrell* (1982) 32 Cal.3d 47, 57 [184 Cal.Rptr. 713, 648 P.2d 935] ["special taxes" are taxes levied for a specific purpose rather than for general governmental purposes]; Gov. Code, § 50076 [excluding from the term "special tax" in article XIII A, section 4, "any fee which does not exceed the reasonable cost of providing the service or regulatory activity for which the fee is charged and which is not levied for general revenue purposes"].) Because of the close, "interlocking" relationship between the various sections of article XIII A (see *Amador Valley*, *supra*, 22 Cal.3d at p. 231), we believe these "special tax" cases may be helpful, though not conclusive, in deciding the case before us. The reasons why particular fees are, or are not, "special taxes" under article XIII A, section 4, may apply equally to section 3 cases. [2]

We first consider certain general guidelines used in determining whether "taxes" are involved in particular situations. ([3]) The cases agree that ***874** whether impositions are "taxes" or "fees" is a question of law for the appellate courts to decide on independent review of the facts. (*Bixel Associates v. City of Los Angeles* (1989) 216 Cal.App.3d 1208, 1216 [265 Cal.Rptr. 347]; *California Bldg. Industry Assn. v. Governing Bd.* (1988) 206 Cal.App.3d 212, 234 [253 Cal.Rptr. 497]; *Russ Bldg. Partnership v. City and County of San Francisco* (1987) 199 Cal.App.3d 1496, 1504 [246 Cal.Rptr. 21].)

The cases recognize that "tax" has no fixed meaning, and that the distinction between taxes and fees is frequently "blurred," taking on different meanings in different contexts. (*Russ Bldg. Partnership v. City and County of San Francisco*, *supra*, 199 Cal.App.3d at p. 1504; *Terminal Plaza Corp. v. City and County of San Francisco* (1986) 177 Cal.App.3d 892, 905 [223 Cal.Rptr. 379]; *Mills v. County of Trinity* (1980) 108 Cal.App.3d 656, 660 [166 Cal.Rptr. 674]; *County of Fresno* v. *Malmstrom* (1979) 94 Cal.App.3d 974, 983-984 [156 Cal.Rptr. 777].) In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted. (*Shapell Industries, Inc. v. Governing Board* (1991) 1 Cal.App.4th 218, 240 [1 Cal.Rptr.2d 818]; *County of Fresno* v. *Malmstrom*, *supra*, 94 Cal.App.3d at p. 983 ["Taxes are raised for the general revenue of the governmental entity to pay for a variety of public services."].) Most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges. (*Shapell Industries, Inc. v. Governing Board*, *supra*, 1 Cal.App.4th at p. 240; *Russ Bldg. Partnership v. City and County of San Francisco*, *supra*, 199 Cal.App.3d at pp. 1505-1506; see *Terminal Plaza Corp. v. City and County of San Francisco*, *supra*, 177 Cal.App.3d at p. 907.) But compulsory fees may be deemed legitimate fees rather than taxes. (See *Kern County Farm Bureau v. County of Kern* (1993) 19 Cal.App.4th 1416, 1424 [23 Cal.Rptr.2d 910].)

([4a]) The "special tax" cases have involved three general categories of fees or assessments: (1) special assessments, based on the value of benefits conferred on property; (2) development fees, exacted in return for permits or other government privileges; and (3) regulatory fees, imposed under the police power. Although these three categories may overlap in a particular case, we consider them separately.

The cases uniformly hold that *special assessments* on property or similar business charges, in amounts reasonably reflecting the value of the benefits conferred by improvements, are not "special taxes" under article XIII A, section 4. (*Evans v. City of San Jose* (1992) 3 Cal.App.4th 728, 735-739 [4 Cal.Rptr.2d 601] [assessments on businesses for downtown promotion]; ***875** *J. W. Jones Companies v. City of San Diego* (1984) 157 Cal.App.3d 745, 750-758 [203 Cal.Rptr. 580] [facilities benefit assessments]; *City Council v. South* (1983) 146 Cal.App.3d 320, 332 [194 Cal.Rptr. 110] [special assessments on real property]; *County of Fresno v. Malmstrom*, *supra*, 94 Cal.App.3d at pp. 984-985 [special assessments for construction of streets].)

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Similarly, *development fees* exacted in return for building permits or other governmental privileges are not special taxes if the amount of the fees bears a reasonable relation to the development's probable costs to the community and benefits to the developer. (*Shapell Industries, Inc. v. Governing Board*, *supra*, 1 Cal.App.4th at p. 240 [school facilities fees]; *Bixel Associates v. City of Los Angeles*, *supra*, 216 Cal.App.3d at pp. 1211, 1218-1219 [fire hydrant fees]; *California Bldg. Industry Assn. v. Governing Bd.*, *supra*, 206 Cal.App.3d at pp. 235-237 [school facilities development fees]; *Russ Bldg. Partnership v. City and County of San Francisco*, *supra*, 199 Cal.App.3d at pp. 1504-1506 [transit impact fees]; *Beaumont Investors v. Beaumont-Cherry Valley Water Dist.* (1985) 165 Cal.App.3d 227, 235-238 [211 Cal.Rptr. 567] [new facilities water hookup fees]; *Trent Meredith, Inc.* v. *City of Oxnard* (1981) 114 Cal.App.3d 317, 325-328 [170 Cal.Rptr. 685] [fees as precondition for building permits]; *Mills v. County of Trinity*, *supra*, 108 Cal.App.3d at pp. 661-663 [fees for processing subdivision, zoning, and land use applications]; see *Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854, 898 [50 Cal.Rptr.2d 242, 911 P.2d 429] (conc. opn. of Mosk, J.).)

According to Sinclair, because the present fees have been imposed solely to defray the cost of the state's program of evaluation, screening, and follow-up services for children determined to be at risk for lead poisoning, they are not analogous to either special assessments or development fees, for they neither reimburse the state for special benefits conferred on manufacturers of lead-based products nor compensate the state for governmental privileges granted to those manufacturers. As the Court of Appeal observed, the fees challenged here "do not constitute payment for a government benefit or service. The program described in the Act bears no resemblance to regulatory schemes involving special assessments, developer fees, or efforts to recoup the cost of processing land use applications where the benefit analysis is typically applied. [Citations.] The face of the Act makes clear the funds collected pursuant to section 105310 are used to benefit children exposed to lead, not Sinclair or other manufacturers in the stream of commerce for products containing lead."

([2b]) Appellants argue, however, that the challenged fees fall squarely within a third recognized category not dependent on government-conferred benefits or privileges, namely, *regulatory fees* imposed under the police power, rather than the taxing power. We agree. ***876**

([4b]) We have acknowledged that the term "special taxes" in article XIII A, section 4, " 'does not embrace fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes.' [Citations.]" (*Pennell v. City of San Jose* (1986) 42 Cal.3d 365, 375 [228 Cal.Rptr. 726, 721 P.2d 1111] (*Pennell*), affd. on other grounds *sub nom. Pennell v. San Jose* (1988) 485 U.S. 1 [108 S.Ct. 849, 99 L.Ed.2d 1], quoting from *Mills v. County of Trinity*, *supra*, 108 Cal.App.3d at pp. 659-660; see *City of Oakland v. Superior Court* (1996) 45 Cal.App.4th 740, 760-762 [53 Cal.Rptr.2d 120] [upholding regulatory fees charged to alcoholic beverage sale licensees to support pilot project to address public nuisances associated with those sales]; *Kern County Farm Bureau v. County of Kern*, *supra*, 19 Cal.App.4th at pp. 1422-1425 [upholding landfill assessment based on land use to reduce illegal waste disposal]; *City of Dublin v. County of Alameda* (1993) 14 Cal.App.4th 264, 280-285 [17 Cal.Rptr.2d 845] [upholding waste disposal surcharge imposed on waste haulers]; *Evans v. City of San Jose*, *supra*, 3 Cal.App.4th at p. 737; *San Diego Gas & Electric Co.* v. *San Diego County Air Pollution Control Dist.* (1988) 203 Cal.App.3d 1132, 1145-1149 [250 Cal.Rptr. 420] (*SDG&E*) [upholding emissions-based formula for recovering direct and indirect costs of pollution emission permit programs]; *United Business Com.* v . *City of San Diego* (1979) 91 Cal.App.3d 156, 166-168 [154 Cal.Rptr. 263] (*United Business*) [upholding fees for inspecting and inventorying on-premises advertising signs].)

Pennell upheld rental unit fees that a city imposed under its rent control ordinance to assure it recovered the actual costs of providing and administering a rental dispute hearing process. (*Pennell*, *supra*, 42 Cal.3d at p. 375.) We explained in *Pennell* that regulatory fees in amounts necessary to carry out the regulation's purpose are valid despite the absence of any perceived "benefit" accruing to the fee payers. (*Id.* at p. 375, fn. 11; see also *SDG&E*, *supra*, 203 Cal.App.3d at p. 1146, fn. 18; *Mills* v. *County of Trinity*, *supra*, 108 Cal.App.3d at p. 661.)

We observe that Sinclair, in moving for summary judgment, did not contend that the fees exceed in amount the reasonable cost of providing the protective services for

which the fees are charged, or that the fees were levied for any *unrelated* revenue purposes. (See *Pennell*, *supra*, 42 Cal.3d at p. 375.) Moreover, Sinclair has not yet sought to establish that the amount of the fees bears no reasonable relationship to the social or economic "burdens" that Sinclair's operations generated. (See *SDG&E*, *supra*, 203 Cal.App.3d at p. 1146; see also § 105310, subds. (b), (d); *Sea & Sage Audubon Society, Inc.* v. *Planning Com.* (1983) 34 Cal.3d 412, 421 [***877** 194 Cal.Rptr. 357, 668 P.2d 664] [persons challenging fees have burden of establishing invalidity].) Sinclair does contend, however, that the Act is not *regulatory* in nature, being primarily aimed at producing revenue.

According to Sinclair, the challenged fees were in effect "taxes" because the compulsory revenue measure that imposed them was not part of a *regulatory* effort. The Court of Appeal agreed, relying on prior cases indicating that where payments are exacted solely for *revenue* purposes and give the right to carry on the business with no further conditions, they are taxes. (E.g., *United Business*, *supra*, 91 Cal.App.3d at p. 165.) The Court of Appeal held that "Placing the factors distinguishing taxes and fees along a continuum, we conclude the monies paid by Sinclair pursuant to the Act are more like taxes than fees. [¶] *There is nothing on the face of the Act to show the fees collected are used to regulate Sinclair.* Apart from mere calculation of the payment, the Department's regulatory authority involves implementation of the program to evaluate, screen, and provide followup services to children at risk for lead poisoning. The Act does not require Sinclair to comply with any other conditions; it merely requires Sinclair to pay what the Department determines to be its share of the program cost."

Contrary to the Court of Appeal, we believe that section 105310 imposes bona fide regulatory fees. It requires manufacturers and other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their products created in the community. Viewed as a "mitigating effects" measure, it is comparable in character to similar police power measures imposing fees to defray the actual or anticipated adverse effects of various business operations.

From the viewpoint of general police power authority, we see no reason why statutes or ordinances calling on polluters or producers of contaminating products to help in mitigation or cleanup efforts should be deemed less "regulatory" in nature than the initial permit or licensing programs that allowed them to operate. Moreover, imposition of "mitigating effects" fees in a substantial amount (Sinclair allegedly paid $97,825.26 in 1991) also "regulates" future conduct by deterring further manufacture, distribution, or sale of dangerous products, and by stimulating research and development efforts to produce safer or alternative products. (Cf. *SDG&E*, *supra*, 203 Cal.App.3d at p. 1147, fn. 20 [emissions-based fees provide incentive to use nonpollutant fuels].)

Sinclair disputes the state's authority to impose industry-wide "remediation fees" to compensate for the adverse societal effects generated by an industry's products. To the contrary, the case law previously cited or discussed clearly indicates that the police power is broad enough to include ***878** mandatory remedial measures to mitigate the *past, present, or future* adverse impact of the fee payer's operations, at least where, as here, the measure requires a causal connection or nexus between the product and its adverse effects. (See *City of Oakland v. Superior Court*, *supra*, 45 Cal.App.4th at pp. 760-762; *Kern County Farm Bureau v. County of Kern*, *supra*, 19 Cal.App.4th at pp. 1422-1425; *City of Dublin v. County of Alameda*, *supra*, 14 Cal.App.4th at pp. 284-285; *SDG&E*, *supra*, 203 Cal.App.3d at pp. 1146-1149; *United Business*, *supra*, 91 Cal.App.3d at p. 168; *Russ Bldg. Partnership v. City and County of San Francisco*, *supra*, 199 Cal.App.3d at pp. 1504-1506 [fees to pay for increased transit costs]; *J. W. Jones Companies v. City of San Diego*, *supra*, 157 Cal.App.3d at pp. 755, 758 [fees to defray costs of additional public facilities]; *Trent Meredith, Inc.* v. *City of Oxnard*, *supra*, 114 Cal.App.3d at p. 325 [fees to reduce growth impact of new subdivision]; see also *Western Indemnity Co. v. Pillsbury* (1915) 170 Cal. 686, 694 [151 P. 398] [police power authorizes legislation necessary or proper for protection of legitimate public interest]; *County of Plumas* v . *Wheeler* (1906) 149 Cal. 758, 761-764 [87 P. 909] [broad legislative discretion to regulate business, including license fees or charges]; 8 Witkin, Summary of Cal. Law (9th ed. 1988) Constitutional Law, § 784, p. 311 ["police power is simply the power of sovereignty or power to govern-the inherent reserved power of the state to subject individual rights to reasonable regulation for the general welfare"]; see generally, 6A McQuillan, The Law of Municipal Corporations (3d rev. ed. 1997) Municipal Police Power and Ordinances, § 24.01 et seq., p. 7 et seq.)

SDG&E involved regulatory fees comparable in some respects to the fees challenged here. (*SDG&E*, *supra*, 203 Cal.App.3d 1132.) There, 1982 legislation (see § 42311) empowered local air pollution control districts to apportion the costs of their permit programs among all monitored polluters according to a formula based on the amount of emissions they discharged. (See *SDG&E*, *supra*, 203 Cal.App.3d at p. 1135.) ([5]) The *SDG&E* court observed that "to show a fee is a regulatory fee and not a special tax, the government should prove (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity." (*Id.* at p. 1146, fn. omitted; see *Beaumont Investors v. Beaumont-Cherry Valley Water Dist.*, *supra*, 165 Cal.App.3d at pp. 234-235.)

In *SDG&E,* the amount of the regulatory fees was limited to the reasonable costs of each district's program, and the allocation of costs based on emissions "fairly relates to the permit holder's burden on the district's programs." (*SDG&E*, *supra*, 203 Cal.App.3d at p. 1146.) Accordingly, the ***879** court concluded that the fees were not "special taxes" under article XIII A, section 4. (*SDG&E*, *supra*, 203 Cal.App.3d at p. 1148.)

As the court observed in *SDG&E*, "Proposition 13's goal of providing effective property tax relief is not subverted by the increase in fees or the emissions-based apportionment formula. A reasonable way to achieve Proposition 13's goal of tax relief is to shift the costs of controlling stationary sources of pollution from the tax-paying public to the pollution-causing industries themselves ...." (*SDG&E*, *supra*, 203 Cal.App.3d at p. 1148.) ([2c]) In our view, the shifting of costs of providing evaluation, screening, and medically necessary follow-up services for potential child victims of lead poisoning from the public to those persons deemed responsible for that poisoning is likewise a reasonable police power decision. (See also *Mills* v. *County of Trinity*, *supra*, 108 Cal.App.3d at p. 663; *County of Fresno v. Malmstrom*, *supra*, 94 Cal.App.3d at p. 985 [special assessments have no impact on government spending].)

The fact that the challenged fees were charged after, rather than before, the product's adverse effects were realized is immaterial to the question whether the measure imposes valid regulatory fees rather than taxes. *City of Oakland v. Superior Court* seems close on point. There, the court upheld city fees imposed on retailers of alcoholic beverages to defray the cost of providing and administering hearings into nuisance problems associated with the prior sale of those beverages. The court first observed that "If a business imposes an unusual burden on city services, a municipality may properly impose fees pursuant to its police powers" to assure that the persons responsible "pay their fair share of the cost of government." (*City of Oakland v. Superior Court*, *supra*, 45 Cal.App.4th at p. 761.) The court concluded that "The ordinance's primary purpose is regulatory-to create an environment in which nuisance and criminal activities associated with alcoholic beverage retail establishments may be reduced or eliminated. Thus, the fee imposed ... is not a tax imposed to pay general revenue to the local governmental entity, but is a regulatory fee intended to defray the cost of providing and administering the hearing process set out in the ordinance. [Citation.]" (*Id.* at p. 762.)

The court in *United Business* applied the "regulation/revenue" distinction to conclude that sign inventory fees adopted to recover the city's cost of inventorying signs and bringing them into conformance with law were regulatory fees, not revenue-raising taxes. The court observed that, under the police power, municipalities may impose fees for the purpose of legitimate regulation, and not mere revenue-raising, if the fees do not exceed the reasonably necessary expense of the regulatory effort. (***880** *United Business*, *supra*, 91 Cal.App.3d at p. 165, and authorities cited.) Quoting with approval from an earlier decision, the court noted that, if revenue is the primary purpose, and regulation is merely incidental, the imposition is a tax, but if regulation is the primary purpose, the mere fact that revenue is also obtained does not make the imposition a tax. (*Ibid.*) Moreover, according to *United Business,* if a fee is exacted for revenue purposes, and its payment gives the right to carry on business without any further conditions, it is a tax. (*Ibid.*; see also *City of Oakland v. Superior Court*, *supra*, 45 Cal.App.4th at p. 761; *County of Plumas* v. *Wheeler*, *supra*, 149 Cal. at p. 763 [fee in amount greater than reasonably needed to regulate business "cannot stand as an exercise of the police power"]; *Mills* v. *County of Trinity*, *supra*, 108 Cal.App.3d at pp. 659-660; *City & County of San Francisco v. Boss* (1948) 83 Cal.App.2d 445, 450-451 [189 P.2d 32].)

The Court of Appeal, citing *United Business,* stressed that the challenged fees were exacted solely for revenue purposes, and their payment gave Sinclair and others the right to carry on the business without any further conditions. We see two flaws in that analysis. First, *all* regulatory fees are necessarily aimed at raising "revenue" to defray the cost of the regulatory program in question, but that fact does not automatically render those fees "taxes." As stated in *United Business,* if regulation is the primary purpose of the fee measure, the mere fact that the measure also generates revenue does not make the imposition a tax. (*United Business*, *supra*, 91 Cal.App.3d at p. 165; see also *Mills* v. *County of Trinity*, *supra*, 108 Cal.App.3d at p. 660 [rejecting broad definition of "tax" as including all fees and charges that exact money for public purposes].)

Second, we find inconclusive the fact that the Act permits Sinclair and other producers to carry on their operations without any further conditions *specified in the Act itself*. As we have indicated, fees can "regulate" business entities without directly licensing them by mitigating their operations' adverse effects. Moreover, as appellants observe, the Act is part of a broader regulatory scheme by which, under various state and federal statutes, the state regulates Sinclair and other manufacturers in the stream of commerce for products containing lead. That being so, Sinclair's payment of the challenged fees did not confer the right to carry on business without any further conditions or regulation.

The Court of Appeal rejected appellants' argument invoking other state and federal regulations: "First, there is nothing on the face of the Act or the accompanying statement of legislative purpose which links the Act's programs for children at risk for lead poisoning with the cited state or federal statutes regulating lead. Second, none of the fees collected pursuant to ***881** section 105310 are used to fund those regulatory efforts." However, it is undisputed that Sinclair and other manufacturers of lead-based products remain subject to government regulation, that payment of the challenged fees therefore does not entitle those manufacturers to operate free of regulation, and that the state must use the funds it collects under section 105310 *exclusively* for mitigating the adverse effects of lead poisoning of children, and not for general revenue purposes. (§ 105310, subd. (f).)

Under existing case law, we can reasonably characterize the challenged fees as *regulatory fees* rather than as taxes. Accordingly, we conclude the trial court erred in granting Sinclair summary judgment on the constitutional issues. Of course, Sinclair should be permitted to attempt to prove at trial that the amount of fees assessed and paid exceeded the reasonable cost of providing the protective services for which the fees were charged, or that the fees were levied for unrelated revenue purposes. (See *Pennell*, *supra*, 42 Cal.3d at p. 375.) Additionally, Sinclair will have the opportunity to try to show that no clear nexus exists between its products and childhood lead poisoning, or that the amount of the fees bore no reasonable relationship to the social or economic "burdens" its operations generated. (*SDG&E*, *supra*, 203 Cal.App.3d. at p. 1146; see also § 105310, subds. (b), (d).)

Disposition

The judgment of the Court of Appeal, affirming the trial court's grant of summary judgment in Sinclair's favor, is reversed.

George, C. J., Mosk, J., Kennard, J., Baxter, J., Werdegar, J., and Armstrong, J., * concurred.

Footnotes

* Associate Justice of the Court of Appeal, Second District, Division Five, assigned by the Chief Justice pursuant to article VI, section 6 of the California Constitution.

1 All further statutory references are to the Health and Safety Code unless otherwise noted.

2 We are not here concerned with issues arising under constitutional amendments effected by a recent initiative measure (Proposition 218) adopted at the November 5, 1996, General Election. That measure contains new restrictions on local agencies' power to impose fees and assessments.

* Associate Justice of the Court of Appeal, Second District, Division Five, assigned by the Chief Justice pursuant to article VI, section 6 of the California Constitution.

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ATTACHMENT D-2

KeyCite Yellow Flag - Negative Treatment
Declined to Extend by California Public Records Research, Inc. v. County of Yolo, Cal.App. 3 Dist., October 14, 2016

79 Cal.App.4th 935, 94 Cal.Rptr.2d 535, 00 Cal. Daily Op. Serv. 2760, 2000 Daily Journal D.A.R. 3719

CALIFORNIA ASSOCIATION OF PROFESSIONAL SCIENTISTS et al., Plaintiffs and Respondents,
v.
DEPARTMENT OF FISH AND GAME et al., Defendants and Respondents; ALBERT W. MILLS et al., Interveners and Appellants.
ALBERT W. MILLS, Plaintiff and Appellant,
v.
DEPARTMENT OF FISH AND GAME et al., Defendants and Appellants.

No. C023075., No. C023184.
Court of Appeal, Third District, California.
Apr. 10, 2000.

[Opinion certified for partial publication. *]

SUMMARY

An individual filed a declaratory relief action challenging the constitutionality of a flat fee imposed by the Legislature pursuant to Fish & G. Code, § 711.4, on those submitting project proposals to the Department of Fish and Game for environmental review. Plaintiff alleged the fee constituted a tax that was not passed by a two-thirds majority as required under Cal. Const., art. XIII A (Prop. 13). The trial court found that although the statute was not unconstitutional on its face, it was unconstitutional as applied to plaintiff. Before entry of judgment, however, the parties settled the matter, with the department agreeing to refund plaintiff's fees and to stop collecting the fees statewide. Employees of the department then filed a petition for a writ of mandate to compel the department to resume collection of the fees and to pursue retroactive collection. The writ proceeding and the declaratory relief action were consolidated. The trial court again ruled that the statute was unconstitutional as applied, but that, in the absence of an appellate finding that the statute was unconstitutional, the ruling could only be applied to the individual plaintiff. The trial court ordered the department to reinstate enforcement and to retroactively collect the fees, and the settlement order in the declaratory relief action was modified to conform to the judgment in the writ proceedings. (Superior Court of Sacramento County, Nos. 95CS02523 and CV529928, Jeffrey L. Gunther, Judge.)

The Court of Appeal affirmed in part and reversed in part the judgment entered in the declaratory relief action, and, since the court concluded that the statute was a valid regulatory fee, and was therefore constitutionally enacted, plaintiff's appeal from the judgment entered in the writ proceedings was dismissed as moot. The court held that the Legislature did not violate the supermajority requirement of Cal. Const., art. XIII A, by imposing the flat fee pursuant to Fish & G. Code, § 711.4, with less than a two-thirds vote, since the exaction was a regulatory fee rather than a tax. The department met its burden of showing that the amount of fees generated by Fish & G. Code, § 711.4, was far less than the cost of the environmental reviews provided. Thus, the fees were not revenue raising. Although a flat fee will seldom represent the exact cost of providing a service, the evidence was sufficient to sustain the legislative determination that a flat fee system was a reasonable means to allocate the costs of environmental review. It was reasonable to assess a flat fee and thereby reduce the cost and administrative difficulty of accounting for the services provided for each individual project. Moreover, collection of a flat fee at a uniform time eased the administrative burden of collection and provided certainty to those submitting project proposals. The court further held that there was sufficient evidence to show that there was a reasonable basis for the legislative decision to charge more for the review of a negative declaration than for the review of an environmental impact report. (Opinion by Raye, J., with Sims, Acting P. J., and Nicholson, J., concurring.)

HEADNOTES

Classified to California Digest of Official Reports

(1a, 1b, 1c)
Property Taxes § 7.6--Constitutional Provisions--Proposition 13--Assessments as Fees or Taxes--Flat Fee for Environmental Review by Department of Fish and Game:Taxation § 3--Construction of Legislation.
The Legislature did not violate the super-majority requirement of Cal. Const., art. XIII A (Prop. 13) by imposing a flat fee pursuant to Fish & G. Code, § 711.4,

with less than a two-thirds vote, on those who submit project proposals to the Department of Fish and Game for the environmental review necessary to protect fish and wildlife, since the exaction was a regulatory fee rather than a tax. The department met its burden of showing that the amount of fees generated by Fish & G. Code, § 711.4, was far less than the cost of the environmental reviews provided. Thus, the fees were not revenue raising. Although a flat fee will seldom represent the exact cost of providing a service, the evidence was sufficient to sustain the legislative determination that a flat fee system was a reasonable means to allocate the costs of environmental review. It was reasonable to assess a flat fee and thereby reduce the cost and administrative difficulty of accounting for the services provided for each individual project. Moreover, collection of a flat fee at a uniform time eased the administrative burden of collection and provided certainty to those submitting project proposals.

[See 9 Witkin, Summary of Cal. Law (9th ed. 1989) Taxation, § 107 et seq.]

(2)
Property Taxes § 7.6--Constitutional Provisions--Proposition 13-- Assessments as Fees or Taxes:Taxation § 3--Construction of Legislation.
The determination under Prop. 13 (Cal. Const., art. XIII A, §§ 3, 4) whether impositions are taxes or fees is a question of law for the appellate courts to decide on independent review of the facts. Ordinarily, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted, and most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges.

(3a, 3b)
Property Taxes § 7.8--Constitutional Provisions--Proposition 13--Regulatory Fees--Special Taxes.
Fees charged for the costs of regulatory activities are not special taxes under a Cal. Const., art. XIII A, § 4 (Prop. 13) analysis if the fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and they are not levied for unrelated revenue purposes. A regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of the regulation. The regulatory fee, to survive as a fee, does not require a precise cost-fee ratio. Legislators need only apply sound judgment and consider probabilities according to the best honest viewpoint of informed officials in determining the amount of the fee. The government bears the burden of proof. It must establish (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity. The record need only demonstrate a reasonable relationship between the fees to be charged and the estimated cost of the service or program to be provided; that requirement may be satisfied by evidence showing only that the fees will generate substantially less than the anticipated costs.

(4)
Fish and Game § 3--Regulation--Fee for Environmental Review with Department of Fish and Game--Validity of Higher Fee for Review of Negative Declaration.
In proceedings to challenge the validity of a flat fee (Fish & G. Code, § 711.4) on those submitting project proposals to the Department of Fish and Game for environmental review, there was sufficient evidence to show that there was a reasonable basis for the legislative decision to charge more for the review of a negative declaration than for the review of an environmental impact report. A senior environmental specialist supervisor for the department testified at trial that the standard for a negative declaration is that a project must have no adverse impact on the environment. Thus, the department must ensure that the disclosure of the possible impacts is complete and to assure any mitigation measures are adequate. Often, the proposed mitigation measures are inadequate, and the department staff must work with the lead agency and with the project proponent to develop an acceptable negative declaration document. The supervisor testified that his staff probably spent more time on the review of a negative declaration than the review of an equivalent size project with environmental impact report documentation. Hence, due to project information collection costs and the time spent negotiating mitigation measures, the department's costs were generally higher for negative declarations.

COUNSEL
McNeill & Belton and Walter P. O'Neill for Plaintiff and Appellant and for Interveners and Appellants.

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Robin L. Rivett, Sharon L. Browne and Anne M. Hawkins for Pacific Legal Foundation as Amicus Curiae on behalf of Plaintiff and Appellant.
Daniel E. Lungren and Bill Lockyer, Attorneys General, Roderick E. Walston, Chief Assistant Attorney General, Charles W. Getz IV and Marian E. Moe, Deputy Attorneys General, for Defendants and Appellants and for Defendants and Respondents.
Dennis F. Moss for Plaintiffs and Respondents.

RAYE, J.

In this appeal we consider whether the Legislature ran afoul of the supermajority requirement of article XIII A of the California Constitution when it imposed a flat fee per environmental review by the Department ***939** of Fish and Game (Fish and Game). More precisely, we must determine whether the exactions imposed by section 711.4 of the Fish and Game Code [1] constitute a regulatory fee or a tax.

Determining whether an exaction is a fee or a tax has been a recurring chore since 1978 when the voters in California enacted comprehensive and constitutional tax reform. (Cal. Const., art. XIII A (the Jarvis-Gann Property Tax Initiative or Proposition 13).) An act to increase state taxes must be passed by two-thirds of the members of the Legislature and an increase in local taxes must be passed by a two-thirds vote of the qualified electors. (Cal. Const., art. XIII A, §§ 3 & 4.) Fees, by contrast, are not subject to the supermajority limitation of article XIII A. Albert Mills, an appellant in both cases, insists the environmental review fees charged by Fish and Game pursuant to section 711.4 constitute a tax and, therefore, are unconstitutional because the statute was passed by slightly less than a two-thirds majority.

It is well established that the amount of fees collected must not surpass the cost of the regulatory services or programs they are designed to support. We must decide whether there must be a direct correlation between the amount of a fee imposed on a specific payor and the benefits received or burdens imposed by the payor's activity. More to the point, is a flat regulatory fee in legal effect a tax subject to the supermajority requirement of California Constitution, article XIII A?

We conclude that as long as the cumulative amount of the fees does not surpass the cost of the regulatory program or service and the record discloses a reasonable basis to justify distributing the cost among payors, a fee does not become a tax simply because each payor is required to pay a predetermined fixed amount. Flat fees are not in legal effect taxes. Based on the evidentiary record before us, we find that the Legislature did not violate California Constitution, article XIII A by imposing a flat regulatory fee on those who submit project proposals to Fish and Game for the environmental review necessary to protect fish and wildlife. The consequences of our ruling to the multiple parties in these consolidated cases are explained below.

Procedural Background

Section 711.4, enacted by the Legislature in 1990, set a fee schedule to defray a portion of the costs incurred by Fish and Game in meeting its environmental review obligations under the California Environmental Quality Act and the Z'Berg-Nejedly Forest Practice Act of 1973. (§ 711.4, ***940** subds. (a), (b), (c) & (d); Pub. Resources Code, §§ 4511, 21000 et seq.) Section 711.4 states in relevant part: "(a) The department shall impose and collect a filing fee in the amount prescribed in subdivision (d) to defray the costs of managing and protecting fish and wildlife trust resources, including, but not limited to, consulting with other public agencies, reviewing environmental documents, recommending mitigation measures, developing monitoring requirements for purposes of the California Environmental Quality Act ..., consulting pursuant to Section 21104.2 of the Public Resources Code, and other activities protecting those trust resources identified in the review pursuant to the California Environmental Quality Act. [ ] (b) The filing fees shall be proportional to the cost incurred by the department and shall be annually reviewed and adjustments recommended to the Legislature in an amount necessary to pay the full costs of department programs as specified." For projects for which a negative declaration has been prepared, the filing fee set by the Legislature is $1,250 and for projects for which an environmental impact report has been prepared, the filing fee is $850. (§ 711.4, subd. (d)(3) & (4).) "The county clerk may charge a documentary handling fee of twenty-five dollars ($25) per filing in addition to the filing fee specified in subdivision (d)." (§ 711.4, subd. (e).)

Albert W. Mills challenged the constitutionality of section 711.4 in a declaratory relief action he filed in July 1991. He sought declaratory and injunctive relief in a first cause of action and a refund of his fees in a second cause of

action. A demurrer was sustained without leave to amend to the second cause of action. Fish and Game sought a writ of mandate to compel the trial court to dismiss the entire complaint because Mills had not filed a claim for a tax refund. We summarily denied the petition for the writ. The trial court denied a subsequent motion for judgment on the pleadings on the same ground asserted in the writ petition.

In 1992 the Legislature amended the statute to expand the exemptions for projects for which no fees were required. The amendment passed by a two-thirds majority vote.

The case was tried in the summer of 1994 and the following spring the trial court issued a statement of decision. The court found that although the statute was not unconstitutional on its face, on the evidence received by the court, it was unconstitutionally applied. Before the statement of decision was filed and a judgment was entered, the parties settled the lawsuit. Fish and Game agreed to refund Mills's fees, to pay his attorney fees, and to cease collection of the fees statewide.

Employees of Fish and Game, however, filed a petition for a writ of mandate to compel Fish and Game to resume collection of the fees and to ***941** pursue retroactive collection. Mills intervened in the writ proceedings, which were then consolidated with the declaratory relief action.

The trial court again ruled that section 711.4 was unconstitutional as applied but that, in the absence of an appellate finding that the statute was unconstitutional, the ruling could only be applied to Mills. (Cal. Const., art. III, § 3.5.) The court ordered Fish and Game to reinstate enforcement and to retroactively collect the fees. The settlement order in the declaratory relief action was modified to conform to the judgment in the writ proceedings. The settlement order provides in pertinent part that section 711.4 is not unconstitutional on its face but is unconstitutional as applied to Mills; Fish and Game is enjoined from collecting fees from Mills but is not otherwise prohibited from collecting fees.

Mills appeals both judgments. On appeal from the judgment in the declaratory relief action, he maintains section 711.4 is unconstitutional on its face and, consequently, Fish and Game must be enjoined from collecting all fees. Fish and Game urges us to dismiss the appeal on multiple grounds: Mills lacks standing because, under the terms of the settlement, he is not aggrieved; the constitutionality of section 711.4 is moot because it was amended by a two-thirds majority; and the trial court lacked jurisdiction because Mills failed to exhaust his administrative remedies by filing a claim for a tax refund. Fish and Game also appeals. We granted the Pacific Legal Foundation's request to file an amicus curiae brief echoing Mills's constitutional attack on the statute.

For the reasons discussed herein, we affirm in part and reverse in part the judgment entered in the declaratory relief action. Because we have concluded that section 711.4 is a valid regulatory fee, and was therefore constitutionally enacted, Mills's appeal from the judgment entered in the writ proceedings is moot. That appeal is dismissed.

Discussion

I *

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II

Before we apply the ever-growing body of case law involving post-Proposition 13 fees and taxes, it is essential to understand the statutory world ***942** in which Fish and Game lives and section 711.4 was born. The language of these statutes resolves some of the issues raised by Mills and provides the necessary background to analyze others.

([1a]) Mills argues that Fish and Game does not operate a regulatory program and, therefore, the fee is not regulatory in nature. We disagree. Fish and Game is only one small part of a huge regulatory system in place in this state to protect and sustain the environment, but it plays a vital regulatory role under the California Environmental Quality Act (CEQA). (Pub. Resources Code, § 21000 et seq.) CEQA guidelines specifically list Fish and Game as a trustee agency, a status which imposes certain obligations. Fish and Game must be consulted before a determination is made as to whether a negative declaration or an environmental impact report is required for a particular project. (Pub. Resources Code, § 21080.3, subd. (a).) If an environmental impact report is required, Fish and Game must comment as to the scope and contents of this document. (Pub. Resources Code, § 21080.4, subd. (a).) Later in the process, Fish and Game may be required to submit a proposed program to monitor the mitigation measures. (Pub. Resources Code, §

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21081.6.) The same obligations are imposed by documents which function as environmental assessment documents such as timber harvest plans. (*Environmental Protection Information Center, Inc. v. Johnson (1985) 170 Cal.App.3d 604, 626 [216 Cal.Rptr. 502]*.) *Fish and Game Code section 1802 also requires Fish and Game to consult with lead and responsible agencies.*

Fish and Game also has comparable obligations under the Forest Practice Act. (Pub. Resources Code, § 4511 et seq.) Like the responsibility conferred on it under CEQA, Fish and Game must review the impact of a timber harvest plan on fish and wildlife. The Department of Forestry and Fire Protection cannot approve a timber harvest plan until it has consulted with Fish and Game. (Pub. Resources Code, § 4582.6.)

Under both CEQA and the Forest Practice Act, Fish and Game is an essential link in a comprehensive attempt to safeguard the environment. The fact that Fish and Game does not operate an independent regulatory program with a correlative accounting system does not detract from its regulatory role. The law is not so narrowly drawn. In a similar vein, the court in *Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866 [64 Cal.Rptr.2d 447, 937 P.2d 1350] observed: "From the viewpoint of general police power authority, we see no reason why statutes or ordinances calling on polluters or producers of contaminating products to help in mitigation or cleanup efforts should be deemed less 'regulatory' in nature than the initial ***943** permit or licensing programs that allowed them to operate. Moreover, imposition of 'mitigating effects' fees in a substantial amount ... also 'regulates' future conduct by deterring further manufacture, distribution, or sale of dangerous products, and by stimulating research and development efforts to produce safer or alternative products." (*Id.* at p. 877.)

Having charged Fish and Game with the responsibility to manage and protect fish and wildlife through the environmental review process, the Legislature enacted a fee statute to fund Fish and Game's review functions. There are two parts of section 711.4 which are germane to the constitutional question before us.

The Legislature expressly addressed proportionality. Section 711.4, subdivision (b) states: "The filing fees shall be proportional to the cost incurred by the department and shall be annually reviewed and adjustments recommended to the Legislature in an amount necessary to pay the full costs of department programs as specified."

Although the Legislature mandated a flat fee financing mechanism, it also provided an exemption for those projects with a de minimis impact on fish and wildlife. Section 711.4, subdivision (d)(1) provides: "For a project which is found by the lead or certified regulatory agency to be de minimis in its effect on fish and wildlife, no filing fee shall be paid, whether or not a negative declaration or an environmental impact report is prepared pursuant to the California Environmental Quality Act." In fact, 68 percent of the projects are found to be de minimis and a fee is not required.

In sum, the Legislature has given Fish and Game a critical regulatory role in the complex regulatory structure created to safeguard precious environmental resources. At the same time, the Legislature created a flat fee system to finance Fish and Game's environmental review. That system, by statute, must be proportional to the overall cost of environmental review, but only those who propose development projects which have more than a de minimis impact upon fish and wildlife are required to bear the cost of review. We must determine whether the Legislature violated the Constitution by establishing such a fee system with less than a two-thirds vote.

III

In 1991 the Legislature enacted the Childhood Lead Poisoning Prevention Act to provide evaluation, screening, and follow-up services for children who were at risk of suffering lead poisoning. The program of screening and treatment under the act was to be paid entirely by fees paid by those who ***944** contributed to lead contamination. In *Sinclair Paint Co. v. State Bd. of Equalization, supra,* 15 Cal.4th 866, the Supreme Court concluded the act imposed bona fide regulatory fees, not taxes.

Sinclair is the first published case in the post-Proposition 13 era to consider whether a state, rather than a local, fee is in legal effect a tax. "Section 3 of article XIII A restricts the enactment of changes in state taxes, as follows: 'From and after the effective date of this article, any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods of computation must be imposed by

an Act passed by not less than two-thirds of all members ... of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed.' " (*Sinclair Paint Co. v. State Bd. of Equalization, supra,* 15 Cal.4th at pp. 872-873.) By contrast, there have been an abundance of cases in which courts have struggled to characterize a local exaction as a fee or a "special tax" under California Constitution, article XIII A, section 4. In *Sinclair*, the Supreme Court announced that "[b]ecause of the close, 'interlocking' relationship between the various sections of article XIII A" the section 4 cases "may be helpful, though not conclusive" in deciding cases under section 3. (15 Cal.4th at p. 873.)

([2]) The court also reiterated the fundamental principle that "whether impositions are 'taxes' or 'fees' is a question of law for the appellate courts to decide on independent review of the facts." (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal.4th at p. 874.) Ordinarily, "taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted" and "[m]ost taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges." (*Id.* at pp. 873-874.)

Sinclair was particularly helpful in identifying three very different kinds of fees or assessments, viz. special assessments, development fees and regulatory fees. (See also *Isaac v. City of Los Angeles* (1998) 66 Cal.App.4th 586, 596 [77 Cal.Rptr.2d 752].) As the court pointed out, special assessments are based on the value of benefits conferred on property, and development fees are exacted in return for permits or other government privileges. Regulatory fees, enacted under the police power, are an entirely different animal. The parties have failed to distinguish between these types of fees and, consequently, have extracted general principles from cases involving one type of fee and applied them to cases involving a completely different type of fee. We have focused our research on those cases, like *Sinclair*, involving regulatory fees. ***945**

([3a]) General principles have emerged. Fees charged for the associated costs of regulatory activities are not special taxes under an article XIII A, section 4 analysis if the " ' "fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and [they] are not levied for unrelated revenue purposes." ' " (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal.4th at p. 876; *Townzen v. County of El Dorado* (1998) 64 Cal.App.4th 1350, 1359 [76 Cal.Rptr.2d 281].) "A regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of the regulation." (*San Diego Gas & Electric Co. v. San Diego County Air Pollution Control Dist.* (1988) 203 Cal.App.3d 1132, 1146, fn. 18 [250 Cal.Rptr. 420].) "Such costs ... include all those incident to the issuance of the license or permit, investigation, inspection, administration, maintenance of a system of supervision and enforcement." (*United Business Com. v. City of San Diego* (1979) 91 Cal.App.3d 156, 165 [154 Cal.Rptr. 263].) Regulatory fees are valid despite the absence of any perceived "benefit" accruing to the fee payers. (*Pennell v. City of San Jose* (1986) 42 Cal.3d 365, 375 [228 Cal.Rptr. 726, 721 P.2d 1111], affd. on other grounds *sub nom. Pennell v. City of San Jose* (1988) 485 U.S. 1 [108 S.Ct. 849, 99 L.Ed.2d 1].) Legislators "need only apply sound judgment and consider 'probabilities according to the best honest viewpoint of informed officials' in determining the amount of the regulatory fee." (*United Business Com. v. City of San Diego, supra*, 91 Cal.App.3d at p. 166.)

The government bears the burden of proof. (*Beaumont Investors v. Beaumont-Cherry Valley Water Dist.* (1985) 165 Cal.App.3d 227, 235 [211 Cal.Rptr. 567].) It must establish (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity. (*Id.* at pp. 234-235.) "Courts [look] to a variety of evidence in determining whether the agency has satisfied that burden, not all of it prepared before the adoption of the ordinance." (*City of Dublin v. County of Alameda* (1993) 14 Cal.App.4th 264, 282 [17 Cal.Rptr.2d 845].)

City of Dublin v. County of Alameda, supra, 14 Cal.App.4th 264, provides guidance on the quantum of proof necessary to establish the requisite fee-cost ratio. By initiative, the voters in Alameda County enacted a comprehensive recycling plan. Under the law, the plan was to be funded from a recycling fund created by a $6 per ton surcharge on materials dumped in the county landfills. The issue presented was whether the evidence before the trial court established that the surcharge would

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not exceed the reasonably ***946** necessary costs of the programs it would fund. The Court of Appeal considered both the estimated costs of the programs and the basis for determining the apportionment of those costs.

The court wrote: "The trial court concluded that the requisite fee-cost relationship was not established because Measure D's programs are not yet developed and their costs cannot presently be calculated with certainty, but such specificity is not required. Instead, the record need only demonstrate a reasonable relationship between the fees to be charged and the *estimated* cost of the service or program to be provided; that requirement may be satisfied by evidence showing only that the fees will generate substantially less than the anticipated costs." (*City of Dublin v. County of Alameda, supra*, 14 Cal.App.4th at p. 283, original italics.)

In a similar case, the Court of Appeal addressed the quantum of proof and proportionality. "Plaintiffs fault the report for failing to include 'site-specific' data showing a 'close connection' between new development and the fees to be imposed. However, their citation to 'taking' cases shows that they are blurring legal principles. [Citation.] The fee at issue here is a general one applied to all new residential development and valid if supported by a reasonable relationship between the amount of the fee and estimated cost of services. Site-specific review is neither available nor needed." (*Garrick Development Co. v. Hayward Unified School Dist.* (1992) 3 Cal.App.4th 320, 333-334 [4 Cal.Rptr.2d 897].)

([1b]) Fish and Game met its burden of showing that the amount of fees generated by section 711.4 was far less than the cost of the environmental reviews provided. There was evidence that $11 million had been collected in fees, but the cost of the reviews was in excess of $20 million. Thus, the fees were not revenue raising in that they did not generate income which surpassed the cost of the services provided.

The more difficult issue is determining what latitude the Legislature has in establishing the amount of a fee imposed on an individual payor. Fish and Game argues the fees have no indicia of a tax. Since there is sufficient evidence to demonstrate that collectively the amount of the fees do not exceed the cost of the regulatory program they are collected to support, they urge us to uphold the constitutionality of section 711.4. Mills, on the other hand, insists Fish and Game failed to prove the more specific requirement that the fees are proportionate to the service provided or the burden imposed. He insists the flat fee is a tax because there is no individual correlation between the amount of the fee and the cost of the benefit or burden. Whether the Legislature retains the flexibility to mandate a flat fee by a simple majority vote is the crux of this case. ***947**

Sinclair is noteworthy for its expansive legitimation of regulatory fees. Under the formula approved by the Supreme Court, paint manufacturers are assessed fees based on their market share or their past and present responsibility for environmental lead contamination. (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal.4th at p. 872.) Market share is a novel methodology for assessing fees. Nevertheless, the court permitted present fees to be determined on the basis of past conduct when not only were fees nonexistent, but the dangers of lead-based paint were unknown.

As broad as the implications of *Sinclair* are, the Supreme Court did not have to reach the troublesome issue of proportionality, because paint manufacturers were assessed fees in proportion to their share of the market. Moreover, Sinclair, in moving for summary judgment, did not seek to establish that the amount of the fees bore no reasonable relationship to the social or economic burdens its operations generated. The court noted that Sinclair would have the opportunity at trial "to try to show that no clear nexus exists between its products and childhood lead poisoning, or that the amount of the fees bore no reasonable relationship to the social or economic 'burdens' its operations generated." (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal. 4th at p. 881.)

Close to 20 years ago, we articulated the same rule to Mills in his earlier constitutional challenge to fees charged for processing land use applications. In *Mills v. County of Trinity* (1980) 108 Cal.App.3d 656 [166 Cal.Rptr. 674], we stated: " '[T]he special tax' referred to in section 4 of article XIII A does not embrace fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes." (*Id.* at pp. 659-660.) In *Mills* as in *Sinclair*, however, the case was remanded "for a factual determination of whether the fees in question are reasonably compensatory for the costs occasioned by the regulated activities." (*Mills*, at p. 660.)

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Flat regulatory fees were upheld in *Pennell v. City of San Jose, supra,* 42 Cal.3d 365. In *Pennell*, a rent control ordinance imposed a flat annual fee on each rental unit. It was "designed to defray the costs of providing and administering the hearing process prescribed in the ordinance, not to pay general revenue to the local government." (*Id.* at p. 375.) The court concluded: "It is well settled that a municipality under the police power may impose a regulatory fee when, as here, the fee constitutes an amount necessary to carry out the purpose and provisions of the regulation." (*Id.* at p. 375, fn. 11.) ***948**

The court in *Pennell* appeared satisfied that the cumulative amount of the fee would support the administration and implementation of the hearing process without an examination of the benefits to be derived by individual lessees. Many lessors would never avail themselves of the hearing process at all and yet under the rent control ordinance, they, like the lessees who would petition for hearing, were required to pay the fee. *Pennell* does not require the government to prove proportionality on an individual basis. Under *Pennell,* the significant inquiry is whether the amount of the fees collected under the ordinance exceed the cost of the regulatory program they are collected to support. Proportionality is measured collectively to assure that the fee is indeed regulatory and not revenue raising.

While Mills cites many cases for the general proposition that fees must be apportioned according to some formula for ascertaining the benefits received or the burdens imposed by the payor's activity, he fails to cite a single regulatory fee case in which a fee was found to be a tax because the government failed to sustain its burden of proving a reasonable apportionment. On this pivotal point, the cases require close examination for what they require and for what they do not.

Two cases involve regulatory fees, like those before us, enacted to defray the costs of programs to mitigate damage to the environment. In *San Diego Gas & Electric Co. v. San Diego County Air Pollution Control Dist., supra,* 203 Cal.App.3d 1132 (*San Diego Gas & Electric Co.*), and *Brydon v. East Bay Mun. Utility Dist.* (1994) 24 Cal.App.4th 178 [29 Cal.Rptr.2d 128], the Courts of Appeal upheld fee structures against challenges they constituted special taxes. Both cases discuss the apportionment issue at some length.

In *San Diego Gas & Electric Co., supra*, a utility company challenged an air pollution district's method of apportioning the costs of its permit programs by apportioning them among all monitored polluters according to a formula based on the amount of emissions discharged by a stationary pollution source. The emissions-based formula allowed the district to charge additional renewal permit fees based on the average pollution generated by a facility within a specific industry. The court wrote: "SDG&E argues the district has not specifically shown how the amount of emissions generated by a pollution source increase the district's indirect costs .... There is no reason to require the district to show precisely how more emissions generate more costs to justify the emission-based apportionment formula. The purpose for the district's existence is to achieve and maintain air quality standards (§ 40001), thus from an overall perspective it is reasonable to allocate costs based on a premise that the more emissions generated by a ***949** pollution source, the greater the regulatory job of the district." (203 Cal.App.3d at pp. 1147-1148, fn. omitted.)

In rejecting *San Diego Gas & Electric Co.*'s argument that the emissions-based formula eroded the intent of the voters in enacting California Constitution, article XIII A, the court explained that "Proposition 13's goal of providing effective property tax relief is not subverted by the increase in fees or the emissions-based apportionment formula. A reasonable way to achieve Proposition 13's goal of tax relief is to shift the costs of controlling stationary sources of pollution from the tax-paying public to the pollution-causing industries themselves, an accomplishment of the 1982 amendments to [Health and Safety Code] section 42311 and the emissions-based fee schedule." (*San Diego Gas & Electric Co., supra*, 203 Cal.App.3d at pp. 1148-1149.)

In *Brydon,* water customers challenged a new rate structure as a special tax. The inclined rate structure increased price per cubic foot for increased usage. The Court of Appeal found *San Diego Gas & Electric Co.* "a sustainable analogy." "Just as the regulatory scheme set forth by the [air pollution control district] was designed to achieve a legislatively mandated ecological objective, so is the inclined block rate structure of the District a response to state-mandated water-resource conservation

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requirements." (*Brydon v. East Bay Mun. Utility Dist., supra*, 24 Cal.App.4th at p. 192.) The court emphasized the latitude necessary to set the amount of fees to meet the regulatory objectives. "In pursuing a constitutionally and statutorily mandated conservation program, cost allocations for services provided are to be judged by a standard of reasonableness with some flexibility permitted to account for system-wide complexity. [Citation.] [ ] ... [ ] ... In short, California Constitution, article XIII A does not apply to every regulatory fee simply because, as applied to one or another of the payor class, the fee is disproportionate to the service rendered." (*Id.* at pp. 193-194.)

Hence, both cases narrow the breadth of California Constitution, article XIII A as applied to regulatory fees. Both suggest a flexible assessment of proportionality within a broad range of reasonableness in setting fees. In *San Diego Gas & Electric Co.,* the use of a formula to distribute indirect costs was sustained, while in *Brydon* an inclined block rate schedule allowed the water district to discourage water consumption. Neither relied on the kind of exact apportionment calculation urged by Mills.

Still, *San Diego Gas & Electric Co.* and *Brydon*, unlike *Pennell*, did not involve flat fees. While the formula or rate structure may not have been exact, each bore some relationship to the benefit reaped or the burden ***950** imposed by the payor. Put another way, the payors had some control over the amount of the regulatory fee they were compelled to pay by the degree to which their respective activities impacted the environment. The more they polluted the air and consumed the water, the more they paid.

We acknowledge that in this case Mills had no comparable control over the amount of the fees he was charged to review his timber harvest plan. The amount of the fees is expressly set forth in section 711.4. ([3b]) Nevertheless, we hold that a regulatory fee, to survive as a fee, does not require a precise cost-fee ratio. A regulatory fee is enacted for purposes broader than the privilege to use a service or to obtain a permit. Rather, the regulatory program is for the protection of the health and safety of the public. The legislative body charged with enacting laws pursuant to the police power retains the discretion to apportion the costs of regulatory programs in a variety of reasonable financing schemes. An inherent component of reasonableness in this context is flexibility. We agree with the notion that shifting the costs of environmental protection to those who seek to impact our natural resources does not subvert the objectives embodied in Proposition 13. Hence, a regulatory fee does not violate California Constitution, article XIII A when the fees collected do not surpass the costs of the regulatory programs they support and the cost allocations to individual payors have a reasonable basis in the record.

IV

([1c]) The record before us is a vivid illustration of the need for flexibility in establishing the amount of regulatory fees. Regulatory fees, unlike other types of user fees, often are not easily correlated to a specific, ascertainable cost. This may be due to the complexity of the regulatory scheme and the multifaceted responsibilities of the department or agency charged with implementing or enforcing the applicable regulations; the multifaceted responsibilities of each of the employees who are charged with implementing or enforcing the regulations; the intermingled functions of various departments as well as intermingled funding sources; and expansive accounting systems which are not designed to track specific tasks.

Mills asserts that these problems preclude a finding of a fee. He points out that Fish and Game did not conduct the kind of study now accepted within the expert field of user fee analysis to ascertain with precision the justifiable amount of a proposed fee based on the costs involved in providing the service. He criticizes the change in accounting systems in July 1991 which obfuscates the data necessary to make credible calculations, and he bemoans ***951** the incomprehensibility of the new CALSTARS accounting system as it relates to a user fee analysis. He insists that depositing the fees into Fish and Game's preservation fund is tantamount to a tax since the preservation fund operates as a general fund for Fish and Game. And he provides many examples of how disproportionate the fees are as to certain payors. Although most projects only receive a cursory review, there is a substantial variance in the amount of time spent on more in-depth reviews, varying from a few minutes to a few weeks, with the burden falling most heavily on small timberland owners.

This evidence is undisputed. There is no question that a flat fee will seldom represent the exact cost of providing a service. Fish and Game does not pretend such a correlation exists. Since we have determined that state

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regulatory fees are different from other user fees, the question presented is whether the evidence in this record is sufficient to sustain the legislative determination that a flat fee system is a reasonable means to allocate the costs of environmental review. [3]

Mills fails to appreciate the difference between regulatory fees and more typical user fees. At trial, he offered an expert from the new cottage industry of analysts and advisers to local governments on how to legitimize their fees in the litigious climate spawned by Proposition 13. That expert's testimony reflects his misguided assumption that all fees are created equal and that, to survive constitutional attack, they must be supported by exhaustive studies, unassailable time keeping, and a precise cost-fee analysis.

He insisted that a cost analysis study was not only advisable, but necessary. "So that is why I am saying it is possible for Fish and Game to do a kind of cost analysis study. My question then would be, secondly, do they now have that in place? Have they kept track? Have they required their staff to fill in reports? I mean, they might be able to do it starting now. But have they done it? Nothing has been submitted to me showing a tracking process of the steps taken and breaking down the specific tasks and functions.

"I recall this being referenced to the fact the administrative or bookkeeping costs were too high to do that. Frankly, my judgment is that becomes a ***952** cop-out. It is not too difficult. You can organize and set up, especially in today's computerized world with P.C.'s on half the staff desks.

"Attorneys have to bill by the minutes. They have to keep track of their time.

"It is perfectly possible to keep track of time. And I think, frankly, my judgment might be that if it is difficult, if your staff are not now doing those things systematically, it needs a whole retraining and regearing."

He opined that absent retraining, regearing, studies, and analysis, a fee could not survive a constitutional challenge. He went on to suggest a rather unique correlation between the time spent and the benefits achieved. Having testified he could not find a direct relationship between payment of a fee and providing any service, he stated: "There is no discussion of what happens as a result of the reviews. You know, do more spotted owls get saved? More fish saved? Or what. There is no functional relationship." Again he opined that in order to sustain the constitutionality of the fee, Fish and Game must document how a forest was saved or how many spotted owls were saved by the staff.

Fish and Game urges us to dismiss his opinion for several reasons: He had never reviewed the data supporting imposition of a state fee, he did not conduct any study to determine whether the section 711.4 flat fees were reasonable or proportional, and he had no familiarity with CEQA or the regulatory landscape in which Fish and Game must operate, not to mention that his proffered opinion constituted an inadmissible conclusion of law.

We need not address these specific deficiencies because we believe his testimony serves to highlight the fundamental distinction between a user fee and a regulatory fee. His testimony is predicated on many faulty assumptions based on user fees when there is an obvious correlation between cost and benefit. Moreover, in many cases, a statute demands that the amount of a fee be commensurate with the value of a service provided or the cost of a burden imposed. (See, e.g., Gov. Code, §§ 50076, 66001.) No comparable statutes apply to this state-imposed regulatory fee.

From the vantage point of one who earns a living studying user fees and counseling local governments on how to insulate their fees from constitutional attack, it is not surprising he would overlook the vast discrepancy between a fee imposed or a privilege accorded an individual and a fee that apportions and distributes the collective costs of a regulation. In the latter case, the many factors this expert described as deficiencies become the ***953** reasonable justification for imposing a flat fee. That is, the Legislature may have determined that the administrative cost and burden of a statewide fee, including expensive studies and accounting, was too high when a simpler, flat fee could be imposed. Moreover, often, as here, measuring the benefits is amorphous. The Legislature could reasonably eschew a graduated fee structure based on an accounting of owls that were spared and forests that survived. He failed to understand that a legislative body in determining the amount of a regulatory fee is legitimately hampered by the many factors he describes as necessary to support a user fee.

The Legislature determined that the fee must be paid when a notice of determination is entered. Mills argues the timing of the exaction is unfair and unreasonable because many payors pay for reviews they never receive and others receive a bargain price for an extensive and time-consuming study. It is not our role to assess the wisdom of legislation from either a public policy or public relations perspective. We are asked only to determine whether section 711.4 imposes a fee or a tax. The record discloses several reasonable justifications for imposing a flat fee.

Fish and Game offered testimony that the imposition of an hourly fee for any environmental review would discourage early consultation. Often developers contact Fish and Game to discuss potential adverse impacts of a proposed project before any plans are submitted. Fish and Game then has the opportunity to engage in a collaborative process to eliminate or mitigate impacts on fish and wildlife before resources have been committed to a particular development plan.

The record also discloses that the environmental review process for a CEQA project or a timber harvest plan can involve various biologists at the regional level, consultation with biologists at headquarters and review of various data bases. Moreover, the biologists often work on several projects simultaneously and perform work which benefits all the projects. Consequently, the evidence suggests it would be cumbersome and expensive to account for multiple biologists' time, from multiple regions, working multiple projects.

The evidentiary thrust to Fish and Game's argument is that the cost of performing its duties under CEQA and the Forest Practice Act far exceeds the revenue generated under section 711.4. (*City of Dublin v. County of Alameda, supra,* 14 Cal.App.4th at p. 282.) Under the accounting system dismantled in 1991, Fish and Game employees recorded their time and charged the time to various codes. Before changing to a new system, the ***954** employees' time sheets were surveyed and analyzed. A new coding system was predicated on these surveys and analyses. Mills complains that the new system camouflages and inflates the true costs of environmental review.

The trial court found Fish and Game met its burden of proving the cost of its environmental review programs. The court wrote, “While Plaintiff attacks the Department's method of converting its costs under its old accounting system to the new accounting program, the authorities do not require absolute precision. Rather, as long as the estimate of costs is a reasonable one, it will be upheld.”

We need not perform an appellate audit of Fish and Game's accounting systems. Having reviewed the entire record, we are satisfied there is sufficient evidence to support the trial court's finding that the cost of comprehensive environmental review far surpasses the amount of fees generated under section 711.4. “ '[W]e would be demanding the impossible by insisting on rigorously supported findings.' [Citation.] All that our review requires is that we are able to determine that the [Legislature] acted after finding a reasonable relationship between the fee and the need to which the development contributes.” (*Shapell Industries, Inc. v. Governing Board* (1991) 1 Cal.App.4th 218, 247 [1 Cal.Rptr.2d 818].) Mills squabbles about the costs associated with the review of Fish and Game's own projects, the preparation of resource databases, and a few other relatively small items. His argument, like his expert's testimony, proves the point. Complex regulatory programs involve complex accounting methodologies which render a more conventional “user fee” assessment impractical or expensive.

There is also evidence that the administrative costs to implement an extensive and comprehensive time-reporting system would be high. The evidence shows that biologists often simultaneously perform the preliminary work establishing resource data for several projects and consult and research issues relating to many different projects. It is reasonable to assess a flat fee and thereby reduce the cost and administrative difficulty of accounting for the services provided for each individual project. Moreover, collection of a flat fee at a uniform time eases the administrative burden of collection and provides certainty to those who submit project proposals.

Fish and Game provides an apt analogy to demonstrate the reasonableness of flat fees. The Legislature has adopted a flat filing fee for filing an action in superior court whether the matter is a simple case requiring little time and attention or a complex case requiring intensive judicial resources from pretrial motions through a lengthy trial. By statute, statewide judicial fees ***955** cannot be increased or decreased by counties to provide any kind

of graduated structure. (Gov. Code, § 54985, subd. (c)(1).) The fees imposed by section 711.4 are quite similar. Like a civil action, the environmental review may be time and staff intensive or it may be summarily handled. In neither case does the fee operate as a tax just because a prescribed amount is charged to all who avail themselves of the opportunity to obtain discretionary government services.

([4]) Finally, plaintiff also challenges the Legislature's decision to charge a higher fee for the filing of a negative declaration than for other environmental documents. As explained by a Fish and Game senior environmental specialist supervisor at trial, the standard for a negative declaration is that a project have no adverse impact on the environment. Thus, Fish and Game has the responsibility to make sure the disclosure of the possible impacts is complete and to assure any mitigation measures are adequate. Often, the proposed mitigation measures are inadequate, and Fish and Game staff must work with the lead agency and with the project proponent to develop an acceptable negative declaration document. The supervisor testified that his staff probably spends more time on the review of a negative declaration than for the review of an equivalent size project with EIR (environmental impact report) documentation. Hence, because of project information collection cost and the time spent negotiating mitigation measures, Fish and Game's costs are generally higher for negative declarations. There is a sufficient reasonable basis for the legislative decision to charge more for the review of a negative declaration than for the review of an environmental impact report.

V

We need not address the many other issues raised by the parties in these consolidated cases rendered moot by our finding that section 711.4 does constitute a regulatory fee. Moreover, we dismiss Mills's second appeal because it too is rendered moot by our finding. In the underlying case, the California Association of Professional Scientists sought to enjoin the settlement entered into by Mills and Fish and Game in the original action. The crux of the appeal is whether the trial court properly restricted its constitutional ruling to Mills alone. Since we have upheld the constitutionality of section 711.4, we need not decide whether the trial court erred by invoking article III, section 3.5 of the California Constitution to limit the scope of its constitutional ruling.

Many of the arguments raised by Mills, and echoed by his expert at trial, are rooted in the perception that a flat fee is unfair. They object vociferously ***956** to the disparity between the amount of the fee and the services provided for different projects. This may be so. The scope of our inquiry, however, is not whether the fee is fair but whether the fee is, in legal effect, a tax. This case is not a challenge to the legislative power to enact a fee, nor is it a substantive constitutional challenge to the fee. We were asked to make the legal determination as to whether it is a fee exclusively for the purpose of determining whether it was properly enacted by a majority vote. Constrained by the limited scope of appellate review, we have concluded the Legislature did not violate California Constitution, article XIII A by enacting the section 711.4 fees by a simple majority vote. Any further challenge to the equity of a flat fee structure must be presented to the Legislature for the issue is political, not constitutional.

Disposition

The appeal in case No. C023075 is dismissed. The judgment in case No. C023184 is affirmed in part and reversed in part as explained above. In both cases, Mills shall pay the costs on appeal.

Sims, Acting P. J., and Nicholson, J., concurred.

The petition of appellant Albert W. Mills for review by the Supreme Court was denied July 12, 2000. ***957**

Footnotes

* Pursuant to California Rules of Court, rule 976.1, this opinion is certified for publication with the exception of part I.

1 Further statutory references to sections of an undesignated code are to this code.

* See footnote, *ante*, page 935.

3 Evidence of the legislative history of section 711.4 was admitted at trial. Legislative history can be relevant to a determination whether an exaction is a fee or a tax. (*CentexReal Estate Corp. v. City of Vallejo* (1993) 19 Cal.App.4th 1358, 1362 [24 Cal.Rptr.2d 48].) Here, the trial court found the costs of environmental review exceeded the amount of the

fees, but it found imposition of a flat fee arbitrary. Without the benefit of the Supreme Court's holding in *Sinclair* and the broad analysis of regulatory fees, the trial court narrowly construed section 711.4 as a user fee requiring the amount of the fees to reflect the cost of the service provided the payor. Because we have decided that a flat fee may be a reasonable allocation of the costs of a regulatory fee and the trial court found Fish and Game had met its burden of proof on this issue, the legislative history cited by the trial court is unnecessary.

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ATTACHMENT D-3

KeyCite Yellow Flag - Negative Treatment
Distinguished by Pajaro Valley Water Mgmt. Agency v. Amrhein, Cal.App. 6 Dist., May 21, 2007

24 Cal.4th 830, 14 P.3d 930, 102 Cal.Rptr.2d 719, 01 Cal. Daily Op. Serv. 209, 2001 Daily Journal D.A.R. 237

APARTMENT ASSOCIATION OF LOS ANGELES COUNTY, INC., et al., Plaintiffs and Appellants,
v.
CITY OF LOS ANGELES,
Defendant and Respondent.

No. S082645.
Supreme Court of California
Jan. 8, 2001.

SUMMARY

A city council, seeking to establish and fund a program to remedy substandard housing conditions, adopted an ordinance that required the owners of all residential rental properties subject to inspection under the program to pay a fee. An apartment association and other groups with similar interests brought an action for declaratory and injunctive relief against the city, alleging that the fee ordinance was unconstitutional and therefore void as a charge upon real property under Prop. 218 (Cal. Const., art. XIII D). The trial court sustained the city's demurrer without leave to amend, finding that the fee was not subject to the constitutional requirements, and entered judgment for the city. (Superior Court of Los Angeles County, No. BC195216, Charles W. McCoy, Jr., Judge.) The Court of Appeal, Second Dist., Div. One, No. B130243, reversed.

The Supreme Court reversed the judgment of the Court of Appeal. The court held that this ordinance did not fall within the scope of Cal. Const., art. XIII D, which only restricts fees imposed directly on property owners in their capacity as such. The inspection fee was not imposed on landlords in their capacity as property owners, but rather in their capacity as business owners. This constitutional provision does not refer to fees imposed on an incident of property ownership, but rather to fees imposed on a parcel or a person as an incident of property ownership; this distinction was crucial to this case. According to its plain meaning, Cal. Const., art. XIII D applies only to exactions levied solely by virtue of property ownership. This inspection fee was imposed because the property was being rented; it ceased along with the business operation, whether or not ownership remained in the same hands. (Opinion by Mosk, J., with George, C. J., Kennard, Werdegar, and Chin, JJ., concurring. Dissenting opinion by Brown, J., with Baxter, J., concurring (see p. 845).)

HEADNOTES

Classified to California Digest of Official Reports

(1)
Appellate Review § 145--Scope of Review--Questions of Law and Fact-- Interpretation of Constitutional Provision.
The interpretation of a constitutional provision, passed by voter initiative, is a question of law for the appellate courts to decide on independent review of the facts.

(2a, 2b, 2c)
Property Taxes § 7.6--Real Property Tax Limitation-- Proposition 218--Construction--In Context of Proposition 13.
Prop. 218, which added Cal. Const., art. XIII C and art. XIII D, can best be understood against its historical background, which began in 1978 with the adoption of Prop. 13, the purpose of which was to cut local property taxes. Prop. 218 buttressed the limitations in Prop. 13 on ad valorem property taxes and special taxes by placing analogous restrictions on assessments, fees, and charges. Prop. 218 must be construed in the context of Prop. 13. Prop. 218 focuses on exactions, whether they be called taxes, fees, or charges, that are directly associated with property ownership.

(3a, 3b, 3c, 3d, 3e)
Property Taxes § 7.6--Real Property Tax Limitation--Proposition 218:Municipalities § 54--Ordinances--Fee Imposed on Owners of Residential Rental Properties--Validity.
A city ordinance that required payment of a fee by the owners of all residential rental properties subject to inspection under a program designed to remedy substandard housing conditions did not fall within the scope of Prop. 218 (Cal. Const., art. XIII D), which only restricts fees imposed directly on property owners in their capacity as such. The inspection fee was not imposed on

landlords in their capacity as property owners, but rather in their capacity as business owners. This constitutional provision does not refer to fees imposed on an incident of property ownership, but rather to fees imposed on a parcel or a person as an incident of property ownership. That distinction was crucial to this case. According to its plain meaning, Cal. Const., art. XIII D applies only to exactions levied solely by virtue of property ownership. This inspection fee was imposed because the property was being rented; it ceased along with the business operation, whether or not ownership remained in the same hands.

[See 9 Witkin, Summary of Cal. Law (9th ed. 1989) Taxation, §§ 110A, 110B.]

(4)
Real Property § 4--Incidents of Ownership--Right of Alienation.
Ownership of property in fee simple absolute is the greatest possible estate. Among the panoply of lesser estates are such nonfreehold chattels real as leases for a specific term and periodic tenancies-in common parlance, rentals or leases of limited duration. Among the incidents of estates in land are the so-called bundle of rights that flow from such tenure. Among them is the fundamental right to alienate one's property held in fee simple. That incident, or right, has been called inseparable, indispensable, and necessary. The power to alienate property or a property right is not limited to the right to sell or assign it. It means generally the power to transfer or convey it to another. The conveyance need not be of the whole fee. The right of alienation applies when fee holders seek to convey lesser estates. The power or right of alienation incident to the ownership of an estate in fee simple includes the power or right to dispose of property held in fee by lease, mortgage, or other mode of conveyance.

(5)
Taxation § 3--Construction--Distinguished from Regulatory Fees.
Regulatory fees are those charged in connection with regulatory activities, which do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged, and which are not levied for unrelated revenue purposes.

(6)
Statutes § 27--Construction--Liberality:Constitutional Law § 11-- Construction--Liberality.
As a rule, a command that a constitutional provision or a statute be liberally construed does not license either enlargement or restriction of the evident meaning of the provision.

COUNSEL
California Apartment Law Information Foundation, Trevor Grimm and Craig Mordoh for Plaintiffs and Appellants.
Sharon L. Browne and Stephen R. McCutcheon, Jr., for Pacific Legal Foundation as Amicus Curiae on behalf of Plaintiffs and Appellants.
James K. Hahn, City Attorney, Pedro B. Echeverria, Chief Assistant City Attorney, Ronald Tuller, Assistant City Attorney, and Miguel A. Dager, Deputy City Attorney, for Defendant and Respondent.
Hart, King & Coldren, Robert S. Coldren and C. William Dahlin for Western Manufactured Housing Communities Association as Amicus Curiae on behalf of Defendant and Respondent. ***833**
Gibson, Dunn & Crutcher, James P. Clark, Joel M. Tantalo; Western Center on Law & Poverty, Richard Rothschild; Bet Tzedek Legal Services and Lauren Saunders for the Los Angeles Blue Ribbon Citizens' Committee on Slum Housing, Bet Tzedek Legal Services, the Inner City Law Center, Los Angeles Center for Law and Justice, Legal Aid Foundation of Los Angeles, Legal Services of Northern California, Los Angeles Housing Law Project, Public Counsel, San Fernando Valley Neighborhood Legal Services, Western Center on Law and Poverty, Esperanza Community Housing Corporation, Southern California Association of Non-Profit Housing, Southern California Mutual Housing Association, the Coalition for Economic Survival, Inquilinos Unidos, the St. Francis Center, the Fair Housing Congress of Southern California and SEIU Local 347 as Amici Curiae on behalf of Defendant and Respondent.
Richard Doyle, City Attorney (San Jose), George Rios, Assistant City Attorney, and Robert Fabela, Deputy City Attorney, for the City of San Jose, 89 Additional California Cities, the California State Association of Counties and the California Association of Sanitation Agencies as Amici Curiae on behalf of Defendant and Respondent.

MOSK, J.

We granted review to decide whether a city ordinance imposing an inspection fee on private landlords violates article XIII D of the California Constitution (article XIII D), added by initiative measure, Proposition 218, in 1996. We conclude that it does not.

In July 1998, the City of Los Angeles put into effect the Los Angeles Housing Code. It is codified as article 1 of chapter XVI of the Los Angeles Municipal Code (§ 161.101 et seq.). Later that month, plaintiffs sued the city for declaratory and injunctive relief, alleging that Los Angeles Municipal Code section 161.352, imposing an inspection fee on private landlords, is unenforceable because it was enacted without complying with section 6 of article XIII D. The city demurred. The trial court sustained the demurrer without leave to amend, finding that the fee was not subject to the constitutional requirements. It entered judgment for the city.

In its statement of decision, the trial court recognized that the inspection fee "appears arguably to fall within the wide range of assessments which Proposition 218 was apparently written to encompass." But it added, "In *Pennell v. City of San Jose* (1986) 42 Cal.3d 365, 375 [***834** 228 Cal.Rptr. 726, 721 P.2d 1111], the California Supreme Court held that a fee charged to cover the costs of operating San Jose's rent control ordinances, and not used to raise general revenue, is not subject to Article XIII A of the California Constitution. The City's ordinance here fits squarely within both the reason and rule of *Pennell*. The ordinance levies only property used for residential apartment rentals, and the money is used only to pay for regulat[ing such] rentals to insure, among other things, that they do not degenerate into what is commonly called 'slum conditions.' The assessment is not imposed on all property owners-only a subset of owners who rent apartments."

The Court of Appeal reversed, holding that the state constitutional provision invalidated the city ordinance. The court wrote: "There is nothing in Proposition 218 that exempts regulatory fees imposed on residential rental properties. It thus adds nothing to say, as does the City, that the fees are not 'imposed upon property owners in general, but only those who voluntarily engage in the business of renting, generate the risks of slum housing, and specially benefit from regular inspections as they contribute to the overall reputability and safety of the housing provided.' Quite plainly, Proposition 218 applies to any 'fee' or 'charge,' both of which are defined to mean 'any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service.' (Art. XIII D, § 2, subd. (e) ....) However well intentioned the City's program to abolish slum housing may be, we find it impossible to say that a fee imposed upon the owners of rental units so the City can locate and eradicate substandard housing is anything other than a user fee or charge for a property-related service." (Italics and fn. omitted.)

I.

A.

Section 161.102 of the Los Angeles Municipal Code states the reason for enacting the Los Angeles Housing Code: "It is found and declared that there exist in the City of Los Angeles substandard and unsanitary residential buildings and dwelling units the physical conditions and characteristics of which render them unfit or unsafe for human occupancy and habitation, and which conditions and characteristics are such as to be detrimental to or jeopardize the health, safety and welfare of their occupants and of the public.

"It is further found and declared that the existence of such substandard buildings as dwelling units threatens the physical, social and economic stability of sound residential buildings and areas, and of their supporting ***835** neighborhood facilities and institutions; necessitates disproportionate expenditures of public funds for remedial action; impairs the efficient and economical exercise of governmental powers and functions; and destroys the amenity of residential areas and neighborhoods and of the community as a whole."

Los Angeles Municipal Code section 161.301, entitled Scope, declares that the Los Angeles Housing Code applies to "all residential rental properties with two or more dwelling units on the same lot, the land, buildings and structures appurtenant thereto," but not to owner-occupied units, on-campus dormitory housing, hotels, motels, or certain other types of housing also specifically exempted.

Division 3.5 of the Los Angeles Housing Code (§ 161.351 et seq.) is entitled Housing Inspection Fees. Section

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161.351 limits the scope of division 3.5 to "residential rental properties with two or more dwellings subject to the provisions of this Code." Those properties "will be subject to regular inspection by the General Manager or an authorized representative. Inspections may also be complaint-based." (*Ibid.*)

Section 161.352 of the Los Angeles Municipal Code, at issue here, sets forth the inspection fee schedule. It provides, in its entirety: "Owners of all buildings subject to inspection shall pay a service fee of $12.00 per unit per year. The fee will be used to finance the cost of inspection and enforcement by the Housing Department. Should the owner fail to pay the required fee, the City of Los Angeles will recover it, plus accrued interest, utilizing any remedies provided by law including nuisance abatement or municipal tax lien procedures established by ordinance or state law. This fee shall be known as the 'Systematic Code Enforcement Program Fee.' " (*Ibid.*, boldface omitted.)

B.

In November 1996 the voters approved Proposition 218, the Right to Vote on Taxes Act. (Ballot Pamp., Gen. Elec. (Nov. 5, 1996) text of Prop. 218, § 1, p. 108; reprinted as Historical Notes, 2A West's Ann. Cal. Const. (2001 supp.) foll. art. XIII C, § 1, p. 33.) The proposition amended the California Constitution, adding article XIII D. Section 3, subdivision (a)(3) of article XIII D provides that, with certain exceptions not relevant here, "No tax, assessment, fee, or charge shall be assessed by any agency upon any parcel of property or upon any person as an incident of property ownership except: [¶] ... [¶] ... as provided by this article." An agency is a local or regional governmental entity. (*Id.*, § 2, subd. (a); Cal. Const., art. XIII C, § 1, subd. (b).) ***836**

Section 1 of article XIII D provides that it applies to "all assessments, fees and charges, whether imposed pursuant to state statute or local government charter authority." Fees and charges are defined in subdivision (e) of section 2 thereof. " 'Fee' or 'charge' means any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service." (*Ibid.*)

"Property-related service" is further defined. It "means a public service having a direct relationship to property ownership." (Art. XIII D, § 2, subd. (h).)

Thus, and in summary, article XIII D applies, with certain exceptions not relevant here, to "any levy ... upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service." (Art. XIII D, § 2, subd. (e).) As will appear, the outcome of this case turns on the meaning of this language.

C.

([1]) Before us is "a question of law for the appellate courts to decide on independent review of the facts." (*Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866, 874 [64 Cal.Rptr.2d 447, 937 P.2d 1350].) Though our reasoning turns on the language of the constitutional stricture, it may be helpful to explain, as did the Court of Appeal in *Howard Jarvis Taxpayers Assn. v. City of Riverside* (1999) 73 Cal.App.4th 679 [86 Cal.Rptr.2d 592] (*Howard Jarvis*), the reasons that led to placing Proposition 218 on the ballot.

([2a]) "Proposition 218 can best be understood against its historical background, which begins in 1978 with the adoption of Proposition 13. 'The purpose of Proposition 13 was to cut local property taxes. [Citation.]' [Citation.] Its principal provisions limited ad valorem property taxes to 1 percent of a property's assessed valuation and limited increases in the assessed valuation to 2 percent per year unless and until the property changed hands. (Cal. Const., art. XIII A, §§ 1, 2.)

"To prevent local governments from subverting its limitations, Proposition 13 also prohibited counties, cities, and special districts from enacting any special tax without a two-thirds vote of the electorate. (Cal. Const., art. XIII A, § 4; *Rider v. County of San Diego* (1991) 1 Cal.4th 1, 6-7 [2 Cal.Rptr.2d 490, 820 P.2d 1000].) It has been held, however, that a special assessment is not a special tax within the meaning of Proposition 13. (*Knox v. City of* ***837** *Orland* (1992) 4 Cal.4th 132, 141 [14 Cal.Rptr.2d 159, 841 P.2d 144], and cases cited.) Accordingly, a special assessment could be imposed without a two-thirds vote.

"In November 1996, in part to change this rule, the electorate adopted Proposition 218, which added articles XIII C and XIII D to the California Constitution. Proposition 218 allows only four types of local property taxes: (1) an ad valorem property tax; (2) a special tax; (3) an assessment; and (4) a fee or charge. (Cal. Const., art.

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XIII D, § 3, subd. (a)(1)-(4); see also [*id.*], § 2, subd. (a).) It buttresses Proposition 13's limitations on ad valorem property taxes and special taxes by placing analogous restrictions on assessments, fees, and charges." (*Howard Jarvis*, *supra*, 73 Cal.App.4th 679, 681-682.)

D.

([3a]) The Court of Appeal explained the parties' differing views of the effect of article XIII D on the city ordinance. "As viewed by [plaintiffs], the fee is imposed 'upon a parcel or upon a person as an incident of property ownership' and is, therefore, subject to the procedural requirements of Proposition 218. As viewed by the City, the fee is imposed upon a business activity (the rental of residential dwellings), separate and apart from property ownership, and purely for regulatory purposes, and it is therefore not subject to Proposition 218." (Italics omitted.)

Adhering before us to their point of view, plaintiffs contend that "nothing in Proposition 218 ... support[s] the contention that [it] was not meant to affect the ability of local governments to impose and collect business 'regulatory fees.' " The city also adheres to its position, devoting much of its briefing to an argument that because its inspection fee is a regulatory fee on business operations, it falls outside the purview of article XIII D. Examining the ballot arguments for and against Proposition 218 and the Legislative Analyst's analysis of the measure, the city also contends that article XIII D was intended only to restrict fees imposed directly on property owners in their capacity as such. A regulatory fee imposed on residential rental businesses, the city argues, necessarily falls outside article XIII D's ambit, even if the fee bears some relation to ownership of real property. [1]

As will appear, neither party is entirely correct. The relevant language of article XIII D does not compel a conclusion in plaintiffs' favor; rather, it ***838** compels the opposite. The city also misses the mark when it contends (or at least implies) that a regulatory fee or a levy on the operation of a business necessarily falls outside the scope of article XIII D.

But both parties are partly correct. Plaintiffs accurately state that the constitutional provision does not speak of regulatory fees or levies on business operations. Hence, the mere fact that a levy is regulatory (as this inspection fee clearly is) or touches on business activities (as it clearly does) is not enough, by itself, to remove it from article XIII D's scope. But the city is correct that article XIII D only restricts fees imposed directly on property owners in their capacity as such. The inspection fee is not imposed solely because a person owns property. Rather, it is imposed because the property is being rented. It ceases along with the business operation, whether or not ownership remains in the same hands. For that reason, the city must prevail.

II.

Section 2 of Proposition 218 stated the measure's purpose. "The people of the State of California hereby find and declare that Proposition 13 was intended to provide effective tax relief and to require voter approval of tax increases. However, local governments have subjected taxpayers to excessive tax, assessment, fee and charge increases that not only frustrate the purposes of voter approval for tax increases, but also threaten the economic security of all Californians and the California economy itself. This measure protects taxpayers by limiting the methods by which local governments exact revenue from taxpayers without their consent." (Ballot Pamp., Gen. Elec., *supra*, text of Prop. 218, § 2, p. 108; reprinted as Historical Notes, 2A West's Ann. Cal. Const., *supra*, foll. art. XIII C, § 1, p. 33.)

The repeated references to taxes and taxpayers suggest an intent to prohibit unratified exactions imposed on property owners as such, rather than on the business of renting or leasing apartments-i.e., "residential rental properties with two or more dwellings" (L.A. Mun. Code, § 161.351).

([2b]) As explained in *Howard Jarvis*, *supra*, 73 Cal.App.4th 679, Proposition 218 is Proposition 13's progeny. Accordingly, it must be construed in that context. (***839** *People ex rel. Lungren v. Superior Court* (1996) 14 Cal.4th 294, 301 [58 Cal.Rptr.2d 855, 926 P.2d 1042].) Specifically, because Proposition 218 was designed to close government-devised loopholes in Proposition 13, the intent and purpose of the latter informs our interpretation of the former. Proposition 13 was directed at taxes imposed on property owners, in particular homeowners. The text of Proposition 218, the ballot arguments (both in favor and against), the Legislative Analyst's analysis, and the annotations of the Howard Jarvis Taxpayers Association, which drafted Proposition 218, all focus on exactions, whether they are called taxes,

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fees, or charges, that are directly associated with property ownership.

([3b]) The Legislative Analyst's analysis, printed in the November 1996 ballot pamphlet, is illustrative. It explained that Proposition 218 "would constrain local governments' ability to impose fees, assessments, and taxes," meaning "property-related" fees, including fees for water, sewer and refuse collection, but excluding gas and electricity charges (see Cal. Const., art. XIII D, § 3, subd. (b)) and development fees (see *id.*, § 1, subd. (b)). (Ballot Pamp., Gen. Elec., *supra*, Legis. Analyst's analysis, p. 73.) It did not refer to levies linked more indirectly to property ownership.

([2c]) The ballot arguments for Proposition 218 are also illustrative. "Proposition 218 guarantees your right to vote on local tax increases-even when they are called something else, like 'assessments' or 'fees' and imposed on homeowners." (Ballot Pamp., Gen. Elec., *supra*, argument in favor of Prop. 218, p. 76.) "After voters passed Proposition 13, politicians created a loophole in the law that allows them to raise taxes without voter approval by calling taxes 'assessments' and 'fees.' " (*Ibid.*) "There are now over 5,000 local districts which can impose fees and assessments without the consent of local voters. Special districts have increased assessments by over 2400% over 15 years. Likewise, cities have increased utility taxes 415% and raised benefit assessments 976%, a ten-fold increase." (*Ibid.*) "To confirm the impact of fees and assessments on you, look at your property tax bill. You will see a growing list of assessments imposed without voter approval. The list will grow even longer unless Proposition 218 passes." (*Ibid.*)

([3c]) The ballot arguments identify what was perhaps the drafter's main concern: tax increases disguised via euphemistic relabeling as "fees," "charges," or "assessments." But in fairness to plaintiffs, it cannot be denied that the text of article XIII D does not limit its scope to taxes and taxpayers. We turn to the definitive language: restrictions on *any* levy imposed "upon a parcel or upon a person as an incident of property ownership." (Art. XIII D, § 2, subd. (e).)

The foregoing language means that a levy may not be imposed on a property owner as such-i.e., in its capacity as property owner-unless it ***840** meets constitutional prerequisites. In this case, however, the fee is imposed on landlords not in their capacity as landowners, but in their capacity as business owners. The exaction at issue here is more in the nature of a fee for a business license than a charge against property. It is imposed only on those landowners who choose to engage in the residential rental business, and only while they are operating the business.

The contrary reasoning of the Court of Appeal, and of plaintiffs, stems from a reliance on the word "incident," leaving aside that the constitutional provision does not refer to fees imposed *on* an incident of property ownership, but on a parcel or a person *as* an incident of property ownership. As amicus curiae for the city persuasively argue, the distinction is crucial.

Were the principal words *parcel* and *person* missing, and were *as* replaced with *on*, so that article XIII D restricted the city's ability to impose fees "on an incident of property ownership," plaintiffs' argument might have merit. ([4]) For among the incidents [2] of estates in land are the so-called bundle of rights that flow from such tenure. (31 C.J.S. (1996) Estates § 12, pp. 28-30; *id.*, § 14, pp. 32, 34; *id.*, § 31, p. 58.) Among them is the fundamental right to alienate one's property held in fee simple. (E.g., *id.*, § 12, p. 30; *Holien v. Trydahl* (N.D. 1965) 134 N.W.2d 851, 856; *Davis v. Geyer* (1942) 151 Fla. 362, 369 [9 So.2d 727, 728]; ***841** *Hardy v. Galloway* (1892) 111 N.C. 519, 523 [15 S.E. 890]; see also *Yee v. City of Escondido* (1992) 503 U.S. 519, 528 [112 S.Ct. 1522, 1528-1529, 118 L.Ed.2d 153].) That incident, or right, has been called "inseparable" (*Holien, supra*, 134 N.W.2d at p. 856; *Hardy, supra*, 15 S.E. at p. 890), "indispensable" (*Dukes v. Crumpton* (1958) 233 Miss. 611, 620 [103 So.2d 385, 388]), and "necessary" (*Re Collier* (Nfld. 1966) 60 D.L.R.2d 70, 75 [52 M.P.R. 211, 216] (per Puddester, J.)).

The power to alienate property or a property right is not limited to the right to sell or assign it. It means generally the power "to transfer or convey [it] to another." (Black's Law Dict., *supra*, p. 73, col. 1.) The conveyance need not be the whole fee. The right of alienation applies when fee holders seek to convey lesser estates. [3] " '[T]he power or right of alienation' " " 'incident to the ownership of an estate in fee-simple' " " 'include[s] the power or right to dispose of property held in fee ... by *lease*, mortgage, or other mode of conveyance ....' " (*Porter v. Barrett* (1925) 233 Mich. 373, 379-380 [206 N.W. 532, 535], quoting *Manierre v. Welling* (1911) 32 R.I. 104, 140 [78 A. 507, 522], italics added here.)

([3d]) Accordingly, *if* article XIII D restricted the city's ability to impose a "tax, assessment, fee, or charge on an incident of property ownership" (cf. *id.*, §§ 2, subd. (e), 3), plaintiffs' argument might be persuasive. The business of renting apartments is an incident of owning them, an activity necessarily dependent on that ownership but not vice versa. One can own apartments without renting them, but no one can rent them without owning them. (See fn. 2, *ante*, at p. 840.) [4]

But the language of article XIII D is materially dissimilar. As stated, article XIII D, section 3 provides that "[n]o tax, assessment, fee, or charge ***842** shall be assessed by any agency upon any parcel of property or upon any person as an incident of property ownership except ... [¶] ... [¶] ... as provided by this article." (See also *id.*, § 2, subd. (e).) In other words, taxes, assessments, fees, and charges are subject to the constitutional strictures when they burden landowners *as landowners*. The ordinance does not do so: it imposes a fee on its subjects by virtue of their ownership of a business-i.e., because they are landlords. [5] What plaintiffs ask us to do is to alter the foregoing language-changing "as an incident of property ownership" to "on an incident of property ownership." But to do so would be to ignore its plain meaning-namely, that it applies only to exactions levied solely by virtue of property ownership. We may not interpret article XIII D as if it had been rewritten. (Accord, *People ex rel. Lungren v. Superior Court*, *supra*, 14 Cal.4th 294, 301.)

The language of article XIII D, sections 2, subdivision (e), and 3, shows that it applies to levies imposed on a person or on property strictly as an incident of property ownership. Had the law included levies imposed on incidents of the ownership or use of residential real property (as relevant ***843** here, the exercise of the right to rent one's property), its text would have said so. But it did not. And although the plain language of the relevant constitutional provisions requires us not to consider extrinsic evidence of the voters' intent, we reiterate, purely as an aside, that neither the ballot arguments nor the Legislative Analyst's analysis suggested that article XIII D was intended to encompass fees of the type at issue here.

The subordinate clause in section 2, subdivision (e), of article XIII D, as clarified in section 2, subdivision (h), supports our conclusion. It may be recalled that among the fees or charges covered by article XIII D, section 2, subdivision (e), is "a user fee or charge for a property-related service." Such a service "means a public service having a direct relationship to property ownership." (*Id.*, § 2, subd. (h).) In this case, the relationship between the city's inspection fee and property ownership is indirect-it is overlain by the requirement that the landowner be a landlord.

As stated, the foregoing clause is subordinate. It does not include all possible fees and charges that fall within the ambit of article XIII D. ([5])**(See fn. 6.)** But it does provide additional evidence of the scope of the constitutional provision. [6]

([3e]) At oral argument, plaintiffs emphasized article XIII D's exemptions for existing development fees and all charges to provide gas and electrical ***844** service. (Art. XIII D, §§ 1, subd. (b), 3, subd. (b).) They assert that a developer fee is a fee on an incident of property-the right to improve it-and that there would have been no need to exempt such fees if other fees imposed on incidents of property did not fall within article XIII D's scope. Similarly, they argue that one can own property without having utility service, and that if article XIII D applied strictly to levies that are imposed solely on the basis of property ownership, there would have been no need to exempt such utility charges in the constitutional provision.

We note, however, that the provision regarding development fees refers only to those existing at the time of article XIII D's enactment. Moreover, it is unclear to us whether a fee to provide gas or electricity service is the same as a fee imposed on the consumption of electricity or gas. In any event, we believe that the aforementioned exemptions may have been included in an abundance of caution in case court interpretations of article XIII D similar to the Court of Appeal's should prevail. Finally, we do not believe that any incongruity can trump the plain language we have discussed herein. In short, we are unpersuaded.

Similarly unpersuasive is plaintiffs' contention, also emphasized at oral argument, that the city's ability to enforce payment of the inspection fee by imposing a lien on the property shows that the fee is property-related, not business-related. The fact is that the city is simply availing itself of all possible means to collect the fee. Property liens may be precipitated by at least one cause unconnected to land ownership (except ownership of the land on which the

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lien is imposed): the cost of removing graffiti. (Gov. Code, § 38772.) A lien may be imposed on parents' land to defray the cost of removing graffiti their child has scrawled on that belonging to another. (*Id.*, subd. (b).)

Plaintiffs also advert to section 5 of Proposition 218, which requires that "[t]he provisions of this act shall be liberally construed to effectuate its purposes of limiting local government revenue and enhancing taxpayer consent." (Ballot Pamp., Gen. Elec., *supra*, text of Prop. 218, § 5, p. 109; reprinted as Historical Notes, 2A West's Ann. Cal. Const., *supra*, foll. art. XIII C, p. 33.) But "[l]iberal construction cannot overcome the plain language of Proposition 218 limiting [its] scope ... to [levies] based on real property." (*Howard Jarvis Taxpayers Assn. v. City of San Diego* (1999) 72 Cal.App.4th 230, 237-238 [84 Cal.Rptr.2d 804].) ([6]) As a rule, a command that a constitutional provision or a statute be liberally construed "does not license either enlargement or restriction of its evident meaning" (*People v. Cruz* (1974) 12 Cal.3d 562, 566 [116 Cal.Rptr. 242, 526 P.2d 250]). Thus, ***845** given that article XIII D's scope is, as we have explained, unambiguously limited to burdens on landowners as such, " 'no resort to this command [of liberal construction] is required' " (*Howard Jarvis*, *supra*, 73 Cal.App.4th 679, 687, quoting *Buhlert Trucking v. Workers' Comp. Appeals Bd.* (1988) 199 Cal.App.3d 1530, 1533, fn. 4 [247 Cal.Rptr. 190]) or even permitted.

III.

The Court of Appeal's judgment is reversed.

George, C. J., Kennard, J., Werdegar, J., and Chin, J., concurred.

BROWN, J.

I respectfully dissent.

Under the provisions of Proposition 218, affected property owners must approve the imposition of any new or increased fee, which is "any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service." (Cal. Const., art. XIII D, § 2, subd. (e) (article XIII D).) The dispositive determination in this case is whether a rental inspection fee is imposed "upon a person as an incident of property ownership." (*Ibid.*) To find that it is not, the majority concludes the Court of Appeal erroneously substituted "on" for "as." It is the majority that errs, however, in assuming "incident" denotes "the so-called bundle of rights that flow from [estates in land]." (Maj. opn., *ante*, at p. 840; see maj. opn., *ante*, at pp. 840-841.) In my view, the voters did not intend the courts to look any further than a standard dictionary in applying the terms of article XIII D.

"A constitutional amendment should be construed in accordance with the natural and ordinary meaning of its words. [Citation.]" (*Amador Valley Joint Union High Sch. Dist. v. State Bd. of Equalization* (1978) 22 Cal.3d 208, 245 [149 Cal.Rptr. 239, 583 P.2d 1281]; *People ex rel. Lungren v. Superior Court* (1996) 14 Cal.4th 294, 302 [58 Cal.Rptr.2d 855, 926 P.2d 1042].) Nothing in the ballot arguments in favor of or against Proposition 218 or in the Legislative Analyst's analysis implies that a different rule should obtain with respect to "incident," or that the voters intended it to have other than a plain meaning. The dictionary defines an "incident" as "something incident to something else," that is, "dependent upon or involved in something else." (Webster's New World Dict. (3d college ed. 1988) p. 682; see also Black's Law Dict. (4th ed. 1968) p. 904, col. 2 ["Used as a noun, [incident] denotes anything which inseparably belongs to, or is connected with, or inherent in, another thing .... Also, less strictly, it denotes anything which is usually ***846** connected with another, or connected for some purposes, though not inseparably"].) In other words, if the imposition of a fee depends upon one's ownership of property, it comes within the purview of article XIII D unless otherwise excepted.

The fee at issue here plainly meets this definition. Pursuant to its police powers, the City of Los Angeles (City) enacted a Housing Code (L.A. Mun. Code, § 161.101 et seq.), which provides that residential rental properties are subject to regular inspection for substandard and unsanitary conditions. Under the Housing Code, funding for these inspections devolves to a particular class of property owners, the landlords of the rental units, who must pay a $12 fee for every unit owned. (*Id.*, § 161.352.)[1] As the majority acknowledges, "no one can rent [apartments] without owning them." (Maj. opn., *ante*, at p. 841; see also *Nash v. City of Santa Monica* (1984) 37 Cal.3d 97, 105 [207 Cal.Rptr. 285, 688 P.2d 894].) And no

one is subject to the rental inspection fee without owning them. This exaction is thus imposed "as an incident of property ownership" (art. XIII D, § 2, subd. (e)); that is, it is dependent upon such ownership. (Cf. Off. of Legis. Analyst, Understanding Proposition 218 (Dec. 1996) p. 30 ["Generally, we think these fees would be considered property-related if there were no practical way that the owner could avoid the fee, short of selling the property or fundamentally changing its use"].) Moreover, "[s]hould the owner fail to pay the required fee, the City of Los Angeles will recover it, plus accrued interest, utilizing any remedies provided by law including nuisance abatement or municipal tax lien procedures established by ordinance or state law." (L.A. Mun. Code, § 161.352.) The use of tax lien procedures is a typical enforcement mechanism for delinquent levies imposed against property.

The majority avoids this result in part by finding the City "imposes a fee on its subjects by virtue of their ownership of a business-i.e., because they are landlords." (Maj. opn., *ante*, at p. 842.) The last portion of this statement proves too much: Landlords are property owners. Imposition of the fee is an incident of, i.e., depends upon, that status and thereby runs afoul of article XIII D. As for the first portion of the statement, it ignores or disregards what the majority elsewhere concedes, that the business at issue is inseparable from property ownership. No amount of parsing can change that ineluctable fact. ***847**

The majority also concludes "neither the ballot arguments nor the Legislative Analyst's analysis suggested that article XIII D was intended to encompass fees of the type at issue here." (Maj. opn., *ante*, at p. 843.) Ultimately, the terms of the measure as enacted control our interpretation (see *Kopp v. Fair Pol. Practices Com.* (1995) 11 Cal.4th 607, 673 [47 Cal.Rptr.2d 108, 905 P.2d 1248] (conc. opn. of Mosk, J.)); and their plain meaning does not support the majority's reasoning. But the ballot materials also belie the majority's conclusion. While those materials do not specifically mention rental inspection fees, such an intention is readily discernable from any fair reading. The Legislative Analyst warned generally that "[t]his measure would constrain local governments' ability to impose fees" and "[r]educe the amount of fees ... businesses pay." (Ballot Pamp., Gen. Elec. (Nov. 5, 1996), analysis of Prop. 218 by the Legis. Analyst, p. 73 (Ballot Pamphlet).) More particularly, the Legislative Analyst's list of "most likely fees and assessments affected by these provisions" (*id.* at p. 74) easily encompasses this type of exaction: "park and recreation programs, fire protection, lighting, ambulance, business improvement programs, library, and water service." (*Ibid.*) The argument in favor of Proposition 218 reminded the electorate that "[a]fter voters passed Proposition 13, politicians created a loophole in the law that allows them to raise taxes without voter approval by calling taxes 'assessments' and 'fees.' " (Ballot Pamp., *supra*, argument in favor of Prop. 218, p. 76.) "Proposition 218 guarantees your right to vote on local tax increases-even when they are called something else, like 'assessments' or 'fees' ...." (*Ibid.*) The argument did not limit the type of "fee" that would be subject to a vote under article XIII D but instead promised, "Proposition 218 ... stops politicians' end-runs around Proposition 13." (Ballot Pamp., *supra*, rebuttal to argument against Prop. 218, p. 77.) Particularly in light of its timing, the City's rental inspection fee appears to be just the kind of evasive maneuver at which proponents aimed Proposition 218. (See generally *Huntington Park Redevelopment Agency v. Martin* (1985) 38 Cal.3d 100, 105 [211 Cal.Rptr. 133, 695 P.2d 220] [purpose, in part, of Prop. 13 was "to prevent the government from recouping its losses from decreased property taxes by imposing or increasing other taxes"].)

In this regard, the majority also fails to accord any significance to two important provisions of Proposition 218. In any action challenging imposition of a new or increased fee or charge, the initiative assigns to the agency "the burden ... to demonstrate compliance with this article" (art. XIII D, § 6, subd. (b)(5)), thereby reversing the usual deference accorded governmental action in such matters and making it more difficult to defend its legitimacy. (See Ballot Pamp., *supra*, analysis of Prop. 218 by the Legis. ***848** Analyst, p. 74; see also art. XIII D, § 4, subd. (f) [imposing same burden for assessments].) The voters also expressly provided that Proposition 218 "shall be liberally construed to effectuate its purposes of limiting local government revenue and enhancing taxpayer consent." (Ballot Pamp., *supra*, text of Prop. 218, § 5, p. 109, also reprinted as Historical Notes, 2A West's Ann. Cal. Const. (2000 supp.) foll. art. XIII C, § 1, p. 25.) The majority's construction frustrates both these goals.

The City argues that conditioning imposition of its rental inspection fee on compliance with the procedures set forth in article XIII D would allow landlords to defeat regulation of their businesses. This argument misses two critical points: First and generally, since the City has

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decided its rental inspections are necessary to eradicate "substandard and unsanitary residential buildings and dwelling units the physical conditions and characteristics of which ... are such as to be detrimental to or jeopardize the health, safety and welfare of their occupants and of the public" (L.A. Mun. Code, § 161.102), it can reasonably expect the public to pay for the program.

Second and specifically, the Los Angeles Municipal Code already provides substantial enforcement authority to prosecute landlords who violate the City's Housing Code. If a property owner fails to correct violations, the City may recover its administrative as well as abatement costs (L.A. Mun. Code, § 161.206.2), may seek criminal penalties including fines and imprisonment (*id.*, § 161.206.3), and may pursue civil remedies as provided in the Health and Safety Code (L.A. Mun. Code, § 161.206.4).

When the voters passed Proposition 13 in 1978, they sought to restrict the ability of government to impose taxes and other charges on property owners without their approval. For almost two decades, however, they witnessed politicians evade this constitutional limitation. The message of Proposition 218 is that they meant what they said. With the majority turning a deaf ear to that message, we may well expect a future effort to "stop[] politicians' end-runs around Proposition 13." (Ballot Pamp., *supra*, rebuttal to argument against Prop. 218, p. 77.)

Baxter, J., concurred. ***849**

Footnotes

1 We have also received several amicus curiae briefs. Along with one of them is a request to judicially notice three purported local mobilehome park rent control ordinances and two other documents regarding that topic. The request is denied. The five documents have no bearing on the question before us.
Amici curiae also include a printed discussion issued by the Legislative Analyst in December 1996 and entitled Understanding Proposition 218. This document contains material relevant to the question at bench, and we grant the request for judicial notice regarding it. (Evid. Code, §§ 452, subd. (c), 459, subd. (a).)

2 Over time, "incident" has meant many things. As a noun, the meanings include the burden of the risk of a diminution of the value of real property during condemnation proceedings (*Agins v. City of Tiburon* (1980) 447 U.S. 255, 263, fn. 9 [100 S.Ct. 2138, 2143, 65 L.Ed.2d 106]), the " 'burdens and disabilities' " of slavery prohibited by the Thirteenth Amendment to the United States Constitution (*Jones v. Mayer Co*. (1968) 392 U.S. 409, 441 [88 S.Ct. 2186, 2204, 20 L.Ed.2d 1189]), or, in earlier times, the monetary obligations imposed by the king or a mesne lord (McPherson, *Revisiting the Manor of East Greenwich* (1998) 42 Am. J. Legal Hist. 35, 39; see also 2 Coke (1641) Institutes of the Lawes of England (Butler & Hargrave's Notes ed.) 69a, § 95, fn. 7). And, in a more general sense, the meanings of "incident" include benefits or duties that appertain to some greater right or interest, i.e., the principal. (Civ. Code, §§ 662, 1084, 3540; *Owsley v. Hamner* (1951) 36 Cal.2d 710, 716-717 [227 P.2d 263, 24 A.L.R.2d 112]; *Fender v. Waller* (1941) 139 Neb. 612, 616 [298 N.W. 349, 351]; *Harris v. Elliott* (1836) 35 U.S. (10 Pet.) 25, 54 [9 L.Ed. 333].) In its fourth edition (1897), Bouvier's Law Dictionary defined "incident" as a term "used both substantively and adjectively of a thing which, either usually or naturally and inseparably depends upon, appertains to, or follows another that is more worthy. For example, ... the right of alienation is necessarily incident to a fee-simple at common law ...." (*Id.* at p. 1006, col. 1.) Many cases have followed the Bouvier's Law Dictionary definition, or ones similar to it. (E.g., *Watts v. Copeland* (1933) 170 S.C. 449, 452 [170 S.E. 780]; *Moccasin State Bank v. Waldron* (1928) 81 Mont. 579, 586 [264 P. 940].) "Thus, timber trees are incident to the freehold, and so is a right of way." (*In re Estate of Bellesheim* (N.Y. Surr. 1888) 1 N.Y.S. 276, 278 [dictum]; accord, *Harris v. Elliott*, *supra*, 35 U.S. (10 Pet.) at p. 54 [9 L.Ed. at p. 344] [easements]; Black's Law Dict. (7th ed. 1999) p. 765, col. 1 ["the utility easement is incident to the ownership of the tract"].)

3 It is, of course, axiomatic in Anglo-American law that ownership of real property in fee simple absolute is the greatest possible estate (1 Coke (1628) Institutes of the Lawes of England (Butler & Hargrave's Notes ed.) 18a, § 11), and among the panoply of lesser estates are such nonfreehold chattels real as leases for a specific term and periodic tenancies (*Pacific Southwest Realty Co. v. County of Los Angeles* (1991) 1 Cal.4th 155, 162 [2 Cal.Rptr.2d 536, 820 P.2d 1046])-in common parlance, rentals or leases of limited duration. (1 Tiffany, The Law of Real Property (3d ed. 1939) § 76, pp. 112-113; *Wilgus v. Commonwealth* (1873) 72 Ky. (9 Bush.) 556, 557 [1873 WL 6660], citing 2 Blackstone, Commentaries 143 [" 'An estate for years in land is regarded in law as inferior to an estate for life or an inheritance' "]; *Brydges v.*

Millionair Club (1942) 15 Wash.2d 714, 719 [132 P.2d 188, 190]; see also *Williams v. R. R.* (1921) 182 N.C. 267, 272 [108 S.E. 915, 918].)

4 In *Acme Freight Lines v. City of Vidalia* (1942) 193 Ga. 334 [18 S.E.2d 540] (*Acme Freight*), similar statutory language favored an analogous argument-that a tax on an incident of the trucking business was a tax on a trucking company's ancillary delivery business.

In *Acme Freight*, a trucking company sought an injunction against a city's practice of imposing a business tax on those ancillary operations. The firm relied on this law: " 'No subdivision of this State ... shall levy any excise, license, or occupation tax of any nature *on* ... *any incidents* of said motor carrier business, or on a motor common carrier.' " (*Acme Freight, supra*, 193 Ga. 334, 335 [18 S.E.2d 540, 541], italics added.)

The city, Vidalia, acknowledged "its lack of authority to levy any tax against the plaintiff in reference to its transportation of freight as a motor common carrier .... Justification for the tax is founded upon the fact that, in addition to the operation of trucks for the transportation of freight ..., the plaintiff carries on ... a 'pick-up and delivery service' in and around the city. The trial judge ruled that this 'is not a *necessary* incident to the operation of a common carrier,' and that as to it 'the plaintiff is not a motor common carrier, but is engaged in a special and distinct business in the City of Vidalia, and is taxable as such.' This formula interpolates before the word 'incidents,' used in the statute, the word 'necessary' so as to require, as a condition of tax immunity, that the operation be a necessary incident of the business of a motor common carrier. This appears to us to be erroneous. [Rather,] ... an incident of the business of a motor common carrier of freight would be something naturally associated as pertinent to such transportation and necessarily dependent upon it, but without which the business of transportation might nevertheless be carried on. In other words, the incidental operation would be necessarily dependent upon the transportation, but the business of transportation would not be necessarily dependent upon the incidental operation.... As we understand the evidence adduced in this case, the plaintiff's operations against which the tax is said to be levied is of the above-described character; and accordingly we conclude that the tax is illegal, and should have been enjoined." (*Acme Freight*, *supra*, 193 Ga. 334, 335-336 [18 S.E.2d 540, 541].)

5 We acknowledge that landlords may rent because they wish to keep the property occupied in their absence, for philanthropic reasons, or to a family member for a nominal charge. Such arrangements are not rare, and may lie within the province of the ordinance, which refers to "residential rental properties." But even nonprofit or charitable purposes are business purposes under broad constructions of the term, and we believe that as long as the property is being rented for consideration, it is being conveyed for a business purpose. (Cf. *Marin Municipal Water Dist. v. Chenu* (1922) 188 Cal. 734, 738 [207 P. 251] [" 'business' " has "a narrower meaning applicable to occupation or employment for livelihood or gain, and to mercantile or commercial enterprises or transactions"].)

6 We turn to discuss briefly the authorities on which the city chiefly relies. They consist of two cases: *Sinclair Paint Co. v. State Bd. of Equalization*, *supra*, 15 Cal.4th 866; and *Pennell v. City of San Jose* (1986) 42 Cal.3d 365 [228 Cal.Rptr. 726, 721 P.2d 1111] (affd. *sub nom*. *Pennell v. San Jose* (1988) 485 U.S. 1 [108 S.Ct. 849, 99 L.Ed.2d 1]). They are inapposite. In *Sinclair* we held that an exaction on sources of lead contamination to remediate the effects of lead poisoning was a fee, not a tax. In *Pennell*, we held that a $3.75 charge on each residential rental unit, imposed by a rent control ordinance to fund its hearing process, also was a fee, not a tax. In *Sinclair* and *Pennell*, we defined such fees, which are similar to the city's inspection charge, as regulatory in nature. Regulatory fees are those " ' "charged in connection with regulatory activities[,] which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes." ' " (*Sinclair Paint Co. v. State Bd. of Equalization*, *supra*, 15 Cal.4th 866, 876, quoting *Pennell v. City of San Jose*, *supra*, 42 Cal.3d 365, 375, in turn quoting *Mills v. County of Trinity* (1980) 108 Cal.App.3d 656, 659-660 [166 Cal.Rptr. 674], bracketed material added here.)

We have stated that the city's inspection fee is a regulatory fee. And we have concluded that it does not fall within article XIII D's ambit. But *Sinclair* and *Pennell* do not concern themselves with the issue we confront here. Indeed, in *Sinclair* we cautioned that "We are not here concerned with issues arising under constitutional amendments effected by a recent initiative measure (Proposition 218) adopted at the November 5, 1996, General Election. That measure contains new restrictions on local agencies' power to impose fees and assessments." (*Sinclair Paint Co. v. State Bd. of Equalization*, *supra*, 15 Cal.4th 866, 873, fn. 2.) In *Pennell v. City of San Jose, supra*, 42 Cal.3d 365, we could not have written a similar caveat, for article XIII D did not exist at the time. But it applies just as well.

1 Los Angeles Municipal Code section 161.352 provides: "*Owners* of all buildings subject to inspection shall pay a service fee of $12.00 per unit per year. The fee will be used to finance the cost of inspection and enforcement by the Housing Department. Should the *owner* fail to pay the required fee, the City of Los Angeles will recover it, plus accrued interest, utilizing any remedies provided by law including nuisance abatement or municipal tax lien procedures established by ordinance or state law. This fee shall be known as the 'Systematic Code Enforcement Program Fee.' " (Italics added.)

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ATTACHMENT D-4

135 Cal.App.4th 1377
Court of Appeal, Fourth District, Division 2, California.

CITY OF RANCHO CUCAMONGA, Plaintiff and Appellant,
v.
REGIONAL WATER QUALITY CONTROL BOARD–SANTA ANA REGION et al., Defendants and Respondents;
County of San Bernardino et al., Real Parties in Interest and Respondents.

No. E037079.
|
Jan. 26, 2006.
|
As Modified Feb. 27, 2006.

Synopsis

Background: Cities filed petitions for writs of mandate to challenge the procedure by which municipal storm sewer permit was issued by regional water quality control board, the conditions imposed by permit, and the expense of permit requirements. The Superior Court, San Bernardino County, No. RCV 071613, Shahla Sabet, J., sustained without leave to amend the demurrer of State Water Resources Control Board to entire action, sustained demurrer as to four causes of action and granted motion to strike of the regional board, and denied petition for writ of mandate. City appealed.

Holdings: The Court of Appeal, Gaut, J., held that:

[1] State Water Resources Control Board was not a proper party in lawsuit;

[2] regional water quality control board could move to strike less than all causes of action;

[3] substantial evidence supported regional water quality control board's findings in issuing permit; and

[4] permit requirements were not overly prescriptive.

Affirmed.

West Headnotes (11)

[1] Environmental Law Parties

State Water Resources Control Board (State Board) was not a proper party in lawsuit filed by two cities against State Board and Regional Water Quality Control Board, challenging the procedure by which municipal storm sewer permit was adopted, the conditions imposed by permit, and the expense of permit requirements; permit was issued by regional board rather than state board, allegations failed to articulate any improper State Board conduct, and, challenge was barred by statute of limitations. West's Ann.Cal.Gov.Code § 11350; West's Ann.Cal.Water Code § 13330.

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4 Cases that cite this headnote

[2] **Mandamus** Presumptions and burden of proof

In exercising its independent judgment in deciding a petition for writ of mandate, a trial court must afford a strong presumption of correctness concerning administrative findings; since the trial court ultimately must exercise its own independent judgment, that court is free to substitute its own findings after first giving due respect to the agency's findings.

Cases that cite this headnote

[3] **Mandamus** Scope and extent in general

On appeal from the trial court's decision on a petition for writ of mandate, the reviewing court determines whether substantial evidence supports the trial court's factual determinations.

5 Cases that cite this headnote

[4] **Mandamus** Scope and extent in general

On appeal from the trial court's decision on a petition for writ of mandate, the trial court's legal determinations receive a de novo review with consideration being given to the agency's interpretations of its own statutes and regulations.

4 Cases that cite this headnote

[5] **Environmental Law** Preservation of error in administrative proceeding

In city's challenge to procedure by which municipal storm sewer permit was adopted, to conditions imposed by permit, and to expense of permit requirements, city waived its objections to the administrative record, and to specific pieces of evidence, by not making such objections before or at the time of the administrative hearing; city was given notice that the hearing on the permit would proceed as an informal administrative adjudication, and it could not claim that it was relieved of the obligation to object to the administrative record at the time of the hearing. West's Ann.Cal.Gov.Code § 11445.10 et seq.

1 Cases that cite this headnote

[6] **Administrative Law and Procedure** Quasi-judicial

The exercise of discretion to grant or deny a license, permit, or other type of application is a quasi-judicial function.

Cases that cite this headnote

[7] **Environmental Law** Pleading, petition, or application

Defendant regional water quality control board could move to strike less than all causes of action filed in suit cities to challenge the procedure by which municipal storm sewer permit was adopted, the conditions imposed by permit, and the expense of permit requirements, inasmuch as trial court had authority to strike only part of pleading. West's Ann.Cal.C.C.P. §§ 431.10, 436.

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1 Cases that cite this headnote

[8] **Environmental Law** Weight and sufficiency

Substantial evidence supported regional water quality control board's findings in issuing municipal storm sewer permit; board adopted recommendations of its staff, which were based on previous permits and other reports, and which established that board did not simply copy similar permit for other counties.

2 Cases that cite this headnote

[9] **Administrative Law and Procedure** Decision

Administrative Law and Procedure Substantial evidence

An agency may rely upon the opinion of its staff in reaching decisions, and the opinion of staff may constitute substantial evidence.

2 Cases that cite this headnote

[10] **Environmental Law** Conditions and limitations

Municipal storm sewer permit issued by regional water quality control board did not violate Clean Water Act by failing to include "safe harbor" provisions providing that, if permittee was in full compliance with permit conditions, it could not be found in violation of Clean Water Act; there was no statutory right to a "safe harbor" provision to be included as a term of the permit, and, in any event, such protection was already included in the Act. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k).

2 Cases that cite this headnote

[11] **Environmental Law** Conditions and limitations

Requirements contained in municipal storm sewer permit issued by regional water quality control board were not overly prescriptive and did not illegally dictate the manner of compliance; the federal Clean Water Act authorized imposition of permit conditions, and the permitting agency had discretion to decide what practices, techniques, methods, and other provisions were appropriate and necessary to control the discharge of pollutants. Clean Water Act, § 402(p)(3)(B)(iii), 33 U.S.C.A. § 1342(p)(3)(B)(iii).

See 12 Witkin, Summary of Cal. Law (10th ed. 2005) Real Property, §§ 892-896; Cal. Jur. 3d, Pollution and Conservation Laws, § 124 et seq.

5 Cases that cite this headnote

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***1379** OPINION

GAUT, J.

1. *Introduction*

This case involves environmental regulation of municipal storm sewers that carry excess water runoff to the Santa Ana River as it passes through San Bernardino County on its way to the Pacific Ocean. Federal and state laws impose regulatory controls on storm sewer discharges. Municipalities are required to obtain and comply with a federal regulatory permit limiting the quantity and quality of water runoff that can be discharged from these storm sewer systems.

In this instance, the Regional Water Quality Control Board for the Santa Ana Region (the Regional Board) conducted public hearings and then issued a comprehensive 66–page municipal storm sewer permit governing 18 local ***1380** public entities. Two permittees, the City of Rancho Cucamonga and the City of Upland, among others, filed an administrative appeal with the State Water Resources Control Board (the State Board.) The State Board summarily dismissed the appeal. The Cities of Rancho Cucamonga and Upland [1] then filed a petition for writ of mandate and complaint against the State Board and the Regional Board.

The trial court sustained without leave to amend the demurrer of the State Board to the entire action. It sustained the demurrer as to four causes of action and granted the motion to strike of the Regional Board. After a hearing, the trial court denied the petition for writ of mandate.

Both procedurally and substantively, the City of Rancho Cucamonga challenges the conditions imposed by the NPDES [2] Permit and Waste Discharge Requirements (the 2002 permit). It contends the procedure by which the 2002 permit was adopted was not legal, that the 2002 permit's conditions are not appropriate for the area, and that the permit's requirements are too expensive. Because we conclude the permit was properly adopted and its conditions and requirements are appropriate, we reject these contentions.

2. *The National Pollutant Discharge Elimination System*

California cases have repeatedly explained the complicated web of federal and state laws and regulations concerning water pollution, especially storm sewer discharge into the public waterways. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 619–621, 26 Cal.Rptr.3d 304, 108 P.3d 862 (*Burbank*); *Building Industry Assn. of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 872–875, 22 Cal.Rptr.3d 128 (*Building Industry*); *Communities for a Better Environment v. State Water Resources Control Board* (2003) 109 Cal.App.4th 1089, 1092–1094, 1 Cal.Rptr.3d 76 (*Communities*); ****453** *WaterKeepers Northern California v. State Water Resources Control Board* (2002) 102 Cal.App.4th 1448, 1451–1453, 126 Cal.Rptr.2d 389 (*WaterKeepers*)).

For purposes of this case, the important point is described by the California Supreme Court in *Burbank:* "Part of the federal Clean Water Act [33 U.S.C. § 1251 et seq.] is the National Pollutant Discharge Elimination System (NPDES), '[t]he primary means' for enforcing effluent limitations and standards under the Clean Water Act. ***1381** (*Arkansas v. Oklahoma* [(1992) 503 U.S. 91, 101, 112 S.Ct. 1046, 117 L.Ed.2d 239.]) The NPDES sets out the conditions under which the federal EPA or a state with an approved water quality control program can issue permits for the discharge of pollutants in wastewater. (33 U.S.C. § 1342(a) & (b).) In California, wastewater discharge requirements established by

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the regional boards are the equivalent of the NPDES permits required by federal law. (§ 13374.)" (*Burbank, supra,* 35 Cal.4th at p. 621, 26 Cal.Rptr.3d 304, 108 P.3d 862.)

California's Porter–Cologne Act (Wat.Code, § 13000 et seq.) establishes a statewide program for water quality control. Nine regional boards, overseen by the State Board, administer the program in their respective regions. (Wat.Code, §§ 13140, 13200 et seq., 13240, and 13301.) Water Code sections 13374 and 13377 authorize the Regional Board to issue federal NPDES permits for five-year periods. (33 U.S.C. § 1342, subd. (b)(1)(B).)

As discussed more fully in part 6 below, the state-issued NPDES permits are subject to the informal hearing procedures set forth for administrative adjudications. (Gov.Code, § 11445.10 et seq.; Cal.Code Regs., tit. 23, § 647 et seq.) The issuance of permits is specifically excluded from the procedures for administrative regulations and rulemaking. (Gov.Code, §§ 11340 et seq., 11352.)

3. *Factual and Procedural Background*

The Regional Board issued the first NPDES permit for San Bernardino County in 1990. The principal permittee was the San Bernardino Flood Control District (the District). The 1990 permit required the permittees to develop and implement pollution control measures, using "best management practices" and monitoring programs, to eliminate illegal discharges and connections, and to obtain any necessary legal authority to do so. The management programs could be existing or new.

In 1993, the District developed the NPDES Drain Area Management Program (DAMP).

The second NPDES permit was issued in 1996 and was based on the Report of Waste Discharge (ROWD) prepared by the principal permittee and co-permittees, including Rancho Cucamonga. The 1996 permit proposed extending the existing program, which included inspections of industrial and commercial sources; policies for development and redevelopment; better public education; and implementation of a monitoring program. It offered a commitment to reduce pollutants to the "maximum extent practicable."

In 2000, the permittees submitted another ROWD to renew their NPDES permit. The 2000 ROWD proposed continuing to implement and develop water quality management and monitoring programs.

***1382** Based on the 2000 ROWD, the Regional Board staff created five successive drafts of the 2002 permit, incorporating written comments by Rancho Cucamonga and others and comments made during two public workshops. Some of the comments addressed the economic considerations of anticipated prohibitive compliance costs.

The notice of the public hearing to consider adoption of the 2002 permit hearing ****454** announced: "relevant Regional Board files are incorporated into the record;" the governing procedures were those for an informal hearing procedure as set forth in "Title 23, California Code of Regulations, Section 647 et seq.;" and "Hearings before the Regional Water Board are not conducted pursuant to Government Code section 11500 et seq.," the alternative formal hearing procedure for administrative adjudication. The notice was mailed to all permittees. The accompanying "fact sheet," which was publicly circulated, offered further information about the conduct and nature of the hearing and the legal and factual grounds for the Regional Board's recommendation to adopt the 2002 permit.

The informal public hearing was conducted on April 26, 2002. Neither Rancho Cucamonga nor any of the permittees objected to the form or substance of the hearing. Ultimately, after a staff presentation and testimony, including a statement from Rancho Cucamonga's counsel, the Regional Board adopted the 2002 permit. After the State Board dismissed their administrative appeal, Rancho Cucamonga and Upland filed the instant action.

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The operative pleading is the second amended petition for writ of mandate and complaint. The petition alleges that the State Board and the Regional Board acted illegally and in excess of their jurisdiction in developing, adopting and implementing the 2002 permit. Based on 26 pages of general allegations, the petition asserts eight causes of action, alleging the State Board and the Regional Board violated sections 13241, 13263, and 13360 of the Water Code (the Porter–Cologne Act); the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.); the California Administrative Procedure Act (Gov.Code, §§ 11340–11529); the California Constitution; and the Federal Clean Water Act; and seeking declaratory and injunctive relief.

The State Board successfully opposed the action on demurrer. The Regional Board eliminated four causes of action, the fourth, fifth, seventh, and eighth by demurrer and motion to strike. On the remaining four causes of action, the trial court found in favor of the Regional Board.

***1383** 4. *State Board's Demurrer*

[1] Rancho Cucamonga maintains the trial court should not have sustained the demurrer of the State Board without leave to amend because the State Board is the ultimate authority on state-issued NPDES permits, and, therefore, was properly joined as a party: "Because the State Board has for all intents and purposes adopted the rules and policies of general application upon which the Permit is based, it is clearly a proper party to this action."

The difficulty with Rancho Cucamonga's theory of liability against the State Board is, to quote Gertrude Stein about the City of Oakland, "There is no there there." (Gertrude Stein, *Everybody's Autobiography.*) In other words, Rancho Cucamonga's allegations against the State Board lack any substance. Instead, Rancho Cucamonga launches an unspecific attack on the State Board without identifying any particular problems. The petition makes the unexceptional allegation that the State Board formulates general water control policy which it implements and enforces through regional boards. It also alleges the State Board has not complied with the Administrative Procedure Act but it does not identify any objectionable policies or how there is no compliance. Instead the petition complains about a State Board letter directing that all NPDES permits follow consistent principles regarding Standard Urban Storm Water Mitigation ****455** Plans. Additionally, the petition maintains the 2002 permit included new reporting requirements and increased costs of compliance.

But the foregoing allegations did not articulate any improper State Board conduct. The 2002 permit, issued by the Regional Board and not by the State Board, is not subject to formal rule-making procedures. (Gov.Code, § 11352, subd. (b).) The State Board's letter, explaining a precedential decision concerning mitigation plans, is not an example of formal rule-making. (Gov.Code, § 11425.60, subd. (b).) By dismissing Rancho Cucamonga's administrative appeal concerning the 2002 permit, the State Board declined to become involved and the Regional Board's decision to issue the permit became final and subject to judicial review. (*People ex rel Cal. Regional Wat. Quality Control Bd. v. Barry* (1987) 194 Cal.App.3d 158, 177, 239 Cal.Rptr. 349.) But the State Board was not made a proper party by reason of its dismissal of the administrative appeal.

Furthermore, even if Rancho Cucamonga had identified any cognizable claim against the State Board, it would have been barred by the 30–day statute of limitations for challenging an improperly adopted State Board regulation or order. (Wat.Code, § 13330; Gov.Code, § 11350.)

***1384** We hold the trial court properly sustained without leave to amend the State Board's demurrer to the second amended petition for writ of mandate and complaint.

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5. *Standard of Review for Petition for Writ of Mandate*

[2] In deciding a petition for writ of mandate, the trial court exercises its independent judgment. (Code Civ. Proc., § 1094.5, subd. (c); Wat.Code, § 13330, subd. (d); *Building Industry, supra,* 124 Cal.App.4th at p. 879, 22 Cal.Rptr.3d 128.) But, "[i]n exercising its independent judgment, a trial court must afford a strong presumption of correctness concerning the administrative findings, ... Because the trial court ultimately must exercise its own independent judgment, that court is free to substitute its own findings after first giving due respect to the agency's findings." (*Fukuda v. City of Angels* (1999) 20 Cal.4th 805, 817–818, 85 Cal.Rptr.2d 696, 977 P.2d 693 (*Fukuda*).)

[3] **[4]** On appeal, the reviewing court determines whether substantial evidence supports the trial court's factual determinations. (*Fukuda, supra,* 20 Cal.4th at p. 824, 85 Cal.Rptr.2d 696, 977 P.2d 693; *Building Industry, supra,* 124 Cal.App.4th at p. 879, 22 Cal.Rptr.3d 128.) The trial court's legal determinations receive a de novo review with consideration being given to the agency's interpretations of its own statutes and regulations. (*Building Industry, supra,* at p. 879, 22 Cal.Rptr.3d 128; *Nasha L.L.C. v. City of Los Angeles* (2004) 125 Cal.App.4th 470, 482, 22 Cal.Rptr.3d 772.)

6. *Rancho Cucamonga's Objections to the Administrative Record and Lack of Notice*

[5] The notice of the administrative hearing for adoption of the 2002 permit included the statement that the Regional Board's files would be incorporated as part of the record. Before trial on the writ petition, Rancho Cucamonga attempted to raise an omnibus objection to the entire administrative record and a specific objection to four documents, three studies about marine pollution and one economic study. The trial court ruled the objections had been waived by not making them before or at the time of the hearing. Applying the presumption of administrative regularity, we affirm the trial court's evidentiary ruling. (*Mason v. Office of Administrative* ****456** *Hearings* (2001) 89 Cal.App.4th 1119, 1131, 108 Cal.Rptr.2d 102.)

The reasons given by Rancho Cucamonga as to why the trial court should have sustained its objections to all or part of the administrative record are that it did not waive its objections to the record because Rancho Cucamonga did not know the hearing was adjudicative; the Regional Board did not provide ***1385** notice of an informal hearing (Gov.Code, § 11445.30); and Rancho Cucamonga never had an opportunity to object to the administrative record.

[6] As noted previously, Government Code section 11352, subdivision (b), makes the issuance of an NPDES permit exempt from the rulemaking procedures of the Administrative Procedure Act. Permit issuance is a quasi-judicial, not a quasi-legislative, rule-making proceeding: "The exercise of discretion to grant or deny a license, permit or other type of application is a quasi-judicial function." (*Sommerfield v. Helmick* (1997) 57 Cal.App.4th 315, 320, 67 Cal.Rptr.2d 51; *City of Santee v. Superior Court* (1991) 228 Cal.App.3d 713, 718, 279 Cal.Rptr. 22.)

Instead, the Regional Board correctly followed the administrative adjudication procedures (Gov.Code, § 11445.10 et seq.) and the companion regulations at California Code of Regulations, Title 23, sections 647–648.8 for informal adjudicative public hearings. These procedures were announced in the notice of hearing which also stated that Government Code section 11500 et seq., governing formal administrative adjudication hearings, would not apply, thus satisfying Government Code section 11445.30 requiring notice of an informal hearing procedure. At the time of the hearing, Rancho Cucamonga did not object to the informal procedure. Rancho Cucamonga's effort to argue that federal notice requirements (40 C.F.R. § 124.8, subd. (b)(6)(ii) (2005)) should also have been followed fails because this involved a state-issued NPDES permit adopted according to California procedures.

Because Rancho Cucamonga was given notice that the hearing on the permit would proceed as an informal administrative adjudication, it cannot successfully argue it was relieved of the obligation to object to the administrative

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record at the time of the hearing. An informal administrative adjudication contemplates liberality in the introduction of evidence. (Cal. Code Regs., tit. 23, §§ 648, subd. (d) and 648.5.1.) If Rancho Cucamonga wished to object to the informal hearing procedures, including the liberal introduction of evidence, it should have raised its objections as provided by statute and regulation before or at the time of the hearing (Gov.Code, §§ 11445.30, 11445.40, and 11445.50; Cal. Code Regs., tit. 23, § 648.7), not a year later in the subsequent civil proceeding.

7. *Economic Considerations for Issuance of NPDES Permit*

Rancho Cucamonga's next assignment of error is that the Regional Board failed to consider the economic impact of the requirements of the 2002 permit by not conducting a cost-benefit analysis. Rancho Cucamonga relies on the California Supreme Court's *Burbank* opinion, in which the court held: "When ... a regional board is considering whether to make the pollutant restrictions in a wastewater discharge permit *more stringent* than federal law ***1386** requires, California law allows the board to take into account economic factors, including the wastewater discharger's cost of compliance." (*Burbank, supra,* 35 Cal.4th at p. 618, 26 Cal.Rptr.3d 304, 108 P.3d 862.) Rancho Cucamonga contends that the 2002 permit exceeds federal requirements and that, therefore, this case should be remanded for a consideration of ****457** economic factors. (See *ibid.;* Wat.Code, § 13241, subd. (d).)

The two problems with this argument are the trial court found there was no evidence that the 2002 permit exceeded federal requirements and Rancho Cucamonga does not explain now how it does so. There was also evidence that the 2002 permit was based on a fiscal analysis and a cost-benefit analysis. In the absence of the foundational predicate and in view of evidence that cost was considered, Rancho Cucamonga's contention on this point fails.

[7] We also reject Rancho Cucamonga's related procedural argument that the Regional Board's motion to strike was impermissible as piecemeal adjudication. (*Regan Roofing v. Superior Court* (1994) 24 Cal.App.4th 425, 432–436, 29 Cal.Rptr.2d 413, *Lilienthal & Fowler v. Superior Court* (1993) 12 Cal.App.4th 1848, 1851–1855, 16 Cal.Rptr.2d 458.) It is well recognized a court may strike all or part of a pleading as it did in this instance. (Code Civ. Proc., §§ 431.10 and 436; *PH II, Inc. v. Superior Court* (1995) 33 Cal.App.4th 1680, 1682–1683, 40 Cal.Rptr.2d 169.)

8. *Substantial Evidence*

[8] Rancho Cucamonga also challenges the trial court's independent factual determination that sufficient evidence supports the findings of the Regional Board. Rancho Cucamonga's main contention is that the 2002 permit was not distinctively crafted for San Bernardino County but, instead, copied a similar permit for other counties without identifying any particular water quality impairment in San Bernardino County caused by the permittees. In other words, no evidence in the record supports issuance of the 2002 permit and the trial court did not identify any such evidence in its statement of decision.

One problem with Rancho Cucamonga's foregoing argument is that the Clean Water Act requires an NPDES permit to be issued for *any* storm sewer discharge, whether there is any actual impairment in a particular region. (33 U.S.C. § 1342; *Communities, supra,* 109 Cal.App.4th at pp. 1092–1093, 1 Cal.Rptr.3d 76.) Therefore, Rancho Cucamonga's contention that the permit fails to identify impaired water bodies in the region is beside the point.

In its statement of decision, the trial court discussed the inadequacy of the arguments and evidence cited by Rancho Cucamonga and concluded: "The San Bernardino Permit is based in part on the Basin Plan for this region. It is ***1387** also based on the permittees' own reports and monitoring within this region.... It incorporates the permittees' management program, which is unique to these cities and county." The trial court included a citation to the 1993

DAMP report's "Geographic Description of the Drainage Area," which discusses the specific conditions present in San Bernardino County.

On appeal, Rancho Cucamonga faults the trial court for not presenting a more detailed description of the evidence supporting the issuance of the permit. We do not think the trial court, or this court, must bear that burden.

[9] First, "[a]n agency may ... rely upon the opinion of its staff in reaching decisions, and the opinion of staff has been recognized as constituting substantial evidence. (*Coastal Southwest Dev. Corp. v. California Coastal Zone Conservation Com.* (1976) 55 Cal.App.3d 525, 535–536, 127 Cal.Rptr. 775.)" (*Browning–Ferris Industries v. City Council* (1986) 181 Cal.App.3d 852, 866, 226 Cal.Rptr. 575.) Here the Regional Board adopted the recommendation of its staff in issuing the permit. And, as the record shows, the staff's recommendation was based on the previous 1990 and 1996 permits, the 1993 DAMP ****458** report and the 2000 ROWD, the permittees' application for renewal of the 1996 permit, as well as more general water quality factors. The evidence contradicts Rancho Cucamonga's assertion, that "the Regional Board simply copied verbatim the NPDES Permit for North Orange County, a coastal region with markedly different water quality conditions and problems."

As part of the trial court's consideration of the petition for writ of mandate, Rancho Cucamonga and the Regional Board directed the court to review specific items of evidence contained in the administrative record. In its opposing brief, the Regional Board offered a detailed account of the evidence supporting the issuance of the permit. The trial court indicated it had reviewed the parties' submissions before ruling. It discussed the evidence at the hearing on the petition and referred to it in its statement of decision. (*Lala v. Maiorana* (1959) 166 Cal.App.2d 724, 731, 333 P.2d 862.) Rancho Cucamonga had the burden of showing the Board abused its discretion or its findings were not supported by the facts. (*Building Industry, supra,* 124 Cal.App.4th at pp. 887–888, 22 Cal.Rptr.3d 128.) To the extent it attempted to do so at the trial court level, it was not successful.

This court has independently reviewed the record with particular attention to the evidence as emphasized by the parties. We do not, however, find it incumbent upon us or the trial court to review the many thousands of pages submitted on appeal and identify the particular evidence that constitutes substantial evidence. Instead, we deem the trial court's findings sufficient and not affording any grounds for reversal. (*Building Industry, supra,* 124 Cal.App.4th at p. 888, 22 Cal.Rptr.3d 128; see *Weisz Trucking Co., Inc. v. Emil R. Wohl* ***1388** *Construction* (1970) 13 Cal.App.3d 256, 264, 91 Cal.Rptr. 489, citing *Perry v. Jacobsen* (1960) 184 Cal.App.2d 43, 50, 7 Cal.Rptr. 177.)

9. *Safe Harbor Provision*

[10] As it did repeatedly below, Rancho Cucamonga maintains the 2002 permit violates section 402(k) of the Clean Water Act (33 U.S.C. § 1342, subd. (k)), because the permit does not include "safe harbor" language, providing that, if a permittee is in full compliance with the terms and conditions of its permit, it cannot be found in violation of the Clean Water Act. (*United States Public Interest Research Group v. Atlantic Salmon of Maine, LLC* (1st Cir.2003) 339 F.3d 23, 26; *EPA v. State Water Resources Control Bd.* (1976) 426 U.S. 200, 205, 96 S.Ct. 2022, 48 L.Ed.2d 578.) The trial court found there was no statutory right to a "safe harbor" provision to be included as the term of the permit. We agree.

This seems like much ado about nothing because 33 U.S.C. § 1342, subdivision (k), already affords Rancho Cucamonga the protection it seeks: "Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of sections 1319 and 1365 of this title, with sections 1311, 1312, 1316, 1317, and 1343 of this title, except any standard imposed under section 1317 of this title for a toxic pollutant injurious to human health." Rancho Cucamonga does not cite any persuasive authority as to why this statutory protection had to be duplicated as a provision in the 2002 permit.

Furthermore, the 2002 permit complied with the State Board's Water Quality Order No. 99–05, a precedential decision requiring NPDES permits to omit "safe harbor" language used in earlier permits. A permit without "safe harbor" language was upheld in ****459** *Building Industry, supra,* 124 Cal.App.4th at p. 877, 22 Cal.Rptr.3d 128. The trial court did not err.

10. *Maximum Extent Practicable*

Rancho Cucamonga protests that the 2002 permit's discharge limitations/prohibitions exceed the federal requirement that storm water dischargers should "reduce the discharge of pollutants to the maximum extent practicable." (33 U.S.C. § 1342, subd. (p)(3)(B)(iii).) The trial court, however, found there was no evidence presented that the 2002 permit exceeded federal requirements. Because there is no evidence, the issue presented is hypothetical and, therefore, premature. (*Building Industry, supra,* 124 Cal.App.4th at p. 890, 22 Cal.Rptr.3d 128.)

Additionally, as Rancho Cucamonga recognizes, *Building Industry* rejected the contention that a "regulatory permit violates federal law because it allows the Water Boards to impose municipal storm sewer control measures more ***1389** stringent than a federal standard known as 'maximum extent practicable.' [Citation.] [Fn. omitted.] [W]e ... conclude the Water Boards had the authority to include a permit provision requiring compliance with state water quality standards." (*Building Industry, supra,* 124 Cal.App.4th at p. 871, 22 Cal.Rptr.3d 128.) The *Burbank* case, allowing for consideration of economic factors when federal standards are exceeded, does not alter the analysis in this case where there was no showing that federal standards were exceeded and where there was evidence that economic factors were considered. Furthermore, like the permit in *Building Industry*, the 2002 permit contemplates controlling discharge of pollutants to the maximum extent practicable through a "cooperative iterative process where the Regional Water Board and Municipality work together to identify violations of water quality standards." (*Building, supra,* at p. 889, 22 Cal.Rptr.3d 128.) The 2002 permit does not exceed the maximum extent practicable standard.

11. *The Requirements of the 2002 Permit*

[11] Rancho Cucamonga lastly complains the requirements of the 2002 permit are "overly prescriptive," illegally dictating the manner of compliance and improperly delegating to the permittees the inspection duties of the State Board and the Regional Board. Rancho Cucamonga's arguments contradict the meaning and spirit of the Clean Water Act.

In creating a permit system for dischargers from municipal storm sewers, Congress intended to implement actual programs. (*Natural Resources Defense Council, Inc. v. Costle* (D.C.Cir.1977) 568 F.2d 1369, 1375.) The Clean Water Act authorizes the imposition of permit conditions, including: "management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator of the State determines appropriate for the control of such pollutants." (33 U.S.C. § 1342, subd. (p)(3)(B)(iii).) The Act authorizes states to issue permits with conditions necessary to carry out its provisions. (33 U.S.C. § 1342, subd. (a)(1).) The permitting agency has discretion to decide what practices, techniques, methods and other provisions are appropriate and necessary to control the discharge of pollutants. (*NRDC v. EPA* (9th Cir.1992) 966 F.2d 1292, 1308.) That is what the Regional Board has created in the 2002 permit.

Rancho Cucamonga's reliance on Water Code section 13360 is misplaced because that code section involves enforcement and implementation of state water quality law, (Wat.Code, § 13300 et seq.) not compliance with the Clean Water Act (Wat.Code, § 13370 et seq.) The federal law ****460** preempts the state law. (*Burbank, supra,* 35 Cal.4th at p. 626, 26 Cal.Rptr.3d 304, 108 P.3d 862.) The Regional Board must comply with federal law requiring detailed conditions for NPDES permits.

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***1390** Furthermore, the 2002 permit does afford the permittees discretion in the manner of compliance. It is the permittees who design programs for compliance, implementing best management practices selected by the permittees in the DAMP report and approved by the Regional Board. Throughout the permit, the permittees are granted considerable autonomy and responsibility in maintaining and enforcing the appropriate legal authority; inspecting and maintaining their storm drain systems according to criteria they develop; establishing the priorities for their own inspection requirements; and establishing programs for new development. The development and implementation of programs to control the discharge of pollutants is left largely to the permittees.

More particularly, we agree with the Regional Board that the permit properly allocated some inspection duties to the permittees. As part of their ROWD application for a permit, the permittees proposed to "Conduct Inspection, Surveillance, and Monitoring. Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal storm drain system." The ROWD also discussed continuing existing inspection programs.

Water Code section 13383 provides that as part of compliance with the Clean Water Act, the Regional Board may establish inspection requirements for any pollutant discharger. Federal law, either expressly or by implication, requires NPDES permittees to perform inspections for illicit discharge prevention and detection; landfills and other waste facilities; industrial facilities; construction sites; certifications of no discharge; non-stormwater discharges; permit compliance; and local ordinance compliance. (40 C.F.R. 122.26, subds. (d), (g); 33 U.S.C. § 1342, subd. (p)(3)(B)(ii).) Permittees must report annually on their inspection activities. (40 C.F.R. § 122.42, subd. (c)(6) (2005).)

Rancho Cucamonga claims it is being required to conduct inspections for facilities covered by other state-issued general permits. Rancho Cucamonga and the other permittees are responsible for inspecting construction and industrial sites and commercial facilities within their jurisdiction for compliance with and enforcement of local municipal ordinances and permits. But the Regional Board continues to be responsible under the 2002 NPDES permit for inspections under the general permits. The Regional Board may conduct its own inspections but permittees must still enforce their own laws at these sites. (40 C.F.R. § 122.26, subd. (d)(2) (2005).)

***1391** 12. *Disposition*

Rancho Cucamonga is the only of the original 18 permittees still objecting to the 2002 NPDES permit. It has not successfully demonstrated that substantial evidence does not support the trial court's factual determinations or the trial court erred in its interpretation and application of state and federal law.

We affirm the judgment and order the prevailing parties to recover their costs on appeal.

HOLLENHORST, Acting P.J., and RICHLI, J., concur.

All Citations

135 Cal.App.4th 1377, 38 Cal.Rptr.3d 450, 36 Envtl. L. Rep. 20,026, 06 Cal. Daily Op. Serv. 845, 06 Cal. Daily Op. Serv. 1699, 2006 Daily Journal D.A.R. 1126

Footnotes

1 Upland is not a party to this appeal.

2 The National Pollutant Discharge Elimination System.

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ATTACHMENT D-5

 KeyCite Yellow Flag - Negative Treatment
Declined to Extend by Cachil Dehe Band of Wintun Indians of the Colusa Indian Community v. California, 9th Cir.(Cal.), October 24, 2008

33 Cal.4th 1055
Supreme Court of California

Bill LOCKYER, as Attorney General, etc., Petitioner,
v.
CITY AND COUNTY OF SAN FRANCISCO et al., Respondents.
Barbara Lewis et al., Petitioners,
v.
Nancy Alfaro, as County Clerk, etc., Respondent.

Nos. S122923, S122865.
|
Aug. 12, 2004.

Synopsis
Background: The Attorney General and three city residents filed petitions for writs of mandate, and requests for an immediate stay, alleging that actions of city officials in issuing marriage licenses to same–sex couples and solemnizing and registering the marriages of such couples were unlawful, and Supreme Court consolidated the two cases for decision.

Holdings: The Supreme Court, George, C.J., held that:

[1] city mayor exceeded scope of his authority by requesting that county clerk and county recorder determine what changes were necessary to render marriage licensing forms nondiscriminatory as to gender and sexual orientation;

[2] a local executive official, who is charged with the ministerial duty of enforcing a statute, does not possess the authority to disregard the terms of a statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional;

[3] city and county officials lacked authority to issue marriage licenses to, solemnize marriages of, and register certificates of marriage for same–sex couples; and

[4] marriages conducted between same–sex couples in violation of the applicable statutes were void and of no legal effect.

Petition granted with directions.

Moreno, J., filed concurring opinion.

Kennard, J., filed concurring and dissenting opinion.

Werdegar, J., filed concurring and dissenting opinion.

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West Headnotes (17)

[1] **Marriage and Cohabitation** Regulation and control in general

Legislature has full control of the subject of marriage and may fix the conditions under which the marital status may be created or terminated, except as restricted by the Constitution. West's Ann.Cal.Fam.Code §§ 300–310.

2 Cases that cite this headnote

[2] **Marriage and Cohabitation** Regulation and control in general

Municipal Corporations Local legislation

Marriage is a matter of statewide concern rather than a municipal affair. West's Ann.Cal. Const. Art. 11, §§ 4, 5, 6.

1 Cases that cite this headnote

[3] **Marriage and Cohabitation** Authority to issue license

Marriage and Cohabitation Certificate

Under the relevant statutes, the only local officials to whom the state has granted authority to act with regard to marriage licenses and marriage certificates are the county clerk and the county recorder. West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125.

2 Cases that cite this headnote

[4] **Marriage and Cohabitation** Authority to issue license

Marriage and Cohabitation Return, record, and registration

A mayor has no authority to expand or vary the authority of a county clerk or county recorder to grant marriage licenses or register marriage certificates under the governing state statutes, or to direct those officials to act in contravention of those statutes. West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125.

3 Cases that cite this headnote

[5] **Marriage and Cohabitation** Licenses and Licensing Officers

Municipal Corporations Mayor or other chief executive

City mayor exceeded scope of his authority by requesting county clerk and county recorder to "determine what changes should be made to the forms and documents used to apply for and issue marriage licenses in order to provide marriage licenses on a non–discriminatory basis, without regard to gender or sexual orientation" based on his asserted "sworn duty to uphold the California Constitution, including specifically its equal protection clause." West's Ann.Cal. Const. Art. 1, § 7; West's Ann.Cal.Fam.Code §§ 300, 355; West's Ann.Cal.Fam.Code § 359 (1996); West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125.

5 Cases that cite this headnote

[6] **Marriage and Cohabitation** Duties of officers in general

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Marriage and Cohabitation Return, record, and registration

Duties of county clerk and county recorder in issuing marriage licenses and recording certificate of registry of marriage are mandatory, once statutory procedural and substantive prerequisites have been satisfied, and thus discharge of such duties is ministerial rather than discretionary. West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125.

2 Cases that cite this headnote

[7] **Public Employment** Duties

A ministerial act is an act that a public officer is required to perform in a prescribed manner in obedience to the mandate of legal authority and without regard to his own judgment or opinion concerning such act's propriety or impropriety, when a given state of facts exists.

Cases that cite this headnote

[8] **Constitutional Law** Encroachment on Judiciary

Public Employment Duties

Pursuant to state common law and practical considerations, a local executive official, who is charged with the ministerial duty of enforcing a statute, does not possess the authority to disregard the terms of the statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional.

5 Cases that cite this headnote

[9] **Constitutional Law** Presumptions and Construction as to Constitutionality

A statute, once duly enacted, is presumed to be constitutional.

See 7 Witkin, Summary of Cal. Law (9th ed. 1988) Constitutional Law, § 58.

5 Cases that cite this headnote

[10] **Constitutional Law** Clearly, positively, or unmistakably unconstitutional

Constitutional Law Doubt

The unconstitutionality of a statute must be clearly shown, and doubts as to its constitutionality will be resolved in favor of its validity.

7 Cases that cite this headnote

[11] **Public Employment** Authority and Powers

When a public official's authority to act in a particular area derives wholly from statute, the scope of that authority is measured by the terms of the governing statute.

2 Cases that cite this headnote

[12] **Municipal Corporations** Powers and functions of local government in general

Municipal Corporations Judicial Supervision

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Municipal Corporations Nature and scope of legislative power in general

In establishing a governmental structure for the purpose of managing municipal affairs, the Legislature, through statutes, or local entities, through charter provisions and the like, may combine executive, legislative, and judicial functions in a manner different from the structure that the California Constitution prescribes for state government. West's Ann.Cal. Const. Art. 3, § 3.5.

5 Cases that cite this headnote

[13] **Marriage and Cohabitation** Duties of officers in general

Unconstitutionality of state marriage statutes limiting marriage to couple comprised of a man and a woman under state equal protection clause was not so patent or clearly established that actions of city and county officials in issuing marriage licenses to same–sex couples, and solemnizing and registering the marriages of such couples, would fall within narrow exception, applicable when it would be absurd or unreasonable to require public official to comply with statute that was clearly unconstitutional, to general rule that a local executive official, who is charged with the ministerial duty of enforcing a statute, does not possess the authority to disregard the terms of the statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional. West's Ann.Cal. Const. Art. 1, § 7; West's Ann.Cal.Fam.Code §§ 300, 355; West's Ann.Cal.Fam.Code § 359 (1996); West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125.

14 Cases that cite this headnote

[14] **Marriage and Cohabitation** Authority to issue license

City and county officials lacked authority to refuse to perform their ministerial duty in conformity with current state marriage statutes, and, based on view that statutory limitation of marriage to couple comprised of a man and a woman violated state equal protection clause, to alter form prescribed by State Registrar of Vital Statistics, issue marriage licenses to, solemnize marriages of, and register certificates of marriage for same–sex couples. West's Ann.Cal. Const. Art. 1, § 7; West's Ann.Cal.Fam.Code §§ 300, 355; West's Ann.Cal.Fam.Code § 359; West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125.

See Hogoboom & King, Cal. Practice Guide: Family Law (The Rutter Group 2003) ¶¶ 19:6.5, 19:24–24.1(CAFAMILY Ch. 19-A).

7 Cases that cite this headnote

[15] **States** Preemption in general

Federal supremacy clause does not itself grant a state or local official the authority to refuse to enforce a statute that the official believes to be unconstitutional. U.S.C.A. Const. Art. 6, cl. 2.

Cases that cite this headnote

[16] **Mandamus** Scope and extent of relief in general

As a general matter, the nature of the relief warranted in a mandate action is dependent upon the circumstances of the particular case, and a court is not necessarily limited by the prayer sought in the mandate petition but may grant the relief it deems appropriate.

1 Cases that cite this headnote

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[17] **Marriage and Cohabitation** Sex or gender;same-sex marriage

All same–sex marriages authorized, solemnized, or registered by city and county officials in contravention of statute defining marriage as a "personal relationship arising out of a civil contract between a man and a woman" and the legislative history of this provision demonstrating that the purpose of this limitation was to "prohibit persons of the same sex from entering lawful marriage" were void and of no legal effect from their inception, despite fact that affected same–sex couples were not parties to mandate proceeding challenging such marriages, as validity of marriages was purely legal question, and numerous amicus curiae briefs were filed on behalf of such couples, so that their legal arguments in support of validity of existing marriages were heard and fully considered. West's Ann.Cal.Fam.Code § 300.

11 Cases that cite this headnote

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Opinion

GEORGE, C.J.

We assumed jurisdiction in these original writ proceedings to address an important but relatively narrow legal issue—whether a local executive official who is charged with the ministerial duty of enforcing a state ***1067** statute exceeds his or her authority when, without any court having determined that the statute is unconstitutional, the official deliberately declines to enforce the statute because he or she determines or is of the opinion that the statute is unconstitutional.

In the present case, this legal issue arises out of the refusal of local officials in the City and County of San Francisco to enforce the provisions of California's marriage statutes that limit the granting of a marriage license and marriage certificate only to a couple comprised of a man and a woman.

The same legal issue and the same applicable legal principles could come into play, however, in a multitude of situations. For example, we would face the same legal issue if the statute in question were among those that restrict the possession or require the registration of assault weapons, and a local official, charged with the ministerial duty of enforcing those statutes, refused to apply their provisions because of the official's view that they violate the Second Amendment of the federal Constitution. In like manner, the same legal issue would be presented if the statute were one of the environmental measures that impose restrictions upon a property owner's ability to obtain a building permit for a development that interferes with the public's access to the California coastline, and a local official, charged with the ministerial ****463** duty of issuing building permits, refused to apply the statutory limitations because of his or her belief that they effect an uncompensated "taking" of property in violation of the just compensation clause of the state or federal Constitution.

Indeed, another example might illustrate the point even more clearly: the same legal issue would arise if the statute at the center of the controversy were the recently enacted provision (operative January 1, 2005) that imposes a ministerial

duty upon local officials to accord the same rights and benefits to registered domestic partners as are granted to spouses (see Fam.Code, § 297.5, added by Stats.2003, ch. 421, § 4), and a local official—perhaps an officeholder in a locale where domestic partnership ***230 rights are unpopular—adopted a policy of refusing to recognize or accord to registered domestic partners the equal treatment mandated by statute, based solely upon the official's view (unsupported by any judicial determination) that the statutory provisions granting such rights to registered domestic partners are unconstitutional because they improperly amend or repeal the provisions of the voter-enacted initiative measure commonly known as Proposition 22, the California Defense of Marriage Act (Fam.Code, § 308.5) without a confirming vote of the electorate, in violation of article II, section 10, subdivision (c) of the California Constitution.

As these various examples demonstrate, although the present proceeding may be viewed by some as presenting primarily a question of the substantive *1068 legal rights of same-sex couples, in actuality the legal issue before us implicates the interest of all individuals in ensuring that public officials execute their official duties in a manner that respects the limits of the authority granted to them as officeholders. In short, the legal question at issue—the scope of the authority entrusted to our public officials—involves the determination of a fundamental question that lies at the heart of our political system: the role of the rule of law in a society that justly prides itself on being "a government of laws, and not of men" (or women). [1]

As indicated above, that issue—phrased in the narrow terms presented by this case—is whether a local executive official, charged with the ministerial duty of enforcing a statute, has the authority to disregard the terms of the statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional. As we shall see, it is well established, both in California and elsewhere, that—subject to a few narrow exceptions that clearly are inapplicable here—a local executive official does *not* possess such authority.

This conclusion is consistent with the classic understanding of the separation of powers doctrine—that the legislative power is the power to enact statutes, the executive power is the power to execute or enforce statutes, and the judicial power is the power to interpret statutes and to determine their constitutionality. It is true, of course, that the separation of powers doctrine does not create an absolute or rigid division of functions. (*Superior Court v. County of Mendocino* (1996) 13 Cal.4th 45, 52, 51 Cal.Rptr.2d 837, 913 P.2d 1046.) Furthermore, legislators and executive officials may take into account constitutional considerations in making discretionary decisions within their authorized sphere of action—such as whether to enact or veto proposed legislation or exercise prosecutorial discretion. When, however, a duly enacted statute imposes a ministerial duty upon an executive official to follow the dictates of the statute in performing a mandated act, the official generally has no ***231 authority to disregard **464 the statutory mandate based on the official's own determination that the statute is unconstitutional. (See, e.g., *Kendall v. United States* (1838) 37 U.S. (12 Pet.) 524, 613, 9 L.Ed. 1181 ["To contend that the obligation imposed on the president to see the *1069 laws faithfully executed implies a power to forbid their execution is a novel construction of the constitution, and entirely inadmissible"].)

Accordingly, for the reasons that follow, we agree with petitioners that local officials in San Francisco exceeded their authority by taking official action in violation of applicable statutory provisions. We therefore shall issue a writ of mandate directing the officials to enforce those provisions unless and until they are judicially determined to be unconstitutional and to take all necessary remedial steps to undo the continuing effects of the officials' past unauthorized actions, including making appropriate corrections to all relevant official records and notifying all affected same-sex couples that the same-sex marriages authorized by the officials are void and of no legal effect.

To avoid any misunderstanding, we emphasize that the substantive question of the constitutional validity of California's statutory provisions limiting marriage to a union between a man and a woman is not before our court in this proceeding, and our decision in this case is not intended, and should not be interpreted, to reflect any view on that issue. We hold only that in the absence of a judicial determination that such statutory provisions are unconstitutional, local executive officials lacked authority to issue marriage licenses to, solemnize marriages of, or register certificates of marriage for same-sex couples, and marriages conducted between same-sex couples in violation of the applicable statutes are void and

of no legal effect. Should the applicable statutes be judicially determined to be unconstitutional in the future, same-sex couples then would be free to obtain valid marriage licenses and enter into valid marriages.

I

The events that gave rise to this proceeding began on February 10, 2004, when Gavin Newsom, the Mayor of the City and County of San Francisco and a respondent in one of the consolidated cases before us,[2] sent a letter to ***1070** Nancy Alfaro, identified in the letter as the San Francisco County Clerk,[3] requesting that she "determine *****232** what changes should be made to the forms and documents used to apply for and issue marriage licenses in order to provide marriage licenses on a non-discriminatory basis, without regard to gender or sexual orientation." The mayor stated in his letter that "[t]he Supreme Courts in other states have held that equal protection provisions in their state constitutions prohibit ****465** discrimination against gay men and lesbians with respect to the rights and obligations flowing from marriage," and explained that it is his "belief that these decisions are persuasive and that the California Constitution similarly prohibits such discrimination." The mayor indicated that the request to the county clerk was made "[p]ursuant to [his] sworn duty to uphold the California Constitution, including specifically its equal protection clause...."[4]

In response to the mayor's letter, the county clerk designed what she describes as "a gender-neutral application for public marriage licenses, and a gender-neutral marriage license," to be used by same-sex couples. The newly designed form altered the official state-prescribed form for the "Application ***1071** for Marriage License" and the "License and Certificate of Marriage" by eliminating the terms "bride," "groom," and "unmarried man and unmarried woman," and by replacing them with the terms "first applicant," "second applicant," and "unmarried individuals." The revised form also contained a new warning at the top of the form, advising applicants that "[b]y entering into marriage you may lose some or all of the rights, protections and benefits you enjoy as a domestic partner" and that "marriage of gay and lesbian couples may not be recognized as valid by any jurisdiction other than San Francisco, and may not be recognized as valid by any employer," and encouraging same-sex couples "to seek legal advice regarding the effect of entering into marriage."[5]

*****233** The county clerk, using the altered forms, began issuing marriage licenses to same-sex couples on February 12, 2004, and the county recorder thereafter registered marriage certificates submitted on behalf of same-sex couples who had received licenses from the city and had participated in marriage ceremonies. The declaration of the county clerk, filed in this court on March 5, 2004, indicates that as of that date, the clerk had issued more than approximately 4,000 marriage licenses to same-sex couples. In more recent filings, the city has indicated that approximately 4,000 same-sex marriages have been performed under licenses issued by the County Clerk of the City and County of San Francisco.

On February 13, 2004, two separate actions were filed in San Francisco County Superior Court seeking to halt the city's issuance of marriage licenses to same-sex couples and the solemnization and registration of marriages of such couples. (*Thomasson v. Newsom* (Super. Ct. S.F. City and County, 2004, No. CGC–04–428794)); ****466** *Proposition 22 Legal Defense and Education Fund v. City and County of San Francisco* (Super. Ct. S.F. City and County, 2004, No. CPF–04–50943 (hereafter *Proposition 22 Legal Defense*).) In each case, a request for an immediate stay of the city's actions was denied by the superior court after a hearing.[6]

***1072** On February 27, 2004, the Attorney General filed in this court a petition for an original writ of mandate, prohibition, certiorari, and/or other relief, and a request for an immediate stay. The petition asserted that the actions of the city officials in issuing marriage licenses to same-sex couples and solemnizing and registering the marriages of such couples are unlawful, and that the problems and uncertainty created by the growing number of these marriages justify intervention by this court. The petition pointed out that despite a directive issued by the state Registrar of Vital Statistics, the San Francisco County Recorder had not ceased the practice of registering marriage certificates submitted

by same-sex couples on forms other than those approved by the State of California, and that officials of the federal Social Security Administration had raised questions regarding that agency's processing of name-change applications resulting from California marriages—not confined to single-sex marriages—because of the uncertainty as to whether certain marriage certificates issued in California are valid under state law. Noting that "[t]he Attorney General has the constitutional duty to see that the laws of the state are uniformly and adequately enforced" (see Cal. Const., art. V, § 13), the petition maintained that the existing "conflict and uncertainty, and the potential for future ambiguity, instability, *****234** and inconsistent administration among various jurisdictions and levels of government, present a legal issue of statewide importance that warrants immediate intervention by this Court." The petition requested that this court issue an order (1) directing the local officials to comply with the applicable statutes in issuing marriage licenses and certificates, (2) declaring invalid the same-sex marriage licenses and certificates that have been issued, and (3) directing the city to refund any fees collected in connection with such licenses and certificates.

Anticipating that the respondent city officials likely would oppose the petition by arguing that the applicable state laws are unconstitutional, the petition maintained that such a claim could not justify the officials' issuance of same-sex marriage licenses in violation of state law "because article III, section 3.5 of the California Constitution prohibits administrative agencies from declaring state laws unconstitutional in the absence of an appellate court determination." The petition asserted that "[t]he county is a political subdivision of the state charged with administering state government, and local registrars of vital statistics act as state officers. The state's agents at the local level simply cannot refuse to enforce state law."

***1073** Although the Attorney General's petition acknowledged that the court could grant the relief requested in the petition without reaching the substantive question of the constitutionality of the California statutes limiting marriage to a man and a woman, the petition urged that we also resolve the substantive constitutional issue at this time, arguing that "[a]s the issues presented are pure legal issues, and there is no need for the development of a factual record, these issues are ready for this Court's review."

On February 25, 2004, two days prior to the filing of the petition in *Lockyer,* the petition in *Lewis* was filed in this court. In *Lewis,* three residents and taxpayers in the City and County of San Francisco sought a writ of mandate to compel the county clerk to cease and desist issuing marriage licenses to couples other than those who meet state law marriage requirements and on forms that do not comply with state law license requirements, and also sought an immediate stay ****467** pending the court's determination of the petition.

After receiving the petitions in *Lockyer* and *Lewis,* we requested that the city file an opposition to the petition in each case on or before March 5, 2004. The city filed its opposition to the petitions on March 5, arguing that the provisions of article III, section 3.5 of the California Constitution do not apply to local officials and that, in any event, under the supremacy clause of the United States Constitution, California Constitution article III, section 3.5 could not properly be applied to preclude a local official from refusing to enforce a statute that the official believes violates the federal Constitution. With regard to the question of the constitutionality of California's statutory ban on same-sex marriages, the opposition maintained that "the issue is one best left to the lower courts in the first instance to undertake the extensive fact-finding that will be necessary." [7]

On March 11, 2004, we issued an order in both *Lockyer* and *Lewis* directing the city officials to show cause why a writ of mandate should not issue requiring the officials to apply and abide by the current California marriage statutes in the absence *****235** of a judicial determination that the statutory provisions are unconstitutional. Pending our determination of these matters, we directed the officials to enforce the existing marriage statutes and refrain from issuing marriage licenses or certificates not authorized by such provisions. We also stayed all proceedings in the two pending San Francisco County Superior Court cases (the *Proposition 22 Legal Defense* action and the *Thomasson v. Newsom* action), but specified that the stay "does not ***1074** preclude the filing of a separate action in superior court raising a substantive constitutional challenge to the current marriage statutes."

Our March 11 order also specified that the return to be filed by the city officials in each case was to be limited "to the issue whether respondents are exceeding or acting outside the scope of their authority in refusing to enforce the provisions of Family Code sections 300, 301, 308.5, and 355 in the absence of a judicial determination that such provisions are unconstitutional," and that in addressing this issue, the return "should discuss not only the applicability and effect of article III, section 3.5 of the California Constitution" but also any other constitutional or statutory provisions or legal doctrines that bear on the question whether the city officials acted outside the scope of their authority in refusing to comply with the applicable statutes in the absence of a judicial determination that the statutes are unconstitutional.

Our March 11 order further established an expedited briefing schedule and indicated that the court would hear oral argument in these matters at its late May 2004 or June 2004 oral argument calendar. After receiving the briefs filed by the parties and numerous amici curiae, we requested that the parties file supplemental letter briefs addressing several questions relating to the validity of the marriage licenses and certificates of registry of marriage that already had been issued or registered by city officials to or on behalf of same-sex couples. The supplemental briefs were timely filed, and the cases were argued before this court on May 25, 2004. After oral argument, we filed an order consolidating the two cases for decision.

II

[1] It is well settled in California that "the Legislature has full control of the subject of marriage and may fix the conditions under which the marital status may be created or terminated...." (*McClure v. Donovan* (1949) 33 Cal.2d 717, 728, 205 P.2d 17.) "The regulation of marriage and divorce is solely within the province of the Legislature, except as the same may be restricted by the Constitution." (*Beeler v. Beeler* (1954) 124 Cal.App.2d 679, 682, 268 P.2d 1074; see, e.g., *Estate of DePasse* (2002) 97 Cal.App.4th 92, 99, 118 Cal.Rptr.2d 143.) In view of the primacy of the Legislature's role in this area, we begin by setting forth the relevant statutes relating to marriage that have some bearing on the issue before us. As we shall ****468** see, the Legislature has dealt with the subject of marriage in considerable detail.

As applicable to the issues presented by this case, the relevant statutes dealing with marriage are contained in the Family Code and the Health and Safety Code.

***1075** The provisions regarding the validity of marriage are set forth in Family Code sections 300 to 310.

Section 300 provides in full: "*Marriage is a personal relation arising out of a civil contract between a man and a woman,* to which the consent of the parties capable of making that contract is necessary. Consent alone does not constitute marriage. Consent must be followed by the issuance of a license and solemnization as authorized *****236** by this division, except as provided by Section 425 [8] and Part 4 (commencing with Section 500).[9]" (Italics added.)

Section 301 provides: "*An unmarried male of the age of 18 years or older, and an unmarried female of the age of 18 or older,* and not otherwise disqualified, *are capable of consenting to and consummating marriage.*" (Italics added.)

Section 308.5 provides: "*Only marriage between a man and a woman is valid or recognized in California.*" (Italics added.)

In the opposition filed in this court, the city takes the position that neither section 301 nor section 308.5 is relevant to the question whether current California statutes limit marriages performed in California to marriages between a man and a woman,[10] but the city concedes that section 300, both ***1076** by its terms and its purpose, imposes such a limitation on marriages performed in California.[11] Because we agree that section 300 clearly establishes that current California

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statutory law limits marriage to couples comprised of a man and a woman, we need not and do not ***237 address the scope or effect of sections 301 and 308.5 in this case.

The Family Code provisions relating to marriage licenses and to the certificate of **469 registry of marriage are set forth in Family Code sections 350 to 360. These statutes provide that "before entering a marriage, ... the parties shall first obtain a marriage license from a county clerk" (Fam.Code, § 350), and the provisions state what information must be contained on the license (Fam.Code, § 351) and place the responsibility on the county clerk to ensure that the statutory requirements for obtaining a marriage license are satisfied. (Fam.Code, § 354.) The statutes also specifically provide that the forms for (1) the application for a marriage license, (2) the marriage license, and (3) the certificate of registry of marriage that are to be used by the county clerk and provided to the applicants "shall be prescribed by the State Department of Health Services." (Fam.Code, §§ 355, 359.) [12]

*1077 Provisions regarding the solemnization of marriage are set forth in Family Code sections 400 to 425. These statutes contain a list of the numerous persons who may solemnize a marriage under California ***238 law (Fam.Code, § 400), and require the person solemnizing a marriage (1) to require the applicants to present the marriage license to him or her prior to solemnization (Fam.Code, § 421), (2) to sign and endorse upon or attach to the marriage license a statement, "in the form prescribed by the State Department of Health Services," setting forth specified information (Fam.Code, § 422), and (3) to return the marriage license, with the requisite endorsement, to the county recorder of the county in which the license was issued within 30 days after the marriage ceremony. **470 (Fam.Code, § 423.) [13]

The Health and Safety Code contains numerous additional provisions prescribing in detail the procedures governing marriage licenses and marriage *1078 certificates as part of the state's registration and maintenance of vital statistics. These statutes designate the California Director of Health Services as the State Registrar of Vital Statistics (Health & Saf.Code, § 102175) and provide that "[e]ach live birth, fetal death, death, and *marriage* that occurs in this state shall be registered as provided in this part *on the prescribed certificate forms* ...." (Health & Saf.Code, § 102100, italics added.) The statutes also specify that "[t]he State Registrar is charged with the execution of this part in this state, *and has supervisory power over local registrars, so that there shall be uniform compliance with all the requirements of this part* " (Health & Saf.Code, § 102180, italics added), that "[t]he Attorney General will assist in the enforcement of this part upon request of the State Registrar" (Health & Saf.Code, § 102195), and that "[t]he State Registrar *shall prescribe and furnish all record forms for use in carrying out the purpose of this part, ... and no record forms or formats other than those prescribed shall be used.*" (Health & Saf.Code, § 102200, italics added.) [14] The code also contains a specific provision pertaining to all of the official forms related to marriage, which expressly provides that "[*t*]*he forms for the application for license to marry, the certificate of registry of marriage including the license to marry, and the marriage certificate shall be prescribed by the State Registrar.*" (Health & Saf.Code, § 103125, italics added.)

The relevant Health and Safety Code statutes also specify that "[t]he county recorder is the local registrar of marriages and shall perform all the duties of the local registrar of marriages" (Health & Saf.Code, § 102285), and that "[e]ach local registrar is hereby charged with the enforcement of this part in his or her registration district *under the supervision and direction of the State Registrar and shall make an immediate report to the State* ***239 *Registrar of any violation of this law coming to his or her knowledge.*" (Health & Saf.Code, § 102295, italics added.) The statutes also provide that "[t]he local registrar of marriages shall carefully examine each certificate before acceptance for registration and, if it is incomplete or unsatisfactory, he or she shall require any further information to be furnished as may be necessary to make the record satisfactory before acceptance for registration." (Health & Saf.Code, § 102310.)

Pursuant to the foregoing provisions, the State Registrar of Vital Statistics (who, as noted, is also the California Director of Health Services) has prescribed a form—Department of Health Services Form VS–117—which serves as the application for license to marry, the license to marry, and the certificate of registry of marriage. One of the principal California family law practice guides describes the relevant portions of the form as follows: "The *1079 first three

sections of the form (Groom Personal Data, Bride Personal Data, and Affidavit) constitute the application for license to marry. The personal data sections are filled out by the court clerk, using information and/or documents provided by the applicants. The bride and groom must both sign the application (*see* ****471** lines 23 [entitled Signature of Groom], 24 [entitled Signature of Bride]) after the personal data sections have been completed. The fourth section of the form (lines 25A–25F) constitutes the license to marry. This section is to be completed by the clerk." (1 Kirkland et al., Cal. Family Law: Practices and Procedure (2d ed. 2003) Validity of Marriage, Forms, § 10.100[1], p. 10–80.)

The city acknowledges that the county clerk altered the form prescribed by the State Registrar of Vital Statistics by replacing references to "bride," "groom," and "unmarried man and unmarried woman" with references to "first applicant," "second applicant," and "unmarried individuals," that the county clerk further issued marriage licenses to same-sex couples, and that the county recorder registered certificates of registry of marriage for such couples, despite the knowledge of these officials that the current California statutes do not authorize such actions. The city defends the actions of these officials on the ground that they were based on the belief that the statutory restriction in California law limiting marriage to a man and a woman is unconstitutional. The principal question before us is whether the local officials exceeded or acted outside of their authority in taking these actions.

III

In light of several questions raised by the briefs filed by the city in this court, we begin with a brief discussion of the respective roles of state and local officials with regard to the enforcement of the marriage statutes (in particular, the issuance of marriage licenses and the registering of marriage certificates), and of the nature of the duties of local officials under the applicable statutes.

A

[2] As is demonstrated by the above review of the relevant statutory provisions, the Legislature has enacted a comprehensive scheme regulating marriage in California, establishing the substantive standards for eligibility for marriage and setting forth in detail the procedures to be followed and the public officials who are entrusted with carrying out these procedures. In light of both the historical understanding reflected in this statutory scheme and the statutes' repeated emphasis on the importance of having uniform rules and procedures apply throughout the *****240** state to the subject of marriage, ***1080** there can be no question but that marriage is a matter of "statewide concern" rather than a "municipal affair" (see Cal. Const., art. XI, §§ 4, 5, 6; see, e.g., *California Fed. Savings & Loan Assn. v. City of Los Angeles* (1991) 54 Cal.3d 1, 17, 283 Cal.Rptr. 569, 812 P.2d 916), and that state statutes dealing with marriage prevail over any conflicting local charter provision, ordinance, or practice.

[3] **[4]** Furthermore, the relevant statutes also reveal that the only local officials to whom the state has granted authority to act with regard to marriage licenses and marriage certificates are *the county clerk* and *the county recorder.* The statutes do not authorize the mayor of a city (or city and county, as is San Francisco) or any other comparable local official to take any action with regard to the process of issuing marriage licenses or registering marriage certificates. Although a mayor may have authority under a local charter to supervise and control the actions of a county clerk or county recorder with regard to other subjects, a mayor has no authority to expand or vary the authority of a county clerk or county recorder to grant marriage licenses or register marriage certificates under the governing state statutes, or to direct those officials to act in contravention of those statutes. (See, e.g., *Coulter v. Pool* (1921) 187 Cal. 181, 187, 201 P. 120 ["A public officer is a public agent and as such acts only on behalf of his principal.... The most general characteristic of a public officer ... is that a public duty is delegated and entrusted to him, as agent, *the performance of which is an exercise of a part of the governmental functions of the particular political unit for which he, as agent, is acting*" (Italics added)]; *Sacramento v. Simmons* (1924) 66 Cal.App. 18, 24–25, 225 P. 36 [when state statute designated local health officers as

local registrars of vital statistics, "to the extent [such officials] are discharging such duties they are acting as state officers. *They are state officers performing state functions and are under the* ****472** *exclusive jurisdiction of the state registrar of vital statistics* " (italics added)]; *Boss v. Lewis* (1917) 33 Cal.App. 792, 794, 166 P. 843 [city clerk, when acting as local registrar of vital statistics under state law, is state officer].)

[5] Accordingly, to the extent the mayor purported to "direct" or "instruct" the county clerk and the county recorder to take specific actions with regard to the issuance of marriage licenses or the registering of marriage certificates, we conclude he exceeded the scope of his authority. (See, e.g., *Sacramento v. Simmons, supra,* 66 Cal.App. 18, 24–28, 225 P. 36.) [15] Furthermore, if the county clerk or the county recorder acted in this case in contravention of the ***1081** applicable statutes solely at the behest of the mayor and not on the basis of the official's own determination that the statutes are unconstitutional, such official also would appear to have acted improperly by abdicating the statutory responsibility imposed directly on him or her as a state officer. (See, e.g., *****241** *California Radioactive Materials Management Forum v. Department of Health Services* (1993) 15 Cal.App.4th 841, 874, 19 Cal.Rptr.2d 357, disapproved on another point in *Carmel Valley Fire Protection Dist. v. State of California* (2001) 25 Cal.4th 287, 305, fn. 5, 105 Cal.Rptr.2d 636, 20 P.3d 533 ["An executive or administrative officer can no more abdicate responsibility for executing the laws than the Legislature can be permitted to usurp it"].)

Although it is not clear that the county clerk and the county recorder acted on the basis of each individual official's own opinion or determination as to the unconstitutionality of the applicable statutes (see fn. 15, *ante*), and the actions of these officials might be vulnerable to challenge on that ground alone, it is nonetheless appropriate in this case to address the question whether a public official may refuse to enforce a statute when he or she determines the statute to be unconstitutional. The city maintains that when, as here, a public official has asserted in a mandate proceeding that a statutory provision that the official has refused to enforce is unconstitutional, a court may not issue a writ of mandate to compel the official to perform a ministerial duty prescribed by the statute unless the court first determines that the statute is constitutional. If, however, the controlling rule of law requires such an official to carry out a ministerial duty dictated by statute unless and until the statute has been judicially determined to be unconstitutional, it follows that such an official cannot *compel* a court to rule on the constitutional issue by refusing to apply the statute and that a writ of mandate properly may issue, without a judicial determination of the statute's constitutionality, directing the official to comply with the statute unless and until the statute has been judicially determined to be unconstitutional. Accordingly, in deciding whether a writ of mandate should issue, it is appropriate to determine whether the city officials were obligated to comply with the ministerial duty prescribed by statute without regard to their view of the constitutionality of the statute.

B

[6] **[7]** In addition, we believe it is appropriate to clarify at the outset that, under the statutes reviewed above, the duties of the county clerk and the county recorder at issue in this case properly are characterized as *ministerial* rather than discretionary. When the substantive and procedural requirements ***1082** established by the state marriage statutes are satisfied, the county clerk and the county recorder each has the respective mandatory duty to issue a marriage license and record a certificate of registry of marriage; in that circumstance, the officials have no discretion to withhold a marriage license or refuse to record a marriage certificate. By the same ****473** token, when the statutory requirements have not been met, the county clerk and the county recorder are not granted any discretion under the statutes to issue a marriage license or register a certificate of registry of marriage. As we stated recently in *Kavanaugh v. West Sonoma County Union High School Dist.* (2003) 29 Cal.4th 911, 916, 129 Cal.Rptr.2d 811, 62 P.3d 54: " 'A ministerial act is an act that a public officer is required to perform in a prescribed manner in obedience to the mandate of legal authority and without regard to his own judgment or opinion concerning such act's propriety or impropriety, when a given state of facts exists.' "

Thus, the issue before us is whether under California law the authority of a local executive official, charged with the ministerial duty of enforcing a state statute, includes the authority to disregard the statutory requirements when the

official is of the opinion the provision is unconstitutional ***242 but there has been no judicial determination of unconstitutionality.

IV

[8] In the opposition and supplemental opposition filed in this court, the city maintains that a local executive official's general duty and authority to apply the law includes the authority to refuse to apply a statute whenever the official believes it to be unconstitutional, even in the absence of a judicial determination of unconstitutionality and even when the duty prescribed by the statute is ministerial. The city asserts that such authority flows from every public official's duty "to conform [his or her] acts to constitutional norms." The Attorney General argues, by contrast, that it is well established that a duly enacted statute is presumed to be constitutional, and he maintains that "the prospect of local governmental officials unilaterally defying state laws with which they disagree is untenable and inconsistent with the precepts of our legal system."

As we shall explain, we conclude that a local public official, charged with the ministerial duty of enforcing a statute, generally does not have the authority, in the absence of a judicial determination of unconstitutionality, to refuse to enforce the statute on the basis of the official's view that it is unconstitutional. [16]

*1083 A

In the initial petitions filed in this matter, petitioners relied primarily on the provisions of article III, section 3.5 of the California Constitution (hereafter generally referred to as article III, section 3.5) in maintaining that the challenged actions of the local officials were improper.

Article III, section 3.5 provides in full: "An administrative agency, including an administrative agency created by the Constitution or an initiative statute, has no power: [¶] (a) To declare a statute unenforceable, or refuse to enforce a statute, on the basis of its being unconstitutional unless an appellate court has made a determination that such statute is unconstitutional. [¶] (b) To declare a statute unconstitutional. [¶] (c) To declare a statute unenforceable, or to refuse to enforce a statute on the basis that federal law or federal regulations prohibit the enforcement of such statute unless an appellate court has made a determination that the enforcement of such statute is prohibited by federal law or federal regulations."

Article III, section 3.5 does not define the term "administrative agency" as used in this constitutional provision. Petitioners maintain that in light of the purpose of the provision, the term "administrative agency" should be interpreted to include local executive officials, particularly local officials who **474 are acting as state officers in carrying out a function prescribed by state statute.

Article III, section 3.5 was proposed by the Legislature and placed before the voters as Proposition 5 at the June 6, 1978 ***243 election, and was adopted by the electorate. The ballot argument in favor of Proposition 5, contained in the election brochure distributed to voters prior to the election, stated in part: "Every statute is enacted only after a long and exhaustive process, involving as many as four open legislative committee meetings where members of the public can express their views. If the agencies question the constitutionality of a measure, they can present testimony at the public hearing during legislative consideration. Committee action is followed by full consideration by both houses of the Legislature. [¶] Before the Governor signs or vetoes a bill, he receives analyses from the agencies which will be called upon to implement its provisions. If the Legislature has passed the bill over the objections of the agency, the Governor is not likely to ignore valid apprehensions of his department, as he is Chief Executive of the State and is *1084 responsible for most of its administrative functions. [¶] Once the law has been enacted, however, it does not make sense

for an administrative agency to refuse to carry out its legal responsibilities because the agency's members have decided the law is invalid. Yet, administrative agencies are so doing with increasing frequency. These agencies are all part of the Executive Branch of government, charged with the duty of enforcing the law. [¶] The Courts, however, constitute the proper forum for determination of the validity of State statutes. There is no justification for forcing private parties to go to Court in order to require agencies of government to perform the duties they have sworn to perform. [¶] Proposition 5 would prohibit the State agency from refusing to act under such circumstances, unless an appellate court has ruled the statute is invalid. [¶] We urge you to support this Proposition 5 in order to insure that appointed officials do not refuse to carry out their duties by usurping the authority of the Legislature and the Courts. Your passage of Proposition 5 will help preserve the concept of the separation of powers so wisely adopted by our founding fathers." (Ballot Pamp. Primary Elec. (June 6, 1978) argument in favor of Prop. 5, p. 26.) Petitioners maintain that the rationale set forth in this ballot argument applies to local executive officials as well as state administrative agencies, and thus that the term "administrative agency" as used in the provision properly should be construed to apply to local executive officials.

The city vigorously contests petitioners' suggested interpretation of article III, section 3.5, maintaining that this provision is addressed only to state, not local, administrative agencies, and that in any event the local officials here at issue are not an "administrative agency" within the meaning of article III, section 3.5. The city concedes there may be some anomaly in article III, section 3.5's application only to state administrative agencies and not to local executive officials, but insists such an anomaly "would not be license to rewrite Section 3.5 and give it a meaning nobody had in mind when it was passed." The city argues that "[t]he voters were responding to a specific problem [involving state administrative agencies] when they enacted Section 3.5, and they chose specific means to address that problem. In the end, if some in hindsight question the wisdom of that choice, the answer lies in amending California's Constitution, not judicially rewriting it." In sum, the city asserts that the existing terms of article III, section 3.5 cannot properly be interpreted to include local executive officials.

Although one Court of Appeal decision contains language directly supporting petitioners' argument that article III, section 3.5's reference to administrative agencies properly is interpreted to include local executive officials such as county clerks ***244 (*Billig v. Voges* (1990) 223 Cal.App.3d 962, 969, 273 Cal.Rptr. 91 (*Billig*)), the city maintains that the question of the proper scope of article III, section 3.5 never was raised in *Billig,* and further that the *1085 pertinent language in *Billig* clearly is dictum. Accordingly, the city argues, the appellate court's decision in *Billig* cannot properly be viewed as resolving **475 the issue whether article III, section 3.5 applies to local officials. [17]

As we shall explain, we have determined that we need not (and thus do not) decide in this case whether the actions of the local executive officials here at issue fall within the scope or reach of article III, section 3.5, because *1086 we conclude that prior to the adoption of article III, section 3.5, it already was established under California law—as in the overwhelming majority of other states (see, ***245 *post,* 17 Cal.Rptr.3d at pp. 260–263, 95 P.3d at pp. 486–490)—that a local executive official, charged with a ministerial duty, generally lacks authority to determine that a statute is unconstitutional and on that basis refuse to apply the statute. Because the adoption of article III, section 3.5 plainly *did not grant or expand* the authority of local executive officials to determine that a statute is unconstitutional and to act in contravention of the statute's terms on the basis of such a determination, we conclude that the city officials do not possess this authority and that the actions challenged in the present case were unauthorized and invalid.

B

We begin with a few basic legal principles that were well established prior to the adoption of article III, section 3.5 in 1978.

[9] **[10]** First, one of the fundamental principles of our constitutional system of government is that a statute, once duly enacted, "is presumed to be constitutional. Unconstitutionality must be clearly shown, and doubts will be resolved in favor of its validity." (7 Witkin, Summary of Cal. Law (9th ed. 1988) **476 Constitutional Law, § 58, pp. 102–

103 [citing, among numerous other authorities], *In re Madera Irrigation District* (1891) 92 Cal. 296, 308, 28 P. 272; *San Francisco v. Industrial Acc. Com.* (1920) 183 Cal. 273, 280, 191 P. 26; *People v. Globe Grain and Mill. Co.* (1930) 211 Cal. 121, 127, 294 P. 3.)

[11] Second, it is equally well established that when, as here, a public official's authority to act in a particular area derives wholly from statute, the scope of that authority is measured by the terms of the governing statute. "It is well settled in this state and elsewhere, that when a statute prescribes the particular method in which a public officer, acting under a special authority, shall perform his duties, the mode is the measure of the power." (*Cowell v. Martin* (1872) 43 Cal. 605, 613–614; see, e.g., *County of Alpine v. County of Tuolumne* (1958) 49 Cal.2d 787, 797, 322 P.2d 449; *California State Restaurant Assn. v. Whitlow* (1976) 58 Cal.App.3d 340, 346–347, 129 Cal.Rptr. 824["[a]dministrative bodies and officers have only such powers as have expressly or impliedly been conferred upon them by the Constitution or by statute"].)

The city has not identified any provision in the California Constitution or in the applicable statutes that purports to grant the county clerk or the county recorder (or any other local official) the authority to determine the constitutionality of the statutes each public official has a ministerial duty to enforce. Instead, the city's position appears to be that a public executive official's duty ***1087** to follow the law (including the Constitution) includes the implied or inherent authority to refuse to follow an applicable statute whenever the official personally believes the statute to be unconstitutional, even though there has been no judicial determination of the statute's unconstitutionality and despite the existence of the rule that a duly enacted statute is presumed to be constitutional.

As we shall see, the California authorities that were in place prior to the adoption of article III, section 3.5, do not support the city's position.

C

Although in this case we need not determine the scope of article III, section 3.5, the historical background that led to the proposal and adoption of that constitutional provision in 1978 nonetheless provides a useful starting point for our analysis. As this court explained in *Reese v. Kizer* (1988) 46 Cal.3d 996, 1002, 251 Cal.Rptr. 299, 760 P.2d 495, "[a]rticle III, section 3.5, *****246** ... was placed on the ballot by a unanimous vote of the Legislature in apparent response to this court's decision in *Southern Pac. Transportation v. Public Utilities Com.* (1976) 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289 [hereafter *Southern Pacific*], in which the majority held that the Public Utilities Commission had the power to declare a state statute unconstitutional." Accordingly, the decision in *Southern Pacific* is an appropriate place to begin.

In *Southern Pacific,* the plaintiff railroad company sought review of two decisions of the Public Utilities Commission (PUC) in which the PUC held that section 1202.3 of the Public Utilities Code, a statute enacted in 1971, was unconstitutional. Section 1202.3 was one of a number of statutes in the Public Utilities Code dealing with railroad crossings. With respect to private or farm railroad crossings, Public Utilities Code section 7537(1) granted "the owner of adjoining lands the right to *private* or *farm* crossings necessary or convenient for egress or ingress" (*Southern Pacific, supra,* 18 Cal.3d at p. 311, 134 Cal.Rptr. 189, 556 P.2d 289), (2) provided that the railroad must maintain the crossings, and (3) granted the PUC the authority to fix and assess the cost of such crossings. With respect to railroad crossings on *public* or *publicly used roads,* Public Utilities Code section 1202 gave the PUC the exclusive power "to regulate *public* or *publicly used* road or highway crossings, including locating, maintaining, protecting, and closing them" (*Southern Pacific, supra,* 18 Cal.3d at p. 312, 134 Cal.Rptr. 189, 556 P.2d 289), and further granted the PUC the authority to allocate costs among the railroad and the affected public entities responsible for maintaining the public or publicly used road, including any costs involved in closing a crossing.

****477** Public Utilities Code section 1202.3, the statute at issue in *Southern Pacific,* provided, in turn, that in any proceeding under ***1088** Public Utilities Code section 1202 "involving a *publicly used* road or highway not on a publicly

maintained road system," the PUC could apportion costs to the public entity if the PUC found "(a) express dedication and acceptance of the road or (b) a judicial determination of implied dedication." (*Southern Pacific, supra,* 18 Cal.3d at p. 312, 134 Cal.Rptr. 189, 556 P.2d 289.) If neither condition was found, section 1202.3 provided that the PUC "shall order the crossing abolished by physical closing." Section 1202.3 further provided that "the railroad shall in no event be required to bear improvement costs 'in excess of what it would be required to bear in connection with the improvement of a public street or highway crossing.' " (*Southern Pacific, supra,* 18 Cal.3d at pp. 312–313, 134 Cal.Rptr. 189, 556 P.2d 289.)

In *Southern Pacific,* the PUC concluded in an administrative proceeding that Public Utilities Code section 1202.3 was unconstitutional because it unlawfully delegated the state's police power to private litigants by granting private litigants absolute discretion to require the closing of a railroad crossing merely by commencing a proceeding under Public Utilities Code section 1202. The PUC's conclusion was based in part on its determination that under section 1202.3, once the PUC found that there had been neither an express dedication and acceptance of the publicly used road, nor a judicial determination of an implied dedication of the road, the PUC had no alternative but to order the crossing closed and to require the railroad to pay for the closing. (*Southern Pacific, supra,* 18 Cal.3d at p. 313, 134 Cal.Rptr. 189, 556 P.2d 289.)

*****247** On review, this court unanimously disagreed with the PUC's constitutional determination. Observing that Public Utilities Code section 1202.3 provided, in its introductory phrase, that the statute applied "in any proceeding under Section 1202," the court in *Southern Pacific* reasoned that "the Legislature has declared that section 1202.3 is an exception to the former section and that the provisions for cost allocation and closing crossings in the latter section *are only applicable when the commission would otherwise have ordered improvement of a crossing pursuant to the former section.* The standard for compelling crossing improvement implicit in section 1202 is obviously public convenience and necessity, including safety concerns [citations], and this standard must be read into section 1202.3. [¶] Thus, before the commission may close a crossing under section 1202.3, it must not only find public use and lack of requisite dedication, but also find that necessity and convenience preclude continued use of the crossing in its existing condition. Such findings —rather than mere commencement of a proceeding under section 1202—are the basis for closing a crossing under section 1202.3. [¶] The function of the private litigant within the statutory framework is merely to call the commission's attention to the need for improving or closing a crossing and perhaps to urge action on the commission." (*Southern Pacific, supra,* 18 Cal.3d at p. 314, 134 Cal.Rptr. 189, 556 P.2d 289, italics added.)

***1089** As noted, in *Southern Pacific* all of the justices of this court agreed that the PUC had erred in concluding that Public Utilities Code section 1202.3 was unconstitutional. Although the briefs filed in this court in *Southern Pacific* did not raise any question regarding the authority of the PUC to determine the constitutionality of section 1202.3, [18] and the majority in *Southern Pacific* did not address that question in the text of the opinion, Justice Mosk authored a vigorous concurring and dissenting opinion in *Southern Pacific,* arguing strongly that neither the PUC nor any other administrative agency "may declare a duly enacted statute unconstitutional," and that "it is incongruous for the will of the people of the state, reflected by their elected legislators, to be thwarted by a governmental body which exists only to implement that will." (*Southern Pacific, supra,* 18 Cal.3d at p. 315, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.).)

****478** Justice Mosk's concurring and dissenting opinion in *Southern Pacific* acknowledged that a prior California decision—*Walker v. Munro* (1960) 178 Cal.App.2d 67, 2 Cal.Rptr. 737 (hereafter *Walker*)—had held that an administrative agency that has been granted judicial or quasi-judicial power by the California Constitution (a type of entity commonly referred to as a "constitutional agency") [19] has the authority to consider the constitutionality of a statute in the course of its quasi-judicial proceedings. Justice Mosk suggested, however, that *Walker* had been "indirectly *****248** criticized and implicitly disapproved" (*Southern Pacific, supra,* 18 Cal.3d at p. 316, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.)) in *State of California v. Superior Court* (1974) 12 Cal.3d 237, 250–251, 115 Cal.Rptr. 497, 524 P.2d 1281 (hereafter *State of California v. Superior Court (Veta)*), and he took issue with "the debatable premise that any and all 'judicial power' inherently entails the authority to declare a law unconstitutional." (*Southern*

Pacific, supra, 18 Cal.3d at p. 317, 134 Cal.Rptr. 189, 556 P.2d 289.) Relying upon language in numerous decisions of the United States Supreme Court indicating that an administrative agency or executive official has no power to adjudicate constitutional issues (*id.* at p. 316, 134 Cal.Rptr. 189, 556 P.2d 289), and decisions from other jurisdictions holding "that administrative agencies lack the powers appropriated in this case" (*ibid.*), Justice Mosk concluded that the extensive powers granted by the California Constitution to the PUC did not include the power to declare a statute unconstitutional and to refuse to apply it.

***1090** The majority in *Southern Pacific* responded to Justice Mosk's concurring and dissenting opinion in a lengthy footnote. (See *Southern Pacific, supra,* 18 Cal.3d 308, 311–312, fn. 2, 134 Cal.Rptr. 189, 556 P.2d 289.) The initial portion of the footnote contains some broad language that could be read to support the conclusion that the duty of any administrative agency or public official to obey the Constitution affords such agency or official the authority to determine the constitutional validity of statutes the agency or official is charged with enforcing. The majority in *Southern Pacific,* however, ultimately rested its holding that the PUC had the authority to determine the constitutional validity of statutes on the circumstance that the California Constitution grants broad judicial or quasi-judicial power to the PUC.

The majority in *Southern Pacific* stated in this regard: "[T]he Constitution and statutes of this state grant the commission wide administrative, legislative, and judicial powers. [Citations.] The Legislature has limited the judiciary from interfering with the commission by restricting review to the Supreme Court and by additionally restricting review to determining 'whether the commission has regularly pursued its authority, *including* a determination of whether the order or decision under review violates any right of the petitioner under the Constitution of the United States or of this State.' (Italics added; [citations].) Public Utilities Code section 1732 provides corporations and individuals may not raise matters in any court not presented to the commission on petition for rehearing, reflecting, when read with the judicial review sections, legislative determination that all issues must be presented to the commission. *Under the broad powers granted it, the commission may determine the validity of statutes.*" (*Southern Pacific, supra,* 18 Cal.3d at pp. 311–312, fn. 2, 134 Cal.Rptr. 189, 556 P.2d 289, italics added.)

This review of the decision in *Southern Pacific* demonstrates that there was a significant disagreement in this court on the particular question *whether a so-called constitutional agency* (like the PUC), *that has been granted the authority to exercise quasi-judicial power by the California Constitution,* has the authority to determine that a statute the agency is called upon to apply is unconstitutional and need not be followed. We are ****479** unaware, however, of any case, either prior to or subsequent to *Southern Pacific,* that suggests that under the California Constitution *a local executive official such as a county clerk,* who is charged with the *ministerial* duty to enforce a statute, has the authority *****249** to exercise judicial power by determining whether a statute is unconstitutional.

The case of *Walker, supra,* 178 Cal.App.2d 67, 2 Cal.Rptr. 737, cited (and criticized) in Justice Mosk's concurring and dissenting opinion in *Southern Pacific,* appears to be the first case in California to address the question whether an administrative agency has the authority to determine the constitutionality of a ***1091** statute that the agency is required to enforce. In *Walker,* the plaintiffs were retail liquor dealers who had been charged in an administrative proceeding before the Department of Alcoholic Beverage Control with violating the fair trade provisions of the California Alcoholic Beverage Control Act. While the administrative proceeding was pending, the plaintiffs filed a declaratory judgment action in superior court against the administrative officials, seeking a declaration that the fair trade provisions of the Alcoholic Beverage Control Act were unconstitutional, and an order enjoining the officials from enforcing those provisions. The trial court in *Walker* granted summary judgment in favor of the defendants, relying upon the circumstance that the same constitutional issue had been raised in the pending administrative proceeding and upon the trial court's conclusion "that it is more expeditious and proper that the Department rule on the question before the court is required to rule on it." (178 Cal.App.2d at p. 70, 2 Cal.Rptr. 737.)

On appeal, the plaintiffs argued that the exhaustion of remedies doctrine upon which the trial court had relied was inapplicable, because the Department of Alcoholic Beverage Control "does not have the power ... to decide constitutional

questions." (*Walker, supra,* 178 Cal.App.2d at p. 73, 2 Cal.Rptr. 737.) In rejecting this contention, the Court of Appeal in *Walker* began by referring to the applicable provision of the California Constitution that empowers the Alcoholic Beverage Control Appeals Board to review questions " 'whether the department has proceeded without or in excess of its jurisdiction, whether the department has proceeded in the manner required by law, whether the decision is supported by the findings, and whether the findings are supported by substantial evidence in light of the whole record.' (Cal. Const., art. XX, § 22.)" (178 Cal.App.2d at p. 73, 2 Cal.Rptr. 737.) The court in *Walker* then observed: "The department and the Appeals Board are thus constitutional agencies *upon which limited judicial powers have been conferred.* [Citations.]" (*Ibid.,* italics added.)

In response to the plaintiffs' claim in *Walker* that the department only could make findings of fact and that the appeals board only was empowered "to review certain questions of law, which are only procedural" (*Walker, supra,* 178 Cal.App.2d at p. 74, 2 Cal.Rptr. 737), the court in *Walker* stated: "However, there does not appear to be any basis for so limiting the grant of power to the Appeals Board. The Appeals Board may determine whether the department acted within its jurisdiction. In *United Insurance Co. v. Maloney* [(1954)] 127 Cal.App.2d [155,] 157 [273 P.2d 579], the court stated: 'A charge of unconstitutional action goes to the very jurisdiction of the administrative officer or body to entertain the proceeding....' [Citation.] This would also seem applicable to a charge that the statute which the agency is seeking to enforce is unconstitutional." (*Walker, supra,* 178 Cal.App.2d at p. 74, 2 Cal.Rptr. 737.)

***1092** Accordingly, in concluding that the administrative agency in that case had the authority to determine, at least in the first instance, the question whether the fair trade statutes were unconstitutional, the court in *Walker* specifically relied upon the *****250** circumstance that the Alcoholic Beverage Control Appeals Board had been granted the authority by the California Constitution to exercise limited judicial power. [20]

****480** As noted in Justice Mosk's concurring and dissenting opinion in *Southern Pacific,* this court held in *State of California v. Superior Court (Veta), supra,* 12 Cal.3d 237, 115 Cal.Rptr. 497, 524 P.2d 1281, some years after the appellate court's decision in *Walker,* that a plaintiff seeking a declaration that the California Coastal Zone Conservation Act of 1972 was unconstitutional was not required to pursue that constitutional claim before the Coastal Zone Conservation Commission prior to bringing a court action. (12 Cal.3d at pp. 250–251, 115 Cal.Rptr. 497, 524 P.2d 1281.) Although there is some language in *Veta* critical of *Walker,* the two cases nonetheless are clearly and easily distinguishable, because the Coastal Zone Conservation Commission, unlike the Alcoholic Beverage Control Appeals Board, had not been granted any judicial power by the California Constitution. Thus, the holding in *State of California v. Superior Court (Veta)* that the commission lacked authority to pass on the constitutionality of the statute establishing its status and functions was not inconsistent with the *Walker* decision.

In light of the foregoing review of the relevant case law, we believe that after this court's decision in *Southern Pacific, supra,* 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289 the state of the law in this area was clear: administrative agencies that had been granted judicial or quasi-judicial power by the California Constitution possessed the authority, in the exercise of their administrative functions, to determine the constitutionality of statutes, but agencies that had not been granted such power under the California Constitution lacked such authority. (See *Hand v. Board of Examiners in Veterinary Medicine* (1977) 66 Cal.App.3d 605, 617–619, 136 Cal.Rptr. 187.) Accordingly, these decisions recognize that, under ***1093** California law, the determination whether a statute is unconstitutional and need not be obeyed is an exercise of judicial power and thus is reserved to those officials or entities that have been granted such power by the California Constitution. [21]

Given the foregoing decisions and their reasoning, it appears evident that under California law as it existed prior to the adoption of article III, section 3.5 of the California Constitution, *a local executive official,* such as a county clerk or county *****251** recorder, possessed no authority to determine the constitutionality of a statute that the official had a ministerial duty to enforce. If, in the absence of a grant of judicial authority from the California Constitution, an administrative agency that was required by law to reach its decisions only after conducting court-like quasi-judicial proceedings did not

generally possess the authority to pass on the constitutionality of a statute that the agency was required to enforce, it follows even more so that a local executive official who is charged simply with the ministerial duty of enforcing a statute, and who generally acts without any quasi-judicial authority or procedure whatsoever, did not possess such authority. As indicated above, we are unaware of any California case that suggests such a public official has been granted judicial or quasi-judicial power by the California Constitution. [22]

****481** **[12]** The city, in arguing that article III, section 3.5 does not apply to local officials, relies upon the statement in *Strumsky v. San Diego County Employees Ret. Assn.* (1974) 11 Cal.3d 28, 36, 112 Cal.Rptr. 805, 520 P.2d 29, that the separation of powers clause in article III "is inapplicable to the government below the state level." [23] The city might well argue that this language in *Strumsky* also renders inapposite the line of California cases (*Southern* ***1094** *Pacific, supra,* 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289; *State of California v. Superior Court (Veta), supra,* 12 Cal.3d 237, 115 Cal.Rptr. 497, 524 P.2d 1281; and *Walker, supra,* 178 Cal.App.2d 67, 2 Cal.Rptr. 737) that we have just discussed. The city fails to recognize, however, that the decision in *Strumsky* emphatically did *not* hold that under the California Constitution local executive officials are free to exercise judicial power. On the contrary, in *Strumsky* this court expressly *overruled* a line of earlier California decisions that had held (for purposes of determining the appropriate standard of judicial review of a decision of a local administrative agency) that such an agency could exercise judicial power; the opinion in *Strumsky* concluded instead that a local administrative agency has *no* authority under the California Constitution to exercise judicial power. (*Strumsky, supra,* 11 Cal.3d at pp. 36–44, 112 Cal.Rptr. 805, 520 P.2d 29.) In light of this holding in *Strumsky,* it appears clear that a local executive official who makes decisions— *****252** without the benefit of even a quasi-judicial proceeding—has no authority to exercise judicial power, such as by determining the constitutionality of applicable statutory provisions.

Accordingly, we conclude that at the time article III, section 3.5 was adopted, it was clear under California law that a local executive official did not have the authority to determine that a statute is unconstitutional or to refuse to enforce a statute in the absence of a judicial determination that the statute is unconstitutional. [24]

The adoption of article III, section 3.5, of course, effectively overruled the majority's holding in *Southern Pacific* and largely embraced the reasoning set forth in Justice Mosk's concurring and dissenting opinion, amending the California Constitution to provide that "[a]n administrative agency, *including an administrative agency created by the Constitution or an initiative statute, has no power ... [t]o ...* refuse to enforce a statute on the basis of its being unconstitutional unless an appellate court has made a determination that such ***1095** statute is unconstitutional." ****482** (Italics added.) As we already have noted, we need not and do not decide in this case what effect the adoption of article III, section 3.5 has on the authority of local executive officials, because it is abundantly clear that this constitutional amendment did not *expand* the authority of such officials so as to permit them to refuse to enforce a statute solely on the basis of their view that the statute is unconstitutional. Accordingly, we conclude that under California law a local executive official generally lacks such authority.

D

In support of its contrary claim that, as a general matter, California law long has recognized that an executive public official has the authority to refuse to comply with a ministerial statutory duty whenever the official personally believes the statute is unconstitutional, the city relies upon a line of California decisions that have reviewed the validity of statutes or ordinances authorizing the issuance of bonds, the letting of public contracts, or the disbursement of public funds in mandate actions filed against public officials who refused to comply with a ministerial duty. As the city accurately notes, numerous California decisions addressing these three subjects have held that "mandate is the proper remedy to compel a public officer to perform ministerial acts such as issuance of bonds [and that] the constitutionality of the law authorizing a bond issuance may be determined in a proceeding for such a writ." *****253** (*California Housing Finance Agency v.*

Elliott (1976) 17 Cal.3d 575, 579–580, 131 Cal.Rptr. 361, 551 P.2d 1193 [bond]; see, e.g., *California Educational Facilities Authority v. Priest* (1974) 12 Cal.3d 593, 598, 116 Cal.Rptr. 361, 526 P.2d 513 [bond]; *Metropolitan Water District v. Marquardt* (1963) 59 Cal.2d 159, 170–171, 28 Cal.Rptr. 724, 379 P.2d 28 [public contract]; *City of Whittier v. Dixon* (1944) 24 Cal.2d 664, 666, 151 P.2d 5 [warrant]; *Golden Gate Bridge etc. Dist. v. Felt* (1931) 214 Cal. 308, 315–320, 5 P.2d 585 [bond]; *Los Angeles Co. F.C. Dist. v. Hamilton* (1917) 177 Cal. 119, 121, 169 P. 1028 [bond]; *Denman v. Broderick* (1896) 111 Cal. 96, 99, 105, 43 P. 516 [warrant].)

In each of the foregoing cases, the mandate action was instituted after a public official who was under a statutory duty to perform a ministerial act that was a necessary step in the issuance of the bond, the letting of the contract, or the disbursement of public funds (such as affixing the official's signature to the bond or contract, or issuing a warrant) refused to perform that act based upon the official's ostensible doubts as to the constitutional validity of the statute authorizing the bond, contract, or public expenditure. The city emphasizes that in none of these cases did the court criticize such a public official for declining to perform his or her ministerial act, but instead concluded that the public official's refusal to act was an appropriate means of ***1096** bringing the constitutional question of the validity of the bond, contract, or expenditure of public funds before the court for resolution. The city maintains that these decisions demonstrate that the general rule in California always has been that *every* public official is free to determine the constitutional validity of the statutory provisions that he or she has a ministerial duty to enforce or execute, and free to refuse to perform the ministerial act if he or she in good faith believes the statute to be unconstitutional. The city argues that the line of decisions we have analyzed above—holding, prior to the adoption of article III, section 3.5, that only administrative agencies constitutionally authorized to exercise judicial power have the authority to determine the constitutional validity of statutes—involved *a limited exception* applicable only to administrative agencies.

We believe the city's argument misconceives the state of the law prior to the adoption of article III, section 3.5. As we have discussed above, the general rule established by California decisions at the time *Southern Pacific, supra,* 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289, was decided was that, among administrative agencies, only one that had been granted judicial power under the California Constitution possessed the authority to determine the constitutionality of a statute it was charged with enforcing and to decline to apply the statute if the agency determined it was unconstitutional. As already ****483** explained, if a nonconstitutional administrative agency that rendered its decisions after an extensive quasi-judicial procedure—in which the arguments for and against constitutionality could be fully presented and considered in a quasi-judicial fashion—lacked authority to determine constitutional issues, it clearly would be anomalous to permit an ordinary executive official (who carries out his or her official action without the benefit of any sort of quasi-judicial procedures) to determine the constitutionality of a statute and to refuse to apply it based simply upon the official's own good faith belief that the statute is unconstitutional. Thus, the general rule in California—and, as we shall discuss below, in most jurisdictions—was (and continues to be) that an executive official does not possess such authority.

It is the line of public finance cases upon which the city relies that involves the exceptional *****254** situation. As the applicable decisions make clear, the public official in each of those cases was permitted to refuse to perform a ministerial act when he or she had doubts about the validity of the underlying bond, contract, or public expenditure, both in order to ensure that a mechanism was available for obtaining a timely *judicial* determination of the validity of the bond issue, contract, or public expenditure—a determination often essential to the marketability of bonds or to the contracting parties' willingness to go forward with the contract (see, e.g., *Golden Gate Bridge etc. Dist. v. Felt, supra,* 214 Cal. 308, 315, 5 P.2d 585), or to avoid irreparable loss of public funds [25] —and in recognition of the circumstance that, in this specific context, the public official frequently faced potential *personal* liability (as distinguished from the potential liability of a governmental entity) if the bond, contract, or public expenditure ultimately was found to be invalid. (See, e.g., *Golden Gate Bridge etc. Dist. v. Felt,* ***1097** *supra,* 214 Cal. at pp. 316–317, 5 P.2d 585; *Denman v. Broderick, supra,* 111 Cal. 96, 105, 43 P. 516.)

Although the city points to language in some of these decisions that could be read to support the city's broad position here, the *holdings* in these cases clearly are limited to a public official's ability to refuse to perform a ministerial act

necessary for the execution of a bond issue or public contract, or the disbursement of public funds, where such refusal permits a judicial determination prior to the actual sale of the bonds, the carrying out of the contract, or the disbursement of public funds, and where the official's personal liability frequently is at stake. Contrary to the city's contention, the circumstance that a public official may refuse to perform a ministerial act in that context does not signify that in all other contexts every public official is free to refuse to perform a ministerial act based upon the official's view that the statute the officer is statutorily obligated to apply is unconstitutional.

The city attempts to bring the present matter within the reach of the foregoing cases by arguing that if the city officials enforced California's current marriage laws limiting marriage to a man and a woman, the officials would face possible personal liability for monetary damages under state or federal law if the marriage statutes subsequently were determined to be unconstitutional. The city's argument in this regard clearly lacks merit.

First, as a matter of state law, Government Code section 820.6 explicitly provides that "[i]f a public employee acts in good faith, without malice, and under the apparent authority of an enactment that is unconstitutional, invalid, or inapplicable, he is not liable for an injury caused thereby except to the extent that he would have been liable had the enactment been constitutional, valid and applicable." Thus, the officials clearly would not have incurred liability under California law simply for following the current marriage statutes and declining to issue marriage licenses ****484** or register marriage certificates in contravention of those statutes. Second, under federal ***1098** law, a local public official generally is immunized from liability for official acts so long as the official's conduct "does not violate *clearly established* statutory or constitutional *****255** rights of which a reasonable person would have known" (*Harlow v. Fitzgerald* (1982) 457 U.S. 800, 818, 102 S.Ct. 2727, 73 L.Ed.2d 396, italics added; see *Anderson v. Creighton* (1987) 483 U.S. 635, 639, 107 S.Ct. 3034, 97 L.Ed.2d 523), and, as we discuss below (see, *post,* 17 Cal.Rptr.3d pp. 258–260, 95 P.3d pp. 486–489), in this instance there simply is no plausible argument that the city officials would have violated "clearly established" constitutional rights by continuing to enforce California's current marriage statutes in the absence of a judicial determination that the statutes are unconstitutional. (Cf. *LSO, Ltd. v. Stroh* (9th Cir.2000) 205 F.3d 1146, 1160 [finding state officials were not entitled to qualified immunity when "no reasonable official could have believed" that application of the statute at issue was constitutional in light of prior controlling judicial decisions].) Finally, even if the city officials were to be sued in their personal capacity for actions taken pursuant to statute and in the scope of their employment, under Government Code section 825 the officials would be entitled to have their public employer provide a defense and pay any judgment entered in such an action, whether the action was based on a state law claim or a claim under the federal civil rights statutes. (See *Williams v. Horvath* (1976) 16 Cal.3d 834, 842–848, 129 Cal.Rptr. 453, 548 P.2d 1125.) Accordingly, there is no merit to the city's contention that the actions of the city officials that are challenged here can be defended as necessary to avoid the incurring of personal liability on the part of such officials.

E

Some academic commentators, while confirming that as a general rule executive officials must comply with duly enacted statutes even when the officials believe the provisions are unconstitutional, have suggested that there may be room to recognize an exception to this general rule in instances in which a public official's refusal to apply the statute would provide the most practical or reasonable means of enabling the question of the statute's constitutionality to be brought before a court. (See, e.g., May, *Presidential Defiance of "Unconstitutional" Laws: Reviving the Royal Prerogative* (1994) 21 Hastings Const. L.Q. 865, 994–996.) [26] As we have just seen, the line of public finance cases relied upon by the city may be viewed as an example of ***1099** just such a limited exception, and there are a number of other California decisions in which a constitutional challenge to a statute or other legislative enactment has been brought before a court for judicial resolution by virtue of a public entity's refusal to comply with the statute, under circumstances in which the public entity had a personal stake or interest *****256** in the constitutional issue and the public entity's action was the most practicable or reasonable method of obtaining a judicial determination of the validity of the statute. (See, e.g., *County of Riverside v. Superior Court* (2003) 30 Cal.4th 278, 132 Cal.Rptr.2d 713, 66 P.3d 718 [impingement on county's home rule authority];

Star–Kist Foods, Inc. v. County of Los Angeles (1986) 42 Cal.3d 1, 5–10, 227 Cal.Rptr. 391, 719 P.2d 987 [impingement on county's taxing authority].)

****485** Although it may be appropriate in some circumstances for a public entity or public official to refuse or decline to enforce a statute as a means of bringing the constitutionality of the statute before a court for judicial resolution, it is nonetheless clear that such an exception does not justify the actions of the local officials at issue in the present case. Here, there existed a clear and readily available means, other than the officials' wholesale defiance of the applicable statutes, to ensure that the constitutionality of the current marriage statutes would be decided by a court. If the local officials charged with the ministerial duty of issuing marriage licenses and registering marriage certificates believed the state's current marriage statutes are unconstitutional and should be tested in court, they could have denied a same-sex couple's request for a marriage license and advised the couple to challenge the denial in superior court. *That* procedure—a lawsuit brought by a couple who has been denied a license under existing statutes—is the procedure that was utilized to challenge the constitutionality of California's antimiscegenation statute in *Perez v. Sharp* (1948) 32 Cal.2d 711, 198 P.2d 17, and the procedure apparently utilized in all of the other same-sex marriage cases that have been litigated recently in other states. (See, e.g., *Baehr v. Lewin* (1993) 74 Haw. 530, 852 P.2d 44; *Goodridge v. Department of Pub. Health* (2003) 440 Mass. 309, 798 N.E.2d 941; *Baker v. State of Vermont* (1999) 170 Vt. 194, 744 A.2d 864.) The city cannot plausibly claim that the desire to obtain a judicial ruling on the constitutional issue justified the wholesale defiance of the applicable statutes that occurred here. [27]

***1100** Accordingly, the city cannot defend the challenged actions on the ground that such actions were necessary to obtain a judicial determination of the constitutionality of California's marriage statutes.

F

The city also relies on the circumstance that each of the city officials in question took an oath of office to "support and defend" the state and federal Constitutions, [28] suggesting that a public official *****257** would violate his or her oath of office were the official to perform a ministerial act under a statute that the official personally believes violates the Constitution. In our view, this contention clearly lacks merit.

As Justice Mosk explained in his concurring and dissenting opinion in *Southern Pacific, supra,* 18 Cal.3d 308, 319, 134 Cal.Rptr. 189, 556 P.2d 289, a public official "faithfully upholds the Constitution by complying with the mandates of the Legislature, leaving to courts the decision whether those mandates are invalid." A public official does not honor his or her oath to defend the Constitution by taking action in contravention of the restrictions of his or her office or authority and justifying such action by reference to his or her personal constitutional views. For example, it is clear that a justice of this court or of an intermediate appellate court does not act ****486** in contravention of his or her oath of office when the justice follows a controlling constitutional decision of a higher court even though the justice personally believes that the controlling decision was wrongly decided and that the Constitution actually requires the opposite result. On the contrary, the oath to support and defend the Constitution requires a public official to act within the constraints of our constitutional system, not to disregard presumptively valid statutes and take action in violation of such statutes on the basis of the official's own ***1101** determination of what the Constitution means. [29] (See also *State v. State Board of Equalizers* (1922) 84 Fla. 592, 94 So. 681, 682–683 ["The contention that the oath of a public official requiring him to obey the Constitution places upon him the duty or obligation to determine whether an act is constitutional before he will obey it is ... without merit. The fallacy in it is that every act of the legislature is presumed constitutional until judicially *****258** declared otherwise, and the oath of office 'to obey the Constitution' means to obey the Constitution, not as the officer decides, but as judicially determined"].) [30]

***1102 G**

The city further contends that a general rule requiring an executive official to comply with an existing statute unless and until the statute has been judicially determined to be unconstitutional is impractical and would lead to intolerable circumstances. The city posits a hypothetical example of a public official faced with a statute that is identical in all respects to another statute that a court already has determined is unconstitutional, and suggests it would be absurd to require the official to apply the clearly invalid statute in that instance. For support, the city points to a passage in the majority opinion in *Southern Pacific,* which asks rhetorically: "[W]hen the United States Supreme Court, for example, ****487** repudiates the separate but equal doctrine established by the statutes of one state, should the school boards of other states continue to apply identical statutes until a court declares them invalid [?]" (*Southern Pacific, supra,* 18 Cal.3d 308, 311, fn. 2, 134 Cal.Rptr. 189, 556 P.2d 289.)

[13] Whatever force this argument might have in a case in which a governing decision previously has found an identical statute unconstitutional or in which the invalidity of the statute is so patent or clearly established that no reasonable official could believe the statute is constitutional,[31] the argument plainly is of no avail here. Although we have no occasion in this case to determine the constitutionality of the current California marriage statutes, we can say with confidence that the asserted invalidity of those statutes certainly is not so patent or clearly established that no reasonable official could believe that the current California marriage *****259** statutes are valid. Indeed, the city cannot point to any judicial decision that has held a statute limiting marriage to a man and a woman unconstitutional under the California or federal Constitution. Instead, the city relies on state court decisions from Massachusetts, Vermont, and Hawaii, that, in interpreting their own state constitutions, assertedly have found similar statutory restrictions to violate provisions of their state's own constitution. (See *Goodridge v. Department of Pub. Health, supra,* 440 Mass. 309, 798 N.E.2d 941; *Baker v. State of* ***1103** *Vermont, supra,* 170 Vt. 194, 744 A.2d 864; *Baehr v. Lewin, supra,* 74 Haw. 530, 852 P.2d 44.)[32] A significant number of ****488** other state and federal courts, however, have reached a contrary conclusion and have upheld the constitutional validity of such a restriction on marriage under both the federal Constitution and other state constitutions. (See, e.g., *Baker v. Nelson* (1971) 291 Minn. 310, 191 N.W.2d 185, 186–187, app. dism. for want of substantial federal question (1972) 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65 [federal Constitution];[33] ***1104** *****260** *Standhardt v. Super. Ct., supra,* 206 Ariz. 276, 77 P.3d 451, 454–465 [federal and Arizona Constitutions]; *Dean v. District of Columbia* (D.C.Ct.App.1995) 653 A.2d 307, 361–364 (opns. of Terry, J. & Steadman, J.) [federal Constitution]; *Jones v. Hallahan* (Ky.Ct.App.1973) 501 S.W.2d 588, 590 [federal Constitution]; *Singer v. Hara* (1974) 11 Wash.App. 247, 522 P.2d 1187, 1189–1197 [federal and Washington Constitutions]; *Adams v. Howerton* (C.D.Cal.1980) 486 F.Supp. 1119, 1124–1125, affd. (9th Cir.1982) 673 F.2d 1036, cert. den. (1982) 458 U.S. 1111, 102 S.Ct. 3494, 73 L.Ed.2d 1373 [federal Constitution].) Although the state court decisions from Massachusetts, Vermont, and Hawaii relied upon by the city surely would be of interest to a California court faced with the question whether the current California marriage statutes violate the California Constitution, a California court would be equally interested in the decisions of the courts that have reached a contrary conclusion (and in the reasoning of the minority opinions in the state court decisions relied upon by the city [see *Goodridge v. Department of Pub. Health, supra,* 440 Mass. 309, 798 N.E.2d 941, 974–1005 (dis. opns. of Spina, J., Sosman, J., & Cordy, J.); *Baehr v. Lewin, supra,* 74 Haw. 530, 852 P.2d 44, 70–73 (dis. opn. of Heen, J.)]. In light of the absence of any California authority directly on point and the sharp division of judicial views expressed in the out-of-state decisions that have considered similar constitutional challenges, this plainly is not an instance in which the invalidity of the California marriage statutes is so patent or clearly established that no reasonable official could believe that the statutes are constitutional. Therefore, this case does not fall within any narrow exception that may apply to instances in which it would be absurd or unreasonable to require a public official to comply with a statute that any reasonable official would conclude is unconstitutional.

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H

[14] Accordingly, we conclude that, under California law, the city officials had no authority to refuse to perform their ministerial duty in conformity with the current California marriage statutes on the basis of their view that the ***1105** statutory limitation of marriage to a couple comprised of a man and a woman is unconstitutional.

It is worth noting that the California rule generally precluding an executive official from refusing to perform a ministerial duty imposed by statute on the basis of the official's determination or opinion that the statute is unconstitutional is consistent with the ****489** general rule applied in the overwhelming *****261** majority of cases from other jurisdictions. (See generally Annot., Unconstitutionality of Statute as Defense to Mandamus Proceeding (1924) 30 A.L.R. 378, 379["[t]he weight of authority [holds] that a public officer whose duties are of a ministerial character cannot question the constitutionality of a statute as a defense to a mandamus proceeding to compel him to perform some official duty, where in the performance of such duty his personal interests or rights will not be affected, and he will not incur any personal liability, or violate his oath of office"]; Annot. (1940) 129 A.L.R. 941 [supplementing 30 A.L.R. 378]; see also Note (1928) 42 Harv. L.Rev. 1071.) [34]

*****262** ***1106** Although there are numerous out-of-state cases that address this issue, one of the most quoted decisions is *State v. Heard, supra,* 18 So. 746, 752, where the court, after an extensive ****490** review of the then existing authorities from various jurisdictions, concluded: "[E]xecutive officers of the State government have no authority to decline the performance of purely ministerial duties which are imposed upon them by a law, on the ground that it contravenes the Constitution. Laws are presumed to be, and must be treated and acted upon by subordinate executive functionaries as constitutional and legal, until their unconstitutionality or illegality has been judicially established, for, in all well regulated government, obedience to its laws by executive officers is absolutely essential, and of paramount importance. Were it not so the most inextricable confusion would inevitably result, and 'produce such collisions in the administration of public affairs as to materially impede the proper and necessary operations of the government.' 'It was surely never intended that an executive functionary should nullify a law by neglecting or refusing to execute it.' " (See also *Department of State Highways v. Baker, supra,* 69 N.D. 702, 290 N.W. 257, 259 ["There is no question as to the general rule that a subordinate ministerial officer to whom no injury can result and to whom no violation of duty can be imputed by reason of compliance with the statute may not question the constitutionality of the statute imposing such duty"]; *State v. Becker, supra,* 328 Mo. 541, 41 S.W.2d 188, 190 ["It is well settled in this state and in a great majority of our sister states that, as a general rule, a ministerial officer cannot defend his refusal to perform a duty prescribed by a statute on the ground that such statute is unconstitutional"]; *State v. Steele* ***1107** *County Board of Com'rs, supra,* 181 Minn. 427, 232 N.W. 737, 738 [although "[t]he authorities are in conflict," "[t]he better doctrine, supported by the weight of authority, is that an official so charged with the performance of a ministerial duty will not be allowed to question the constitutionality of such a law.... Officials acting ministerially are not clothed with judicial authority.... Their authority is the command of the statute, and it is the limit of their power"]; *State v. State Board of Equalizers, supra,* 84 Fla. 592, 94 So. 681, 683 ["It is contended that an *individual* may refuse to obey a law that he believes to be unconstitutional, and take a chance on its fate in the courts. He does this, however, 'at his peril'; the 'peril' being to suffer the consequences, such as fine or imprisonment, or both, if the courts should hold the act to be constitutional. [¶] A *ministerial officer* refusing to enforce a law because in his opinion it is unconstitutional takes no such risk. He does nothing 'at his peril,' because he subjects himself to no penalty if his opinion as to the unconstitutionality of an act is not sustained by the courts. [¶] It is the doctrine of nullification, pure and simple, and whatever may have been said of the soundness of that doctrine when sought to be applied by states to acts of Congress, the most ardent *****263** followers of Mr. Calhoun never extended it to give to ministerial officers the right and power to nullify a legislative enactment" (italics added)].)

I

In addition to the California decisions reviewed above and the weight of judicial authority from other jurisdictions, consideration of the practical consequences of a contrary rule further demonstrates the unsoundness of the city's position.

To begin with, most local executive officials have no legal training and thus lack the relevant expertise to make constitutional determinations. Although every individual (lawyer or nonlawyer) is, of course, free to form his or her own opinion of what the Constitution means and how it should be interpreted and applied, a local executive official has no authority to impose his or her personal view on others by refusing to comply with a ministerial duty imposed by statute. (See, e.g., *Southern Pacific, supra,* 18 Cal.3d 308, 321, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.) ["Certainly attorneys have no monopoly on wisdom, but a person trained for three or more years in a college of law and then tempered with at least a decade of experience within the judicial system is likely to be far better equipped to make difficult constitutional judgments than a lay administrator with no background in the law"].) [35]

***1108** ****491** Second, if, as the city maintains, a local official were to possess the authority to act on the basis of his or her own constitutional determination, such an official generally would arrive at that determination without affording the affected individuals any due process safeguards and, in particular, without providing any opportunity for those supporting the constitutionality of the statutes to be heard. In its opposition to the initial petition filed in this case, the city urged this court not to immediately accept jurisdiction over the substantive question of the constitutionality of California's marriage laws at this time, because that question properly could be determined only after a full presentation of evidence before a trial court. The city officials themselves, however, made their own constitutional determination without conducting any such evidentiary hearing or taking other measures designed to protect the rights of those who maintain that the statute is constitutional. Thus, despite the settled rule that a duly enacted statute is presumed to be constitutional, under the city's proposed rule a local executive official *****264** would be free to determine that a statute is unconstitutional and refuse to enforce it, without providing even the most rudimentary of due process procedures—notice and an opportunity to be heard—to anyone directly affected by the official's action.

Third, there are thousands of elected and appointed public officials in California's 58 counties charged with the ministerial duty of enforcing thousands of state statutes. If each official were empowered to decide whether or not to carry out each ministerial act based upon the official's own personal judgment of the constitutionality of an underlying statute, the enforcement of statutes would become haphazard, leading to confusion and chaos and thwarting the uniform statewide treatment that state statutes generally are intended to provide. (Cf. *Haring v. Blumenthal, supra,* 471 F.Supp. 1172, 1178–1179 ["Unless and until the Congress, or a court of competent jurisdiction ..., determines that a particular tax exemption ruling is invalid, the employees of the [Internal Revenue] Service ... are obliged to implement that ruling. Not merely the concept of a uniform tax policy but the effectiveness of the government of the United States as a functioning entity would be ***1109** in jeopardy if each employee could take it upon himself to decide which particular laws, regulations, and policies are legal or illegal, and to base his official actions upon that private determination"].) Although in the past the multiplicity of public officials performing similar ministerial acts under a single statute never has posed a problem in this regard, that is undoubtedly true only because most officials never imagined they had the authority to determine the constitutionality of a statute that they have a ministerial duty to enforce. Were we to hold that such officials possess this authority, it is not difficult to anticipate that private individuals who oppose enforcement of a statute and question its constitutionality would attempt to influence ministerial officials in various locales to exercise—on behalf of such opponents—the officials' newly recognized authority. The circumstance that many local officials have no legal training would only exacerbate the problem. As a consequence, the uneven enforcement of statutory ****492** mandates in different local jurisdictions likely would become a significant concern.

Fourth, the confused state of affairs arising from diverse actions by a multiplicity of local officials frequently would continue for a considerable period of time, because under the city's proposed rule a court generally could not order a public official to comply with the challenged statute until the court actually had determined that it was constitutional. In view of the many instances in which a constitutional challenge to a statute entails lengthy litigation, the lack of uniform treatment afforded to similarly situated citizens throughout the state often would be a long-term phenomenon.

These practical considerations simply confirm the soundness of the established rule that an executive official generally does not have the authority to refuse to comply with a ministerial duty imposed by statute on the basis of the official's opinion that the statute is unconstitutional. [36]

*****265 V**

The city further claims, however, that even if *California law* does not recognize the authority of a local official to refuse to comply with a statutorily mandated ministerial duty absent a judicial determination that the statute is unconstitutional, under the federal supremacy clause (U.S. Const., art. VI, § 2) California lacks the power to require a public official to comply with a state statute that the official believes violates the federal Constitution. ***1110** Although in the present case the mayor's initial letter to the county clerk relied solely upon the asserted unconstitutionality of the California marriage statutes under the *California* Constitution, the city, in the opposition filed in this court, for the first time advanced the position that the action taken by the city officials was based, at least in part, on their belief that the California statutes violate the *federal* Constitution, and the city now rests its supremacy clause claim on this newly asserted belief. Putting aside the question of the bona fides of this belatedly proffered rationale, we conclude that, in any event, the federal supremacy clause provides no support for the city's argument.

To begin with, the principal cases upon which the city relies—*Ex Parte Young* (1908) 209 U.S. 123, 28 S.Ct. 441, 52 L.Ed. 714 and *LSO, Ltd. v. Stroh, supra,* 205 F.3d 1146—are readily distinguishable from the present case. Those cases stand only for the proposition that the circumstance that a state official is acting pursuant to the provisions of an applicable state statute does not necessarily shield the official (or the public entity on whose behalf the official acts) either from an injunction or a monetary judgment issued by a federal court, where the federal court subsequently determines that the state statute violates the federal Constitution. [37] The city has not cited any case holding that the federal Constitution prohibits a state from defining the authority of a state's executive officials in a manner that requires such officials to comply with a clearly applicable statute unless and until such a statute is judicially determined to be unconstitutional, nor any case holding that the federal Constitution compels a state to permit every executive official, state or local, to refuse to enforce an applicable statutory provision whenever the official personally believes the statute violates the federal Constitution.

[15] Furthermore, numerous pronouncements by the United States Supreme Court directly refute the city's contention that the supremacy clause or any other provision of the federal Constitution embodies such a principle. To begin with, the high court's position on the proper role of federal executive ****493** officials with regard to constitutional determinations is instructive. In *Davies Warehouse Co. v. Bowles* (1944) 321 U.S. 144, 152–153, 64 S.Ct. 474, 88 L.Ed. 635, for example, in response to the plaintiff's contention that under one proposed reading of the applicable statute "the [federal Price] Administrator [an executive official] would have to decide whether the state regulation is constitutional before he should recognize it," the United States Supreme ***1111** Court stated: "We cannot give weight to this view of [the Price Administrator's] functions, which we think it unduly magnifies. *State statutes, like federal ones, are entitled to the presumption of constitutionality until their invalidity is judicially declared. Certainly* *****266** *no power to adjudicate constitutional issues is conferred on the Administrator.... We think the Administrator will not be remiss in his duties if he assumes the constitutionality of state regulatory statutes, under both state and federal constitutions, in the absence of a contrary judicial determination.*" (Italics added; see also *Weinberger v. Salfi* (1975) 422 U.S. 749, 765, 95 S.Ct. 2457, 45 L.Ed.2d 522 ["[T]he constitutionality of a statutory requirement [is] a matter which is beyond [the Secretary of Health, Education, and Welfare's] jurisdiction to determine"]; *Johnson v. Robison* (1974) 415 U.S. 361, 368, 94 S.Ct. 1160, 39 L.Ed.2d 389 ["[a]djudication of the constitutionality of congressional amendments has generally been thought beyond the jurisdiction of administrative agencies"]; *Oestereich v. Selective Service Board* (1968) 393 U.S. 233, 242, 89 S.Ct. 414, 21 L.Ed.2d 402 (conc. opn. of Harlan, J.) [same]; cf. *Thunder Basin Coal Co. v. Reich* (1994) 510 U.S. 200, 215, 114 S.Ct. 771, 127 L.Ed.2d 29.) In light of the high court's repeated statements that federal executive officials generally lack

authority to determine the constitutionality of statutes, the city's claim that the federal supremacy clause itself grants a state or local official the authority to refuse to enforce a statute that the official believes is unconstitutional is plainly untenable.

Furthermore, there are several earlier United States Supreme Court cases that even more directly refute the city's contention. *Smith v. Indiana* (1903) 191 U.S. 138, 24 S.Ct. 51, 48 L.Ed. 125 was a case, arising from the Indiana state courts, in which a county auditor had refused to grant a statutorily authorized exemption to a taxpayer because the auditor believed the exemption violated the federal Constitution. A mandate action was filed against the auditor, and the state courts permitted the auditor to raise and litigate the asserted unconstitutionality of the statute as a defense in the mandate action, ultimately determining that the exemption was constitutionally permissible and directing the auditor to grant the exemption. The auditor appealed the state court decision upholding the constitutionality of the state statute to the United States Supreme Court.

In its opinion in *Smith,* the high court observed that "there are many authorities to the effect that a ministerial officer, charged by law with the duty of enforcing a certain statute, cannot refuse to perform his plain duty thereunder upon the ground that in his opinion it is repugnant to the Constitution" (*Smith v. Indiana, supra,* 191 U.S. at p. 148, 24 S.Ct. 51), but it recognized that a state court "has the power ... to assume jurisdiction in such a case if it chooses to do so." (*Ibid.*) At the same time, however, the court in *Smith* stated explicitly that "the power of a public officer to question the constitutionality of a statute as an excuse for refusing to enforce it ... *is a purely* ***1112** *local question* " (*ibid.,* italics added)—that is, purely a question of state (not federal) law—a conclusion that directly refutes the city's claim that federal law requires a state to recognize the authority of a ministerial official to refuse to comply with a statute whenever the official believes it violates the federal Constitution. Moreover, in *Smith* itself the United States Supreme Court went on to hold that although the state court in that case had permitted the auditor to litigate the constitutionality of the state statute, the auditor did not have a sufficient personal interest in the litigation to support jurisdiction in the United States Supreme Court; thus the high court dismissed the auditor's appeal without reaching the question of the constitutionality of the underlying *****267** statute.[38] A few years later, the high ****494** court followed its decision in *Smith,* dismissing a similar appeal by a state auditor in *Braxton County Court v. West Virginia* (1908) 208 U.S. 192, 197, 28 S.Ct. 275, 52 L.Ed. 450.

In light of the foregoing high court decisions, we conclude that the California rule set forth above does not conflict with any federal constitutional requirement.

VI

The city contends, however, that even if we conclude that its officials lacked the authority to refuse to enforce the marriage statutes, we still cannot issue the writ of mandate sought by petitioners without first determining whether California's current marriage statutes are constitutional, in light of the general proposition that courts will not issue a writ of mandate to require a public official to perform an unconstitutional act. As the Florida Supreme Court explained in a similar context, however, "[i]t is no answer to say that the courts will not require a ministerial officer to perform an unconstitutional act. That aspect of the case is not before us. We must first determine the power of the ministerial officer to refuse to perform a statutory duty because *in his opinion* the law is unconstitutional. When we decide that, we do not get to the question of the constitutionality of the act, and it will not be decided." (*State v. State Board of Equalizers, supra,* 84 Fla. 592, 94 So. 681, 684.) Accordingly, because we have concluded that the city officials have no authority to refuse to apply the current marriage statutes in the absence of a judicial determination that these statutes are unconstitutional, we conclude that the requested writ of mandate should issue.

***1113 VII**

[16] Finally, we must determine the appropriate scope of the relief to be ordered. As a general matter, the nature of the relief warranted in a mandate action is dependent upon the circumstances of the particular case, and a court is not necessarily limited by the prayer sought in the mandate petition but may grant the relief it deems appropriate. (See *Johnson v. Fontana County F.P. Dist.* (1940) 15 Cal.2d 380, 391–392, 101 P.2d 1092; *George M. v. Superior Court* (1988) 201 Cal.App.3d 755, 760, 247 Cal.Rptr. 330; *Sacramento City Police Dept. v. Superior Court* (1984) 156 Cal.App.3d 1193, 1197, fn. 5, 203 Cal.Rptr. 169.)

In the present case, we are faced with an unusual, perhaps unprecedented, set of circumstances. Here, local public officials have purported to authorize, perform, and register literally thousands of marriages in direct violation of explicit state statutes. The Attorney General, as well as a number of local taxpayers, have filed these original mandate proceedings in this court to halt the local officials' unauthorized conduct and to compel these officials to correct or undo the numerous unlawful actions they have taken in the immediate past. As explained above, we have determined that the city officials exceeded their authority in issuing marriage licenses to, solemnizing marriages of, and registering marriage certificates on behalf of, same-sex couples. Under these circumstances, we conclude *****268** that it is appropriate in this mandate proceeding not only to order the city officials to comply with the applicable statutes in the future, but also to direct the officials to take all necessary steps to remedy the continuing effect of their past unlawful actions, including correction of all relevant official records and notification of affected individuals of the invalidity of the officials' actions.

[17] In light of the clear terms of Family Code section 300 *defining* marriage as a "personal relationship arising out of a civil contract between a man and a woman" and the legislative history of this provision demonstrating that the purpose of this limitation was to "prohibit persons of the same sex from entering lawful marriage" (Sen. Com. on Judiciary, Analysis of Assem. Bill No. 607 (1977–1978 Reg. Sess.) as amended May 23, 1977, p. 1 [discussed, ****495** *ante,* 17 Cal.Rptr.3d p. 236, fn. 11, 95 P.3d p. 468, fn. 11]), we believe it plainly follows that all same-sex marriages authorized, solemnized, or registered by the city officials must be considered void and of no legal effect from their inception. Although this precise issue has not previously been presented under California law, every court that has considered the question has determined that when state law limits marriage to a union between a man and a woman, a same-sex marriage performed in violation of state law is void and of no legal effect. (See, e.g., *Jones v. Hallahan, supra,* 501 S.W.2d 588, 589 [same-sex marriage "would not constitute a marriage" under Kentucky law]; *Anonymous v.* ***1114** *Anonymous* (N.Y.Sup.Ct.1971) 67 Misc.2d 982, 325 N.Y.S.2d 499, 501 [under New York law, same-sex "marriage ceremony was a nullity" and "no legal relationship could be created by it"]; *McConnell v. Nooner* (8th Cir.1976) 547 F.2d 54, 55–56 ["purported" same-sex marriage of no legal effect under Minnesota law]; *Adams v. Howerton, supra,* 486 F.Supp. 1119, 1122 [purported same-sex marriage has "no legal effect" under Colorado or federal law].) The city has not cited any case in which a same-sex marriage, performed in contravention of a state statute that bans such marriages and that has not judicially been held unconstitutional, has been given any legal effect.

The city and several amici curiae representing same-sex couples who obtained marriage licenses from city officials—and had certificates of registry of marriage registered by such officials—raise a number of objections to our determining that the same-sex marriages that have been performed in California are void and of no legal effect, but we conclude that none of these objections is meritorious.

First, the city and amici curiae contend that the Attorney General and the petitioners in *Lewis* lack standing to challenge the validity of the same-sex marriages that already have been performed, relying upon the provisions of Family Code section 2211, which sets forth the categories of individuals who may bring an action to nullify a "voidable" marriage—categories that generally are limited to one of the parties to the marriage or, where a party to the marriage is a minor or a person incapable of giving legal consent, the parent, guardian, or conservator of such party. Past California decisions, however, make clear that the procedural requirements generally applicable in an action to nullify or annul a "voidable"

marriage are inapplicable when a purported marriage is void from the beginning or is a legal nullity. As this court stated in *Estate of Gregorson* (1911) 160 Cal. 21, 26, 116 P. 60: "A marriage prohibited as incestuous *or illegal* and declared to be 'void' or 'void from the beginning' is a legal nullity *and its validity may be asserted or shown in any proceeding in which the fact of marriage* ***269** *may be material.*" (Italics added.) In our view, the present mandate action, which seeks to compel public officials to correct the effects of their unauthorized official conduct in issuing marriage licenses to or registering marriage certificates of thousands of same-sex couples, is such a proceeding, because the validity or invalidity of the same-sex marriages authorized and registered by such officials is central to the scope of the remedy that may and should be ordered in this case. [39]

***1115** The city and amici curiae additionally contend that we cannot properly determine the validity or invalidity of the existing same-sex marriages in this proceeding because the parties to a marriage are indispensable parties to any legal action seeking to invalidate a marriage, and the thousands of same-sex couples whose marriages were authorized and registered by the local authorities are not formal parties to the present mandate proceeding. The city relies on cases involving actions that have been brought to annul a particular marriage on the basis of facts peculiar to that marriage, in which the courts have held the parties to the marriage to be **496** indispensable parties. (See, e.g., *McClure v. Donovan* (1949) 33 Cal.2d 717, 725, 205 P.2d 17.) In the present instance, by contrast, the question of the validity or invalidity of a same-sex marriage does not depend upon any facts that are peculiar to any individual same-sex marriage, but rather is a purely legal question applicable to all existing same-sex marriages, and rests on the circumstance that the governing state statute limits marriage to a union between a man and a woman. Under ordinary principles of stare decisis, an appellate decision holding that, under current California statutes, a same-sex marriage performed in California is void from its inception effectively would resolve that legal issue with respect to all couples who had participated in same-sex marriages, even though such couples had not been parties to the original action. Because the validity or invalidity of same-sex marriages under current California law involves only a pure question of law, couples who are not formal parties to this action are in no different position than if this question of law had been presented and resolved in an action involving some other same-sex couple rather than in an action in which the legal arguments regarding the validity of such marriages have been vigorously asserted not only by the city officials who authorized and registered such marriages but also by various amici curiae representing similarly situated same-sex couples. Requiring a separate legal proceeding to be brought to invalidate each of the thousands of same-sex marriages, or requiring each of the thousands of same-sex couples to be named and served as parties in the present action, would add nothing of substance to this proceeding.

The city and amici curiae further contend that it would violate the due process rights of the same-sex couples who obtained marriage licenses, and had their marriage certificates registered by the local officials, for this court to determine the validity of same-sex marriages without giving the couples notice and an opportunity to be heard. To begin with, there may be some question whether an individual who, ***270** through the deliberate unauthorized conduct of a public official, obtains a license, permit, or other status that clearly is not authorized by state law, possesses a constitutionally protected **1116** property or liberty interest that gives rise to procedural due process guarantees. (Cf., e.g., *Snyder v. City of Minneapolis* (Minn.1989) 441 N.W.2d 781, 792; *Mellin v. Flood Brook Union School Dist.* (2001) 173 Vt. 202, 790 A.2d 408, 421; *Gunkel v. City of Emporia, Kan.* (10th Cir.1987) 835 F.2d 1302, 1304–1305 & fns. 7, 8.) In any event, these same-sex couples have not been denied the right to meaningfully participate in these proceedings. Although we have not permitted them to intervene formally in these actions as parties, our order denying intervention to a number of such couples explicitly was without prejudice to participation as amicus curiae, and numerous amicus curiae briefs have been filed on behalf of such couples directly addressing the question of the validity of the existing same-sex marriages. Accordingly, the legal arguments of such couples with regard to the question of the validity of the existing same-sex marriages have been heard and fully considered. Furthermore, under the procedure we adopt below (see, *post,* 17 Cal.Rptr.3d p. 272, 95 P.3d p. 498), before the city takes corrective action with regard to the record of any particular same-sex marriage license or same-sex marriage certificate, each affected couple will receive individual notice and an opportunity to show that the holding of the present opinion is not applicable to the couple.

The city and amici curiae next maintain that even if this court properly may address the validity of the existing same-sex marriages in this proceeding, under California law such marriages cannot be held void (or voidable, for that matter), because there is no California statute that explicitly provides that a marriage between two persons of the same sex or gender is void (or voidable). As we have seen, however, Family Code section 300 explicitly *defines* marriage as "a personal relation arising out of a civil contract between a man and a woman," and in view of the language and legislative history of this provision (see, *ante,* 17 Cal.Rptr.3d p. 236, fn. 11, 95 P.3d p. 468, fn. 11), we believe that the Legislature has made clear its intent that a same-sex marriage performed in California is not a valid marriage under California law. Accordingly, we view ****497** Family Code section 300 itself as an explicit statutory provision establishing that the existing same-sex marriages at issue are void and invalid.

The city and amici curiae also rely upon Family Code section 306, which provides in part that "[n]oncompliance with this part by a nonparty to the marriage does not invalidate the marriage," maintaining that this statute demonstrates that even if the county clerk erred in issuing marriage licenses to same-sex couples, such noncompliance by the county clerk (a nonparty to the marriage) does not invalidate the marriage. In our view, section 306—which is unofficially entitled "Procedural requirements; effect of noncompliance"—has no application here. The defect at issue clearly is not simply a procedural defect in the issuance of the license or in the solemnization or registration process. Indeed, it is not simply the invalidity or unauthorized nature of the *county clerk's* action in issuing a marriage license to a same-sex ***1117** couple that renders void any marriage between a same-sex couple. What renders such a purported marriage void is the circumstance that the current California statutes reflect a clear legislative decision to "prohibit persons of the same sex from entering lawful marriage." (Sen. Com. on Judiciary, Analysis of Assem. Bill No. 607 (1977–1978 Reg. Sess.) as amended May 23, 1977, discussed, *****271** *ante,* 17 Cal.Rptr.3d at p. 236, fn. 11, 95 P.3d at p. 468, fn. 11.) It is that substantive legislative limitation on the institution of marriage, and not simply the circumstance that the actions of the county clerk or county recorder were unauthorized, that renders the existing same-sex marriages invalid and void from the beginning.

Finally, the city urges this court to postpone the determination of the validity of the same-sex marriages that already have been performed and registered until a court rules on the substantive constitutional challenges to the California marriage statutes that are now pending in superior court. From a practical perspective, we believe it would not be prudent or wise to leave the validity of these marriages in limbo for what might be a substantial period of time given the potential confusion (for third parties, such as employers, insurers, or other governmental entities, as well as for the affected couples) that such an uncertain status inevitably would entail. [40]

In any event, we believe such a delay in decision is unwarranted on more fundamental grounds. As we have explained, because Family Code section 300 clearly limits marriage in California to a marriage between a man and a woman and flatly prohibits persons of the same sex from lawfully marrying in California, the governing authorities establish that the same-sex marriages that already have been performed are void and of no legal effect *from their inception.* (See, *ante,* 17 Cal.Rptr.3d p. 267, 95 P.3d p. 493 and cases cited; see also *Estate of Gregorson, supra,* 160 Cal. 21, 26, 116 P. 60 ["A marriage prohibited as ... illegal and declared to be 'void' or 'void from the beginning' is a legal nullity...."].) In view of this well-established rule, we do not believe it would be responsible or appropriate for this court to fail at this time to inform the parties to the same-sex marriages and other persons whose legal rights and responsibilities may depend upon the validity or invalidity of these marriages that these marriages are invalid, notwithstanding the pendency of numerous lawsuits challenging the constitutionality of California's marriage statutes. Withholding or delaying a ruling on the current validity of the existing same-sex marriages might lead numerous persons to make fundamental changes in their lives or otherwise proceed on the basis of erroneous expectations, creating potentially irreparable harm.

***1118** Although the city and the amici curiae representing same-sex couples suggest that these couples would prefer to live with uncertainty rather than be told at this point that the marriages are invalid, in light of the explicit terms of Family Code section 300 and the warning included in the same-sex marriage license applications provided by the ****498** city (see, *ante,* 17 Cal.Rptr.3d p. 232, fn. 5, 95 P.3d p. 465, fn. 5) these couples clearly were on notice that

the validity of their marriages was dependent upon whether a court would find that the city officials had authority to allow same-sex marriages. Now that we have confirmed that the city officials lack this authority, we do not believe that these couples have a persuasive equitable claim to have the validity of the marriages left in doubt at this point in time, creating uncertainty and potential harm to others who may need to know whether the marriages are valid or not. Had the current constitutional ***272 challenges to the California marriage statutes followed the traditional and proper course (see, *ante,* 17 Cal.Rptr.3d p. 256, 95 P.3d p. 485), no same-sex marriage would have been conducted in California prior to a judicial determination that the current California marriage statutes are unconstitutional. Accordingly, as part of the remedy for the city officials' unauthorized and unlawful actions, we believe it is appropriate to make clear that the same-sex marriages that already have purportedly come into being must be considered void from their inception. Of course, should the current California statutes limiting marriage to a man and a woman ultimately be repealed or be held unconstitutional, the affected couples then would be free to obtain lawfully authorized marriage licenses, have their marriages lawfully solemnized, and lawfully register their marriage certificates. [41]

Accordingly, to remedy the effects of the city officials' unauthorized actions, we shall direct the county clerk and the county recorder of the City and County of San Francisco to take the following corrective actions under the supervision of the California Director of Health Services, who, by statute, has general supervisory authority over the marriage license and marriage certificate process. (See, *ante,* 17 Cal.Rptr.3d pp. 237–239, 95 P.3d pp. 469–471.) The county clerk and the county recorder are directed to (1) identify all same-sex couples to whom the officials issued marriage licenses, solemnized marriage ceremonies, or registered marriage certificates, (2) notify these couples that this court has determined that same-sex marriages that have been performed in California are void from their inception and a legal nullity, and that these officials have been directed to correct their records to reflect the invalidity of these marriage licenses and marriages, (3) provide these couples an opportunity to *1119 demonstrate that their marriages are not same-sex marriages and thus that the official records of their marriage licenses and marriages should not be revised, (4) offer to refund, upon request, all marriage-related fees paid by or on behalf of same-sex couples, and (5) make appropriate corrections to all relevant records.

VIII

As anyone familiar with the docket of the United States Supreme Court, of this court, or of virtually any appellate court in this nation is aware, many statutes currently in force may give rise to constitutional challenges, and not infrequently the constitutional questions presented involve issues upon which reasonable persons, including reasonable jurists, may disagree. If every public official who is under a statutory duty to perform a ministerial act were free to refuse to perform that act based solely on the official's view that the underlying statute is unconstitutional, any semblance of a uniform rule of law quickly would disappear, and constant and widespread judicial intervention would be required to permit the ordinary mechanisms of government to function. This, of course, is not the system of law with which we are familiar. Under long-established ***273 principles, a statute, once enacted, is presumed to be constitutional until it has been judicially determined to be unconstitutional.

**499 An executive official, of course, is free to criticize existing statutes, to advocate their amendment or repeal, and to voice an opinion as to their constitutionality or unconstitutionality. As we have explained, however, an executive official who is charged with the ministerial duty of enforcing a statute generally has an obligation to execute that duty in the absence of a judicial determination that the statute is unconstitutional, regardless of the official's personal view of the constitutionality of the statute.

In this case, the city has suggested that a contrary rule—one under which a public official charged with a ministerial duty would be free to make up his or her own mind whether a statute is constitutional and whether it must be obeyed—is necessary to protect the rights of minorities. But history demonstrates that members of minority groups, as well as individuals who are unpopular or powerless, have the most to lose when the rule of law is abandoned—even for what

appears, to the person departing from the law, to be a just end.[42] As observed at the outset of this opinion, granting every ***1120** public official the authority to disregard a ministerial statutory duty on the basis of the official's opinion that the statute is unconstitutional would be fundamentally inconsistent with our political system's commitment to John Adams' vision of a government where official action is determined not by the opinion of an individual officeholder—but by the rule of law.

IX

For the reasons discussed above, a writ of mandate shall issue compelling respondents to comply with the requirements and limitations of the current marriage statutes in performing their ministerial duties under such statutes, and directing the county clerk and the county recorder of the City and County of San Francisco to take the following corrective actions under the supervision of the California Director of Health Services: (1) identify all same-sex couples to whom the officials issued marriage licenses, solemnized marriage ceremonies, or registered marriage certificates, (2) notify these couples that this court has determined that same-sex marriages that have been performed in California are void from their inception and a legal nullity, and that these officials have been directed to correct their records to reflect the invalidity of these marriage licenses and marriages, (3) provide these couples an opportunity to demonstrate that their marriages are not same-sex marriages and thus that the official records of their marriage licenses and marriages should not be revised, (4) offer to refund, upon request, all marriage related fees paid by or on behalf of same-sex *****274** couples, and (5) make appropriate corrections to all relevant records.

As the prevailing parties, petitioners shall recover their costs.

WE CONCUR: BAXTER, CHIN, BROWN and MORENO, JJ.

Concurring Opinion by MORENO, J.

I concur. The majority opinion addresses primarily the limitations on the power of local officials to disobey statutes that may be, but have not yet been judicially established to be, unconstitutional. I write separately to focus on the related but distinct question of what courts should do when confronted with such disobedience on the part of local officials. As the majority opinion suggests, a court should not invariably refuse to decide constitutional questions arising from local governments' or local officials' refusal to obey purportedly unconstitutional statutes. Indeed, California courts ***1121** under these circumstances ****500** have, on a number of occasions, decided the underlying constitutional questions. In the present case, the majority declines to decide the constitutional validity of Family Code section 300, prohibiting same-sex marriage, but instead concludes that a writ of mandate against San Francisco's (the city's) local officials is justified because they exceeded their ministerial authority. As elaborated below, I agree that under these somewhat unusual circumstances, local officials' disobedience of the statute justifies this court's issuance of a writ of mandate against those officials before the underlying constitutional question has been adjudicated.

At the outset, I review the requirements for obtaining a writ of mandate. To obtain writ relief a petitioner must show: " '(1) A clear, present and usually ministerial duty on the part of the respondent ...; and (2) a clear, present and beneficial right in the petitioner to the performance of that duty....' " (*Santa Clara County Counsel Attys. Assn. v. Woodside* (1994) 7 Cal.4th 525, 539–540, 28 Cal.Rptr.2d 617, 869 P.2d 1142.) Also required is "the lack of any plain, speedy and adequate remedy in the usual course of law...." (*Flora Crane Service, Inc. v. Ross* (1964) 61 Cal.2d 199, 203, 37 Cal.Rptr. 425, 390 P.2d 193.) Although the writ of mandate generally must issue if the above requirements are clearly met (see *May v. Board of Directors* (1949) 34 Cal.2d 125, 133–134, 208 P.2d 661), the writ of mandate is an equitable remedy that will not issue if it is contrary to "promoting the ends of justice." (*McDaniel v. City etc. of San Francisco* (1968) 259 Cal.App.2d 356, 361, 66 Cal.Rptr. 384; see also *Bartholomae Oil Corp. v. Superior Court* (1941) 18 Cal.2d 726, 730, 117 P.2d 674.)

The local officials in the present case have a clear ministerial duty to issue marriage licenses in conformance with state statute and have violated that duty. The Attorney General, and for that matter the plaintiffs in *Lewis v. Alfaro,* have a substantial right to ensure that marriage licenses conform to the statute. (See *Bd. of Soc. Welfare v. County of L.A.* (1945) 27 Cal.2d 98, 100–101, 162 P.2d 627.) But when a court is asked to grant a writ of mandate to enforce a statute over which hangs a substantial cloud of unconstitutionality, the above-stated principles dictate that a court at least has the discretion to refuse to issue the writ until the underlying constitutional question has been decided.

How should courts exercise that discretion? In California, generally speaking, courts faced with local governments' or local officials' refusal to obey assertedly unconstitutional statutes have decided the constitutional question before determining whether a writ or other requested relief should issue. (See, e.g., *County of Riverside* ***275 *v. Superior Court* (2003) 30 Cal.4th 278, 132 Cal.Rptr.2d 713, 66 P.3d 718 [county refused to obey as unconstitutional a state statute mandating binding arbitration for local agencies that reach *1122 negotiating impasse with police and firefighters]; *Star–Kist Foods, Inc. v. County of Los Angeles* (1986) 42 Cal.3d 1, 227 Cal.Rptr. 391, 719 P.2d 987 [county refused to act in accordance with a state revenue statute it had judged, correctly, to violate the U.S. Const.]; *Zee Toys, Inc. v. County of Los Angeles* (1978) 85 Cal.App.3d 763, 777–781, 149 Cal.Rptr. 750 [same]; *Paso Robles etc. Hospital Dist. v. Negley* (1946) 29 Cal.2d 203, 173 P.2d 813 [local financial officer refused to issue bonds and defended a lawsuit in order to expeditiously settle the constitutional validity of the bond issue]; *Denman v. Broderick* (1896) 111 Cal. 96, 105, 43 P. 516 [local official refused to spend public funds required by a statute believed to be unconstitutional "special legislation"]; *City of Oakland v. Digre* (1988) 205 Cal.App.3d 99, 252 Cal.Rptr. 99 [local official refused to enforce a parcel tax believed to be unconstitutional and required the city to demonstrate its constitutionality in court]; *Bayside Timber Co. v. Board of Supervisors* (1971) 20 Cal.App.3d 1, 14–15, 97 Cal.Rptr. 431 [county board of supervisors refused to issue permission for timber operations, although such refusal was not authorized under rules promulgated pursuant to state statute].) Indeed, any time a city determines that a state law is contrary to its own constitutional prerogative of self-governance and therefore refuses to obey the law, it is making a constitutional determination. (See, e.g., *Bishop v. City of San Jose* (1969) 1 Cal.3d 56, 63–64, 81 Cal.Rptr. 465, 460 P.2d 137 [determining that state prevailing **501 wage law for public works projects was not binding on cities].)

As the majority states, "the classic understanding of the separation of powers doctrine [is] that the legislative power is the power to enact statutes, the executive power is the power to execute or enforce statutes, and the judicial power is the power to interpret statutes and to determine their constitutionality." (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 230, 95 P.3d at p. 463.) But "the separation of powers doctrine does not create an absolute or rigid division of functions." (*Ibid.*) As the above cases suggest, local officials sometimes exercise their authority to *preliminarily* determine that a statute that directly affects the local government's functioning is unconstitutional and, in some circumstances, refuse to obey that statute as a means of bringing the constitutional challenge. This preliminary determination is the exercise of an *executive* function. Local officials and agencies do not "arrogate[ ] to [the local executive] core functions of the ... judicial branch" in violation of the separation of powers (*Carmel Valley Fire Protection Dist. v. State of California* (2001) 25 Cal.4th 287, 297–298, 105 Cal.Rptr.2d 636, 20 P.3d 533), but rather raise constitutional issues for the courts to ultimately decide.

In my view, there are at least three types of situations in which a local government's disobedience of a statute would be reasonable. In these situations, courts asked to grant a writ of mandate to compel the local agency to obey the statute should therefore address the underlying constitutional issue rather than simply conclude the local governmental entity exceeded its *1123 ministerial authority. First, there are some cases in which the statute in question violates a "clearly established ... constitutional right" (*Harlow v. Fitzgerald* (1982) 457 U.S. 800, 818, 102 S.Ct. 2727, 73 L.Ed.2d 396). An executive decision not to spend resources to comply with a clearly unconstitutional statute is a reasonable exercise of the local executive power and ***276 does not usurp a core judicial function. Indeed, refusing to enforce clearly unconstitutional statutes saves the resources of both the executive and the judiciary.

A second category of "disobedience" cases involves a local official or governmental entity disobeying a statute when there is a substantial question as to its constitutionality *and* the statute governs matters integral to a locality's limited power of self-governance. In these cases, a local entity or official is directly affected by the statute and in a unique position to challenge it. As the above cases illustrate, local entities and officials have challenged statutes to determine the validity of a bond, or the payment of a government salary for a position unconstitutionally created, or an exemption to a local tax that assertedly violates the commerce clause, or a statute that intrudes on local matters of city or county employee compensation. It is noteworthy that in virtually all the above cases, the local agency's or official's refusal to obey an assertedly unconstitutional statute had the effect of preserving the status quo, pending judicial resolution of the matter, thereby minimizing interference with the judicial function.

Perhaps in some of these cases localities could have proceeded by obtaining declaratory relief as to a statute's unconstitutionality, rather than by disobeying the statute. In other cases, an actual controversy necessary for declaratory relief may have been lacking. In any case, the fact that the local government agency did not proceed by means of declaratory relief provided no insurmountable obstacle to a court's deciding the underlying constitutional issue raised by the agency's disobedience. (See, e.g., *County of Riverside v. Superior Court, supra,* 30 Cal.4th 278, 283, 132 Cal.Rptr.2d 713, 66 P.3d 718.) [1] Of course, if a court determines that interim relief to compel a government agency to obey a statute is appropriate, it may grant such relief before the constitutional question is ultimately adjudicated.

A third possible category of cases in which city officials might legitimately disobey statutes ****502** of doubtful constitutionality are those in which the question of a statute's constitutionality is substantial, and irreparable harm may result to individuals to which the local government agency has some protective ***1124** obligation—be they employees, or students of a public college, or patrons of a public library, or patients in a public hospital, or in some cases simply residents of the city. Again, a court asked to grant a writ of mandate could conclude that a delay in granting the writ pending resolution of the underlying constitutional question is justified. To issue a writ enforcing a statute that may be unconstitutional, and that will work irreparable harm, would not "promote[ ] the ends of justice" (*McDaniel v. City etc. of San Francisco, supra,* 259 Cal.App.2d at pp. 360–361, 66 Cal.Rptr. 384), and a court has the discretion to delay such issuance until the underlying constitutional question is resolved.

The present case is quite different from the above situations. First, as the majority demonstrates, the unconstitutionality of Family Code section 300 is not clearly established by either state or federal constitutional precedent, and certainly not from the language of the constitutional provisions themselves. Nor does this case *****277** pertain to a statute that interferes with a city's or county's limited power of self-governance that these entities are in a unique position to challenge. Rather, local officials in this case perform a ministerial function pursuant to the state marriage law. Unlike the cases cited above, in which the constitutionality of a statute is likely to go unchallenged if a local governmental entity does not do so, Family Code section 300 limits individual rights, and those individuals subject to that limitation are in the best position to challenge it.

Nor does the present case fit the third category of cases, in which a city refuses to enforce a law so as to protect its citizens from irreparable harm. The only harm caused here is a delay in the ability of same-sex couples to get married while the constitutional issue is being adjudicated. But that delay will occur whether or not we grant a writ of mandate against the city in this case. Put another way, local officials have no real power to marry same-sex couples, given the statutory prohibition against doing so. What *was* within their power, prior to our issuance of a stay, was to issue licenses of indeterminate legal status. The exercise of the court's mandate power to preclude local officials from continuing this course of action, and voiding the licenses already issued, brings no irreparable harm to the individuals who have received or might receive such licenses.

In sum, the city advances no plausible reason why it had to disobey the statute in question. Even so, it might have been appropriate to have delayed the issuance of a writ of mandate against it until the underlying constitutional question had been adjudicated if, for example, the city had issued a single "test case" same-sex marriage license. But it went far beyond

a test case. It issued thousands of these marriage licenses. As such, the city went well beyond making a preliminary determination of the statute's unconstitutionality or performing an act that would bring the constitutional issue to the ***1125** courts. Rather, city officials drastically and repeatedly altered the status quo based on their constitutional determination, issuing a multitude of licenses that purported to have an independent legal effect, contrary to their ministerial duty and statutory obligation and prior to any judicial determination of the statute's unconstitutionality. By such dramatic overreaching, these officials trespassed on a core judicial function of deciding the constitutionality of statutes and endowed the issue of their authority to disobey the statute with a life of its own, independent of the underlying constitutional issue. I therefore agree with the majority that a writ of mandate is rightly issued against the city and its officials in this case.

I reiterate what is clear in the majority opinion. Our holding in this case in no way expresses or implies a view on the underlying issue of the constitutionality of a statute prohibiting same-sex marriage. That issue will be addressed in the context of litigation in which the issue is properly raised. (See *Goodridge v. Department of Pub. Health* (2003) 440 Mass. 309, 798 N.E.2d 941.)

****503** Concurring and Dissenting Opinion by KENNARD, J.

I concur in the judgment, except insofar as it declares void some 4,000 marriages performed in reliance on the gender-neutral marriage licenses [1] issued in the City *****278** and County of San Francisco. Although I agree with the majority that San Francisco public officials exceeded their authority when they issued those licenses, and that the licenses themselves are therefore invalid, I would refrain from determining here, in a proceeding from which the persons whose marriages are at issue have been excluded, the validity of the marriages solemnized under those licenses. That determination should be made after the constitutionality of California laws restricting marriage to opposite-sex couples has been authoritatively resolved through judicial proceedings now pending in the courts of California.

I

Like the majority, I conclude that officials in the City and County of San Francisco exceeded their authority when they issued gender-neutral marriage licenses to same-sex couples, and I agree with the majority that those officials may not justify their actions on the ground that state laws restricting marriage to opposite-sex couples violate the state or the federal Constitution. The cases discussed by the majority demonstrate, in my view, that a public official may refuse to enforce a statute on constitutional grounds only in these situations: ***1126** 1) when the statute's unconstitutionality is obvious beyond dispute in light of unambiguous constitutional language or controlling judicial decisions; (2) when refraining from enforcement is necessary to preserve the status quo and to prevent irreparable harm pending judicial determination of a legitimate and substantial constitutional question about the statute's validity; (3) when enforcing the statute could put the public official at risk for substantial personal liability; or (4) when refraining from enforcement is the only practical means to obtain a judicial determination of the constitutional question. (See Field, The Effect of an Unconstitutional Statute (1935, reprint ed.1971) p. 119 et seq.; Note, *Right of Ministerial Officer to Raise Defense of Unconstitutionality in Mandamus Proceeding* (1931) 15 Minn. L.Rev. 340; Rapacz, *Protection of Officers Who Act Under Unconstitutional Statutes* (1927) 11 Minn. L.Rev. 585; Note, *Who Can Set Up Unconstitutionality—Whether Public Official Has Sufficient Interest* (1920) 34 Harv. L.Rev. 86.) Because none of these situations is present here, as I explain below, the public officials acted wrongly in refusing to enforce the opposite-sex restriction in California's marriage laws.

A. Indisputably Unconstitutional Law

In restricting marriages to couples consisting of one woman and one man, California's marriage laws are not plainly or obviously unconstitutional under either the state or the federal Constitution. Neither Constitution expressly prohibits

limiting marriage to opposite-sex couples, and neither Constitution expressly grants any person a right to marry someone of the same sex. Nor does any judicial decision establish beyond reasonable dispute that restricting marriage to heterosexual couples violates any provision of the California Constitution or the United States Constitution.

Indeed, there is a decision of the United States Supreme Court, binding on all other courts and public officials, that a state law restricting marriage to opposite-sex couples does *not* violate the federal Constitution's guarantees of equal protection and due process of law. After the Minnesota Supreme Court held that Minnesota laws preventing marriages between persons of *****279** the same sex did not violate the equal protection or due process clauses of the United States Constitution (*Baker v. Nelson* (1971) 291 Minn. 310, 191 N.W.2d 185), the decision was appealed to the United States Supreme Court, as federal law then permitted (see 28 U.S.C. former ****504** § 1257(2), 62 Stat. 929 as amended by 84 Stat. 590). The high court later dismissed that appeal "for want of substantial federal question." (*Baker v. Nelson* (1972) 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65.)

As the United States Supreme Court has explained, a dismissal on the ground that an appeal presents no substantial federal question is a decision on ***1127** the merits of the case, establishing that the lower court's decision on the issues of federal law was correct. (*Mandel v. Bradley* (1977) 432 U.S. 173, 176, 97 S.Ct. 2238, 53 L.Ed.2d 199; *Hicks v. Miranda* (1975) 422 U.S. 332, 344, 95 S.Ct. 2281, 45 L.Ed.2d 223.) Summary decisions of this kind "prevent lower courts from coming to opposite conclusions on the precise issues presented and necessarily decided by those actions." (*Mandel v. Bradley, supra,* at p. 176, 97 S.Ct. 2238.) Thus, the high court's summary decision in *Baker v. Nelson, supra,* 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65, prevents lower courts and public officials from coming to the conclusion that a state law barring marriage between persons of the same sex violates the equal protection or due process guarantees of the United States Constitution.

The binding force of a summary decision on the merits continues until the high court instructs otherwise. (*Hicks v. Miranda, supra,* 422 U.S. at p. 344, 95 S.Ct. 2281.) That court may release lower courts from the binding effect of one of its decisions on the merits either by expressly overruling that decision or through " 'doctrinal developments' " that are necessarily incompatible with that decision. (*Id.* at p. 344, 95 S.Ct. 2281.) The United States Supreme Court has not expressly overruled *Baker v. Nelson, supra,* 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65, nor do any of its later decisions contain doctrinal developments that are necessarily incompatible with that decision.

The San Francisco public officials have argued that the United States Supreme Court's decision in *Lawrence v. Texas* (2003) 539 U.S. 558, 123 S.Ct. 2472, 156 L.Ed.2d 508, holding unconstitutional a state law "making it a crime for two persons of the same sex to engage in certain intimate sexual conduct" (*id.* at p. 562, 123 S.Ct. 2472), amounts to a doctrinal development that releases courts and public officials from any obligation to obey the high court's decision in *Baker v. Nelson, supra,* 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65. Although *Lawrence* represents a significant shift in the high court's view of constitutional protections for same-sex relationships, the majority in *Lawrence* carefully pointed out that "there is no longstanding history in this country of laws directed at homosexual conduct as a distinct matter" (*Lawrence v. Texas, supra,* at p. 568, 123 S.Ct. 2472) and that the case "d[id] not involve whether the government must give formal recognition to any relationship that homosexual persons seek to enter" (*id.* at p. 578, 123 S.Ct. 2472). Because there is a long history in this country of defining marriage as a relation between one man and one woman, and because marriage laws do involve formal government recognition of relationships, the high court's decision in *Lawrence* did not undermine the authority of *Baker v. Nelson* to such a degree that a lower federal or state court, much less a public official, could disregard it. Until the United States Supreme Court says otherwise, which it has not yet done, *Baker v. Nelson* defines federal constitutional law on the *****280** question whether a state may deny same-sex couples the right to marry.

***1128** Because neither the federal nor the California Constitution contains any provision directly and expressly guaranteeing a right to marry another person of the same sex, and because no court has ever decided that either Constitution confers that right, this is not a situation in which a public official refused to enforce a law that was obviously and indisputably unconstitutional.

B. Preserving the Status Quo to Prevent Serious Harm

Nor was this a situation in which a public official, by temporarily refraining from enforcing a state law, merely preserved the status quo to prevent potentially irreparable harm pending judicial determination of a legitimate and substantial constitutional question about the law's validity. By issuing licenses authorizing same-sex marriages, the San Francisco public officials did not preserve ****505** a status quo, but instead they altered the status quo in that California law has always prohibited same-sex marriage.

In 1977, the Legislature amended Family Code section 300 to specify that marriage is a relation "between a man and a woman." (See maj. opn., *ante,* 17 Cal.Rptr.3d at p. 236, fn. 11, 95 P.3d at p. 468, fn. 11.) At the March 2000 election, the voters approved Proposition 22, which enacted Family Code section 308.5 declaring that "[o]nly marriage between a man and a woman is valid or recognized in California." [2] But those statutory measures did not change existing law. Since the earliest days of statehood, California has recognized only opposite-sex marriages. (See, e.g., *Mott v. Mott* (1890) 82 Cal. 413, 416, 22 P. 1142 [quoting legal dictionary's definition of marriage as a contract " 'by which a man and woman reciprocally engage to live with each other during their joint lives, and to discharge toward each other the duties imposed by law on the relation of husband and wife' "].) In issuing gender-neutral marriage licenses, therefore, San Francisco public officials could not have intended merely a temporary or interim preservation of an existing state of affairs pending a judicial determination of a newly enacted law's constitutionality. Instead, as their public statements indicated, they issued those licenses to effect a fundamental and permanent change in traditional marriage eligibility requirements, based on their own views about constitutional questions. In so doing, they exceeded their authority.

C. Public Officials' Personal Liability

This was not a situation in which public officials had reason to fear they might be held personally liable in damages for enforcing a constitutionally ***1129** invalid state law. In a federal civil rights action brought under 42 United States Code section 1983, a public official may not be held personally liable for enforcing a state law that violates a federal constitutional right unless the "contours of the right [are] sufficiently clear that a reasonable official would understand that what he is doing violates that right." (*Anderson v. Creighton* (1987) 483 U.S. 635, 640, 107 S.Ct. 3034, 97 L.Ed.2d 523; accord, *Saucier v. Katz* (2001) 533 U.S. 194, 202, 121 S.Ct. 2151, 150 L.Ed.2d 272; *Wilson v. Layne* (1999) 526 U.S. 603, 614–615, 119 S.Ct. 1692, 143 L.Ed.2d 818.) Because the United *****281** States Supreme Court has determined that a state law prohibiting same-sex marriage does not violate the federal Constitution (*Baker v. Nelson, supra,* 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65), no reasonable public official could conclude that denying marriage licenses to same-sex couples would violate a right that was clearly established under the federal Constitution. Accordingly, federal civil rights law could not impose personal liability on local officials in California for enforcing California's same-sex marriage prohibition. "[A]bsent contrary direction, state officials and those with whom they deal are entitled to rely on a presumptively valid state statute, enacted in good faith and by no means plainly unlawful." (*Lemon v. Kurtzman* (1973) 411 U.S. 192, 208–209, 93 S.Ct. 1463, 36 L.Ed.2d 151 (plur. opn. of Burger, C. J.).)

Nor was there any reasonable basis for local officials to anticipate personal liability under the California Constitution or California civil rights laws for denying marriage licenses to same-sex couples. Government Code section 820.6 provides immunity for public employees acting in good faith, without malice, under a statute that proves to be unconstitutional. Because same-sex marriage has never been legally authorized in California, the California Constitution does not expressly grant a right to same-sex marriage, and no judicial decision by any California court has ever suggested, much less held, that state laws limiting marriage to opposite-sex couples violate the California Constitution, Government Code section 820.6 would immunize any public official from personal liability for enforcing the same-sex marriage prohibition should that prohibition, at some ****506** later time, be held to violate the California Constitution.

D. Necessity of Nonenforcement to Obtain Judicial Resolution

Finally, this is not a situation in which a public official's nonenforcement of a law was the only practical way to obtain a judicial determination of that law's constitutionality. Just as the constitutionality of California's prohibition against interracial marriage was properly challenged by a mixed-race couple who were denied a marriage license (*Perez v. Sharp* (1948) 32 Cal.2d 711, 198 P.2d 17), the constitutionality of California's prohibition against same-sex marriage could have been readily challenged at any time through a lawsuit brought by a same-sex couple who had been denied a marriage ***1130** license. Indeed, challenges of this sort are now pending in the superior court. (See maj. opn., *ante,* 17 Cal.Rptr.3d at p. 270, 95 P.3d at p. 495.)

E. Policy Grounds for General Rule Prohibiting Nonenforcement on Constitutional Grounds

As the majority points out (maj. opn., *ante,* 17 Cal.Rptr.3d at pp. 229–230, 264, 95 P.3d at pp. 462–463, 491), confusion and chaos would ensue if local public officials in each of California's 58 counties could separately and independently decide not to enforce long-established laws with which they disagreed, based on idiosyncratic readings of broadly worded constitutional provisions. To ensure uniformity and consistency in the statewide application and enforcement of duly enacted and presumptively valid statutes, the authority of public officials to decline enforcement of state laws, in the absence of a judicial determination of invalidity, based on the officials' own constitutional determinations, is and must be carefully and narrowly limited. I agree with the majority that San Francisco public officials exceeded those limits when they declined to enforce state marriage laws by issuing gender-neutral marriage licenses to same-sex couples.

*****282 II**

Although I agree with the majority that San Francisco officials exceeded their authority when they issued gender-neutral marriage licenses to same-sex couples, I do not agree with all the reasoning that the majority offers in support of that conclusion. In particular, I do not agree that a "line of decisions" had established, before the 1978 enactment of section 3.5 of article III of the California Constitution, that "only administrative agencies constitutionally authorized to exercise judicial power have the authority to determine the constitutional validity of statutes." (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 253, 95 P.3d at p. 482.)

The majority does not identify any pre–1978 decision holding that a nonconstitutional administrative agency, during quasi-judicial administrative proceedings, lacked authority to determine a statute's constitutionality. The majority asserts that this court so held in *State of California v. Superior Court (Veta)* (1974) 12 Cal.3d 237, 115 Cal.Rptr. 497, 524 P.2d 1281. (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 250, 95 P.3d at p. 480.) But this court there decided only that the doctrine of exhaustion of administrative remedies did not apply to a constitutional challenge to the statute from which the administrative agency derived its authority. (*State of California v. Superior Court (Veta), supra,* at p. 251, 115 Cal.Rptr. 497, 524 P.2d 1281.) In concluding that a litigant was not *required* during quasi-judicial administrative proceedings to make a constitutional challenge to the statute that created the agency, this court explained that "[i]t would be heroic indeed to compel a party to appear before an administrative body to challenge its very existence and to expect a dispassionate hearing before its ***1131** preponderantly lay membership on the constitutionality of the statute establishing its status and functions." (*Ibid.*) This court did not state, or even imply, that an administrative agency *lacked authority* to resolve constitutional issues that a litigant might present.

I also see no need for, and do not join, the majority's observations on topics far removed from the issue presented here, such as the powers of the President of the United States ****507** (maj. opn., *ante,* 17 Cal.Rptr.3d at p. 255, fn. 26, 95 P.3d at p. 484, fn. 26) and the existence of certain legal defenses to war crimes charges (*id.* at p. 258, fn. 30, 95 P.3d at p. 486, fn. 30). These issues are not before this court.

III

Because I agree with the majority that San Francisco's public officials exceeded their authority when they issued gender-neutral marriage licenses to same-sex couples, I concur in the judgment insofar as it requires those officials to comply with state marriage laws, to identify the same-sex couples to whom gender-neutral marriage licenses were issued, to notify those couples that their marriage licenses are invalid, to offer refunds of marriage license fees collected, and to make appropriate corrections to all relevant records. But I would not require notification that the marriages themselves "are void from their inception and a legal nullity." (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 273, 95 P.3d at p. 499.)

Although a marriage license is a requirement for a valid marriage (Fam.Code, §§ 300, 350), some defects in a marriage license do not invalidate the marriage. (See *id.,* § 306; see also, e.g., *Argonaut Ins. Co. v. Industrial Acc. Com.* (1962) 204 Cal.App.2d 805, 809, 23 Cal.Rptr. 1 [applicant's use of false names on license application did not invalidate marriage].) Whether the issuance of a gender-neutral *****283** license to a same-sex couple, in violation of state laws restricting marriage to opposite-sex couples, is a defect that precludes any possibility of a valid marriage may well depend upon resolution of the constitutional validity of that statutory restriction. If the restriction is constitutional, then a marriage between persons of the same sex would be a legal impossibility, and no marriage would ever have existed. But if the restriction violates a fundamental constitutional right, the situation could be quite different. A court might then be required to determine the validity of same-sex marriages that had been performed *before* the laws prohibiting those marriages had been invalidated on constitutional grounds.

When a court has declared a law unconstitutional, questions about the effect of that determination on prior actions, events, and transactions "are among the most difficult of those which have engaged the attention of courts, state and federal, and it is manifest from numerous decisions that an ***1132** all-inclusive statement of a principle of absolute retroactive invalidity cannot be justified." (*Chicot County Dist. v. Baxter State Bank* (1940) 308 U.S. 371, 374, 60 S.Ct. 317, 84 L.Ed. 329; accord, *Lemon v. Kurtzman, supra,* 411 U.S. at p. 198, 93 S.Ct. 1463.) This court has acknowledged that, in appropriate circumstances, an unconstitutional statute may be judicially reformed to retroactively extend its benefits to a class that the statute expressly but improperly excluded. (*Kopp v. Fair Pol. Practices Com.* (1995) 11 Cal.4th 607, 624–625, 47 Cal.Rptr.2d 108, 905 P.2d 1248 (lead opn. of Lucas, C.J.), 685, 47 Cal.Rptr.2d 108, 905 P.2d 1248 (conc. & dis. opn. of Baxter, J.) [joining in pt. III of lead opn.].) Thus, it is possible, though by no means certain, that if the state marriage laws prohibiting same-sex marriage were held to violate the state Constitution, same-sex marriages performed before that determination could then be recognized as valid.

Although the United States Supreme Court has determined that there is no right to same-sex marriage under the federal Constitution (*Baker v. Nelson, supra,* 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65), courts in other states construing their own state Constitutions in recent years have reached differing conclusions on this question. (Compare *Goodridge v. Dept. of Public Health* (2003) 440 Mass. 309, 798 N.E.2d 941 [denying marriage licenses to same-sex couples violates Massachusetts Constitution] with *Standhardt v. Sup.Ct.* (Ariz.Ct.App.2003) 206 Ariz. 276, 77 P.3d 451 [no right to same-sex marriage under Arizona Constitution].) Recognizing the difficulty and seriousness of the constitutional question, which is now presented in pending superior court actions, this court has declined to address it in this case. *Until that constitutional issue has been finally resolved under the California Constitution,* it is premature and unwise to assert, as the majority essentially does, that the thousands of same-sex weddings performed in ****508** San Francisco were empty and meaningless ceremonies in the eyes of the law.

For many, marriage is the most significant and most highly treasured experience in a lifetime. Individuals in loving same-sex relationships have waited years, sometimes several decades, for a chance to wed, yearning to obtain the public validation that only marriage can give. In recognition of that, this court should proceed most cautiously in resolving the ultimate question of the validity of the same-sex marriages performed in San Francisco, even though those marriages were

performed under licenses issued by San Francisco public officials without proper authority and in violation of state law. Because the licenses were issued without proper authorization, ***284 and in the absence of a judicial determination that the state laws prohibiting same-sex marriage are unconstitutional, employers and other third parties would be under no legal obligation to recognize the validity of any of the same-sex marriages at issue here. Should the pending lawsuits ultimately be resolved by a determination that the opposite-sex marriage restriction is *1133 constitutionally invalid —an issue on which I express no opinion—it would then be the appropriate time to address the validity of previously solemnized same-sex marriages.

Concurring and Dissenting Opinion by WERDEGAR, J.

I agree with the majority that San Francisco officials violated the Family Code by licensing marriages between persons of the same sex. Accordingly, I concur in the decision to order those officials to comply with the existing marriage statutes unless and until they are determined to be unconstitutional. Because constitutional challenges are pending in the lower courts, to order city officials not to license additional same-sex marriages in the meantime is an appropriate way to preserve the status quo pending the outcome of that litigation. That, however, is the extent of my agreement with the majority.

I.

I do not join in the majority's decision to address the validity of the marriages already performed and to declare them void. My concern here is not for the future of same-sex marriage. That question is not before us and, like the majority, I intimate no view on it. My concern, rather, is for basic fairness in judicial process. The superior court is presently considering whether the state statutes that limit marriage to "a man and a woman" (e.g., Fam.Code, § 300) violate the state and federal Constitutions. The same-sex couples challenging those statutes claim the state has, without sufficient justification, denied the fundamental right to marry (e.g., *Zablocki v. Redhail* (1978) 434 U.S. 374, 383, 98 S.Ct. 673, 54 L.Ed.2d 618; *Loving v. Virginia* (1967) 388 U.S. 1, 12, 87 S.Ct. 1817, 18 L.Ed.2d 1010; *Perez v. Sharp* (1948) 32 Cal.2d 711, 714–715, 198 P.2d 17) to a class of persons defined by gender or sexual orientation. Should the relevant statutes be held unconstitutional, the relief to which the purportedly married couples would be entitled would normally include recognition of their marriages. By analogy, interracial marriages that were void under antimiscegeny statutes at the time they were solemnized were nevertheless recognized as valid after the high court rejected those laws in *Loving v. Virginia.* (E.g., *Dick v. Reaves* (Okla.1967) 434 P.2d 295, 298.) By postponing a ruling on this issue, we could preserve the status quo pending the outcome of the constitutional litigation. Instead, by declaring the marriages "void and of no legal effect from their inception" (maj. opn., *ante,* 17 Cal.Rptr.3d at p. 268, 95 P.3d at p. 494), the majority permanently deprives future courts of the ability to award full relief in the event the existing statutes are held unconstitutional. This premature decision can in no sense be thought to represent fair judicial process.

The majority asserts that "it would not be prudent or wise to leave the validity of these marriages in limbo for what might be a substantial period of *1134 time given the potential confusion (for third parties, such as employers, insurers, or other governmental entities, as well as for the affected couples) that such an uncertain status inevitably would entail." (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 271, 95 P.3d at p. 497.) Nowhere in the opinion, **509 however, does the majority note that any same-sex couple has filed a lawsuit seeking the legal ***285 benefits of their purported marriage. Nor is the absence of such lawsuits surprising, since any reasonable court would stay such actions pending the outcome of the ongoing constitutional litigation. [1]

The majority's decision to declare the existing marriages void is unfair for the additional reason that the affected couples have not been joined as parties or given notice and an opportunity to appear. On March 12, 2004, we denied all petitions to intervene filed by affected couples. That ruling made sense at the time it was announced because our prior order of March 11, 2004, which specified the issues to be briefed and argued, did not identify the validity of the existing marriages

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as an issue. Only on April 14, 2004, *after* having denied the petitions to intervene, did the court identify and solicit briefing on the issue of the marriages' validity. To declare marriages void after denying requests by the purported spouses to appear in court as parties and be heard on the matter is hard to justify, to say the least. [2]

The majority counters that "the legal arguments of such couples with regard to the question of the validity of the existing same-sex marriages have been heard and fully considered." (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 270, 95 P.3d at p. 496.) But this is a claim a court may not in good conscience make unless it has given, to the persons whose rights it is purporting to adjudicate, notice and the opportunity to appear. This is the irreducible minimum of due process, even in cases involving numerous parties. (See *Mullane v. Central Hanover Tr. Co.* (1950) 339 U.S. 306, 314–315, 70 S.Ct. 652, 94 L.Ed. 865.) Amicus curiae briefs, which any member of the public may ask to file and which the court has no obligation to read, cannot seriously be thought to satisfy these requirements. The majority writes that "requiring each of the thousands of same-sex couples to be named and served as parties in the present action, would add nothing of substance to this proceeding." (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 269, 95 P.3d at p. 495.) Of ***1135** course, the same argument can be made in many class actions with respect to the absent members of the class, but due process still gives each class member the right to notice and the opportunity to appear. (*Mullane v. Central Hanover Tr. Co., supra,* 339 U.S. at pp. 314–315, 70 S.Ct. 652.) Here, notice has been given to none of the 4,000 affected couples; and even the 11 same-sex couples who affirmatively sought to intervene were denied the opportunity to appear. (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 270, 95 P.3d at p. 496.) What the majority has done, in effect, is to give petitioners the benefit of an action against a defendant class of same-sex couples free of the burden of procedural due process. If the majority truly desired to hear the views of the same-sex couples *****286** whose rights it is adjudicating, it would not proceed in absentia.

Aware of this problem, the majority offers a specious imitation of due process by ordering the city to notify the same-sex couples that this court has decided their marriages are void, and to "provide these couples an opportunity to demonstrate that their marriages are not same-sex marriages" before canceling their marriage records. (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 273, 274, 95 P.3d at pp. 499, 500; see also *id.,* at p. 270, 95 P.3d at p. 497.) This procedure may prevent the city from mistakenly deleting the records of heterosexual marriages, but it cannot benefit any same-sex couple. Notice after the ****510** fact that one's rights have been adjudicated is not due process.

The majority attempts to justify the procedural shortcuts it is taking by invoking the rule that "[a] marriage prohibited as ... illegal and declared to be 'void' or 'void from the beginning' is a legal nullity and its validity may be asserted or shown in any proceeding in which the fact of marriage may be material." (*Estate of Gregorson* (1911) 160 Cal. 21, 26, 116 P. 60, quoted in maj. opn., *ante,* 17 Cal.Rptr.3d at p. 269, 95 P.3d at p. 495.) But that rule, until today, has permitted persons other than spouses to challenge the validity of a marriage *only as and when necessary to resolve another issue in the case,* for example, the legitimacy of an heir's claim to property or an assertion of marital privilege. In essence, the *Gregorson* rule simply recognizes that a litigant whose claim or defense depends on the validity or invalidity of a marriage may introduce evidence to prove the point. [3] We have never held that this type of collateral attack on a marriage has any binding effect on *nonparties* to the ***1136** action. A court's refusal in the course of a criminal trial to recognize a claim of marital privilege, for example, does not compel the State Office of Vital Records to destroy a record of the marriage. The majority asserts that the question of the existing marriages' validity or invalidity is material because it is "*central to the scope of the remedy that may and should be ordered in this case.*" (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 269, 95 P.3d at p. 495, italics added.) But this is just another way of saying the question is material because the Attorney General has asked us to decide it. With this reasoning, the majority assumes the conclusion and converts the *Gregorson* rule into a pretext for denying fundamental fairness.

II.

I also do not join in the majority's unnecessary, wide-ranging comments on the respective powers of the judicial and executive branches of government.

The ostensible occasion for the majority's comments—a threat to the rule of law (maj. opn., ***287 *ante,* 17 Cal.Rptr.3d at p. 273, 95 P.3d at p. 499)—seems an extravagant characterization of recent events. On March 11, 2004, when we assumed jurisdiction and issued an interim order directing San Francisco officials to cease licensing same-sex marriages, those officials immediately stopped. Apparently the only reason they had not stopped earlier is that the lower courts had denied similar applications for interim relief. While city officials evidently understood their oaths of office as commanding obedience to the Constitution rather than to the marriage statutes they believed to be unconstitutional, those officials never so much as hinted that they would not respect the authority of the courts to decide the matter. Indeed, not only did our interim order meet with immediate, unreserved compliance by city officials, but the same order apparently sufficed to recall to duty any other public officials who might privately have been thinking to follow San Francisco's lead. In the meantime, not one of California's 58 counties or over 400 municipalities has licensed a same-sex marriage.

Under these circumstances, I see no justification for asserting a broad claim of power over the executive branch. Make no mistake, the majority does assert such a claim by holding that executive officers must follow statutory rather than constitutional law until a court gives them permission in advance to do otherwise. For the judiciary to assert such power over the executive branch is fundamentally misguided. As the high court **511 has explained, " [i]n the performance of assigned constitutional duties *each branch of the Government must initially interpret the Constitution,* and the interpretation of its powers by any branch is due great respect from the others." (*United States v. Nixon* (1974) 418 U.S. 683, 703, 94 S.Ct. 3090, 41 L.Ed.2d 1039, italics added.) To recognize that an executive officer has the practical freedom to act based on an interpretation of the Constitution that may ultimately prove to be wrong *1137 does not mean the rule of law has collapsed. So long as the courts remain open to hear legal challenges to executive conduct, so long as the courts have power to enjoin such conduct pending final determination of its legality, and so long as the other branches acknowledge the courts' role as " 'ultimate interpreter of the Constitution' " (*id.,* at p. 704, 94 S.Ct. 3090, quoting *Baker v. Carr* (1962) 369 U.S. 186, 211, 82 S.Ct. 691, 7 L.Ed.2d 663) in matters properly within their jurisdiction, no genuine threat to the rule of law exists. San Francisco's compliance with our interim order eloquently demonstrates this.

Furthermore, a rule requiring an executive officer to seek a court's permission before declining to comply with an apparently unconstitutional statute is fundamentally at odds with the separation of powers and, in many cases, unenforceable. The executive branch is necessarily active, managing events as they occur. The judicial branch is necessarily reactive, waiting until invited to serve as neutral referee. The executive branch does not await the courts' pleasure. A rule to the contrary, though perhaps enforceable against local officials in some cases, will be impossible to enforce against executive officers who exercise a greater share of the state's power, such as a Governor or an Attorney General. By happy tradition in this country, executive officers have generally acquiesced in the judicial branch's traditional claim of final authority to resolve constitutional disputes. (*Marbury v. Madison* (1803) 1 Cranch 137, 5 U.S. 137, 176, 2 L.Ed. 60; see also *United States v. Nixon, supra,* 418 U.S. 683, 703, 94 S.Ct. 3090, 41 L.Ed.2d 1039.) But a court can never afford to forget that the judiciary "may truly be said to have neither Force nor ***288 Will, but merely judgment; and must ultimately depend upon the aid of the executive arm even for the efficacy of its judgments." (Hamilton, The Federalist No. 78 (Willis ed.1982) p. 394.) Accordingly, we are ill advised to announce categorical rules that will not stand the test of harder cases.

The majority acknowledges that "legislators and executive officials may take into account constitutional considerations in making discretionary decisions within their authorized sphere of action—such as whether to enact or veto proposed legislation or exercise prosecutorial discretion." (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 230, 95 P.3d at p. 463.) But the majority views executive officers exercising "ministerial" functions as statutory automatons, denied even the scope to obey their oaths of office to follow the Constitution. (*Ibid.*) Contrary to the majority, I do not find the purported distinction between discretionary and ministerial functions helpful in this context. Were not state officials performing ministerial functions when, strictly enforcing state segregation laws in the years following *Brown v. Board of Education* (1954) 347 U.S. 483, 74 S.Ct. 686, 98 L.Ed. 873, they refused to admit African–American pupils to all-White schools

until the courts had applied *Brown's* decision about a Kansas school system to each state's law? We formerly believed that school officials' oaths of office to obey the Constitution had sufficient gravity in such cases to permit them to obey the higher law, even *before* the courts had ***1138** spoken state by state. (*Southern Pac. Transportation Co. v. Public Utilities Com.* (1976) 18 Cal.3d 308, 311, fn. 2 [3d par.], 134 Cal.Rptr. 189, 556 P.2d 289.) So, too, did the United States Supreme Court. (*Cooper v. Aaron* (1958) 358 U.S. 1, 18–20, 78 S.Ct. 1401, 3 L.Ed.2d 5.) Today, in contrast, the majority equivocates on this point (see maj. opn., *ante,* 17 Cal.Rptr.3d at pp. 258–259, 95 P.3d 486–487) and writes that "a public official 'faithfully upholds the Constitution by complying with the mandates of the Legislature, leaving to courts the decision whether those mandates are invalid' " (*id.,* at p. 257, 95 P.3d at p. 485, quoting *Southern Pac. Transportation Co. v. Public Utilities Com., supra,* at p. 319, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.)). But ****512** as history demonstrates, however convenient the majority's view may be in dealing with subordinate officers within a governmental hierarchy, that view is not entirely correct.

The majority's strong view of judicial power over the executive branch leads it to suggest, albeit without actually so holding, that a state may properly condition on advance judicial approval its executive officers' duty to obey even the *federal* Constitution. The majority writes, for example, that "[t]he city has not cited any case holding that the federal Constitution prohibits a state from defining the authority of a state's executive officials in a manner that requires such officials to comply with a clearly applicable statute unless and until such a statute is judicially determined to be unconstitutional" (maj. opn., *ante,* 17 Cal.Rptr.3d at p. 265, 95 P.3d at p. 492), and that " 'the power of a public officer to question the constitutionality of a statute as an excuse for refusing to enforce it ... *is a purely local question*' [citation] —that is, purely a question of state (not federal) law" (*id.,* at p. 266, 95 P.3d at pp. 493–494, quoting *Smith v. Indiana* (1903) 191 U.S. 138, 148, 24 S.Ct. 51, 48 L.Ed. 125, italics in maj. opn.). [4]

*****289** Given that respondent city officials have complied with our interim order to cease issuing same-sex marriage licenses, and that the constitutionality of the existing marriage statutes is presently under review, I consider the majority's determination to speculate about the limits of a state official's duty to obey ***1139** the federal Constitution unnecessary and regrettable. A court should not trifle with the doctrine invoked by recalcitrant state officials, in the years following *Brown v. Board of Education, supra,* 347 U.S. 483, 74 S.Ct. 686, 98 L.Ed. 873, to rationalize their delay in complying with the Fourteenth Amendment. The high court definitively repudiated this erroneous doctrine in *Cooper v. Aaron, supra,* 358 U.S. 1, 18, 78 S.Ct. 1401, 3 L.Ed.2d 5: "No state legislator or executive or judicial officer can war against the Constitution without violating his undertaking to support it." The United States Constitution, itself, immediately commands the unqualified obedience of state officials in article VI, section 3, which declares that "all executive and judicial officers, both of the United States *and of the several states,* shall be bound by oath or affirmation, to support this Constitution...." (Italics added; see also *Cooper v. Aaron, supra,* 358 U.S. at pp. 19–20, 78 S.Ct. 1401.)

We, as a court, should not claim more power than we need to do our job effectively. In particular, strong claims of judicial power over the executive branch are best left unmade and, if they must be made, are best reserved for cases presenting a real threat to the separation of powers—a threat that provides manifest necessity for the claim, a genuine test of the claim's validity, and a suitable incentive for caution in its articulation. None of these conditions, all of which are necessary to ensure sound decisions in hard cases, is present here.

III.

In conclusion, I agree with the majority's decision to order city officials not to license additional same-sex marriages pending resolution of the constitutional challenges to the existing marriage statutes. To say more at this time is neither necessary nor wise.

All Citations

33 Cal.4th 1055, 95 P.3d 459, 17 Cal.Rptr.3d 225, 04 Cal. Daily Op. Serv. 7342, 2004 Daily Journal D.A.R. 9916

Footnotes

1 The phrase "a government of laws, and not of men" was authored by John Adams (Adams, Novanglus Papers, No. 7 (1774), reprinted in 4 Works of John Adams (Charles Francis Adams ed. 1851) p. 106), and was included as part of the separation of powers provision of the initial Massachusetts Constitution adopted in 1780. (Mass. Const.(1780) Part The First, art. XXX.) The separation of powers provision of that state's Constitution remains unchanged to this day, and reads in full: "In the government of this commonwealth, the legislative department shall never exercise the executive and judicial powers or either of them; the executive shall never exercise the legislative and judicial powers, or either of them; the judicial shall never exercise the legislative and executive powers, or either of them: *to the end it may be a government of laws and not of men.*" (Italics added.)

2 Petitioner in the *Lockyer* matter is Bill Lockyer, the Attorney General of California. The petition in *Lockyer* names as respondents the City and County of San Francisco, Gavin Newsom in his official capacity as Mayor of the City and County of San Francisco, Mabel S. Teng in her official capacity as Assessor–Recorder of the City and County of San Francisco, and Nancy Alfaro in her official capacity as the County Clerk of the City and County of San Francisco.

Petitioners in the *Lewis* matter are Barbara Lewis, Charles McIlhenny, and Edward Mei, San Francisco residents and taxpayers. The petition in *Lewis* names as respondent Nancy Alfaro in her official capacity as the County Clerk of the City and County of San Francisco.

For convenience, in this opinion we generally shall refer to the Attorney General and petitioners in *Lewis* collectively as "petitioners" and to respondents in both *Lockyer* and *Lewis* collectively as "the city" or "the city officials."

3 The letter from Mayor Newsom identified Alfaro as the San Francisco County Clerk. In its answer to the petition for writ of mandate in *Lockyer,* filed in this court on March 18, 2004, however, the city alleges "that Daryl M. Burton is the San Francisco County Clerk, and that Nancy Alfaro is the Director of the County Clerk's Office, to whom all of the responsibilities and privileges of County Clerk have been delegated." The answer further alleges that "as Burton's delegate, Nancy Alfaro is the designated 'commissioner of civil marriages' for San Francisco." Alfaro has filed a declaration stating that she is the Director of the County Clerk's Office for the City and County of San Francisco and that "[i]n that capacity I perform all the duties, and hold all the responsibilities of, the County Clerk. These duties include the issuance of all marriage licenses." Petitioners do not contend that Alfaro is not the official authorized to perform the duties assigned by the applicable statutes to the county clerk, and thus we shall consider Alfaro the county clerk for purposes of this proceeding.

4 The letter read in full: "Upon taking the Oath of Office, becoming the Mayor of the City and County of San Francisco, I swore to uphold the Constitution of the State of California. Article I, Section 7, subdivision (a) of the California Constitution provides that '[a] person may not be ... denied equal protection of the laws.' The California courts have interpreted the equal protection clause of the California Constitution to apply to lesbians and gay men and have suggested that laws that treat homosexuals differently from heterosexuals are suspect. The California courts have also stated that discrimination against gay men and lesbians is invidious. The California courts have held that gender discrimination is suspect and invidious as well. The Supreme Courts in other states have held that equal protection provisions in their state constitutions prohibit discrimination against gay men and lesbians with respect to the rights and obligations flowing from marriage. It is my belief that these decisions are persuasive and that the California Constitution similarly prohibits such discrimination.

> "Pursuant to my sworn duty to uphold the California Constitution, including specifically its equal protection clause, I request that you determine what changes should be made to the forms and documents used to apply for and issue marriage licenses in order to provide marriage licenses on a non-discriminatory basis, without regard to gender or sexual orientation."

5 The warning reads in full: "Please read this carefully prior to completing the application: [¶] By entering into marriage you may lose some or all of the rights, protections, and benefits you enjoy as a domestic partner, including, but not limited to those rights, protections, and benefits afforded by State and local government, and by your employer. If you are currently in a domestic partnership, you are urged to seek legal advice regarding the potential loss of your rights, protections, and benefits before entering into marriage. [¶] Marriage of gay and lesbian couples may not be recognized as valid by any jurisdiction other than San Francisco, and may not be recognized as valid by any employer. If you are a same-gender couple, you are encouraged to seek legal advice regarding the effect of entering into marriage."

6 On February 17, 2004, the superior court, in addition to declining to grant the request for an immediate stay, issued an alternative writ in *Proposition 22 Legal Defense,* directing the city to cease and desist issuing marriage licenses to same-sex couples or performing marriage ceremonies for such couples, or show cause why the city has not done so, and set a hearing on the show cause order for March 29, 2004. On February 19, 2004, the city filed a cross-complaint for declaratory relief against the State of California in *Proposition 22 Legal Defense,* seeking a declaration that the California statutes that deny the issuance of marriage licenses to same-sex couples are unconstitutional.

7 The petition in *Lewis*—filed by parties who maintain that the existing California marriage statutes are constitutional—similarly took the position that "[t]he constitutionality of the marriage laws is an issue best left to full development in the lower courts."

8 Family Code section 425 provides: "If no record of the solemnization of a marriage previously contracted is known to exist, the parties may purchase a License and Certificate of Declaration of Marriage from the county clerk in the parties' county of residence." Family Code section 350 provides that "[b]efore ... declaring a marriage pursuant to Section 425, the parties shall first obtain a marriage license from a county clerk." As the Court of Appeal explained in *Estate of DePasse, supra,* 97 Cal.App.4th 92, 104, 118 Cal.Rptr.2d 143, "[t]he purpose of the [section 425] procedure is to create a record of an otherwise unrecorded marriage, thus focusing on the registration requirement, as opposed to the licensing requirement." The section 425 procedure has no bearing on the issues presented by this case.

9 Part 4 of division 3 of the Family Code (§§ 500–536) governs confidential marriages. With respect to the issue presented in this case, the provisions governing confidential marriages parallel the provisions governing ordinary marriages. (Compare, e.g., Fam.Code, § 505 [specifying form of confidential marriage license] with Fam.Code, § 355 [specifying form of ordinary marriage license].)

10 With respect to section 301—which, as noted above, provides that "an unmarried male of the age of 18 years or older, and an unmarried female of the age of 18 years or older, ... are capable of consenting to and consummating marriage"—the opposition filed in this court maintains that "the statute is silent as to whom an unmarried male and an unmarried female may marry, and thus is irrelevant." Petitioners maintain, by contrast, that section 301 clearly contemplates that a marriage will be consummated between an unmarried male and unmarried female.

With regard to section 308.5—which provides that "[o]nly marriage between a man and woman is valid or recognized in California"—the opposition maintains that, in light of the provision's history, "[t]his statute is irrelevant to the case at hand because it addresses only out-of-state marriages." Petitioners assert, by contrast, that by specifying that only marriage between a man and woman is "valid" or "recognized" in California, section 308.5 addresses both in-state and out-of-state marriages.

11 The language in Family Code section 300 specifying that marriage is a relation "between a man and a woman" was adopted by the Legislature in 1977, when the provision was set forth in former section 4100 of the Civil Code. (Stats.1977, ch. 339, § 1, p. 1295, introduced as Assem. Bill 607 (1977–1978 Reg. Sess.).) The legislative history of the measure makes its objective clear. (See Sen. Com. on Judiciary, Analysis of Assem. Bill No. 607 (1977–1978 Reg. Sess.) as amended May 23, 1977, p. 1 ["The purpose of the bill is to prohibit persons of the same sex from entering lawful marriage"].) The provisions of Civil Code former section 4100 were moved to Family Code section 300 when the Family Code was enacted in 1992. (Stats.1992, ch. 162, § 10, p. 474.)

12 Family Code section 350 provides: "*Before entering a marriage,* or declaring a marriage pursuant to Section 425, *the parties shall first obtain a marriage license from a county clerk.*" (Italics added.)

Section 351 provides: "The marriage license shall show all of the following: [¶] (a) The identity of the parties to the marriage. [¶] (b) The parties' real and full names, and places of residence. [¶] (c) The parties' ages."
Section 354 provides: "(a) Each applicant for a marriage license may be required to present authentic identification as to name. [¶] (b) *For the purpose of ascertaining the facts mentioned or required in this part, if the clerk deems it necessary, the clerk may examine the applicants for a marriage license on oath at the time of the application.* The clerk shall reduce the examination to writing and the applicants shall sign it. [¶] (c) *If necessary, the clerk may request additional documentary proof as to the accuracy of the facts stated.* [¶] (d) Applicants for a marriage license shall not be required to state, for any purpose, their race or color." (Italics added.)
Section 355 provides: "(a) *The forms for the application for a marriage license and the marriage license shall be prescribed by the State Department of Health Services, and shall be adapted to set forth the facts required in this part.* [¶] (b) The form for the application for a marriage license shall include an affidavit on the back, which the applicants shall sign, affirming that they have received the brochure provided for in Section 358.[¶] (c) *The affidavit required by subdivision (b) shall state:*

AFFIDAVIT

I acknowledge that I have received the brochure titled _____

Signature of Bride Date

Signature of Groom Date

[End of section 355.]" (Italics added.)

Section 359 provides: "(a) *Applicants for a marriage license shall obtain from the county clerk issuing the license, a certificate of registry of marriage.* [¶] (b) *The contents of the certificate of registry are as provided in Division 9 (commencing with Section 10000) of the Health and Safety Code.* [¶] (c) The certificate of registry shall be filled out by the applicants, *in the presence of the county clerk issuing the marriage license,* and shall be presented to the person solemnizing the marriage. [¶] (d) The person solemnizing the marriage shall complete the registry and shall cause to be entered on the certificate of registry the signature and address of one witness to the marriage ceremony. [¶] (e) The certificate of registry shall be returned by the person solemnizing the marriage *to the county recorder of the county in which the license was issued* within 30 days after the ceremony. [¶] (f) As used in this division, 'returned' means presented to the appropriate person in person, or postmarked, before the expiration of the specified time period." (Italics added.)

13 Family Code section 421 provides in relevant part: "Before solemnizing a marriage, the person solemnizing the marriage shall require the presentation of the marriage license...."

Section 422 provides in relevant part: "The person solemnizing a marriage shall make, sign, and endorse upon or attach to the marriage license a statement, *in the form prescribed by the State Department of Health Services,* showing all of the following: [¶] (a) The fact, date (month, day, year), and place (city and county) of solemnization. [¶] (b) The names and places of residence of one or more witnesses to the ceremony. [¶] (c) The official position of the person solemnizing the marriage...." (Italics added.)

Section 423 provides: "The person solemnizing the marriage shall return the marriage license, endorsed as required in Section 422, *to the county recorder of the county in which the license was issued* within 30 days after the ceremony." (Italics added.)

14 The Health and Safety Code contains a number of additional provisions that demonstrate the state's overriding interest in the uniform application of the state's marriage laws. (See, e.g., Health & Saf.Code, §§ 102205, 102215.)

15 In the mayor's February 10 letter to the county clerk, the mayor simply "request[ed]" the clerk to determine what changes should be made to the forms and documents used to apply for and issue marriage licenses. In the opposition and supplemental opposition filed in this court, however, the city states that the mayor "directed the County Clerk's Office to arrange for the issuance of marriage licenses to same-sex couples" and that "Alfaro was not the decisionmaker with respect to San Francisco's issuance of marriage licenses to same-sex couples. She and the other employees within the County Clerk's Office issued marriage licenses to such couples because Mayor Newsom told them to do so."

16 As indicated, the issue presented in this case is purely whether a local official may refuse to apply a statute solely on the basis of the official's view that the statute is unconstitutional. There is no claim here that the officials acted as they did because of questions regarding the proper interpretation of the applicable statutes or because of doubts as to which of two or more competing statutory provisions to apply. (Cf. *Burlington Northern & Santa Fe Ry. Co. v. Public Utilities Commission* (2003) 112 Cal.App.4th 881, 887–889, 5 Cal.Rptr.3d 503.) Here, the officials acknowledge that the current California statutes limit marriage to a union between a man and a woman, and concede that they refused to apply the relevant statutory provisions solely because of a belief that this statutory requirement is unconstitutional.

17 In *Billig, supra,* 223 Cal.App.3d 962, 273 Cal.Rptr. 91, the plaintiffs had submitted a referendum petition to the city clerk, but the clerk refused to process the petition or submit it to the city council because the petition did not include the full text of the challenged ordinance, as required by section 4052 of the Elections Code. The plaintiffs then sought a writ of mandate in superior court against the clerk, claiming that this official's authority was limited to determining whether there were sufficient signatures on the petition and did not extend to rejecting a petition for noncompliance with section 4052. The trial court ruled against the plaintiffs and the Court of Appeal affirmed.

The appellate court explained in *Billig* that the city clerk's duty "is limited to the ministerial function of ascertaining whether the *procedural* requirements for submitting a petition have been met" (*Billig, supra,* 223 Cal.App.3d at pp. 968–969, 273 Cal.Rptr. 91), and found that Elections Code section 4052 "involves purely procedural requirements for submitting a referendum petition. Therefore a city clerk who refuses to accept a petition for noncompliance with the statute is only performing a ministerial function involving no exercise of discretion." (*Billig,* at p. 969, 273 Cal.Rptr. 91.)

Stating that the city clerk lacked discretion *not* to enforce the statutory provision, the Court of Appeal discussed article III, section 3.5 and observed: "Administrative agencies, *including public officials in charge of such agencies,* are expressly forbidden from declaring statutes unenforceable, unless an appellate court has determined that a particular statute is unconstitutional. (Cal. Const., art. III, § 3.5.) [Elections Code] [s]ection 4052 has not been declared unconstitutional by an appellate court in this state. Consequently, *the offices of city clerks throughout the state* are mandated by the [C]onstitution

to implement and enforce the statute's procedural requirements. In the instant case, respondent had the clear and present ministerial duty to refuse to process appellants' petition because it did not comply with the procedural requirements of section 4052." (*Billig, supra,* 223 Cal.App.3d at p. 969, 273 Cal.Rptr. 91, italics added.)

Although the italicized language in *Billig* supports petitioners' position with regard to the scope of article III, section 3.5, there is no indication that any party in *Billig* raised the argument that article III, section 3.5 applies only to *state* agencies and not to *local* agencies or officials, and thus the court in *Billig* had no occasion to resolve that issue. Moreover, in any event the discussion of article III, section 3.5 in *Billig* clearly was dictum, because an analysis and resolution of the scope of that constitutional provision not only was unnecessary to the decision in *Billig,* but arguably was entirely irrelevant. The plaintiffs in *Billig* had *not* asked the city clerk to refrain from applying Elections Code section 4052 on the ground that the statute was unconstitutional, and the city clerk's decision not to accept the petition did *not* involve consideration of whether he had the authority to determine the provision's constitutionality; moreover, the plaintiffs did not raise any constitutional challenge to section 4052 in the trial court or on appeal. Instead, the plaintiffs in *Billig* simply argued that the applicable provisions of section 4052 did not authorize *a city clerk* (as opposed to a court) to reject a petition for noncompliance with that statute, and that only a court was authorized to disqualify a petition for nonconformance with the requirements of section 4052.

Because the provisions of article III, section 3.5 did not bear on the question before the court in *Billig,* we believe it would be inappropriate to accord much significance to the cited language in that decision.

18 Indeed, in the petition filed in this court, the petitioner in *Southern Pacific* expressly stated that it did "not question the authority of the Commission, which has quasi judicial powers and is a court of special jurisdiction, to declare and hold a statute to be unconstitutional."

19 See, e.g., *Brice v. Dept. of Alcoholic Bev. Control* (1957) 153 Cal.App.2d 315, 320, 314 P.2d 807 ("[The Department of Alcoholic Beverage Control] is a constitutional agency that has succeeded to some of the powers of the State Board of Equalization in alcoholic beverage control matters. Being an agency upon which the Constitution has conferred limited judicial powers, its decisions on factual matters must be affirmed if there is substantial evidence to support them").

20 The significance attached by the court in *Walker* to the California Constitution's grant of judicial power to the Alcoholic Beverage Control Appeals Board is confirmed by the distinction the *Walker* decision drew between the case before it and a then recent decision of the California Supreme Court that was heavily relied upon by the plaintiffs. The court in *Walker* explained: "*County of Alpine v. County of Tuolumne* (1958) 49 Cal.2d 787, 322 P.2d 449, referred to extensively by plaintiffs, is not in point. There the county of Alpine brought an action to determine its boundaries with defendant counties. Judgment of dismissal was reversed. Defendants asserted that the county of Alpine had not exhausted an administrative remedy before the State Lands Commission. But the court held that the agency [the State Lands Commission] was empowered only to 'survey and mark' boundaries.... [*I*]*t was without jurisdiction to make judicial determinations* of boundaries and therefore the county of Alpine could properly maintain its action." (*Walker, supra,* 178 Cal.App.2d at p. 73, 2 Cal.Rptr. 737, italics added.)

21 In this regard it is worth noting that article III, section 3 of the California Constitution explicitly provides: "The powers of State government are legislative, executive, and judicial. Persons charged with the exercise of one power may not exercise either of the others *except as permitted by this Constitution.*" (Italics added.)

22 The city, in a footnote contained in its reply brief to several amicus curiae briefs, maintains that the actions of its officials did not constitute the exercise of judicial powers, citing a brief passage in this court's decision in *Lusardi Constr. Co. v. Aubry* (1992) 1 Cal.4th 976, 993, 4 Cal.Rptr.2d 837, 824 P.2d 643 (*Lusardi*) (the Director of the Department of Industrial Relations' "determination that a project is a public work ... cannot be accurately characterized as 'judicial,' because it does not encompass the conduct of a hearing or a binding order for any type of relief"). In *Lusardi,* however, the director, unlike the city officials here, acted to enforce a statutory provision; he did not defy or disregard a statutory provision on the basis of his own determination that the statute was unconstitutional. *Lusardi* clearly provides no support for the city's position.

23 The statement in numerous California decisions that the separation of powers provision of article III is inapplicable to government below the state level means simply that, in establishing a governmental structure for the purpose of managing municipal affairs, the Legislature (through statutes) or local entities (through charter provisions and the like) may combine executive, legislative, and judicial functions in a manner different from the structure that the California Constitution prescribes for state government. (See, e.g., *Wulzen v. Board of Supervisors* (1894) 101 Cal. 15, 25–26, 35 P. 353; *People v. Provines* (1868) 34 Cal. 520, 532–540.) As explained hereafter, the statement does *not* mean that a local executive official has the inherent authority to exercise judicial power.

24 In a somewhat related context, this court held in *Farley v. Healey* (1967) 67 Cal.2d 325, 62 Cal.Rptr. 26, 431 P.2d 650 that an acting registrar of voters, who refused to determine whether sufficient signatures had been submitted to qualify a local initiative measure for the ballot because of his conclusion that the content of the initiative was not a proper subject for a local

initiative, "exceeded his authority in undertaking to determine whether the proposed initiative was within the power of the electorate to adopt." (67 Cal.2d at p. 327, 62 Cal.Rptr. 26, 431 P.2d 650.) We explained that under the applicable charter provision, the registrar's "duty is limited to the ministerial function of ascertaining whether the procedural requirements for submitting an initiative measure have been met. *It is not his function to determine whether a proposed initiative will be valid if enacted or whether a proposed declaration of policy is one to which the initiative may apply. These questions may involve difficult legal issues that only a court can determine.* Given compliance with the formal requirements for submitting an initiative, the registrar must place it on the ballot unless he is directed to do otherwise by a court on a compelling showing that a proper case has been established for interfering with the initiative power." (*Ibid.,* italics added.)

25 The public finance cases upon which the city relies generally preceded the adoption of California's validation statutes, which currently permit a public agency to file an in rem action in order to obtain a judicial determination of the validity of bonds, warrants, contracts, obligations, or similar evidences of indebtedness. (See Code Civ. Proc., § 860 et seq. [initially adopted in 1961 (Stats.1961, ch. 1479, § 1, p. 3331)].) The current statutes provide that such actions "shall be given preference over all other civil actions ... to the end that such actions shall be speedily heard and determined." (Code Civ. Proc., § 867.)

26 A number of law review articles suggest that the federal Constitution should be interpreted as permitting the President of the United States to refuse to enforce a statute that the President believes is unconstitutional. (See, e.g., Easterbrook, *Presidential Review* (1990) 40 Case W. Res. L.Rev. 905.) Other scholars, however, have made a strong argument that the history of the proceedings of the constitutional convention that drafted the federal Constitution, and in particular the Founders' explicit rejection of a proposal for an absolute presidential veto, refutes such an interpretation. (See, e.g., May, *Presidential Defiance of 'Unconstitutional Laws: Reviving the Royal Prerogative, supra,* 21 Hastings Const. L.Q. 865, 872–895.) To date, no court has accepted the contention that the President possesses such authority. (See, e.g., *Ameron, Inc. v. U.S. Army Corps of Eng'rs* (3d Cir.1986) 787 F.2d 875, 889 & fn. 11 ["This claim of right for the President to *declare* statutes unconstitutional and to declare his refusal to execute them, as distinguished from his undisputed right to veto, criticize, or even refuse to defend in court, statutes which he regards as unconstitutional, is dubious at best"].)

27 As noted above, after several mandate actions were filed against the city in superior court challenging the actions of the city officials, the city filed a cross-complaint in one of the actions, seeking a declaratory judgment that the marriage statutes are unconstitutional insofar as they limit marriage to a union between a man and a woman. (See, *ante,* 17 Cal.Rptr.3d p. 233, fn. 6, 95 P.3d p. 466, fn. 6.) We have no occasion in this case to determine whether the city properly could maintain a declaratory judgment action in this setting, but we note that in another context the Legislature specifically has authorized a public official who questions the constitutionality or validity of an enactment to bring a declaratory judgment action rather than act in contravention of the statute. (See Rev. & Tax.Code, § 538; see also *City of Cotati v. Cashman* (2002) 29 Cal.4th 69, 79–80, 124 Cal.Rptr.2d 519, 52 P.3d 695.)

28 Article XX, section 3 of the California Constitution provides in relevant part: "Members of the Legislature, and all public officers and employees, executive, legislative, and judicial, except such inferior officers and employees as may be by law exempted, shall, before they enter upon the duties of their respective offices, take and subscribe the following oath or affirmation: [¶] 'I, _____, do solemnly swear (or affirm) that I will support and defend the Constitution of the United States and the Constitution of the State of California against all enemies, foreign and domestic; that I will bear true faith and allegiance to the Constitution of the United States and the Constitution of the State of California; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties upon which I am about to enter.' "

29 The brief footnote discussion in *Board of Education v. Allen* (1968) 392 U.S. 236, 241, footnote 5, 88 S.Ct. 1923, 20 L.Ed.2d 1060, relied upon by the city, does not conflict with this conclusion. In *Allen,* officials of a local public school district brought a court action challenging the validity, under the establishment clause of the First Amendment, of a state statute that required the school district to loan books free of charge to all students in the district, including students attending private religious schools. In the footnote in question, the court in *Allen* noted that no one had questioned the standing of the local district and its officials "to press their claim in this Court," and then stated that "[b]elieving [the statute in question] to be unconstitutional, [the officials] are in the position of having to choose between violating their oath [to support the United States Constitution] and taking a step—refusal to comply with [the applicable statute]—that would likely bring their expulsion from office and also a reduction in state funding for their school districts. There can be no doubt that appellants thus have a 'personal stake in the outcome' of this litigation." (*Allen,* 392 U.S. at p. 241, fn. 5, 88 S.Ct. 1923, quoting *Baker v. Carr* (1962) 369 U.S. 186, 204, 82 S.Ct. 691.) The footnote's reference to the officials' oath to support the Constitution indicates no more than that the public officials' belief that the statute was unconstitutional afforded them standing *to bring a court action* to challenge the statute. The footnote in *Allen* does not hold that the federal Constitution, or a public official's oath to support the federal Constitution, authorizes a state official to undertake official action forbidden by a state statute based solely on the official's

belief that the statute is unconstitutional, and, as discussed below (*post,* 17 Cal.Rptr.3d pp. 265–267, 95 P.3d pp. 492–494), numerous federal authorities refute that proposition.

30 The city also obliquely suggests that the general rule requiring a public official to perform a ministerial duty prescribed by statute, despite the official's personal view that the statute is unconstitutional, is contrary to the teaching of the Nuremberg trials, which rejected the "I was just following orders" defense. In response to a similar claim, the federal district court in *Haring v. Blumenthal* (D.D.C.1979) 471 F.Supp. 1172, 1178, footnote 15, cogently observed: "Plaintiff's comparison of his situation with that of the Nuremberg defendants is grossly simplistic. The Nuremberg defendants could have escaped liability by failing to seek and retain positions which exposed them to the execution of objectionable activity; and, should plaintiff feel sufficiently strongly about the matter, he may do likewise. Beyond that, plaintiff's analogy demonstrates primarily that debates and dialogues on public issues have become so debased in recent years that such terms as genocide, war crime, crimes against humanity, and the like are bandied about with considerable abandon in connection with almost every conceivable controversial issue of public policy. There is not the slightest similarity between the crimes committed under the aegis of a violent dictatorship and the implementation of laws adopted under a system of government which offers free elections, freedom of expression, and an independent judiciary as safeguards against excesses and as a guarantee of the ultimate rule of a sovereign citizenry." We agree.

31 See, for example, *Schmid v. Lovette* (1984) 154 Cal.App.3d 466, 474, 201 Cal.Rptr. 424 (holding that article III, section 3.5 of the California Constitution did not require public community college officials to continue to apply a statute requiring public employees to sign an anti-Communist-Party loyalty oath when comparable statutes had been held unconstitutional by both federal and state supreme court decisions) and *LSO, Ltd. v. Stroh, supra,* 205 F.3d 1146, 1160 (holding that no reasonable official could have believed that a statute prohibiting exhibition of nonobscene erotic art on any premises holding a liquor license could constitutionally be applied in light of a then recent United States Supreme Court decision).

32 Of the three decisions cited by the city, the Massachusetts decision in *Goodridge v. Department of Pub. Health, supra,* 440 Mass. 309, 798 N.E.2d 941, appears to be the only one squarely to hold that a state constitution precludes the state from withholding the status of marriage from same-sex couples.

In *Baker v. State of Vermont, supra,* 170 Vt. 194, 744 A.2d 864, the court summarized its conclusion under the "common benefits" clause of the Vermont Constitution, as follows: "The State is constitutionally required to extend to same-sex couples the common benefits and protections that flow from marriage under Vermont law. Whether this ultimately takes the form of inclusion within the marriage laws themselves or a parallel 'domestic partnership' system or some equivalent statutory alternative rests with the Legislature." (744 A.2d at p. 867; see also *id.* at pp. 886–887.) The Vermont Legislature subsequently enacted a civil union statute. (Vt. Stat. Ann., tit. 15, §§ 1201–1207 (supp.2001).)

In *Baehr v. Lewin, supra,* 74 Haw. 530, 852 P.2d 44, the Hawaii Supreme Court held that the trial court in that case had erred in granting judgment on the pleadings against three same-sex couples who had sued for declaratory and injunctive relief after being denied marriage licenses, concluding that the plaintiffs were entitled to go forward with their action and that, under the equal protection clause of the Hawaii Constitution, the state would have to demonstrate a compelling interest to justify the statutory classification. (852 P.2d at p. 68.) Following the decision in *Baehr,* the voters in Hawaii amended the Hawaii Constitution to limit marriage to unions between a man and a woman, and, in light of that amendment, the Hawaii Supreme Court thereafter ordered entry of judgment in favor of the defendants in the *Baehr* litigation. (See *Baehr v. Miike* (1999) 92 Hawai'i 634, 994 P.2d 566 [full order reported at 1999 Haw.Lexis 391].)

In addition to relying upon *Goodridge, Baker,* and *Baehr,* the city points to a passage in the dissenting opinion of Justice Scalia in *Lawrence v. Texas* (2003) 539 U.S. 558, 123 S.Ct. 2472, 156 L.Ed.2d 508, in which he expressed the view that the reasoning of the majority opinion in *Lawrence*—holding a Texas sodomy statute unconstitutional—would lead to the conclusion that a statute precluding same-sex marriages also would be unconstitutional. (*Lawrence v. Texas, supra,* 539 U.S. at pp. 604–605, 123 S.Ct. 2472 (dis. opn. by Scalia, J.)) The majority opinion in *Lawrence,* however, expressly stated that "[t]he present case ... does not involve whether the government must give formal recognition to any relationship that homosexual persons seek to enter." (*Lawrence, supra,* 539 U.S. at p. 578, 123 S.Ct. 2472). In light of this very specific disclaimer in the majority opinion in *Lawrence,* we conclude that the city cannot plausibly claim that the *Lawrence* decision clearly establishes that a state statute limiting marriage to a man and a woman is unconstitutional under the federal Constitution. (See also *Standhardt v.Super. Ct.* (Ariz.Ct.App.2003) 206 Ariz. 276, 77 P.3d 451, 454–460, 464–465 [post-*Lawrence* case rejecting claim that *Lawrence* indicates the federal Constitution guarantees the right to same-sex marriage].)

33 Petitioners in *Lewis* maintain that because the United States Supreme Court summarily dismissed the appeal in *Baker v. Nelson* for want of a substantial federal question and because such a summary dismissal is treated as a decision on the merits (see *Mandel v. Bradley* (1977) 432 U.S. 173, 176, 97 S.Ct. 2238, 53 L.Ed.2d 199; *Hicks v. Miranda* (1975) 422 U.S. 332, 344, 95

S.Ct. 2281, 45 L.Ed.2d 223), the summary dismissal in *Baker v. Nelson* definitively establishes that, under current federal law, a statute limiting marriage to a man and a woman does not violate the federal Constitution. The city, on the other hand, cites a number of decisions stating that when there have been subsequent doctrinal developments in the United States Supreme Court that undermine the holding in a summary dismissal, the lower courts are not bound to follow the summary dismissal as controlling authority (see, e.g., *Tenafly Eruv Ass'n v. Borough of Tenafly* (3d Cir.2002) 309 F.3d 144, 173, fn. 33; *Lecates v. Justice of the Peace Court No. 4 of Delaware* (3d Cir.1980) 637 F.2d 898, 904), and the city argues that there have been such doctrinal developments in subsequent high court decisions that undermine the holding in *Baker v. Nelson.* We find no need to resolve this dispute here, because whatever the current effect of the summary dismissal in *Baker v. Nelson,* the case before us clearly does not present an instance in which the invalidity of the current California marriage statutes is so patent or clearly established that no reasonable official could believe that the statutes are constitutional.

34 Our review of the decisions of our sister states and the District of Columbia reflects that of the 33 jurisdictions in which decisions have been found addressing this subject, 26 appear to have recognized and endorsed the proposition that, as a general rule, an executive official who is charged with a ministerial duty to enforce a statute has no authority to refuse to apply the statute, in the absence of a judicial determination that the statute is unconstitutional, on the ground that the official believes the statute is unconstitutional, although many of the jurisdictions, like California, also recognize an exception for bond or other public finance cases, in which an official is permitted to refuse to apply a statute as a means of obtaining a timely judicial determination of the legality of the bond or public expenditure. (See *Denver Urban Renewal Authority v. Byrne* (Colo.1980) 618 P.2d 1374, 1379–1380 [foll. *Ames v. People* (1899) 26 Colo. 83, 56 P. 656, 658]; *Levitt v. Attorney General* (1930) 111 Conn. 634, 151 A. 171, 176; *Panitz v. District of Columbia* (D.C.Cir.1940) 112 F.2d 39, 41–42 [applying District of Columbia law]; *Fuchs v. Robbins* (Fla.2002) 818 So.2d 460, 463–464 [foll. *State v. State Board of Equalizers, supra,* 84 Fla. 592, 94 So. 681, 682–684]; *Taylor v. State* (1931) 174 Ga. 52, 162 S.E. 504, 508–509; *Howell v. Board of Comm'rs* (1898) 6 Idaho 154, 53 P. 542, 543; *People ex rel. Atty. Gen. v. Salomon* (1870) 54 Ill. 39, 44–46; *Bd. of Sup'rs of Linn Cty. v. Dept. of Revenue* (Iowa 1978) 263 N.W.2d 227, 232–234 [foll. *Charles Hewitt & Sons Co. v. Keller* (1937) 223 Iowa 1372, 275 N.W. 94, 95–97]; *Tincher v. Commonwealth* (1925) 208 Ky. 661, 271 S.W. 1066, 1068; *Dore v. Tugwell* (1955) 228 La. 807, 84 So.2d 199, 201–202 [foll. *State v. Heard* (La.1895) 18 So. 746, 749–752]; *Smyth v. Titcomb* (1850) 31 Me. 272, 285; *Maryland Classified Emp. Ass'n v. Anderson* (1977) 281 Md. 496, 380 A.2d 1032, 1035–1037; *Assessors of Haverhill v. New England Tel. & Tel. Co.* (1955) 332 Mass. 357, 124 N.E.2d 917, 920–921; *State v. Steele County Bd. of Com'rs* (1930) 181 Minn. 427, 232 N.W. 737, 738–739; *St. Louis County v. Litzinger* (Mo.1963) 372 S.W.2d 880, 881–882 [foll. *State v. Becker* (1931) 328 Mo. 541, 41 S.W.2d 188, 190–191]; *State v. McFarlan* (1927) 78 Mont. 156, 252 P. 805, 808; *State v. Sedillo* (1929) 34 N.M. 1, 275 P. 765, 765–767; *Attorney General v. Taubenheimer* (1917) 178 A.D. 321, 321, 164 N.Y.S. 904, 904; *Dept. of State Highways v. Baker* (1940) 69 N.D. 702, 290 N.W. 257, 260–262; *State v. Griffith* (1940) 136 Ohio St. 334, 25 N.E.2d 847, 848–849; *State ex rel. Cruce v. Cease* (1911) 28 Okla. 271, 114 P. 251, 252–253; *Commonwealth v. Mathues* (1904) 210 Pa. 372, 59 A. 961, 964–969; *State v. Burley* (1908) 80 S.C. 127, 61 S.E. 255, 257; *Thoreson v. State Board of Examiners* (1899) 19 Utah 18, 57 P. 175, 177–179; *City of Montpelier v. Gates* (1934) 106 Vt. 116, 170 A. 473, 476–477; *Capito v. Topping* (1909) 65 W.Va. 587, 64 S.E. 845, 846; *Riverton Valley D. Dist. v. Board of County Com'rs* (1937) 52 Wyo. 336, 74 P.2d 871, 873.)

Of the seven states that may be viewed as adopting the minority position, most have addressed the issue only in the context of actions either relating to matters affecting the expenditure of public funds or where the rights or interests of the public officer or public entity were directly at stake. (See *State v. Steinwedel* (1932) 203 Ind. 457, 180 N.E. 865, 866–868 [public expenditure]; *Toombs v. Sharkey* (1925) 140 Miss. 676, 106 So. 273, 277 [public expenditure]; *Van Horn v. State* (1895) 46 Neb. 62, 64 N.W. 365, 371–372 [county reorganization]; *State v. Slusher* (1926) 119 Or. 141, 248 P. 358, 359–360 [tax collection]; *Holman v. Pabst* (Tex.Civ.App.1930) 27 S.W.2d 340, 342–343 [local election procedure]; *Hindman v. Boyd* (1906) 42 Wash. 17, 84 P. 609, 612 [local election procedure]; *State v. Tappan* (1872) 29 Wis. 664, 9 Am. Rep. 622, 635 [tax collection].)

A number of the out-of-state cases discuss a separate line of cases that address the issue whether a public official or public entity has "standing" to bring a court action—for example, a declaratory judgment action—challenging the constitutionality of a statute the official or entity is obligated to comply with or enforce. (See, e.g., *Fuchs v. Robbins, supra,* 818 So.2d 460, 463–464; *Bd. of Sup'rs of Linn Cty. v. Dept. of Revenue, supra,* 263 N.W.2d 227, 233–234; see also *City of Kenosha v. State* (1967) 35 Wis.2d 317, 151 N.W.2d 36, 42–43.) Although the standing issue involves some of the same considerations that are applicable to the issue we face here, from a separation of powers perspective, conduct by an executive official that simply asks a court to determine the constitutionality of a statute would appear to raise much less concern than an executive official's unilateral refusal to enforce a statute based on the official's opinion that the statute is unconstitutional.

35 Several amici curiae point out that nonattorney public officials are able to seek legal advice from a county counsel or city attorney (see Gov.Code, §§ 27640, 41801) and assert that such nonattorney officials presumably will do so before disobeying

a statute on the ground it is unconstitutional. County counsel and city attorneys, however, also are executive officers who, like a nonattorney public official, have not been granted judicial power and thus also lack the authority to determine that a statute is unconstitutional and that it should not be followed. A nonattorney public official generally will be in no position to critically evaluate legal advice obtained from such counsel regarding the question of a statute's constitutionality. Outside the very narrow category of instances in which legal counsel can advise that the invalidity of the statute is so patent or clearly established that *any* reasonable public official would conclude that the statute in question is unconstitutional (see, *ante,* 17 Cal.Rptr.3d pp. 258–260, 95 P.3d pp. 486–488), whenever a nonattorney official defies a statutory mandate on the basis of a county counsel's or city attorney's legal advice, the official's refusal to apply the statute actually will rest upon legal counsel's judgment on a debatable constitutional question, rather than upon the judgment of the official on whom the statute imposes a ministerial duty. Furthermore, a nonattorney official is under no obligation to act in accordance with a legal opinion (often given confidentially) provided by a county counsel or city attorney.

36 Despite the suggestion in Justice Werdegar's concurring and dissenting opinion (*post,* 17 Cal.Rptr.3d at pp. 286–289, 95 P.3d at pp. 509–513), this established rule does not represent any sort of broad claim of *judicial* power over the *executive* branch, but on the contrary reflects the general duty of an *executive* official, in carrying out a ministerial function authorized by statute, not to assume the authority to supersede or contravene the directions of the *legislative* branch or to exercise the traditional function of the *judicial* branch.

37 As explained above (*ante,* 17 Cal.Rptr.3d pp. 254–255, 95 P.3d pp. 483–484), under the circumstances in this case there is no plausible basis for suggesting that the city officials would have subjected themselves to personal liability had they acted in conformity with the terms of the current California marriage statutes.

38 The court in *Smith* explained in this regard: "It is evident that the auditor had no personal interest in the litigation. He had certain duties as a public officer to perform. The performance of those duties was of no personal benefit to him. Their non-performance was equally so.... He was testing the constitutionality of the law purely in the interest of third persons, viz., the taxpayers...." (*Smith v. Indiana, supra,* 191 U.S. at pp. 148–149, 24 S.Ct. 51.)

39 Contrary to the assertion of Justice Werdegar's concurring and dissenting opinion (*post,* 17 Cal.Rptr.3d at p. 286, 95 P.3d at p. 509), the validity or invalidity of the existing same-sex marriages is material to this case not simply because the Attorney General has requested this court to decide that issue, but because resolution of the issue is necessary in determining the scope of the remedy that properly should be ordered in this mandate action to correct, and undo the potentially disruptive consequences of, the unauthorized actions of the city officials.

40 Whether or not any same-sex couple "has filed a lawsuit seeking the legal benefits of their purported marriage" (conc. & dis. opn. of Werdegar, J., *post,* 17 Cal.Rptr.3d at p. 284, 95 P.3d at p. 508), there can be no question that the legal status of such couples has and will continue to generate numerous questions for such couples and third parties that must be resolved on an ongoing basis.

41 Contrary to the contention of Justice Werdegar's concurring and dissenting opinion (*post,* 17 Cal.Rptr.3d at p. 284, 95 P.3d at p. 508), should the existing marriage statutes ultimately be held unconstitutional, we do not believe that the principle of "basic fairness" or a claim for "full relief" justifies placing the same-sex couples who took advantage of the unauthorized actions of San Francisco officials in a different or better position than other same-sex couples who were denied marriage licenses in other counties throughout the state by public officials who properly fulfilled their duties in compliance with the governing state statutes.

42 The pronouncement of Sir Thomas More in the well-known passage from Robert Bolt's A Man For All Seasons comes to mind:

"Roper: So now you'd give the Devil benefit of law!

"More: Yes. What would you do? Cut a great road through the law to get to the Devil?

"Roper: I'd cut down every law in England to do that!

"More: Oh? And when the last law was down, and the Devil turned round on you—where would you hide, Roper, the laws all being flat? This country's planted thick with laws from coast to coast—man's laws, not God's—and if you cut them down—and you're just the man to do it—d'you really think you could stand upright in the winds that would blow then? Yes, I'd give the Devil benefit of law, for my own safety's sake." (Bolt, A Man for All Seasons (1962) p. 66.)

1 The above dictum does not apply when the Legislature has required that a governmental entity challenge an assertedly unconstitutional statute by means of declaratory relief. (See, e.g., Rev. & Tax.Code, § 538 [county assessor to challenge constitutionality of state revenue statute by requesting declaratory relief under Code Civ. Proc., § 1060].)

1 As the majority explains, the license application was altered "by eliminating the terms 'bride,' 'groom,' and 'unmarried man and unmarried woman,' and by replacing them with the terms 'first applicant,' 'second applicant,' and 'unmarried individuals.' " (Maj. opn., *ante,* 17 Cal.Rptr.3d at p. 232, 95 P.3d at p. 465.)

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2 Although California law has expressly restricted matrimony to heterosexual couples, it has also extended most of the financial and other benefits of marriage to same-sex couples through domestic partner legislation. (See, e.g., Fam.Code, § 297 et seq., Stats.2003, ch. 421, operative Jan. 1, 2005.)

1 The majority does note that "officials of the federal Social Security Administration had raised questions regarding that agency's processing of name-change applications resulting from California marriages" (maj. opn., *ante,* 17 Cal.Rptr.3d at p. 233, 95 P.3d at p. 465), but this is unlikely to be a serious problem because San Francisco used a nonstandard, easily recognizable form for licensing same-sex marriages (*id.,* at pp. 232– 233, 239–240, 95 P.3d at pp. 464–465, 470–472).

2 Compare Code of Civil Procedure section 389, subdivision (a): "A person who is subject to service of process and whose joinder will not deprive the court of jurisdiction over the subject matter of the action shall be joined as a party in the action if ... (2) he claims an interest relating to the subject of the action and is so situated that the disposition of the action in his absence may (i) as a practical matter impair or impede his ability to protect that interest...."

3 For example, *Estate of Elliott* (1913) 165 Cal. 339, 343, 132 P. 439 (decedent's daughter may challenge purported marriage of decedent to person seeking appointment as administrator); *Estate of Stark* (1941) 48 Cal.App.2d 209, 215–216, 119 P.2d 961 (heirs may challenge marriage of decedent's parents to show that other purported heirs were illegitimate and, thus, lack standing to contest the will); *People v. Little* (1940) 41 Cal.App.2d 797, 800–801, 107 P.2d 634 (the People in a criminal case may challenge defendant's marriage to an alleged coconspirator in order to avoid the rule that spouses cannot commit the crime of conspiracy); *People v. MacDonald* (1938) 24 Cal.App.2d 702, 704–705, 76 P.2d 121 (the People in a criminal case may challenge defendant's marriage to a witness in order to defeat a claim of spousal privilege); *People v. Glab* (1936) 13 Cal.App.2d 528, 535, 57 P.2d 588 (same).

4 In *Smith v. Indiana, supra,* 191 U.S. 138, 24 S.Ct. 51, 48 L.Ed. 125, the high court held only that it would not necessarily recognize a state official's *standing* to challenge a state law on federal grounds. (See *id.,* at pp. 148–150, 24 S.Ct. 51.) Even on this narrow point, *Smith* has not been consistently followed. (See *Board of Education v. Allen* (1968) 392 U.S. 236, 241, fn. 5, 88 S.Ct. 1923, 20 L.Ed.2d 1060 [local school officials permitted to challenge under the federal Constitution a state statute requiring them to purchase and loan textbooks to parochial school pupils]; *Coleman v. Miller* (1939) 307 U.S. 433, 438 & fn. 3, 59 S.Ct. 972, 83 L.Ed. 1385 [state legislators permitted to challenge under the federal Constitution state's procedures for recording votes on constitutional amendments]; cf. *id.,* at p. 466, 59 S.Ct. 972 (separate opn. of Frankfurter, J., citing *Smith*); *Akron Board of Ed. v. State Board of Ed. of Ohio* (6th Cir.1974) 490 F.2d 1285, 1290–1291, cert. den. *sub nom. State Board of Education of Ohio v. Akron Board of Education* (1974) 417 U.S. 932, 94 S.Ct. 2644, 41 L.Ed.2d 236 [local school officials permitted to challenge under the federal Constitution state officials' decision to transfer White students from desegregated schools to all-White schools]; cf. *Akron Board of Ed. v. State Board of Ed. of Ohio, supra,* 490 F.2d at p. 1296 (conc. & dis. opn. of Pratt, J., citing *Smith*).)

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ATTACHMENT D-6

124 Cal.App.4th 866
Court of Appeal, Fourth District, Division 1, California.

BUILDING INDUSTRY ASSOCIATION OF SAN DIEGO COUNTY et al., Plaintiffs and Appellants,
v.
STATE WATER RESOURCES CONTROL BOARD et al., Defendants and Respondents,
San Diego Baykeeper et al.,
Interveners and Respondents.

No. D042385.
|
Dec. 7, 2004.
|
Certified for Partial Publication. [1]
|
As Modified on Denial of Rehearing Jan. 4, 2005.
|
Review Denied March 30, 2005. *

Synopsis
Background: Building industry association filed petition for writ of mandate against regional and state water control boards, challenging issuance of comprehensive municipal stormwater sewer permit, as including water quality standard provisions which allegedly were too stringent and impossible to satisfy, and so violative of federal Clean Water Act standard. Environmental groups intervened as defendants. The Superior Court, San Diego County, Wayne L. Peterson, J., denied petition. Association appealed.

[Holding:] The Court of Appeal, Haller, J., held that water boards were not prohibited by Clean Water Act "maximum extent practicable" standard of stormwater pollutant abatement from including provisions in permit which required that municipalities comply with state water quality standards.

Affirmed.

West Headnotes (12)

[1] **Administrative Law and Procedure**
Presumptions
Administrative Law and Procedure
Burden of showing error

In exercising its independent judgment when reviewing an administrative proceeding, a trial court must afford a strong presumption of correctness concerning the administrative findings, and the party challenging the administrative decision bears the burden of convincing the court that the administrative findings are contrary to the weight of the evidence.

2 Cases that cite this headnote

[2] **Administrative Law and Procedure**
Scope

On review of a trial court's determination of a challenge to an administrative ruling, the Court of Appeal applies a substantial evidence standard when reviewing the trial court's factual determinations on the administrative record.

1 Cases that cite this headnote

[3] **Administrative Law and Procedure**
Scope

On review of a trial court's determination of a challenge to an administrative ruling, an appellate court conducts a de novo review of the trial court's legal determinations, and is also not bound by the legal determinations made by the agency.

1 Cases that cite this headnote

[4] **Administrative Law and Procedure**
Deference to agency in general

Court of Appeal gives appropriate consideration to an administrative agency's

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expertise underlying its interpretation of an applicable statute.

4 Cases that cite this headnote

[5] **Administrative Law and Procedure**
Environment and health
Environmental Law
Water pollution

In determining the meaning of the Clean Water Act and its amendments, federal courts generally defer to the construction of a statutory provision by the Environmental Protection Agency (EPA) if the disputed portion of the statute is ambiguous. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

2 Cases that cite this headnote

[6] **Administrative Law and Procedure**
Environment and health
Environmental Law
Water pollution

Court of Appeal considers and gives due deference to statutory interpretations of Clean Water Act by regional and state water control boards. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

8 Cases that cite this headnote

[7] **Environmental Law**
Conditions and limitations

Regional and state water control boards, in issuing comprehensive municipal stormwater sewer permit, were not prohibited by Clean Water Act "maximum extent practicable" standard of stormwater pollutant abatement from including provisions in permit which required that municipalities comply with state water quality standards; language of pertinent statute communicated basic principle that boards, which had been federally approved to issue permit, retained discretion to impose appropriate water pollution controls in addition to those that came within definition of "maximum extent practicable," this principle was consistent with legislative history and purpose of Act, and there was no showing that applicable water quality standards were unattainable. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3)(B)(iii), 33 U.S.C.A. § 1342(p)(3)(B)(iii).

See 4 Witkin, Summary of Cal. Law (9th ed. 1987) Real Property, §§ 66-69; Cal. Jur. 3d, Pollution and Conservation Laws, § 113 et seq.

14 Cases that cite this headnote

[8] **Statutes**
Grammar, spelling, and punctuation

While punctuation and grammar should be considered in interpreting a statute, neither is controlling unless the result is in harmony with the clearly expressed intent of the Legislature.

Cases that cite this headnote

[9] **Administrative Law and Procedure**
Plain, literal, or clear meaning; ambiguity
Statutes
Extrinsic Aids to Construction

If the statutory language is susceptible to more than one reasonable interpretation, a court must look to a variety of extrinsic aids to interpreting the statute, including the ostensible objects to be achieved, the evils to be remedied, the legislative history, public policy, contemporaneous administrative construction, and the statutory scheme of which the statute is a part.

2 Cases that cite this headnote

[10] **Appeal and Error**
Motions, hearings, and orders in general
Appeal and Error
Judgment in General

All lower court judgments and orders are presumed correct, and persons challenging

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them on appeal must affirmatively show reversible error.

Cases that cite this headnote

[11] Appeal and Error
Statement of evidence

A party challenging the sufficiency of evidence to support a judgment on appeal must summarize, and cite to, all of the material evidence, not just the evidence favorable to his or her appellate positions.

1 Cases that cite this headnote

[12] Administrative Law and Procedure
Burden of showing error

The party challenging the scope of an administrative permit has the burden of showing the agency abused its discretion or its findings were unsupported by the facts.

Cases that cite this headnote

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Opinion

HALLER, J.

***871** This case concerns the environmental regulation of municipal storm sewers that carry excess water runoff to lakes, lagoons, rivers, bays, and the ocean. The waters flowing through these sewer systems have accumulated numerous harmful pollutants that are then discharged into the water body without receiving any treatment. To protect against the resulting water quality impairment, federal and state laws impose regulatory controls on storm sewer discharges. In particular, municipalities and other public entities are required to obtain, and comply with, a regulatory permit limiting the quantity and quality of water runoff that can be discharged from these storm sewer systems.

In this case, the California Regional Water Control Board, San Diego Region, (Regional Water Board) conducted numerous public hearings and then issued a comprehensive municipal storm sewer permit governing 19 local public entities. Although these entities did not bring an administrative challenge to the permit, one business organization, the Building Industry Association of San Diego County (Building Industry), filed an administrative appeal with the State Water Resources Control Board (State Water Board). After making some modifications to the permit, the State Water Board denied the appeal. Building Industry then petitioned for a writ of mandate in the superior court, asserting numerous claims, including that the permit violates state and federal law because the permit provisions are too stringent and impossible to satisfy. Three environmental groups intervened as defendants in the action. After a hearing, the trial court found Building Industry failed to prove its claims and entered judgment in favor of the administrative agencies (the Water Boards) and the intervener environmental groups.

On appeal, Building Industry's main contention is that the regulatory permit violates federal law because it allows the Water Boards to impose municipal storm sewer control measures more stringent than a federal standard known as "maximum extent practicable." (****131** 33 U.S.C. § 1342(p)(3)(B)(iii).)[2] In the published portion

of this opinion, we reject this contention, and conclude the Water Boards had the authority to include a permit provision requiring compliance with state water quality standards. In the unpublished portion of the opinion, we find Building Industry's additional contentions to be without merit. We affirm the judgment.

***872** RELEVANT BACKGROUND INFORMATION

I. *Summary of Relevant Clean Water Act Provisions*

Before setting forth the factual background of this particular case, it is helpful to summarize the federal and state statutory schemes for regulating municipal storm sewer discharges. [3]

A. *Federal Statutory Scheme*

When the United States Congress first enacted the Federal Water Pollution Control Act in 1948, the Congress relied primarily on state and local enforcement efforts to remedy water pollution problems. (*Middlesex Cty. Sewerage Auth. v. Sea Clammers* (1981) 453 U.S. 1, 11, 101 S.Ct. 2615, 69 L.Ed.2d 435; *Tahoe–Sierra Preservation Council v. State Water Resources Control Bd.* (1989) 210 Cal.App.3d 1421, 1433, 259 Cal.Rptr. 132.) However, by the early 1970's, it became apparent that this reliance on local enforcement was ineffective and had resulted in the "accelerating environmental degradation of rivers, lakes, and streams...." (*Natural Resources Defense Council, Inc. v. Costle* (D.C.Cir.1977) 568 F.2d 1369, 1371 (*Costle*); see *EPA v. State Water Resources Control Board* (1976) 426 U.S. 200, 203, 96 S.Ct. 2022, 48 L.Ed.2d 578.) In response, in 1972 Congress substantially amended this law by mandating compliance with various minimum technological effluent standards established by the federal government and creating a comprehensive regulatory scheme to implement these laws. (See *EPA v. State Water Resources Control Board, supra,* 426 U.S. at pp. 204–205, 96 S.Ct. 2022.) The objective of this law, now commonly known as the Clean Water Act, was to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (§ 1251(a).)

The Clean Water Act employs the basic strategy of prohibiting pollutant emissions from "point sources" [4] unless the party discharging the pollutants obtains a permit, known as an NPDES [5] permit. (See *EPA v. State Water Resources Control Board, supra,* 426 U.S. at p. 205, 96 S.Ct. 2022.) It is "unlawful ***873** for any person to discharge a pollutant without obtaining a permit and complying with its terms." (*Ibid.;* § 1311(a); see ****132** *Costle, supra,* 568 F.2d at p. 1375.) An NPDES permit is issued by the United States Environmental Protection Agency (EPA) or by a state that has a federally approved water quality program. (§ 1342(a), (b); *EPA v. State Water Resources Control Board, supra,* 426 U.S. at p. 209, 96 S.Ct. 2022.) Before an NPDES is issued, the federal or state regulatory agency must follow an extensive administrative hearing procedure. (See 40 C.F.R. §§ 124.3, 124.6, 124.8, 124.10; see generally Wardzinski et al., *National Pollutant Discharge Elimination System Permit Application and Issuance Procedures*, in The Clean Water Act Handbook (Evans edit., 1994) pp. 72–74 (Clean Water Act Handbook).) NPDES permits are valid for five years. (§ 1342(b)(1)(B).)

Under the Clean Water Act, the proper scope of the controls in an NPDES permit depends on the applicable state water quality standards for the affected water bodies. (See *Communities for a Better Environment v. State Water Resources Control Bd.* (2003) 109 Cal.App.4th 1089, 1092, 1 Cal.Rptr.3d 76.) Each state is required to develop water quality standards that establish " 'the desired condition of a waterway.' " (*Ibid.*) A water quality standard for any given water segment has two components: (1) the designated beneficial uses of the water body; and (2) the water quality criteria sufficient to protect those uses. (*Ibid.*) As enacted in 1972, the Clean Water Act mandated that an NPDES permit require compliance with state water quality standards and that this goal be met by setting forth a specific "effluent limitation," which is a restriction on the amount of pollutants that may be discharged at the point source. (§§ 1311, 1362(11).)

Shortly after the 1972 legislation, the EPA promulgated regulations exempting most municipal storm sewers from the NPDES permit requirements. (*Costle, supra,* 568 F.2d at p. 1372; see *Defenders of Wildlife v. Browner* (9th Cir.1999) 191 F.3d 1159, 1163 (*Defenders of Wildlife*).) When environmental groups challenged this exemption in federal court, the Ninth Circuit held a storm sewer is a point source and the EPA did not have the authority

to exempt categories of point sources from the Clean Water Act's NPDES permit requirements. (*Costle, supra,* 568 F.2d at pp. 1374–1383.) The *Costle* court rejected the EPA's argument that effluent-based storm sewer regulation was administratively infeasible because of the variable nature of storm water pollution and the number of affected storm sewers throughout the country. (*Id.* at pp. 1377–1382.) Although the court acknowledged the practical problems relating to storm sewer regulation, the court found the EPA had the flexibility under the Clean Water Act to design regulations that would overcome these problems. (*Id.* at pp. 1379–1383.)

***874** During the next 15 years, the EPA made numerous attempts to reconcile the statutory requirement of point source regulation with the practical problem of regulating possibly millions of diverse point source discharges of storm water. (*Defenders of Wildlife, supra,* 191 F.3d at p. 1163; see Gallagher, *Clean Water Act* in Environmental Law Handbook (Sullivan edit., 2003) p. 300 (Environmental Law Handbook); Eisen, *Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Stormwater Runoff* (1995) 48 Wash. U.J. Urb. & Contemp. L. 1, 40–41 (*Regulation of Urban Stormwater Runoff*).)

Eventually, in 1987, Congress amended the Clean Water Act to add provisions that specifically concerned NPDES permit requirements for storm sewer discharges. (§ 1342(p); see *Defenders of Wildlife, supra,* ****133** 191 F.3d at p. 1163; *Natural Resources Defense Council v. U.S. E.P.A.* (1992) 966 F.2d 1292, 1296.) In these amendments, enacted as part of the Water Quality Act of 1987, Congress distinguished between industrial and municipal storm water discharges. With respect to *industrial* storm water discharges, Congress provided that NPDES permits "shall meet all applicable provisions of this section and section 1311 [requiring the EPA to establish effluent limitations under specific timetables] ...." (§ 1342(p)(3)(A).) With respect to *municipal* storm water discharges, Congress clarified that the EPA had the authority to fashion NPDES permit requirements to meet water quality standards without specific numerical effluent limits and instead to impose "controls to reduce the discharge of pollutants to the maximum extent practicable ...." (§ 1342(p)(3)(B)(iii); see *Defenders of Wildlife, supra,* 191 F.3d at p. 1163.) Because the statutory language pertaining to municipal storm sewers is at the center of this appeal, we quote the relevant portion of the statute in full:

> "(B) Permits for discharges from municipal storm sewers—
>
> "(i) may be issued on a system- or jurisdiction-wide basis;
>
> "(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
>
> "(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." (§ 1342(p)(3)(B).)

To ensure this scheme would be administratively workable, Congress placed a moratorium on many new types of required stormwater permits until 1994 (§ 1342(p)(1)), and created a phased approach to necessary municipal ***875** stormwater permitting depending on the size of the municipality (§ 1342(p)(2)(D)). (See *Environmental Defense Center, Inc. v. U.S. E.P.A.* (9th Cir.2003) 344 F.3d 832, 841–842.)

B. *State Statutory Scheme*

Three years before the 1972 Clean Water Act, the California Legislature enacted its own water quality protection legislation, the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), seeking to "attain the highest water quality which is reasonable...." (Wat.Code, § 13000.) The Porter–Cologne Act created the State Water Board to formulate statewide water quality policy and established nine regional boards to prepare water quality plans (known as basin plans) and issue permits governing the discharge of waste. (Wat.Code, §§ 13100, 13140, 13200, 13201, 13240, 13241, 13243.) The Porter–Cologne Act identified these permits as "waste discharge requirements," and provided that the waste discharge requirements must mandate compliance with the applicable regional water quality control plan. (Wat.Code, §§ 13263, subd. (a), 13377, 13374.)

Shortly after Congress enacted the Clean Water Act in 1972, the California Legislature added chapter 5.5 to the Porter–Cologne Act, for the purpose of

adopting the necessary federal requirements to ensure it would obtain EPA approval to issue NPDES permits. (Wat.Code, § 13370, subd. (c).) As part of these amendments, the Legislature provided that the state and regional water boards "shall, as required or authorized by the [Clean Water Act], issue waste discharge requirements ... which apply and ensure compliance with all applicable provisions ****134** [of the Clean Water Act], together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." (Wat.Code, § 13377.) Water Code section 13374 provides that "[t]he term 'waste discharge requirements' as referred to in this division is the equivalent of the term 'permits' as used in the [Clean Water Act]."

California subsequently obtained the required approval to issue NPDES permits. (*WaterKeepers Northern California v. State Water Resources Control Bd.* (2002) 102 Cal.App.4th 1448, 1453, 126 Cal.Rptr.2d 389.) Thus, the waste discharge requirements issued by the regional water boards ordinarily also serve as NPDES permits under federal law. (Wat.Code, § 13374.)

II. *The NPDES Permit at Issue in this Case*

Under its delegated authority and after numerous public hearings, in February 2001 the Regional Water Board issued a 52–page NPDES permit ***876** and Waste Discharge Requirements (the Permit) governing municipal storm sewers owned by San Diego County, the San Diego Unified Port District, and 18 San Diego-area cities (collectively, "Municipalities"). [6] The first 10 pages of the Permit contain the Regional Water Board's detailed factual findings. These findings describe the manner in which San Diego-area water runoff absorbs numerous harmful pollutants and then is conveyed by municipal storm sewers into local waters without any treatment. The findings state that these storm sewer discharges are a leading cause of water quality impairment in the San Diego region, endangering aquatic life and human health. The findings further state that to achieve applicable state water quality objectives, it is necessary not only to require municipalities to comply with existing pollution-control technologies, but also to require compliance with applicable "receiving water limits" (state water quality standards) and to employ an "iterative process" of "development, implementation, monitoring, and assessment" to improve existing technologies.

Based on these factual findings, the Regional Water Board included in the Permit several overall prohibitions applicable to municipal storm sewer discharges. Of critical importance to this appeal, these prohibitions concern two categories of restrictions. First, the Municipalities are prohibited from discharging those pollutants "which have not been reduced to the *maximum extent practicable....*" [7] (Italics added). Second, the Municipalities are ****135** prohibited from discharging pollutants "which cause or contribute to exceedances of receiving water quality objectives ..." and/or that "cause or contribute to the violation of water quality standards...." This second category of restrictions (referred to in this opinion as the "Water Quality Standards provisions") essentially provide that a Municipality may not discharge pollutants if those pollutants would cause the receiving water body to exceed the applicable water quality standard. It is these latter restrictions that are challenged by Building Industry in this appeal.

***877** Part C of the Permit (as amended) qualifies the Water Quality Standards provisions by detailing a procedure for enforcing violations of those standards through a step-by-step process of "timely implementation of control measures ...," known as an "iterative" process. Under this procedure, when a municipality "caus[es] or contribute[s] to an exceedance of an applicable water quality standard," the municipality must prepare a report documenting the violation and describing a process for improvement and prevention of further violations. The municipality and the regional water board must then work together at improving methods and monitoring progress to achieve compliance. But the final provision of Part C states that "Nothing in this section shall prevent the [Regional Water Board] from enforcing any provision of this Order while the [municipality] prepares and implements the above report."

In addition to these broad prohibitions and enforcement provisions, the Permit requires the Municipalities to implement, or to require businesses and residents to implement, various pollution control measures referred to as "best management practices," which reflect techniques for preventing, slowing, retaining or absorbing pollutants produced by stormwater runoff. These best management practices include structural controls that minimize

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contact between pollutants and flows, and non-structural controls such as educational and public outreach programs. The Permit also requires the Municipalities to regulate discharges associated with new development and redevelopment and to ensure a completed project will not result in significantly increased discharges of pollution from storm water runoff.

III. *Administrative and Trial Court Challenges*

After the Regional Water Board issued the Permit, the Building Industry, an organization representing the interests of numerous construction-related businesses, filed an administrative challenge with the State Water Board. Although none of the Municipalities joined in the administrative appeal, Building Industry claimed its own independent standing based on its assertion that the Permit would impose indirect obligations on the regional building community. (See Wat.Code, § 13320 [permitting any "aggrieved person" to challenge regional water board action].) Among its numerous contentions, Building Industry argued that the Water Quality Standards provisions in the Permit require strict compliance with state water quality standards beyond what is "practicable" and therefore violate federal law.

In November 2001, the State Water Board issued a written decision rejecting Building Industry's appeal after making certain modifications to the Permit. (Cal. Wat. Resources Control Bd. Order WQ2001–15 (Nov. 15, 2001).) Of particular relevance here, the State Water Board modified the Permit to make clear that the iterative enforcement process applied to the Water Quality Standards provisions in the Permit. But ***878** the State Water Board did not delete the Permit's provision stating ****136** that the Regional Water Board retains the authority to enforce the Water Quality Standards provisions even if a Municipality is engaged in this iterative process.

Building Industry then brought a superior court action against the Water Boards, challenging the Regional Board's issuance of the Permit and the State Water Board's denial of Building Industry's administrative challenge.[8] Building Industry asserted numerous legal claims, including that the Water Boards: (1) violated the Clean Water Act by imposing a standard greater than the "maximum extent practicable" standard; (2) violated state law by failing to consider various statutory factors before issuing the Permit; (3) violated the California Environmental Quality Act (CEQA) by failing to prepare an environmental impact report (EIR); and (4) made findings that were factually unsupported.

Three environmental organizations, San Diego BayKeeper, Natural Resources Defense Council, and California CoastKeeper (collectively, Environmental Organizations), requested permission to file a complaint in intervention, seeking to uphold the Permit and asserting a direct and substantial independent interest in the subject of the action. Over Building Industry's objections, the trial court permitted these organizations to file the complaint and enter the action as parties-interveners.

After reviewing the lengthy administrative record and the parties' briefs, and conducting an oral hearing, the superior court ruled in favor of the Water Boards and Environmental Organizations (collectively, respondents). Applying the independent judgment test, the court found Building Industry failed to meet its burden to establish the State Water Board abused its discretion in approving the Permit or that the administrative findings are contrary to the weight of the evidence. In particular, the court found Building Industry failed to establish the Permit requirements were "impracticable under federal law or unreasonable under state law," and noted that there was evidence showing the Regional Water Board considered many practical aspects of the regulatory ***879** controls before issuing the Permit. Rejecting Building Industry's legal arguments, the court also stated that under federal law the Water Boards had the discretion "to require strict compliance with water quality standards" or "to require less than strict compliance with water quality standards." The court also sustained several of respondents' evidentiary objections, including to documents relating to the legislative history of the Clean Water Act.

Building Industry appeals, challenging the superior court's determination that the Permit did not violate the federal Clean Water Act. In its appeal, Building Industry does not reassert its claim that the Permit violates state law, except for its contentions pertaining to CEQA.

DISCUSSION

I. *Standard of Review*

[1] A party aggrieved by a final decision of the State Water Board may obtain review of the decision by filing a timely ****137** petition for writ of mandate in the superior court. (Wat.Code, § 13330, subd. (a).) Code of Civil Procedure section 1094.5 governs the proceedings, and the superior court must exercise its independent judgment in examining the evidence and resolving factual disputes. (Wat.Code, § 13330, subd. (d).) "In exercising its independent judgment, a trial court must afford a strong presumption of correctness concerning the administrative findings, and the party challenging the administrative decision bears the burden of convincing the court that the administrative findings are contrary to the weight of the evidence." (*Fukuda v. City of Angels* (1999) 20 Cal.4th 805, 817, 85 Cal.Rptr.2d 696, 977 P.2d 693.)

[2] **[3]** **[4]** **[5]** **[6]** In reviewing the trial court's factual determinations on the administrative record, a Court of Appeal applies a substantial evidence standard. (*Fukuda v. City of Angels, supra,* 20 Cal.4th at p. 824, 85 Cal.Rptr.2d 696, 977 P.2d 693.) However, in reviewing the trial court's legal determinations, an appellate court conducts a de novo review. (See *Alliance for a Better Downtown Millbrae v. Wade* (2003) 108 Cal.App.4th 123, 129, 133 Cal.Rptr.2d 249.) Thus, we are not bound by the legal determinations made by the state or regional agencies or by the trial court. (See *Yamaha Corp. of America v. State Bd. of Equalization* (1998) 19 Cal.4th 1, 7–8, 78 Cal.Rptr.2d 1, 960 P.2d 1031.) But we must give appropriate consideration to an administrative agency's expertise underlying its interpretation of an applicable statute.[9] (*Ibid.*)

***880** II. *Water Boards' Authority to Enforce Water Quality Standards in NPDES Permit*

Building Industry's main appellate contention is very narrow. Building Industry argues that two provisions in the Permit (the Water Quality Standards provisions) violate federal law because they prohibit the Municipalities from discharging runoff from storm sewers if the discharge would cause a water body to exceed the applicable water quality standard established under state law.[10] Building Industry contends that under federal law the "maximum extent practicable" standard is the "exclusive" measure that may be applied to municipal storm sewer discharges and a regulatory agency may not require a Municipality to comply with a state water quality standard if the required controls exceed a "maximum extent practicable" standard.

In the following discussion, we first reject respondents' contentions that Building Industry waived these arguments by failing to raise a substantial evidence challenge to the court's factual findings and/or ****138** to reassert its state law challenges on appeal. We then focus on the portion of the Clean Water Act (§ 1342(p)(3)(B)(iii)) that Building Industry contends is violated by the challenged Permit provisions. On our de novo review of this legal issue, we conclude the Permit's Water Quality Standards provisions are proper under federal law, and Building Industry's legal challenges are unsupported by the applicable statutory language, legislative purpose, and legislative history.

A. *Building Industry Did Not Waive the Legal Argument*

Respondents (the Water Boards and Environmental Organizations) initially argue that Building Industry waived its right to challenge the Permit's consistency with the maximum extent practicable standard because Building Industry did not challenge the trial court's *factual* findings that Building Industry failed to prove any of the Permit requirements were "impracticable" or "unreasonable."

In taking this position, respondents misconstrue the nature of Building Industry's appellate contention challenging the Water Quality Standards provisions. Building Industry's contention concerns the scope of the authority given to the Regional Water Board under the Permit terms. Specifically, ***881** Building Industry argues that the Regional Water Board does not have the authority to require the Municipalities to adhere to the applicable water quality standards because federal law provides that the "maximum extent practicable" standard is the exclusive standard that may be applied to storm sewer regulation. This argument—concerning the proper scope of a regulatory agency's authority—presents a purely legal issue, and is not dependent on the court's factual findings regarding the practicality of the specific regulatory controls identified in the Permit.

Respondents alternatively contend that Building Industry waived its right to challenge the propriety of the Water Quality Standards provisions under federal law because the trial court found the provisions were valid under state law and Building Industry failed to reassert its state law challenges on appeal. Under the particular circumstances of this case, we conclude Building Industry did not waive its rights to challenge the Permit under federal law.

Although it is well settled that the Clean Water Act authorizes states to impose water quality controls that are more stringent than are required under federal law (§ 1370; see *PUD No. 1 of Jefferson Cty. v. Washington Dept. of Ecology* (1994) 511 U.S. 700, 705, 114 S.Ct. 1900, 128 L.Ed.2d 716; *Northwest Environmental Advocates v. Portland* (9th Cir.1995) 56 F.3d 979, 989), and California law specifically allows the imposition of controls more stringent than federal law (Wat.Code, § 13377), the Water Boards made a tactical decision in the superior court to assert the Permit's validity based solely on federal law, and repeatedly made clear they were not seeking to justify the Permit requirements based on the Boards' independent authority to act under state law. On appeal, the Water Boards continue to rely primarily on federal law to uphold the Permit requirements, and their assertions that we may decide the matter based solely on state law are in the nature of asides rather than direct arguments. On this record, it would be improper to rely solely on state law to uphold the challenged Permit provisions.

B. *The Water Quality Standards Requirement Does Not Violate Federal Law*

[7] We now turn to Building Industry's main substantive contention on appeal— ****139** that the Permit's Water Quality Standards provisions (fn.10, *ante*) violate federal law. Building Industry's contention rests on its interpretation of the 1987 Water Quality Act amendments containing NPDES requirements for municipal storm sewers. The portion of the relevant statute reads: "(B) Permits for discharges from municipal storm sewers ... [¶] ... [¶] (iii) shall require controls to reduce the discharge of pollutants to the *maximum extent practicable, including* management practices, control techniques and ***882** system, design and engineering methods, and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." (§ 1342(p)(3)(B)(iii), italics added.)

1. *Statutory Language*

Focusing on the first 14 words of subdivision (iii), Building Industry contends the statute means that the maximum extent practicable standard sets the upper limit on the type of control that can be used in an NPDES permit, and that each of the phrases following the word "*including* " identify examples of "maximum extent practicable" controls. (§ 1342(p)(3)(B)(iii), italics added.) Building Industry thus reads the final "and such other provisions" clause as providing the EPA with the authority only to include *other* types of "maximum extent practicable" controls in an NPDES storm sewer permit.

Respondents counter that the term "including" refers only to the three identified types of pollution control procedures—(1) "management practices"; (2) "control techniques"; and (3) "system, design and engineering methods"—and that the last phrase, "*and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants,*" provides the EPA (or the approved state regulatory agency) the specific authority to go beyond the maximum extent practicable standard to impose effluent limitations or water-quality based standards in an NPDES permit. In support, respondents argue that because the word "system" in section 1342(p)(3)(B)(iii) is singular, it necessarily follows from parallel-construction grammar principles that the word "system" is part of the phrase "system, design and engineering methods" rather than the phrase "control techniques and system." Under this view and given the absence of a comma after the word "techniques," respondents argue that the "and such other provisions" clause cannot be fairly read as restricted by the "maximum extent practicable" phrase, and instead the "and such other provisions" clause is a separate and distinct clause that acts as a second direct object to the verb "require" in the sentence. (§ 1342(p)(3)(B)(iii).)

Building Industry responds that respondents' proposed statutory interpretation is "not logical" because if the "and such other provisions" phrase is the direct object of the verb "require," the sentence would not make sense. Building Industry states that "permits" do not generally "require" provisions; they "include" or "contain" them.

As a matter of grammar and word choice, respondents have the stronger position. The second part of Building Industry's proposed interpretation—"control techniques and system, design, and engineering methods"—without a comma after the word "techniques" does not logically serve as a ***883** parallel construct with the "and such other provisions" clause. Moreover, we disagree that the "and such other provisions" clause cannot be a direct object to the word "require." (§ 1342(p)(3)(B)(iii).) Although it is not the clearest way of articulating the concept, the language of section 1342(p)(3)(B)(iii) does communicate the basic ****140** principle that the EPA (and/or a state approved to issue the NPDES permit) retains the discretion to impose "appropriate" water pollution controls in addition to those that come within the definition of " 'maximum extent practicable.' " (*Defenders of Wildlife, supra,* 191 F.3d at pp. 1165–1167.) We find unpersuasive Building Industry's reliance on several statutory interpretation concepts, *ejusdem generis, noscitur a sociis,* and *expressio unius est exclusion alterius,* to support its narrower statutory construction.

2. *Purpose and History of Section 1342(p)(3)(B)(iii)*

[8] **[9]** Further, "[w]hile punctuation and grammar should be considered in interpreting a statute, neither is controlling unless the result is in harmony with the clearly expressed intent of the Legislature." (*In re John S.* (2001) 88 Cal.App.4th 1140, 1144, fn. 1, 106 Cal.Rptr.2d 476; see *Estate of Coffee* (1941) 19 Cal.2d 248, 251, 120 P.2d 661.) If the statutory language is susceptible to more than one reasonable interpretation, a court must also "look to a variety of extrinsic aids, including the ostensible objects to be achieved, the evils to be remedied, the legislative history, public policy, contemporaneous administrative construction, and the statutory scheme of which the statute is a part." (*Nolan v. City of Anaheim* (2004) 33 Cal.4th 335, 340, 14 Cal.Rptr.3d 857, 92 P.3d 350.)

The legislative purpose underlying the Water Quality Act of 1987, and section 1342(p) in particular, supports that Congress intended to provide the EPA (or the regulatory agency of an approved state) the discretion to require compliance with water quality standards in a municipal storm sewer NPDES permit, particularly where, as here, that compliance will be achieved primarily through an iterative process.

Before section 1342(p) was enacted, the courts had long recognized that the EPA had the authority to require a party to comply with a state water quality standard even if that standard had not been translated into an effluent limitation. (See *EPA v. State Water Resources Control Board, supra,* 426 U.S. at p. 205, fn. 12, 96 S.Ct. 2022; *PUD No. 1 of Jefferson Cty. v. Washington Dept. of Ecology, supra,* 511 U.S. at p. 715, 114 S.Ct. 1900; *Northwest Environmental Advocates v. Portland* (9th Cir.1995) 56 F.3d 979, 987; *Natural Resources Defense Council v. U.S.E.P.A.* (9th Cir.1990) 915 F.2d 1314, 1316.) Specifically, section 1311(b)(1)(C) gave the regulatory agency the authority to impose "any more stringent limitation including those necessary to meet water quality standards," and section 1342(a)(2) provided that "[t]he [EPA] Administrator shall ***884** prescribe conditions for [NPDES] permits to assure compliance" with requirements identified in section 1342(a)(1), which encompass state water quality standards. The United States Supreme Court explained that when Congress enacted the 1972 Clean Water Act, it retained "[w]ater quality standards ... as a supplementary basis for effluent limitations, ... so that numerous point sources despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels...." (*EPA v. State Water Resources Control Board, supra,* 426 U.S. at p. 205, fn. 12, 96 S.Ct. 2022; see also *Arkansas v. Oklahoma* (1992) 503 U.S. 91, 101, 112 S.Ct. 1046, 117 L.Ed.2d 239.)

There is nothing in section 1342(p)(3)(B)(iii)'s statutory language or legislative history showing that Congress intended to eliminate this discretion when it amended the Clean Water Act in 1987. ****141** To the contrary, Congress added the NPDES storm sewer requirements to strengthen the Clean Water Act by making its mandate correspond to the practical realities of municipal storm sewer regulation. As numerous commentators have pointed out, although Congress was reacting to the physical differences between municipal storm water runoff and other pollutant discharges that made the 1972 legislation's blanket effluent limitations approach impractical and administratively burdensome, the primary point of the legislation was to address these administrative problems while giving the administrative bodies the tools to meet the fundamental goals of the Clean Water Act in the context of stormwater pollution. (See *Regulation of Urban Stormwater Runoff, supra,* 48 Wash.U.J. Urb. & Contemp. L. at pp. 44–46;

Environmental Law Handbook, *supra,* at p. 300; Clean Water Act Handbook, *supra,* at pp. 62–63.) In the 1987 congressional debates, the Senators and Representatives emphasized the need to prevent the widespread and escalating problems resulting from untreated storm water toxic discharges that were threatening aquatic life and creating conditions dangerous to human health. (See Remarks of Sen. Durenberger, 133 Cong. Rec. 1279 (Jan. 14, 1987); Remarks of Sen. Chaffee, 133 Cong. Rec. S738 (daily ed. Jan 14, 1987); Remarks of Rep. Hammerschmidt, 133 Cong. Rec. 986 (Jan. 8, 1987); Remarks of Rep. Roe, 133 Cong. Rec. 1006, 1007 (Jan. 8, 1987); Remarks of Sen. Stafford, 132 Cong. Rec. 32381, 32400 (Oct. 16, 1986).) This legislative history supports that in identifying a maximum extent practicable standard Congress did not intend to substantively bar the EPA/state agency from imposing a more stringent water quality standard if the agency, based on its expertise and technical factual information and after the required administrative hearing procedure, found this standard to be a necessary and workable enforcement mechanism to achieving the goals of the Clean Water Act.

To support a contrary view, Building Industry relies on comments by Minnesota Senator David Durenberger during the lengthy congressional ***885** debates on the 1987 Water Quality Act amendments.[11] (132 Cong. Rec. 32400 (Oct. 16, 1986); 133 Cong. Rec. S752 (daily ed. Jan. 14, 1987).) In the cited portions of the Congressional Record, Senator Durenberger states that NPDES permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable. Such controls include management practices, control techniques and systems, design and engineering methods, and such other provisions, as the Administrator determines appropriate for the control of pollutants in the stormwater discharge." (*Ibid.*) When viewing these statements in context, it is apparent that the Senator was merely paraphrasing the words of the proposed statute and was not intending to address the issue of whether the maximum extent practicable standard was a regulatory ceiling or whether he believed the proposed amendments limited the EPA's existing discretion.[12]

****142** Building Industry's reliance on comments made by Georgia Representative James Rowland, who participated in drafting the 1987 Water Quality Act amendments, is similarly unhelpful. During a floor debate on the proposed amendments, Representative Rowland noted that cities have "millions of" stormwater discharge points and emphasized the devastating financial burden on cities if they were required to obtain a permit for each of these points. (133 Cong. Rec. 522 (daily ed. Feb. 3, 1987).) Representative Rowland then explained that the amendments would address this problem by "allow[ing] communities to obtain far less costly single jurisdictionwide permits." (*Ibid.*) Viewed in context, these comments were directed at the need for statutory provisions permitting the EPA to issue jurisdiction-wide permits thereby preventing unnecessary administrative costs to the cities, and do not reflect a desire to protect cities from the cost of complying with strict water quality standards when deemed necessary by the regulatory agency.

3. Interpretations by the EPA and Other Courts

Our conclusion that Congress intended section 1342(p)(3)(B)(iii) to provide the regulatory agency with authority to impose standards stricter than a "maximum extent practicable" standard is consistent with interpretations by ***886** the EPA and the Ninth Circuit. In its final rule promulgated in the Federal Register, the EPA construed section 1342(p)(3)(B)(iii) as providing the administrative agency with the authority to impose water-quality standard controls in an NPDES permit if appropriate under the circumstances. Specifically, the EPA stated this statutory provision requires "controls to reduce the discharge of pollutants to the maximum extent practicable, *and where necessary water quality-based controls* ...." (55 Fed.Reg. 47990, 47994 (Nov. 16, 1990), italics added.) We are required to give substantial deference to this administrative interpretation, which occurred after an extensive notice and comment period. (See *ibid.; Chevron, supra,* 467 U.S. at pp. 842–844, 104 S.Ct. 2778.)

The only other court that has interpreted the "such other provisions" language of section 1342(p)(3)(B)(iii) has reached a similar conclusion. (*Defenders of Wildlife, supra,* 191 F.3d at pp. 1166–1167.) In *Defenders of Wildlife,* environmental organizations brought an action against the EPA, challenging provisions in an NPDES permit requiring several Arizona localities to adhere to various best management practice controls without requiring numeric effluent limitations. (*Id.* at p. 1161.) The environmental organizations argued that section 1342(p) did not allow the EPA to issue NPDES permits without requiring strict compliance with effluent limitations.

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(*Defenders of Wildlife, supra*, at p. 1161.) Rejecting this argument, the Ninth Circuit found section 1342(p)(3)(B)(iii)'s statutory language "unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly" with effluent limitations. (*Defenders of Wildlife, supra,* at p. 1164.)

But in a separate part of the opinion, the *Defenders of Wildlife* court additionally rejected the reverse argument made by the affected municipalities (who were the interveners in the action) that "the EPA may not, under the [Clean Water Act], require strict compliance with state water-quality standards, through numerical limits or otherwise." (*Defenders of Wildlife, supra,* 191 F.3d at p. 1166.) The court stated: "Although Congress did not require ****143** municipal storm-sewer discharges to comply strictly with [numerical effluent limitations], § 1342(p)(3)(B)(iii) states that '[p]ermits for discharges from municipal storm sewers ... shall require ... *such other provisions as the Administrator ... determines appropriate for the control of such pollutants.*' (Emphasis added.) That provision gives the EPA discretion to determine what pollution controls are appropriate.... [¶] *Under that discretionary provision, the EPA has the authority to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants.* The EPA also has the authority to require less than strict compliance with state water-quality standards.... Under 33 U.S.C. § 1342(p)(3)(B)(iii), the EPA's choice to include either management practices or numeric limitations in the permits was within its discretion. [Citations.]" (*Defenders of Wildlife, supra,* 191 F.3d at pp. 1166–1167, second italics added.) Although dicta, this ***887** conclusion reached by a federal court interpreting federal law is persuasive and is consistent with our independent analysis of the statutory language. [13]

To support its interpretation of section 1342(p)(3)(B)(iii), Building Industry additionally relies on the statutory provisions addressing nonpoint source runoff (a diffuse runoff not channeled through a particular source), which were also part of the 1987 amendments to the Clean Water Act. (§ 1329.) In particular, Building Industry cites to section 1329(a)(1)(C), which states, "The Governor of each State shall ... prepare and submit to the [EPA] Administrator for approval, a report which ... [¶] ... [¶] describes the process ... for identifying best management practices and measures to control each [identified] category ... of nonpoint sources and ... to reduce, to the *maximum extent practicable,* the level of pollution resulting from such category...." (Italics added.) Building Industry argues that because this "nonpoint source" statutory language expressly identifies only the maximum extent practicable standard, we must necessarily conclude that Congress meant to similarly limit the storm sewer point source pollution regulations to the maximum extent practicable standard.

The logic underlying this analogy is flawed because the critical language in the two statutory provisions is different. In the nonpoint source statute, Congress chose to include only the maximum extent practicable standard (§ 1329(a)(1)(C)); whereas in the municipal storm sewer provisions, Congress elected to include the "and such other provisions" clause (§ 1342(p)(3)(B)(iii)). This difference leads to the reasonable inference that Congress had a different intent when it enacted the two statutory provisions. Moreover, because of a fundamental difference between point and nonpoint source pollution, Congress has historically treated the two types of pollution differently and has subjected each type to entirely different requirements. (See *Pronsolino v. Nastri* (9th Cir.2002) 291 F.3d 1123, 1126–1127.) Given this different treatment, it would be improper to presume Congress intended to apply the same standard in both statutes. Building Industry's citation to comments during the 1987 congressional debates regarding nonpoint source regulation does ****144** not support Building Industry's contentions.

***888** 4. *Contention that it is "Impossible" for Municipalities to Meet Water Quality Standards*

We also reject Building Industry's arguments woven throughout its appellate briefs, and emphasized during oral arguments, that the Water Quality Standards provisions violate federal law because compliance with those standards is "impossible." The argument is not factually or legally supported.

[10] **[11]** First, there is no showing on the record before us that the applicable water quality standards are unattainable. The trial court specifically concluded that Building Industry failed to make a factual showing to support this contention, and Building Industry does not present a proper appellate challenge to this finding sufficient to warrant our reexamining the evidence. All judgments and orders are presumed correct, and persons challenging them must affirmatively show reversible error.

(*Walling v. Kimball* (1941) 17 Cal.2d 364, 373, 110 P.2d 58.) A party challenging the sufficiency of evidence to support a judgment must summarize (and cite to) *all* of the material evidence, not just the evidence favorable to his or her appellate positions. (*In re Marriage of Fink* (1979) 25 Cal.3d 877, 887–888, 160 Cal.Rptr. 516, 603 P.2d 881; *People v. Dougherty* (1982) 138 Cal.App.3d 278, 282, 188 Cal.Rptr. 123.) Building Industry has made no attempt to comply with this well established appellate rule in its briefs.

In a supplemental brief, Building Industry attempted to overcome this deficiency by asserting that "[t]he record clearly establishes that [the Water Quality Standards provisions] are unattainable during the period the permit is in effect." This statement, however, is not supported by the proffered citation or by the evidence viewed in the light most favorable to the respondents. Further, the fact that many of the Municipalities' storm sewer discharges currently violate water quality standards does not mean that the Municipalities cannot comply with the standards during the five-year term of the Permit. Additionally, Building Industry's assertions at oral argument that the trial court never reached the "impossibility" issue and/or that respondents' counsel conceded the issue below are belied by the record, including the trial court's rejection of Building Industry's specific challenge to the proposed statement of decision on this very point. [14]

[12] We reject Building Industry's related argument that it was respondents' burden to affirmatively show it is feasible to satisfy each of the applicable Water Quality Standards provisions. The party challenging the scope of an administrative permit, such as an NPDES, has the burden of ***889** showing the agency abused its discretion or its findings were unsupported by the facts. (See *Fukuda v. City of Angels, supra,* 20 Cal.4th at p. 817, 85 Cal.Rptr.2d 696, 977 P.2d 693; *Huntington Park Redevelopment Agency v. Duncan* (1983) 142 Cal.App.3d 17, 25, 190 Cal.Rptr. 744.) Thus, it was not respondents' burden to affirmatively demonstrate it was possible for the Municipalities to meet the Permit's requirements.

Building Industry alternatively contends it was not required to challenge the facts underlying the trial court's determination that the Permit requirements were feasible ****145** because the court's determination was wrong as a matter of law. Specifically, Building Industry asserts that a Permit requirement that is more stringent than a "maximum extent practicable" standard is, by definition, "not practicable" and therefore "technologically impossible" to achieve under any circumstances. Building Industry relies on a dictionary definition of "practicable," which provides that the word means " 'something that can be done; feasible,' " citing the 1996 version of "Webster's Encyclopedic Unabridged Dictionary."

This argument is unpersuasive. The federal maximum extent practicable standard it is not defined in the Clean Water Act or applicable regulations, and thus the Regional Water Board properly included a detailed description of the term in the Permit's definitions section. (See *ante,* fn. 7.) As broadly defined in the Permit, the maximum extent practicable standard is a highly flexible concept that depends on balancing numerous factors, including the particular control's technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness. This definition conveys that the Permit's maximum extent practicable standard is a term of art, and is not a phrase that can be interpreted solely by reference to its everyday or dictionary meaning. Further, the Permit's definitional section states that the maximum extent practicable standard "considers economics and is generally, but not necessarily, *less* stringent than BAT." (Italics added.) BAT is an acronym for "best available technology economically achievable," which is a technology-based standard for industrial storm water dischargers that focuses on reducing pollutants by treatment or by a combination of treatment and best management practices. (See *Texas Oil & Gas Ass'n v. U.S. E.P.A.* (5th Cir.1998) 161 F.3d 923, 928.) If the maximum extent practicable standard is generally "less stringent" than another Clean Water Act standard that relies on available technologies, it would be unreasonable to conclude that anything more stringent than the maximum extent practicable standard is necessarily impossible. In other contexts, courts have similarly recognized that the word "practicable" does not necessarily mean the most that can possibly be done. (See *Nat. Wildlife Federation v. Norton* (E.D.Cal.2004) 306 F.Supp.2d 920, 928, fn. 12 ["[w]hile the meaning of the term 'practicable' in the [Endangered Species Act] is not entirely clear, the term does not simply equate to 'possible' "]; ***890** *Primavera Familienstiftung v. Askin* (S.D.N.Y.1998) 178 F.R.D. 405, 409 [noting that "impracticability does not mean impossibility, but rather difficulty or inconvenience"].)

We additionally question whether many of Building Industry's "impossibility" arguments are premature on the record before us. As we have explained, the record does not support that any required control is, or will be, impossible to implement. Further, the Permit allows the Regional Water Board to enforce water quality standards during the iterative process, but does not impose any obligation that the Board do so. Thus, we cannot determine with any degree of certainty whether this obligation would ever be imposed, particularly if it later turns out that it is not possible for a Municipality to achieve that standard.

Finally, we comment on Building Industry's repeated warnings that if we affirm the judgment, all affected Municipalities will be in immediate violation of the Permit because they are not now complying with applicable water quality standards, subjecting them to immediate and substantial civil penalties, and leading to a potential "shut down" of public operations. These doomsday arguments are unsupported. The Permit makes clear that Municipalities ****146** are required to adhere to numerous specific controls (none of which are challenged in this case) and to comply with water quality standards through "timely implementation of control measures" by engaging in a cooperative iterative process where the Regional Water Board and Municipality work together to identify violations of water quality standards in a written report and then incorporate approved modified best management practices. Although the Permit allows the regulatory agencies to enforce the water quality standards during this process, the Water Boards have made clear in this litigation that they envision the ongoing iterative process as the centerpiece to achieving water quality standards. Moreover, the regulations provide an affected party reasonable time to comply with new permit requirements under certain circumstances. (See 40 C.F.R. § 122.47.) There is nothing in this record to show the Municipalities will be subject to immediate penalties for violation of water quality standards.

We likewise find speculative Building Industry's predictions that immediately after we affirm the judgment, citizens groups will race to the courthouse to file lawsuits against the Municipalities and seek penalties for violation of the Water Quality Standards provisions. [15] As noted, the applicable laws provide time for an affected entity to comply with new standards. Moreover, although we do not reach the enforcement issue in this case, we note the ***891** Permit makes clear that the iterative process is to be used for violations of water quality standards, and gives the Regional Water Board the discretionary authority to enforce water quality standards during that process. Thus, it is not at all clear that a citizen would have standing to compel a municipality to comply with a water quality standard despite an ongoing iterative process. (See § 1365(a)(1)(2).)

III.–VII. *

DISPOSITION

Judgment affirmed. Appellants to pay respondents' costs on appeal.

WE CONCUR: BENKE, Acting P.J., and AARON, J.

All Citations

124 Cal.App.4th 866, 22 Cal.Rptr.3d 128, 34 Envtl. L. Rep. 20,149, 04 Cal. Daily Op. Serv. 10,694, 2004 Daily Journal D.A.R. 14,492

Footnotes

1 Pursuant to California Rules of Court, rule 976.1, this opinion is certified for publication with the exception of Discussion parts III, IV, V, VI and VII.

* Baxter, J., and Brown, J., dissented.

2 Further statutory references are to title 33 of the United States Code, unless otherwise specified.

3 The systems that carry untreated urban water runoff to receiving water bodies are known as "[m]unicipal separate storm sewer" systems (40 C.F.R. § 122.26(b)(8)), and are often referred to as "MS4s" (40 C.F.R. § 122.30). For readability, we will identify these systems as municipal storm sewers. To avoid confusion in this case, we will generally use descriptive names, rather than initials or acronyms, when referring to parties and concepts.

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4 The Clean Water Act defines a “point source” to be “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” (§ 1362(14).)

5 NPDES stands for National Pollution Discharge Elimination System.

6 Under the Clean Water Act, entities responsible for NPDES permit conditions pertaining to their own discharges are referred to as “copermittees.” (40 C.F.R. § 122.26(b)(1).) For clarity and readability, we shall refer to these entities as Municipalities.

7 The Permit does not precisely define this phrase, and instead, in its definition section, contains a lengthy discussion of the variable nature of the maximum extent practicable concept, referred to as MEP. A portion of this discussion is as follows: “[T]he definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their [local storm sewer plan]. Their total collective and individual activities conducted pursuant to the [plan] becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for municipal separate storm sewer maintenance). In the absence of a proposal acceptable to the [Regional Water Board], the [Regional Water Board] defines MEP.” The definition also identifies several factors that are “useful” in determining whether an entity has achieved the maximum extent practicable standard, including “Effectiveness,” “Regulatory Compliance,” “Public Acceptance,” “Cost,” and “Technical Feasibility.”

8 Several other parties were also named as petitioners: Building Industry Legal Defense Foundation, California Business Properties Association, Construction Industry Coalition for Water Quality, San Diego County Fire Districts Association, and the City of San Marcos. However, because these entities were not parties in the administrative challenge, the superior court properly found they were precluded by the administrative exhaustion doctrine from challenging the administrative agencies' compliance with the federal and state water quality laws. Although these entities were named as appellants in the notice of appeal, they are barred by the exhaustion doctrine from asserting appellate contentions concerning compliance with federal and state water quality laws. However, as to any other claims (such as CEQA), these entities are proper appellants. For ease of reference and where appropriate, we refer to the appellants collectively as Building Industry.

9 We note that in determining the meaning of the Clean Water Act and its amendments, federal courts generally defer to the EPA's statutory construction if the disputed portion of the statute is ambiguous. (See *Chevron U.S.A. v. Natural Res. Def. Council, Inc.* (1984) 467 U.S. 837, 842–844, 104 S.Ct. 2778, 81 L.Ed.2d 694 (*Chevron*).) However, the parties do not argue this same principle applies to a *state agency's* interpretation of the Clean Water Act. Nonetheless, under governing state law principles, we do consider and give due deference to the Water Boards' statutory interpretations in this case. (See *Yamaha Corp. of America v. State Bd. of Equalization, supra,* 19 Cal.4th at pp. 7–8, 78 Cal.Rptr.2d 1, 960 P.2d 1031.)

10 These challenged Permit provisions state “Discharges from [storm sewers] which cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited” (Permit, § A.2), and “Discharges from [storm sewers] that cause or contribute to the violation of water quality standards ... are prohibited” (Permit, § C.1).

11 We agree with Building Industry that the trial court's refusal to consider this legislative history on the basis that it was not presented to the administrative agencies was improper. However, this error was not prejudicial because we apply a de novo review standard in interpreting the relevant statutes.

12 In the cited remarks, Senator Durenberger in fact expressed his dissatisfaction with the EPA's prior attempts to regulate municipal storm sewers. He pointed out, for example, that “[r]unoff from municipal separate storm sewers and industrial sites contain significant values of both toxic and conventional pollutants,” and that despite the Clean Water Act's “clear directive,” the EPA “has failed to require most stormwater point sources to apply for permits which would control the pollutants in their discharge.” (133 Cong. Rec. 1274, 1279–1280 (daily ed. Jan. 14, 1987).)

13 Building Industry's reliance on two other Ninth Circuit decisions to support a contrary statutory interpretation is misplaced. (See *Natural Res. Def. Council, Inc. v. U.S.E.P.A., supra,* 966 F.2d at p. 1308; *Environmental Defense Center, Inc. v. U.S. E.P.A.* (9th Cir.2003) 344 F.3d 832.) Neither of these decisions addressed the issue of the scope of a regulatory agency's authority to exceed the maximum extent practicable standard in issuing NPDES permits for municipal storm sewers.

14 Because we are not presented with a proper appellate challenge, we do not address the trial court's factual determinations in this case concerning whether it is possible or practical for a Municipality to achieve any specific Permit requirement.

15 The Clean Water Act allows a citizen to sue a discharger to enforce limits contained in NPDES permits, but requires the citizen to notify the alleged violator, the state, and the EPA of its intention to sue at least 60 days before filing suit, and limits the enforcement to nondiscretionary agency acts. (See § 1365(a)(1)(2).)

* See footnote 1, *ante*.

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ATTACHMENT D-7

KeyCite Yellow Flag - Negative Treatment
Distinguished by City of Arcadia v. State Water Resources Control Bd., Cal.App. 4 Dist., December 14, 2010

35 Cal.4th 613
Supreme Court of California

CITY OF BURBANK, Plaintiff and Appellant,
v.
STATE WATER RESOURCES CONTROL BOARD et al., Defendants and Appellants.
City of Los Angeles, Plaintiff and Respondent,
v.
State Water Resources Control Board et al., Defendants and Appellants.

Nos. S119248, B151175, B152562.
|
April 4, 2005.
|
Rehearing Denied June 29, 2005. *

Synopsis

Background: Cities filed petitions for writs of mandate challenging pollutant limitations in wastewater discharge permits issued by regional water quality control boards. The Superior Court, Los Angeles County, Nos. BS060957 and BS060960, Dzintra I. Janavs, J., set aside permits. Regional board and state water resources control board appealed. The Court of Appeal consolidated the cases and reversed. The Supreme Court granted review, superseding the opinion of the Court of Appeal.

Holdings: The Supreme Court, Kennard, J., held that:

[1] regional board may not consider economic factors as justification for imposing pollutant restrictions in wastewater discharge permit which are less stringent than applicable federal standards, and

[2] when imposing more stringent pollutant restrictions that those required by federal law, regional board may take economic factors into account.

Judgment of Court of Appeal affirmed, and matter remanded.

Brown, J., filed concurring opinion.

Opinion, 4 Cal.Rptr.3d 27, superseded.

West Headnotes (5)

[1] Environmental Law
Purpose

Clean Water Act is a comprehensive water quality statute designed to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., as amended, 33 U.S.C.A. § 1251 et seq.

12 Cases that cite this headnote

[2] Environmental Law
Conditions and limitations

States
Environment;nuclear projects

Regional water quality control board may not consider economic factors as justification for imposing pollutant restrictions in wastewater discharge permit which are less stringent than applicable federal standards, despite statute directing board to take such factors into consideration, because the federal constitutional supremacy clause requires state law to yield to federal law. U.S.C.A. Const. Art. 6, cl. 2; Federal Water Pollution Control Act Amendments of 1972, §§ 101 et seq., 301(a), (b)(1)(B, C), 402(a)(1, 3), as amended, 33 U.S.C.A. §§ 1251 et seq., 1311(a), (b)(1)(B, C), 1342(a)(1, 3); West's Ann.Cal.Water Code §§ 13000 et seq., 13241(d), 13263, 13377.

See 4 Witkin, Summary of Cal. Law (9th ed. 1987) Real Property, §§ 68, 69; 8 Miller & Starr, Cal. Real Estate (3d ed. 2001) § 23:54; Cal. Jur. 3d, Pollution and Conservation Laws, § 126.

16 Cases that cite this headnote

[3] Statutes

Purpose and intent

When construing any statute, the court's task is to determine the Legislature's intent when it enacted the statute so as to adopt the construction that best effectuates the purpose of the law.

13 Cases that cite this headnote

[4] States

Conflicting or conforming laws or regulations

Under the federal Constitution's supremacy clause, a state law that conflicts with federal law is without effect. U.S.C.A. Const. Art. 6, cl. 2.

Cases that cite this headnote

[5] Environmental Law

Conditions and limitations

When imposing more stringent pollutant restrictions in a wastewater discharge permit than those required by federal law, a regional water quality control board may take into account the economic effects of doing so. Federal Water Pollution Control Act Amendments of 1972, §§ 101 et seq., 101(b), 510, as amended, 33 U.S.C.A. §§ 1251 et seq., 1251(b), 1370; West's Ann.Cal.Water Code §§ 13000 et seq., 13241(d), 13263, 13377.

19 Cases that cite this headnote

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Opinion

KENNARD, J.

***618** **864** Federal law establishes national water quality standards but allows the states to enforce their own water quality laws so long as they comply with federal standards. Operating within this federal-state framework, California's nine Regional Water Quality Control Boards establish water quality policy. They also issue permits for the discharge of treated wastewater; these permits specify the maximum allowable concentration of chemical pollutants in the discharged wastewater.

The question here is this: When a regional board issues a permit to a wastewater treatment facility, must the board take into account the facility's costs of complying with the board's restrictions on pollutants in the wastewater to be discharged? The trial court ruled that California law required a regional board to weigh the economic burden on the facility against the expected environmental benefits of reducing pollutants in the wastewater discharge. The Court of Appeal disagreed. On petitions by the municipal operators of three wastewater treatment facilities, we granted review.

We reach the following conclusions: Because both California law and federal law require regional boards to comply with federal clean water standards, and because the supremacy clause of the United States Constitution requires state law to yield to federal law, a regional board, when issuing a wastewater discharge permit, may not consider economic factors to justify imposing pollutant restrictions that are *less stringent* than the applicable federal standards require. When, however, a regional board is considering whether to make the pollutant restrictions in a wastewater discharge permit *more stringent* than federal law requires, California law allows the board to take into account economic **865 factors, including the wastewater discharger's cost of compliance. We remand this case for further proceedings to determine whether the pollutant limitations in the permits challenged here meet or exceed federal standards.

*619 I. STATUTORY BACKGROUND

The quality of our nation's waters is governed by a "complex statutory and regulatory scheme ... that implicates both federal and state administrative responsibilities." (*PUD No. 1 of Jefferson County v. Washington Department of Ecology* (1994) 511 U.S. 700, 704, 114 S.Ct. 1900, 128 L.Ed.2d 716.) We first discuss California law, then federal law.

A. California Law

In California, the controlling law is the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), which was enacted in 1969. (Wat.Code, § 13000 et seq., added by Stats.1969, ch. 482, § 18, p. 1051.)[1] Its goal is "to attain the highest water ***307** quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (§ 13000.) The task of accomplishing this belongs to the State Water Resources Control Board (State Board) and the nine Regional Water Quality Control Boards; together the State Board and the regional boards comprise "the principal state agencies with primary responsibility for the coordination and control of water quality." (§ 13001.) As relevant here, one of those regional boards oversees the Los Angeles region (the Los Angeles Regional Board).[2]

Whereas the State Board establishes statewide policy for water quality control (§ 13140), the regional boards "formulate and adopt water quality control plans for all areas within [a] region" (§ 13240). The regional boards' water quality plans, called "basin plans," must address the beneficial uses to be protected as well as water quality objectives, and they must establish a program of implementation. (§ 13050, subd. (j).) Basin plans must be consistent with "state policy for water quality control." (§ 13240.)

B. Federal Law

[1] In 1972, Congress enacted amendments (Pub.L. No. 92–500 (Oct. 18, 1972) 86 Stat. 816) to the Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), which, as amended in 1977, is commonly known as the Clean ***620** Water Act. The Clean Water Act is a "comprehensive water quality statute designed 'to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.' " (*PUD No. 1 of Jefferson County v. Washington Dept. of Ecology, supra,* 511 U.S. at p. 704, 114 S.Ct. 1900, quoting 33 U.S.C. § 1251(a).) The Act's national goal was to eliminate by the year 1985 "the discharge of pollutants into the navigable waters" of the United States. (33 U.S.C. § 1251(a)(1).) To accomplish this goal, the Act established "effluent limitations," which are restrictions on the "quantities, rates, and concentrations of chemical, physical, biological, and other constituents"; these effluent limitations allow the discharge of pollutants only when the water has been satisfactorily treated to conform with federal water quality standards. (33 U.S.C. §§ 1311, 1362(11).)

Under the federal Clean Water Act, each state is free to enforce its own water quality laws so long as its effluent limitations are not "less stringent" than those set out in the Clean Water Act. (33 U.S.C. § 1370.) This led the California Legislature in 1972 to amend the state's Porter–Cologne Act "to ensure consistency with the requirements for state programs implementing the Federal Water Pollution Control Act." (§ 13372.)

****866** Roughly a dozen years ago, the United States Supreme Court, in *Arkansas v. Oklahoma* (1992) 503 U.S. 91, 112 S.Ct. 1046, 117 L.Ed.2d 239, described the distinct roles of the state and federal agencies in enforcing water quality: "The Clean Water Act anticipates a partnership between the States and the Federal Government, animated by a shared objective: 'to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.' 33 U.S.C. § 1251(a). Toward *****308** this end, [the Clean Water Act] provides for two sets of water quality measures. 'Effluent limitations' are promulgated by the [Environmental Protection Agency (EPA)] and restrict the quantities, rates, and concentrations of specified substances which are discharged from point sources. [3] See §§ 1311, 1314. '[W]ater quality standards' are, in general, promulgated by the States and establish the desired condition of a waterway. See § 1313. These standards supplement effluent limitations 'so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels.' *EPA v. California ex rel. State Water Resources Control Bd.,* 426 U.S. 200, 205, n. 12, 96 S.Ct. 2022, 2025, n. 12, 48 L.Ed.2d 578 (1976).

***621** "The EPA provides States with substantial guidance in the drafting of water quality standards. See generally 40 CFR pt. 131 (1991) (setting forth model water quality standards). Moreover, [the Clean Water Act] requires, *inter alia,* that state authorities periodically review water quality standards and secure the EPA's approval of any revisions in the standards. If the EPA recommends changes to the standards and the State fails to comply with that recommendation, the Act authorizes the EPA to promulgate water quality standards for the State. 33 U.S.C. § 1313(c)." (*Arkansas v. Oklahoma, supra,* 503 U.S. at p. 101, 112 S.Ct. 1046.)

Part of the federal Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), "[t]he primary means" for enforcing effluent limitations and standards under the Clean Water Act. (*Arkansas v. Oklahoma, supra,* 503 U.S. at p. 101, 112 S.Ct. 1046.) The NPDES sets out the conditions under which the federal EPA or a state with an approved water quality control program can issue permits for the discharge of pollutants in wastewater. (33 U.S.C. § 1342(a) & (b).) In California, wastewater discharge requirements established by the regional boards are the equivalent of the NPDES permits required by federal law. (§ 13374.)

With this federal and state statutory framework in mind, we now turn to the facts of this case.

II. FACTUAL BACKGROUND

This case involves three publicly owned treatment plants that discharge wastewater under NPDES permits issued by the Los Angeles Regional Board.

The City of Los Angeles owns and operates the Donald C. Tillman Water Reclamation Plant (Tillman Plant), which serves the San Fernando Valley. The City of Los Angeles also owns and operates the Los Angeles–Glendale Water Reclamation Plant (Los Angeles–Glendale Plant),

which processes wastewater from areas within the City of Los Angeles and the independent cities of Glendale and Burbank. Both the Tillman Plant and the Los Angeles–Glendale Plant discharge wastewater directly into the Los Angeles River, now a concrete-lined flood control channel that runs through the City of Los Angeles, ending at the Pacific Ocean. The State Board and the Los Angeles Regional Board consider the Los Angeles River to be a navigable water of the United States for purposes of the federal Clean Water Act.

The third plant, the Burbank Water Reclamation Plant (Burbank Plant), is owned and operated by the City of Burbank, ***309** serving residents and businesses within that city. The Burbank Plant discharges wastewater into the Burbank Western Wash, which drains into the Los Angeles River.

***622** All three plants, which together process hundreds of millions of gallons of sewage **867** each day, are tertiary treatment facilities; that is, the treated wastewater they release is processed sufficiently to be safe not only for use in watering food crops, parks, and playgrounds, but also for human body contact during recreational water activities such as swimming.

In 1998, the Los Angeles Regional Board issued renewed NPDES permits to the three wastewater treatment facilities under a basin plan it had adopted four years earlier for the Los Angeles River and its estuary. That 1994 basin plan contained general narrative criteria pertaining to the existing and potential future beneficial uses and water quality objectives for the river and estuary.[4] The narrative criteria included municipal and domestic water supply, swimming and other recreational water uses, and fresh water habitat. The plan further provided: "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." The 1998 permits sought to reduce these narrative criteria to specific numeric requirements setting daily maximum limitations for more than 30 pollutants present in the treated wastewater, measured in milligrams or micrograms per liter of effluent.[5]

The Cities of Los Angeles and Burbank (Cities) filed appeals with the State Board, contending that achievement of the numeric requirements would be too costly when considered in light of the potential benefit to water quality, and that the pollutant restrictions in the NPDES permits were unnecessary to meet the narrative criteria described in the basin plan. The State Board summarily denied the Cities' appeals.

Thereafter, the Cities filed petitions for writs of administrative mandate in the superior court. They alleged, among other things, that the Los Angeles Regional Board failed to comply with sections 13241 and 13263, part of California's Porter–Cologne Act, because it did not consider the economic burden on the Cities in having to reduce substantially the pollutant content of their discharged wastewater. They also alleged that compliance with the pollutant restrictions set out in the NPDES permits issued by the regional ***623** board would greatly increase their costs of treating the wastewater to be discharged into the Los Angeles River. According to the City of Los Angeles, its compliance costs would exceed $50 million annually, representing more than 40 percent of its entire budget for operating its four wastewater treatment plants and its sewer system; the City of Burbank estimated its added costs at over $9 million annually, a nearly 100 percent increase above its $9.7 million annual budget for wastewater treatment.

***310** The State Board and the Los Angeles Regional Board responded that sections 13241 and 13263 do not require consideration of costs of compliance when a regional board issues a NPDES permit that restricts the pollutant content of discharged wastewater.

The trial court stayed the contested pollutant restrictions for each of the three wastewater treatment plants. It then ruled that sections 13241 and 13263 of California's Porter–Cologne Act required a regional board to consider costs of compliance not only when it adopts a basin or water quality plan but also when, as here, it issues an NPDES permit setting the allowable pollutant content of a treatment plant's discharged wastewater. The court found no evidence that the Los Angeles Regional Board had considered economic factors at either stage. Accordingly, the trial court granted the Cities' petitions for writs of mandate, and it ordered the Los Angeles Regional Board to vacate the contested restrictions on pollutants in the wastewater discharge permits issued to the three municipal plants here and to conduct hearings **868** to consider the Cities' costs of compliance before the board's issuance of new permits. The Los Angeles Regional Board and the

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State Board filed appeals in both the Los Angeles and Burbank cases. [6]

The Court of Appeal, after consolidating the cases, reversed the trial court. It concluded that sections 13241 and 13263 require a regional board to take into account "economic considerations" when it adopts water quality standards in a basin plan but not when, as here, the regional board sets specific pollutant restrictions in wastewater discharge permits intended to satisfy those standards. We granted the Cities' petition for review.

*624 III. DISCUSSION

A. Relevant State Statutes

The California statute governing the issuance of *wastewater permits* by a regional board is section 13263, which was enacted in 1969 as part of the Porter–Cologne Act. (See 26 Cal.Rptr.3d pp. 306–307, 108 P.3d p. 865, *ante.*) Section 13263 provides in relevant part: "*The regional board,* after any necessary hearing, *shall prescribe requirements as to the nature of any proposed discharge* [of wastewater]. *The requirements* shall implement any relevant water quality control plans that have been adopted, and *shall take into consideration* the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and *the provisions of Section 13241.*" (§ 13263, subd. (a), italics added.)

Section 13241 states: "Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:

***311 "(a) Past, present, and probable future beneficial uses of water.

"(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

"(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

"(d) *Economic considerations.*

"(e) The need for developing housing within the region.

"(f) The need to develop and use recycled water." (Italics added.)

The Cities here argue that section 13263's express reference to section 13241 requires the Los Angeles Regional Board to consider section 13241's listed factors, notably "[e]conomic considerations," before issuing NPDES permits requiring specific pollutant reductions in discharged effluent or treated wastewater.

[2] *625 Thus, at issue is language in section 13263 stating that when a regional board "prescribe[s] requirements as to the nature of any proposed discharge" of treated wastewater it must "take into consideration" certain factors including "the provisions of Section 13241." According to the Cities, this statutory language requires that a regional board make an independent evaluation of the section 13241 factors, including "economic considerations," before restricting the pollutant content in an NPDES permit. This was the view expressed in the trial court's ruling. The Court of Appeal rejected that view. It held that a regional board need consider the section 13241 factors only when it adopts a basin or water quality plan, but not when, as in this case, it issues a wastewater discharge **869 permit that sets specific numeric limitations on the various chemical pollutants in the wastewater to be discharged. As explained below, the Court of Appeal was partly correct.

B. Statutory Construction

[3] When construing any statute, our task is to determine the Legislature's intent when it enacted the statute "so that we may adopt the construction that best effectuates the purpose of the law." (*Hassan v. Mercy American River Hospital* (2003) 31 Cal.4th 709, 715, 3 Cal.Rptr.3d 623, 74 P.3d 726; *Esberg v. Union Oil Co.* (2002) 28 Cal.4th 262, 268, 121 Cal.Rptr.2d 203, 47 P.3d 1069.) In doing this, we look to the statutory language, which ordinarily is "the most reliable indicator of legislative intent." (*Hassan, supra,* at p. 715, 3 Cal.Rptr.3d 623, 74 P.3d 726.)

As mentioned earlier, our Legislature's 1969 enactment of the Porter–Cologne Act, which sought to ensure the high quality of water in this state, predated the 1972 enactment by Congress of the precursor to the federal Clean Water Act. Included in California's original Porter–Cologne Act were sections 13263 and 13241. Section 13263 directs regional boards, when issuing wastewater discharge permits, to take into account various factors, including those set out in section 13241. Listed among the section 13241 factors is "[e]conomic considerations." (§ 13241, subd. (d).) The plain language of sections 13263 and 13241 indicates the Legislature's intent in 1969, when these statutes were enacted, that a regional board consider the cost of compliance when setting effluent limitations in a wastewater discharge permit.

Our construction of sections 13263 and 13241 does not end with their plain statutory language, however. We must also analyze them in the context of the statutory scheme of which they are a part. ***312** (*State Farm Mutual Automobile Ins. Co. v. Garamendi* (2004) 32 Cal.4th 1029, 1043, 12 Cal.Rptr.3d 343, 88 P.3d 71.) Like sections 13263 and 13241, section 13377 is part of the Porter–Cologne Act. But unlike the former two statutes, section 13377 was **626** not enacted until 1972, shortly after Congress, through adoption of the Federal Water Pollution Control Act Amendments, established a comprehensive water quality policy for the nation.

[4] Section 13377 specifies that wastewater discharge permits issued by California's regional boards must meet the federal standards set by federal law. In effect, section 13377 forbids a regional board's consideration of any economic hardship on the part of the permit holder if doing so would result in the dilution of the requirements set by Congress in the Clean Water Act. That act prohibits the discharge of pollutants into the navigable waters of the United States unless there is compliance with federal law (33 U.S.C. § 1311(a)), and publicly operated wastewater treatment plants such as those before us here must comply with the act's clean water standards, regardless of cost (see *id.,* §§ 1311(a), (b)(1)(B) & (C), 1342(a)(1) & (3)). Because section 13263 cannot authorize what federal law forbids, it cannot authorize a regional board, when issuing a wastewater discharge permit, to use compliance costs to justify pollutant restrictions that do not comply with federal clean water standards.[7] Such a construction of section 13263 would not only be inconsistent with federal law, it would also be inconsistent with the Legislature's **870 declaration in section 13377 that all discharged wastewater must satisfy federal standards.[8] This was also the conclusion of the Court of Appeal. Moreover, under the federal Constitution's supremacy clause (art. VI), a state law that conflicts with federal law is " 'without effect.' " (*Cipollone v. Liggett Group, Inc.* (1992) 505 U.S. 504, 516, 112 S.Ct. 2608, 120 L.Ed.2d 407; *Dowhal v. SmithKline Beecham Consumer Healthcare* (2004) 32 Cal.4th 910, 923, 12 Cal.Rptr.3d 262, 88 P.3d 1.) To comport with the principles of federal supremacy, California law cannot authorize this *627 state's regional boards to allow the discharge of pollutants into the navigable waters of the United States in concentrations ***313** that would exceed the mandates of federal law.

Thus, in this case, whether the Los Angeles Regional Board should have complied with sections 13263 and 13241 of California's Porter–Cologne Act by taking into account "economic considerations," such as the costs the permit holder will incur to comply with the numeric pollutant restrictions set out in the permits, depends on whether those restrictions meet or exceed the requirements of the federal Clean Water Act. We therefore remand this matter for the trial court to resolve that issue.

C. Other Contentions

The Cities argue that requiring a regional board at the wastewater discharge permit stage to consider the permit holder's cost of complying with the board's restrictions on pollutant content in the water is consistent with federal law. In support, the Cities point to certain provisions of the federal Clean Water Act. They cite section 1251(a)(2) of title 33 United States Code, which sets, as a national goal "*wherever attainable,*" an interim goal for water quality that protects fish and wildlife, and section 1313(c)(2)(A) of the same title, which requires consideration, among other things, of waters' "*use and value* for navigation" when revising or adopting a "water quality standard." (Italics added.) These two federal statutes, however, pertain not to permits for wastewater discharge, at issue here, but to establishing water quality standards, not at issue here. Nothing in the federal Clean Water Act suggests that a state is free to disregard or to weaken the federal requirements for clean water when an NPDES permit holder alleges that compliance with those requirements will be too costly.

[5] At oral argument, counsel for amicus curiae National Resources Defense Council, which argued on behalf of California's State Board and regional water boards, asserted that the federal Clean Water Act incorporates state water policy into federal law, and that therefore a regional board's consideration of economic factors to justify greater pollutant concentration in discharged wastewater would conflict with the federal act even if the specified pollutant restrictions were not less stringent than those required under federal law. We are not persuaded. The federal Clean Water Act reserves to the states significant aspects of water quality policy (33 U.S.C. § 1251(b)), and it specifically grants the states authority to "enforce any effluent limitation" that is not "*less stringent* " than the federal standard (*id.* § 1370, italics added). It does not prescribe or restrict the factors that a state may consider when exercising this reserved authority, and thus it does not prohibit ***628** a state—when imposing effluent limitations that are *more stringent* than required by federal law—from taking into account the economic effects of doing so.

Also at oral argument, counsel for the Cities asserted that if the three municipal wastewater treatment facilities ceased releasing their treated wastewater into the concrete channel that makes up the Los Angeles River, it would (other than during the rainy season) contain no water at all, and thus would not be a "navigable water" of the ****871** United States subject to the Clean Water Act. (See *Solid Waste Agency v. United States Army Corps of Engineers* (2001) 531 U.S. 159, 172, 121 S.Ct. 675, 148 L.Ed.2d 576 ["The term 'navigable' has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made."].) It is unclear when the Cities first raised this issue. The Court of Appeal did not discuss it in its opinion, and the Cities did not seek rehearing on this ground. (See *****314** Cal. Rules of Court, rule 28(c)(2).) Concluding that the issue is outside our grant of review, we do not address it.

CONCLUSION

Through the federal Clean Water Act, Congress has regulated the release of pollutants into our national waterways. The states are free to manage their own water quality programs so long as they do not compromise the federal clean water standards. When enacted in 1972, the goal of the Federal Water Pollution Control Act Amendments was to *eliminate* by the year 1985 the discharge of pollutants into the nation's navigable waters. In furtherance of that goal, the Los Angeles Regional Board indicated in its 1994 basin plan on water quality the intent, insofar as possible, to remove from the water in the Los Angeles River toxic substances in amounts harmful to humans, plants, and aquatic life. What is not clear from the record before us is whether, in limiting the chemical pollutant content of wastewater to be discharged by the Tillman, Los Angeles–Glendale, and Burbank wastewater treatment facilities, the Los Angeles Regional Board acted only to implement requirements of the federal Clean Water Act or instead imposed pollutant limitations that exceeded the federal requirements. This is an issue of fact to be resolved by the trial court.

DISPOSITION

We affirm the judgment of the Court of Appeal reinstating the wastewater discharge permits to the extent that the specified numeric limitations on chemical pollutants are necessary to satisfy federal Clean Water Act requirements for treated wastewater. The Court of Appeal is directed to remand this ***629** matter to the trial court to decide whether any numeric limitations, as described in the permits, are "more stringent" than required under federal law and thus should have been subject to "economic considerations" by the Los Angeles Regional Board before inclusion in the permits.

WE CONCUR: GEORGE, C.J., BAXTER, WERDEGAR, CHIN, and MORENO, JJ.

Concurring Opinion by BROWN, J.

I write separately to express my frustration with the apparent inability of the government officials involved here to answer a simple question: How do the federal clean water standards (which, as near as I can determine, are the state standards) prevent the state from considering economic factors? The majority concludes that because "the supremacy clause of the United States Constitution requires state law to yield to federal law, a regional board, when issuing a wastewater discharge permit, may not consider economic factors to justify imposing pollutant

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restrictions that are *less stringent* than applicable federal standards require." (Maj. opn., *ante,* 26 Cal.Rptr.3d at p. 306, 108 P.3d at p. 864.) That seems a pretty self-evident proposition, but not a useful one. The real question, in my view, is whether the Clean Water Act prevents or prohibits the regional water board from considering economic factors to justify pollutant restrictions that *meet* the clean water standards in more cost-effective and economically efficient ways. I can see no reason why a federal law—which purports to be an example of cooperative federalism—would decree such a result. I do not think the majority's reasoning is at fault here. Rather, the agencies involved seemed to have worked hard to make this simple question impenetrably obscure.

A brief review of the statutory framework at issue is necessary to understand my concerns.

*****315 **872 I. Federal Law**

"In 1972, Congress enacted the Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), commonly known as the Clean Water Act (CWA) [Citation.] ... [¶] Generally, the CWA 'prohibits the discharge of any pollutant except in compliance with one of several statutory exceptions. [Citation.]' ... The most important of those exceptions is pollution discharge under a valid NPDES [National Pollution Discharge Elimination System] permit, which can be issued either by the Environmental Protection Agency (EPA), or by an EPA-approved state permit program such as California's. [Citations.] NPDES permits are valid for five years. [Citation.] [¶] Under the CWA's NPDES permit program, the states are required to develop *water quality standards.* [Citations.] A water quality standard 'establish[es] the desired condition of a waterway.' [Citation.] A water quality standard for any ***630** given waterway, or 'water body,' has two components: (1) the designated beneficial uses of the water body and (2) the *water quality criteria* sufficient to protect those uses. [Citations.] [¶] Water quality criteria can be either *narrative* or *numeric.* [Citation.]" (*Communities for a Better Environment v. State Water Resources Control Bd.* (2003) 109 Cal.App.4th 1089, 1092–1093, 1 Cal.Rptr.3d 76.)

With respect to satisfying water quality standards, "a polluter must comply with *effluent limitations.* The CWA defines an effluent limitation as 'any restriction established by a State or the [EPA] Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.' [Citation.] 'Effluent limitations are a means of *achieving* water quality standards.' [Citation.] [¶] NPDES permits establish effluent limitations for the polluter. [Citations.] CWA's NPDES permit system provides for a two-step process for the establishing of effluent limitations. First, the polluter must comply with *technology-based effluent limitations,* which are limitations based on the best available or practical technology for the reduction of water pollution. [Citations.] [¶] Second, the polluter must also comply with more stringent *water quality-based effluent limitations* (WQBEL's) where applicable. In the CWA, Congress 'supplemented the "technology-based" effluent limitations with "water quality-based" limitations "so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels.' " [Citation.] [¶] The CWA makes WQBEL's applicable to a given polluter whenever WQBEL's are 'necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations....' [Citations.] Generally, NPDES permits must conform to state water quality laws insofar as the state laws impose more stringent pollution controls than the CWA. [Citations.] Simply put, WQBEL's implement water quality standards." (*Communities for a Better Environment v. State Water Resources Control Bd., supra,* 109 Cal.App.4th at pp. 1093–1094, 1 Cal.Rptr.3d 76, fns. omitted.)

This case involves water quality-based effluent limitations. As set forth above, "[u]nder the CWA, states have the primary role in promulgating water quality standards." (*Piney Run Preservation Ass'n v. Commrs. of Carroll Co.* (4th Cir.2001) 268 F.3d 255, 265, fn. 9.) "Under the CWA, the water quality standards referred to in section 301 [see 33 U.S.C. § 1311] are primarily the states' handiwork." *****316** (*American Paper Institute, Inc. v. U.S. Envtl. Protection Agency* (D.C.Cir.1993) 996 F.2d 346, 349 (*American Paper*).) In fact, upon the 1972 passage of the CWA, "[s]tate water quality standards in effect at the time ... were deemed to be the initial water quality benchmarks for CWA purposes.... The states were to revisit and, if ***631** necessary, revise

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those initial standards at least once every three years." (*American Paper,* at p. 349.) Therefore, "once a water quality standard has been promulgated, section 301 of the CWA requires all NPDES permits for point sources to incorporate discharge limitations necessary to satisfy that standard." (*American Paper,* at p. 350.) Accordingly, it appears that in most instances, ****873** state water quality standards are identical to the federal requirements for NPDES permits.

II. State Law

In California, pursuant to the Porter–Cologne Water Quality Control Act (Wat.Code, § 13000 et seq.; Stats.1969, ch. 482, § 18, p. 1051; hereafter Porter–Cologne Act), the regional water quality control boards establish water quality standards—and therefore federal requirements for NPDES permits—through the adoption of water quality control plans (basin plans). The basin plans establish water quality objectives using enumerated factors—including economic factors—set forth in Water Code section 13241.

In addition, as one court observed: "The Porter–Cologne Act ... established nine regional boards to prepare water quality plans (known as basin plans) and issue permits governing the discharge of waste. (Wat.Code, §§ 13100, 13140, 13200, 13201, 13240, 13241, 13243.) The Porter–Cologne Act identified these permits as 'waste discharge requirements,' and provided that the waste discharge requirements must mandate compliance with the applicable regional water quality control plan. (Wat.Code, §§ 13263, subd. (a), 13377, 13374.)[¶] Shortly after Congress enacted the Clean Water Act in 1972, the California Legislature added Chapter 5.5 to the Porter–Cologne Act, for the purpose of adopting the necessary federal requirements to ensure it would obtain EPA approval to issue NPDES permits. (Wat.Code, § 13370, subd. (c).) As part of these amendments, the Legislature provided that the state and regional water boards 'shall, as required or authorized by the [Clean Water Act], issue waste discharge requirements ... which apply and ensure compliance with all applicable provisions [of the Clean Water Act], together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.' (Wat.Code, § 13377.) Water Code section 13374 provides that '[t]he term "waste discharge requirements" as referred to in this division is the equivalent of the term "permits" as used in the [Clean Water Act].' [¶] California subsequently obtained the required approval to issue NPDES permits. [Citation.] Thus, the waste discharge requirements issued by the regional water boards ordinarily also serve as NPDES permits under federal law. (Wat.Code, § 13374.)" (*Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 875, 22 Cal.Rptr.3d 128.)

***632** Applying this federal-state statutory scheme, it appears that throughout this entire process, the Cities of Burbank and Los Angeles (Cities) were unable to have economic factors considered because the Los Angeles Regional Water Quality Control Board (Board)—the body responsible to enforce the statutory framework—failed to comply with its statutory mandate.

*****317** For example, as the trial court found, the Board did not consider costs of compliance when it initially established its basin plan, and hence the water quality standards. The Board thus failed to abide by the statutory requirement set forth in Water Code section 13241 in establishing its basin plan. Moreover, the Cities claim that the initial narrative standards were so vague as to make a serious economic analysis impracticable. Because the Board does not allow the Cities to raise their economic factors in the permit approval stage, they are effectively precluded from doing so. As a result, the Board appears to be playing a game of "gotcha" by allowing the Cities to raise economic considerations when it is not practical, but precluding them when they have the ability to do so.

Moreover, the Board acknowledges that it has neglected other statutory provisions that might have provided an additional opportunity to air these concerns. As set forth above, pursuant to the CWA, "[t]he states were to revisit and, if necessary, revise those initial standards at least once every three years—a process commonly known as triennial review. [Citation.] Triennial reviews consist of public hearings in which current water quality standards are examined to assure that they 'protect the public health or welfare, enhance the quality of water and serve the purposes' of the Act. [Citation.] Additionally, the CWA ****874** directs states to consider a variety of competing policy concerns during these reviews, including a waterway's 'use and value for public water supplies, propagation of fish and wildlife, recreational purposes,

and agricultural, industrial, and other purposes.' " (*American Paper, supra,* 996 F.2d at p. 349.)

According to the Cities, "[t]he last time that the narrative water quality objective for toxicity contained in the Basin Plan was reviewed and modified was 1994." The Board does not deny this claim. Accordingly, the Board has failed its duty to allow public discussion —including economic considerations—at the required intervals when making its determination of proper water quality standards.

What is unclear is why this process should be viewed as a contest. State and local agencies are presumably on the same side. The costs will be paid by taxpayers and the Board should have as much interest as any other agency in fiscally responsible environmental solutions.

***633** Our decision today arguably allows the Board to continue to shirk its statutory duties. The majority holds that when read together, Water Code sections 13241, 13263, and 13377 do not allow the Board to consider economic factors when issuing NPDES permits to satisfy federal CWA requirements. (Maj. opn., *ante,* 26 Cal.Rptr.3d at pp. 311–312, 108 P.3d at pp. 869–870.) The majority then bifurcates the issue when it orders the Court of Appeal "to remand this matter to the trial court to decide whether any numeric limitations, as described in the permits, are 'more stringent' than required under federal law and thus should have been subject to 'economic considerations' by the Los Angeles Regional Board before inclusion in the permits." (*Id.* at p. 314, 108 P.3d at p. 871.)

The majority overlooks the feedback loop established by the CWA, under which federal standards are linked to state-established water quality standards, including narrative water quality criteria. (See 33 U.S.C. § 1311(b)(1)(C); 40 C.F.R. § 122.44(d)(1) (2004).) Under the CWA, NPDES permit requirements include the state narrative criteria, which are incorporated into the Board's basin plan under the description "no toxins in toxic amounts." As far as I can determine, NPDES permits *****318** designed to achieve this narrative criteria (as well as designated beneficial uses) will usually implement the state's basin plan, while satisfying federal requirements as well.

If federal water quality standards are typically identical to state standards, it will be a rare instance that a state exceeds its own requirements and economic factors are taken into consideration. [1] In light of the Board's initial failure to consider costs of compliance and its repeated failure to conduct required triennial reviews, the result here is an unseemly bureaucratic bait-and-switch that we should not endorse. The likely outcome of the majority's decision is that the Cities will be economically burdened to meet standards imposed on them in a highly questionable manner. [2] In these times of tight fiscal budgets, it is difficult to imagine imposing additional financial burdens on municipalities without at least allowing them to present alternative views.

Based on the facts of this case, our opinion today appears to largely retain the status quo for the Board. If the Board can actually demonstrate that only the precise limitations at issue here, implemented in only one way, will achieve the desired water standards, perhaps its obduracy is justified. That case has yet to be made.

***634** Accordingly, I cannot conclude that the majority's decision is wrong. The analysis ****875** may provide a reasonable accommodation of conflicting provisions. However, since the Board's actions "make me wanna holler and throw up both my hands," [3] I write separately to set forth my concerns and concur in the judgment —*dubitante.* [4]

All Citations

35 Cal.4th 613, 108 P.3d 862, 26 Cal.Rptr.3d 304, 60 ERC 1470, 35 Envtl. L. Rep. 20,071, 05 Cal. Daily Op. Serv. 2861, 2005 Daily Journal D.A.R. 3870

Footnotes

* Brown, J., did not participate therein.

1 Further undesignated statutory references are to the Water Code.

2 The Los Angeles water region "comprises all basins draining into the Pacific Ocean between the southeasterly boundary, located in the westerly part of Ventura County, of the watershed of Rincon Creek and a line which coincides with the

southeasterly boundary of Los Angeles County from the ocean to San Antonio Peak and follows thence the divide between San Gabriel River and Lytle Creek drainages to the divide between Sheep Creek and San Gabriel River drainages." (§ 13200, subd. (d).)

3 A "point source" is "any discernable, confined and discrete conveyance" and includes "any pipe, ditch, channel ... from which pollutants ... may be discharged." (33 U.S.C. § 1362(14).)

4 This opinion uses the terms "narrative criteria" or descriptions, and "numeric criteria" or effluent limitations. Narrative criteria are broad statements of desirable water quality goals in a water quality plan. For example, "no toxic pollutants in toxic amounts" would be a narrative description. This contrasts with numeric criteria, which detail specific pollutant concentrations, such as parts per million of a particular substance.

5 For example, the permits for the Tillman and Los Angeles–Glendale Plants limited the amount of fluoride in the discharged wastewater to 2 milligrams per liter and the amount of mercury to 2.1 micrograms per liter.

6 Unchallenged on appeal and thus not affected by our decision are the trial court's rulings that (1) the Los Angeles Regional Board failed to show how it derived from the narrative criteria in the governing basin plan the specific numeric pollutant limitations included in the permits; (2) the administrative record failed to support the specific effluent limitations; (3) the permits improperly imposed daily maximum limits rather than weekly or monthly averages; and (4) the permits improperly specified the manner of compliance.

7 The concurring opinion misconstrues both state and federal clean water law when it describes the issue here as "whether the Clean Water Act prevents or prohibits the regional water board from considering economic factors to justify pollutant restrictions *that meet the clean water standards in more cost-effective and economically efficient ways.*" (Conc. Opn. of Brown, J., *post,* 26 Cal.Rptr.3d p. 314, 108 P.3d at p. 871, some italics added.) This case has nothing to do with meeting federal standards in more cost effective and economically efficient ways. State law, as we have said, allows a regional board to consider a permit holder's compliance cost to *relax* pollutant concentrations, as measured by numeric standards, for pollutants in a wastewater discharge permit. (§§ 13241 & 13263.) Federal law, by contrast, as stated above in the text, "prohibits the discharge of pollutants into the navigable waters of the United States unless there is compliance with federal law (33 U.S.C. § 1311(a)), and publicly operated wastewater treatment plants such as those before us here must comply with the [federal] act's *clean water standards, regardless of cost* (see *id.,* §§ 1311(a), (b)(1)(B) & (C), 1342(a)(1) & (3))." (Italics added.)

8 As amended in 1978, section 13377 provides for the issuance of waste discharge permits that comply with federal clean water law "together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." We do not here decide how this provision would affect the cost-consideration requirementsof sections 13241 and 13263 when more stringent effluent standards or limitations in a permit are justified for some reason independent of compliance with federal law.

1 (But see *In the Matter of the Petition of City and County of San Francisco, San Francisco Baykeeper et al.* (Order No. WQ 95–4, Sept. 21, 1995) 1995 WL 576920.)

2 Indeed, given the fact that "water quality standards" in this case are composed of broadly worded components (i.e., a narrative criteria and "designated beneficial uses of the water body"), the Board possessed a high degree of discretion in setting NPDES permit requirements. Based on the Board's past performance, a proper exercise of this discretion is uncertain.

3 Marvin Gaye (1971) "Inner City Blues."

4 I am indebted to Judge Berzon for this useful term. (See *Credit Suisse First Boston Corp. v. Grunwald* (9th Cir.2005) 400 F.3d 1119 (conc. opn. of Berzon, J.).)

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ATTACHMENT D-8

188 Cal.App.4th 794
Court of Appeal, Third District, California.

CLOVIS UNIFIED SCHOOL DISTRICT et al., Plaintiffs and Appellants,
v.
John CHIANG, as State Controller, etc., Defendant and Appellant.

No. C061696.
|
Sept. 21, 2010.
|
As Modified on Denial of Rehearing Oct. 14, 2010.

Synopsis

Background: School districts and community college districts brought action against State Controller's Office for declaratory and writ relief challenging auditing rules used in reducing state-mandated reimbursement claims for employee salary and benefit costs. The Superior Court, Sacramento County, No. 06CS00748 and 07CS00263, Lloyd G. Connelly, J., invalidated the Contemporaneous Source Document Rule (CSDR) as applied to Intradistrict Attendance Program and Collective Bargaining Program, granted no relief as to CSDR as applied to the School District of Choice Program (SDC) and the Emergency Procedures, Earthquake Procedures and Disasters Program (EPEPD), and upheld the Health Fee Rule. Plaintiffs appealed.

Holdings: The Court of Appeal, Butz, J., held that:

[1] CSDR implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims;

[2] declaratory and traditional mandate relief was appropriate form of relief for use of CSDR as underground regulation; and

[3] amount of optional student fee was deducted from amount reimbursed to community college districts for state-mandated costs.

Reversed in part with directions and affirmed in part.

West Headnotes (14)

[1] **Declaratory Judgment** Limitations and laches
Mandamus Time to Sue, Limitations, and Laches
States State expenses and charges and statutory liabilities

School districts' and community college districts' action against State Controller's Office, for declaratory and writ relief challenging audits that reduced state-mandated reimbursement claims for employee salary and benefit costs based on an auditing rule which was an invalid underground regulation in violation of the state

Administrative Procedure Act (APA), was subject to the three-year statute of limitations for lawsuits based on statutory liability, since state-mandated reimbursement was a statutory liability. West's Ann.Cal.C.C.P. § 338(a); West's Ann.Cal.Gov.Code §§ 11340 et seq., 17500 et seq.

1 Cases that cite this headnote

[2] **Administrative Law and Procedure** Nature and Scope

An Administrative Procedure Act (APA) regulation has two principal characteristics: it must apply generally; and it must implement, interpret, or make specific the law enforced or administered by the agency, or govern the agency's procedure. West's Ann.Cal.Gov.Code § 11342.600.

1 Cases that cite this headnote

[3] **Administrative Law and Procedure** Nature and Scope

For a regulation to "apply generally," as required to be subject to the Administrative Procedure Act (APA), the rule need not apply universally; a rule applies generally so long as it declares how a certain class of cases will be decided. West's Ann.Cal.Gov.Code § 11342.600.

Cases that cite this headnote

[4] **States** Administration of finances in general

State Controller's Office's Contemporaneous Source Document Rule (CSDR) applied generally, as required to be a regulation subject to the Administrative Procedure Act (APA), where the CSDR was applied generally to the auditing of reimbursement claims, and the Controller's auditors had no discretion to judge on a case-by-case basis whether to apply the CSDR. West's Ann.Cal.Gov.Code § 11342.600.

Cases that cite this headnote

[5] **States** State expenses and charges and statutory liabilities

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the School District of Choice (SDC) Program in effect before May 27, 2004, and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; the CSDR barred the use of employee time declarations and certifications as source documents or equivalents even though the P&Gs had nothing to say on that subject, and the CSDR did not countenance the use of documented estimates even though such estimates were allowable under the P&Gs. West's Ann.Cal.Gov.Code §§ 11342.600, 17557, 17558.5(a); West's Ann.Cal.Educ.Code § 48209.9 (Repealed).

Cases that cite this headnote

[6] **States** State expenses and charges and statutory liabilities

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the Emergency Procedures, Earthquake Procedures and Disasters Program (EPEPD), and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; unlike the P&Gs, the CSDR barred the use of employee time declarations and certifications as source documents, and the CSDR did not countenance the use of documented

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estimates. West's Ann.Cal.Gov.Code §§ 11342.600, 17557, 17558.5(a); West's Ann.Cal.Educ.Code §§ 35925–35927, 40041.5, 40042 (Repealed).

Cases that cite this headnote

[7] **States** State expenses and charges and statutory liabilities

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the Intradistrict Attendance Program, and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; unlike the P&Gs, the CSDR barred the use of time studies or employee time declarations and certifications as source documents. West's Ann.Cal.Gov.Code §§ 11342.600, 17557, 17558.5(a); West's Ann.Cal.Educ.Code § 35160.5.

Cases that cite this headnote

[8] **States** State expenses and charges and statutory liabilities

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the school district Collective Bargaining Program, and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; unlike the P&Gs, the CSDR required source documents. West's Ann.Cal.Gov.Code §§ 3540 et seq., 11342.600, 17557, 17558.5(a).

1 Cases that cite this headnote

[9] **Declaratory Judgment** State officers and boards

Declaratory Judgment Education

Mandamus Establishment, maintenance, and management of schools

Declaratory and accompanying traditional mandate relief was an appropriate form of relief, for school districts' challenge to State Controller's Office's policy of using an underground regulation to conduct audits in violation of the Administrative Procedure Act (APA), even though the underground regulation was later incorporated into valid regulations, where the dispute related to audit determinations under the invalid regulation which did not become final prior to the applicable statute of limitations, and there was no adequate administrative remedy because the Commission on State Mandates consistently refused to rule on underground regulation claims. West's Ann.Cal.Gov.Code § 11350.

2 Cases that cite this headnote

[10] **Evidence** Administrative rules and regulations

In appeal from trial court's partial grant of declaratory and writ relief against underground regulations used by State Controller's Office in reducing state-mandated reimbursement claims for employee salary and benefit costs, Court of Appeal would not take judicial notice of a subsequent amendment of the regulatory Parameters and Guidelines (P&Gs) applied to the reimbursement claims, which brought the underground regulations into compliance with the Administrative Procedure Act (APA) after the time period at issue in the lawsuit. West's Ann.Cal.Gov.Code §§ 11340 et seq., 17500 et seq.

Cases that cite this headnote

[11] **Evidence** Official proceedings and acts

In appeal from trial court's partial grant of declaratory and writ relief against underground regulations used by State Controller's Office in reducing school districts' and community college districts' state-mandated reimbursement claims for employee salary and benefit costs, Court of Appeal would not take judicial notice of the Commission on State Mandates Incorrect Reduction Claim caseload summary or the Controller's list of final audit reports for California school districts and community college districts. West's Ann.Cal.Gov.Code § 17558.7(a).

1 Cases that cite this headnote

[12] **States** State expenses and charges and statutory liabilities

Under the statutes requiring reimbursement to local government for state-mandated costs, the amount of an optional student health fee was deducted from the amount reimbursed to community college districts for the state-mandated cost of the Health Fee Elimination Program, even when districts chose not to charge their students those fees. West's Ann.Cal.Gov.Code §§ 17514, 17556(d); West's Ann.Cal.Educ.Code § 76355(a)(1); § 72246 (Repealed).

See Cal. Jur. 3d, State of California, § 104; 9 Witkin, Summary of Cal. Law (10th ed. 2005) Taxation, § 121.

Cases that cite this headnote

[13] **States** State expenses and charges and statutory liabilities

To the extent a local agency or school district has the authority to charge for a state-mandated program or increased level of service, that charge cannot be recovered as a state-mandated cost. West's Ann.Cal. Const. Art. 13B, § 6; West's Ann.Cal.Gov.Code §§ 17514, 17556(d).

Cases that cite this headnote

[14] **States** State expenses and charges and statutory liabilities

State Controller's Office had the authority to rely on the Government Code, rather than only on the Parameters and Guidelines (P&Gs) adopted by the Commission on State Mandates, to uphold an audit rule excluding the amount of optional fees from the amount recoverable as state-mandated costs. West's Ann.Cal.Gov.Code §§ 17514, 17556(d).

Cases that cite this headnote

Attorneys and Law Firms

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Richard L. Hamilton for California School Boards Association and Its Education Legal Alliance, as Amicus Curiae on behalf of Plaintiffs and Appellants Clovis Unified School District, Fremont Unified School District, Newport–Mesa Unified School District, Norwalk–La Mirada Unified School District, Riverside Unified School District, San Juan Unified School District and Sweetwater Union High School District.

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Opinion

BUTZ, J.

***797** This declaratory relief and writ of mandate action concerns the validity of two auditing rules used by defendant State Controller's Office (Controller). The Controller used these rules in reducing state-mandated reimbursement claims for employee salary and benefit costs submitted from plaintiff school districts and community college districts (hereafter plaintiffs).

Contemporaneous Source Document Rule (CSDR)

The first auditing rule is referred to by plaintiffs as the Contemporaneous Source Document Rule (CSDR). The Controller used this rule to reduce reimbursement claims for the following four state-mandated school district programs during the challenged period straddling fiscal years 1998 to 2003: (1) the School District of Choice Program (SDC); (2) the Emergency Procedures, Earthquake Procedures and Disasters Program (EPEPD); (3) the ***798** Intradistrict Attendance Program; and (4) the Collective Bargaining Program. We conclude this rule was an invalid underground regulation under the state Administrative Procedure Act (APA) during this period. (Gov.Code, § 11340 et seq.) [1] Consequently, we overturn the Controller's audits for these four programs during this period to the extent they were based on this rule.

Health Fee Elimination Program: Health Fee Rule

The second auditing rule is the Health Fee Rule, which the Controller used to reduce reimbursement claims for state-****37** mandated health services provided by the plaintiff community college districts pursuant to the Health Fee Elimination Program. We uphold the validity of this rule.

The trial court: (1) invalidated the CSDR as applied to the Intradistrict Attendance and Collective Bargaining Programs (from which the Controller appeals); (2) hinted at the CSDR's invalidity as applied to the SDC and EPEPD Programs but did not grant relief thereon, apparently deeming the administrative remedy sufficient (from which the school districts appeal); and (3) upheld the validity of the Health Fee Rule (from which the community college districts appeal). We shall affirm the judgment regarding the Intradistrict Attendance Program, the Collective Bargaining Program, and the Health Fee Rule, but reverse the judgment, with directions, regarding the SDC and EPEPD Programs.

Because the issues raised in this appeal are almost entirely legal ones subject to our independent review (see *Grier v. Kizer* (1990) 219 Cal.App.3d 422, 434, 268 Cal.Rptr. 244, disapproved on a different ground in *Tidewater Marine Western, Inc. v. Bradshaw* (1996) 14 Cal.4th 557, 577, 59 Cal.Rptr.2d 186, 927 P.2d 296 (*Tidewater*) [whether an auditing rule is an APA regulation is a question of law]), it is unnecessary to set forth a factual background at this stage. Instead, we will proceed straight to our discussion. First, we will briefly summarize the process of state-mandated reimbursement and the concept of underground regulation. Then we will turn our attention to the programs and remedies at issue, weaving in the pertinent facts as we go.

DISCUSSION

I. State-mandated Reimbursement Process

In 1979, California's voters adopted article XIII B, section 6 of the state Constitution, which specifies that if the state imposes any "new program ***799** or higher level of service" on any local government (including a school district), the state must reimburse the locality for the costs of the program or increased level of service.

In 1984, the Legislature enacted statutes to govern the state mandate process. (§ 17500 et seq.) Under these statutes, the Commission on State Mandates (the Commission) determines, pursuant to a "test claim" process, whether a state program constitutes a reimbursable state mandate. (§§ 17551, subd. (c), 17553.)

Once the Commission determines that a state mandate exists, it adopts regulatory "[P]arameters and [G]uidelines" (P & G's) to govern the state-mandated reimbursement. (§ 17557.) The Controller, in turn, then issues nonregulatory "[C]laiming [I]nstructions" for each Commission-determined mandate; these instructions must derive from the Commission's test claim decision and its adopted P & G's. (§ 17558.) Claiming Instructions may be specific to a particular mandated program, or general to all such programs.

The Controller may audit a reimbursement claim filed by a local agency or school district within three years of the claim's filing or last amendment. (§ 17558.5, subd. (a).)

If the Controller reduces a specific reimbursement claim via an audit, the claimant may file an "[I]ncorrect [R]eduction [C]laim" with the Commission. (§ 17558.7, subd. (a).)

II. The Concept of Invalid Underground Regulation

[1] In their petitions for writ of mandate and complaints for declaratory relief, the school districts (comprising Clovis, ****38** Fremont, Newport–Mesa, Norwalk–La Mirada, Riverside, Sweetwater, and San Juan; hereafter collectively, School Districts) allege that the CSDR constitutes an invalid, unenforceable underground regulation under the APA as applied by the Controller in auditing salary and benefit costs in reimbursement claims for the SDC, EPEPD, Intradistrict Attendance, and Collective Bargaining Programs during the applicable periods roughly encompassing the fiscal years 1998 to 2003. [2]

***800** In their petition for writ of mandate and complaint for declaratory relief (actually appended to the School Districts' petition and complaint), the community college districts (comprising San Mateo, Santa Monica, State Center, and El Camino; hereafter collectively, College Districts) allege that the Health Fee Rule constitutes an invalid, unenforceable underground regulation under the APA as applied by the Controller in auditing reimbursement claims for the Health Fee Elimination Program or, alternatively, that the Controller's auditing actions in this respect were beyond its lawful authority.

The basic legal principles that apply to these allegations are as follows:

" 'If a rule constitutes a "regulation" within the meaning of the APA (other than an "emergency regulation" ...) it may not be adopted, amended, or repealed except in conformity with "basic minimum procedural requirements" ' " which include public notice, opportunity for comment, agency response to comment, and review by the state Office of Administrative Law. (*Morning Star Co. v. State Bd. of Equalization* (2006) 38 Cal.4th 324, 333, 42 Cal.Rptr.3d 47, 132 P.3d 249 (*Morning Star*).) "These requirements promote the APA's goals of bureaucratic responsiveness and public engagement in agency rulemaking." (*Ibid.*)

Any regulation " 'that substantially fails to comply with these requirements may be judicially declared invalid' " and is deemed unenforceable. (*Morning Star, supra,* 38 Cal.4th at p. 333, 42 Cal.Rptr.3d 47, 132 P.3d 249; § 11350, subd. (a).)

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[2] A "regulation" under the APA "means every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure." (§ 11342.600.) As we will later explain more fully, an APA regulation has two principal characteristics: It must apply generally; and it must implement, interpret, or make specific the law enforced or administered by the agency, or govern the agency's procedure. (*Morning Star, supra,* 38 Cal.4th at pp. 333–334, 42 Cal.Rptr.3d 47, 132 P.3d 249; *Tidewater,* ****39** *supra,* 14 Cal.4th at p. 571, 59 Cal.Rptr.2d 186, 927 P.2d 296.)

*801 III. The CSDR as Applied to the SDC, EPEPD, Intradistrict Attendance, and Collective Bargaining Programs

We will start with the SDC Program. We do so because, of these four programs, the Commission's APA-valid, pre-May 27, 2004 P & G's for the SDC Program most closely resemble the Controller's CSDR. [3] If we conclude, nevertheless, that the CSDR is an underground regulation that violates the APA in this context, we will have to conclude similarly for these three other programs. It is undisputed that the Controller's CSDR was not enacted in compliance with APA procedure.

As we shall explain, we conclude that the CSDR, as applied to the (pre-May 27, 2004) SDC Program, is an underground, unenforceable regulation under the APA. Accordingly, the CSDR is invalid as applied to the School Districts' SDC Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003 (see fn. 2, *ante*), and invalid in parallel fashion to the three other programs as well.

The Commission determined, in the mid–1990's, that the SDC Program imposed a reimbursable state-mandated program on school districts by establishing the right of parents/guardians of students, who were prohibited from transferring to another school district, to appeal to the county board of education. (See former Ed.Code, § 48209.9, inoperative July 1, 2003.)

From August 24, 1995, until May 27, 2004, the Commission's P & G's for the SDC Program set forth the following two requirements for school districts seeking SDC state-mandated reimbursement for employee salary and benefit costs: (1) "Identify the employee(s) and their job classification, describe the mandated functions performed and specify the actual number of hours devoted to each function, the productive hourly rate and the related benefits. The average number of hours devoted to each function may be claimed if supported by a documented time study"; and (2) "For auditing purposes, all costs claimed must be traceable to source documents (e.g., employee time records, invoices, receipts, purchase orders, contracts, etc.) and/or worksheets that show evidence of and the validity of such claimed costs."

The Commission's SDC Program P & G's divide the subject of reimbursable costs into three categories: employee salaries and benefits; materials and supplies; and contracted services. The examples set forth in these P & G's for ***802** "source documents" align with these three categories: "employee time records" for employee salaries and benefits; "invoices," "receipts" and "purchase orders" for materials and supplies; and "contracts" for contracted services. At issue in this appeal for the SDC, EPEPD, Intradistrict Attendance, and Collective Bargaining Programs are just the cost category of employee salaries and benefits.

From the initial issuance of the Commission's SDC Program P & G's in 1995 until May 27, 2004, the Controller's SDC-specific Claiming Instructions substantively aligned with the SDC Program P & G's.

However, in September 2003, the Controller revised its general Claiming Instructions (that apply to state-mandated reimbursement claims in general) to set ****40** forth, for the first time, what has become known as the CSDR. The CSDR states:

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"To be eligible for mandated cost reimbursement for any fiscal year, only actual costs may be claimed. Actual costs are those costs actually incurred to implement the mandated activities. Actual costs must be traceable and supported by source documents that show the validity of such costs, when they were incurred, and their relationship to the reimbursable activities. A source document is a document created at or near the same time the actual cost was incurred for the event or activity in question. Source documents may include, but are not limited to, employee time records or time logs, sign-in sheets, invoices, and receipts.

"Evidence corroborating the source documents may include, but is not limited to, worksheets, cost allocation reports (system generated), purchase orders, contracts, agendas, training packets, and declarations. Declarations must include a certification or declaration stating, 'I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct based upon personal knowledge.' Evidence corroborating the source documents may include data relevant to the reimbursable activities otherwise in compliance with local, state, and federal government requirements. However, corroborating documents cannot be substituted for source documents."

Substantial evidence showed that prior to the use of the CSDR in Controller audits, school districts obtained SDC state-mandated reimbursement for employee salary and benefit costs based on (1) declarations and certifications from the employees that set forth, after the fact, the time they had spent on SDC-mandated tasks; or (2) an annual accounting of time determined by the number of mandated activities and the average time for each activity. After the Controller began using the CSDR in its auditing of SDC reimbursement claims, the Controller deemed these declarations, certifications, and accounting methods insufficient, and reduced the ***803** reimbursement claims accordingly. (Substantial evidence also showed that the Controller, in 2000, began applying a CSDR requirement in field audits of SDC reimbursement claims, before the CSDR was expressed in the Controller's general Claiming Instructions in September 2003 or adopted in the Commission's SDC Program P & G's on May 27, 2004.)

The question is whether the Controller's CSDR constituted an underground, unenforceable regulation that the Controller used in auditing the School Districts' SDC Program for the fiscal years 1998 to 2003, because the CSDR constituted a state agency regulation that was not adopted in conformance with the APA prior to its valid adoption in the Commission's SDC Program P & G's on May 27, 2004. We answer this question "yes."

[3] " '*A regulation subject to the APA* ... has *two principal identifying characteristics.* [Citation.] *First,* the agency must intend its rule to apply generally, rather than in a specific case. The rule need not, however, apply universally; a rule applies generally so long as it declares how a certain class of cases will be decided. [Citation.] *Second,* the rule must "implement, interpret, or make specific the law enforced or administered by [the agency], or ... govern [the agency's] procedure." ' " (*Morning Star, supra,* 38 Cal.4th at pp. 333–334, 42 Cal.Rptr.3d 47, 132 P.3d 249, quoting *Tidewater, supra,* 14 Cal.4th at p. 571, 59 Cal.Rptr.2d 186, 927 P.2d 296, italics added.)

[4] As to the first criterion—whether the rule is intended to apply generally—substantial evidence supports the trial ****41** court's finding that the CSDR was "applie[d] generally to the auditing of reimbursement claims ...; the Controller's auditors ha[d] no discretion to judge on a case[-]by[-]case basis whether to apply the rule." (The trial court made this finding in the context of ruling on the Intradistrict Attendance and Collective Bargaining Programs, but this finding is a general one that applies equally to the SDC Program. The trial court did not apply this general finding to the SDC Program only because the court reasoned that the CSDR was not an APA-violative underground regulation in the SDC context, as the Commission later adopted the CSDR into its SDC Program P & G's (see fn. 3, *ante*). As we shall explain later, we reject this reasoning involving subsequent adoption.)

[5] The CSDR also meets the second criterion of being a regulation: It implements, interprets, or makes specific the law enforced or administered by the Controller. The Controller argues, to the contrary, that the CSDR "merely restates" the source document requirement found in the pre-May 27, 2004 Commission P & G's for the SDC Program, and that "source documents" are, by their sourceful nature, contemporaneous. As we explain, we reject this argument.

Admittedly, the pre-May 27, 2004 SDC Program P & G's stated that, "[f]or auditing purposes, all costs claimed must be traceable to source documents ***804** (e.g., employee time records, invoices, receipts, purchase orders, contracts, etc.) and/or worksheets that show evidence of and the validity of such claimed costs." However, the Controller's CSDR, in contrast to these P & G's, did not equate "source documents" with "worksheets," but relegated "worksheets" to the second-class status of "corroborating documents" that can only serve as evidence that corroborates "source documents." This is no small matter either. This is because, prior to the Controller using the CSDR to audit reimbursement claims, the School Districts, in making these claims, had used employee declarations and certifications and average time accountings to document the employee time spent on SDC-mandated activities; and such methods can be deemed akin to worksheets.

More significantly, the CSDR expressly states that employee declarations and certifications are only corroborating documents, *not* source documents; the pre-May 27, 2004 SDC Program P & G's had nothing to say on this subject. In effect, then, the CSDR bars the use of employee time declarations and certifications as source documents or source document-equivalent worksheets, in contrast to the pre-May 27, 2004 P & G's.

Along similar lines, the pre-May 27, 2004 SDC Program P & G's also stated that the "average number of [employee] hours devoted to each [mandated] function may be claimed if supported by a documented time study"; the record showed that such a time study is a documented estimate. The CSDR, which recognizes only actual costs traceable and supported by contemporaneous source documents, does not countenance such estimation.

Nor may the Controller point to the examples of the source documents listed in the pre-May 27, 2004 SDC Program P & G's and argue they show the contemporaneous nature of source documents: "employee time records, invoices, receipts, purchase orders, contracts, etc." First, this argument ignores the source document-equivalent of "worksheets" set forth in these P & G's, as discussed above. And, second, while the CSDR lists "employee time records," "invoices," and "receipts" as source documents, it specifies that "purchase orders," "contracts" (and "worksheets") ****42** are only corroborating documents, not source documents.

Finally, the School Districts that had used employee declarations and certifications and average time accountings to document time for reimbursement claims also note that it is *now* physically impossible to comply with the CSDR's requirement of contemporaneousness that "[a] source document is a ***805** document *created at or near the same time the actual cost was incurred* for the event or activity in question."[4] (Italics added.)

Given these substantive differences between the Commission's pre-May 27, 2004 SDC Program P & G's and the Controller's CSDR, we conclude that the CSDR implemented, interpreted or made specific the following laws enforced or administered by the Controller: the Commission's pre-May 27, 2004 P & G's for the SDC Program (§ 17558) [the Commission submits regulatory P & G's to the Controller, who in turn issues nonregulatory Claiming Instructions based thereon]; and the Controller's statutory authority to audit state-mandated reimbursement claims (§ 17561, subd. (d)(2)).

Consequently, the CSDR meets the two criteria for being an APA regulation. And because the CSDR, as applied to the SDC Program, was not adopted as a regulation in compliance with the APA rule-making procedures until its May 27, 2004 incorporation into the SDC Program P & G's, this CSDR is an underground and unenforceable regulation as applied to the audits of the School Districts' SDC Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante.*) These audits are invalidated to the extent they used this CSDR.

[6] [7] [8] As we noted at the outset of this part of the opinion, if we were to conclude (as we now have done) that the CSDR is an underground regulation that violates the APA in the SDC Program context presented here, we would have to conclude similarly for the EPEPD, Intradistrict Attendance, and Collective Bargaining Programs too. This is because the Commission's P & G's for these latter three programs less resembled the Controller's CSDR than did the

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Commission's pre-May 27, 2004 P & G's for the SDC Program. We now turn to the EPEPD, Intradistrict Attendance, and Collective Bargaining Programs, which we will describe briefly in order.

The EPEPD Program was found to be a reimbursable state-mandated program in 1987. This program requires school districts to establish earthquake procedures for each of its school buildings, and to allow use of its buildings, grounds and equipment for mass care and welfare shelters during public disasters or emergencies. (Former Ed.Code, §§ 35925–35927, 40041.5, 40042.)

***806** From 1991 until June 2, 2003, the Commission's P & G's for the EPEPD Program required school districts seeking state-mandated reimbursement for employee salary and benefit costs: (1) to "provide a listing of each employee ... and the number of hours devoted to their [mandated] function"; and (2) "[f]or auditing purposes, all costs claimed may be ****43** traceable to source documents and/or worksheets that show evidence of the validity of such costs." The Controller's EPEPD-specific Claiming Instructions, since 1996, have stated that "Source documents required to be maintained by the [reimbursement] claimant may include, but are not limited to, employee time cards and/or cost allocation reports." (The Commission, in like fashion to what it did with the SDC Program, incorporated the CSDR into its P & G's for the EPEPD Program, effective June 2, 2003.)

These pre-June 2, 2003 P & G's for the EPEPD Program parallel the pre-May 27, 2004 P & G's for the SDC Program, but even less resemble the Controller's CSDR than did those SDC Program P & G's. For the reasons set forth above involving the SDC Program, then, we conclude that the Controller's CSDR is an underground, unenforceable regulation as applied to the audits of the School Districts' EPEPD Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante.*) These audits are invalidated to the extent they used this CSDR.

The Intradistrict Attendance Program, in 1995, was found to be a reimbursable state-mandated program. This program establishes a policy of open enrollment within a school district for district residents. (Former Ed.Code, § 35160.5.)

Since 1995, the Commission's P & G's for the Intradistrict Attendance Program have required school districts seeking state-mandated reimbursement for employee salary and benefit costs (1) to "[i]dentify the employee(s) and their job classification ... and specify the actual number of hours devoted to each [mandated] function.... The average number of hours devoted to each function may be claimed if supported by a documented time study"; and (2) "[f]or auditing purposes, all costs claimed must be traceable to source documents and/or worksheets that show evidence of the validity of such costs." For the 1998 to 2003 period of fiscal years at issue, the Controller's Intradistrict Attendance Program-specific Claiming Instructions substantively mirrored P & G's for (1) above (except for the "average number of hours" provision), and stated as to source documents: "Source documents required to be maintained by the claimant may include, but are not limited to, employee time records that show the employee's actual time spent on this mandate." (In early 2010, the Commission incorporated the Controller's CSDR into the Intradistrict Attendance Program P & G's; see fn. 5, *post.*)

***807** Applying the same reasoning we have applied above with respect to the SDC and the EPEPD Programs, we conclude that the Controller's CSDR is an underground, unenforceable regulation as applied to the audits of the School Districts' Intradistrict Attendance Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante.*) These audits are invalidated to the extent they used this CSDR.

That leaves the Collective Bargaining Program, which was found to be a reimbursable state-mandated program in 1978 (by the Commission's predecessor, the State Board of Control). This program requires school district employers to collectively bargain with represented employees, and to publicly disclose the major provisions of their agreements prior to final adoption. (§ 3540 et seq.)

If the Commission's pre-May 27, 2004 P & G's for the SDC Program most closely resemble the Controller's CSDR, the P & G's for the Collective Bargaining Program bear the least resemblance. As pertinent, the Collective Bargaining

Program P & G's require school districts seeking reimbursement **44 for employee salary and benefit costs to simply "[s]upply workload data requested ... to support the level of costs claimed" and "[s]how the classification of the employees involved, amount of time spent, and their hourly rate"; nothing is said about "source documents." The Controller's Collective Bargaining Program-specific Claiming Instructions substantively mirror those of the Intradistrict Attendance Program, stating that source documents include employee time records that show the employee's actual time spent on the mandated function. (And as with the Intradistrict Attendance Program, the Commission, in early 2010, incorporated the Controller's CSDR into the Collective Bargaining Program P & G's; see fn. 5, *post.*)

Consequently, employing the same reasoning we have employed above, we conclude that the Controller's CSDR is an underground, unenforceable regulation as applied to the audits of the School Districts' Collective Bargaining Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante.*) These audits are invalidated to the extent they used this CSDR.

IV. Declaratory and Related Writ of Mandate Relief

The trial court declared that the Controller's CSDR, as applied to the audits of the Intradistrict Attendance and Collective Bargaining Programs for the 1998 to 2003 period of fiscal years, was an invalid and void underground regulation under the APA. Correspondingly, the trial court issued a peremptory writ of mandate (traditional mandamus) invalidating these CSDR-based audits to the extent they were not final audit determinations for more than *808 three years before the School Districts filed their respective lawsuits on May 23, 2006 (Clovis et al.) and March 2, 2007 (San Juan). This three-year period is the applicable three-year statute of limitations under Code of Civil Procedure section 338, subdivision (a), for enforcing a statutory liability like state-mandated reimbursement. We are affirming this part of the trial court's judgment.

However, the trial court refused to provide, in parallel fashion, declaratory and writ of mandate relief for the CSDR-based audits involving the SDC and EPEPD Programs. The School Districts contend the trial court erred in this respect. We agree.

In refusing to provide this relief, the trial court reasoned that, since the Commission had incorporated the Controller's CSDR into the Commission's regulatory P & G's for the SDC and EPEPD Programs, there was no longer an actual and ongoing controversy upon which to grant declaratory and related mandate relief concerning the CSDR's invalidity as an underground regulation in this context; and the Commission could administratively determine, pursuant to the Incorrect Reduction Claim process, the past audits that had used the CSDR before its incorporation into the SDC and EPEPD Programs' P & G's. This is where we part company with the trial court.

Our departure is based on section 11350 of the APA and the legal principles set forth in *Californians for Native Salmon etc. Assn. v. Department of Forestry* (1990) 221 Cal.App.3d 1419, 271 Cal.Rptr. 270 (*Native Salmon*) and its progeny.

Section 11350 of the APA specifies that "[a]ny interested person may obtain a judicial declaration as to the validity of any regulation ... by bringing an action for declaratory relief...." (§ 11350, subd. (a).)

In *Native Salmon,* the plaintiffs sought declaratory relief against the state forestry department, alleging that it was department policy, with respect to timber harvest plans: (1) to delay responses to public comments, and (2) to not evaluate the cumulative **45 impact of logging activities in the plans. The *Native Salmon* court concluded that declaratory relief was appropriate in this context, stating: "[Plaintiffs] ... challenge not a specific [administrative] order or decision [which is generally subject to review only pursuant to a writ of *administrative* mandate, rather than traditional mandate], or even a series thereof, but an overarching, quasi-legislative policy set by an administrative agency. Such a policy is subject to review in an action for declaratory relief.... [¶] ... [R]eview of specific, discretionary administrative decisions [must not be

confused] with review of a generalized agency policy. Declaratory relief directed to *policies* of administrative agencies is not an unwarranted control of discretionary, specific agency decisions." (*Native Salmon,* ***809** *supra,* 221 Cal.App.3d at p. 1429, 271 Cal.Rptr. 270, citations omitted; accord, *Venice Town Council, Inc. v. City of Los Angeles* (1996) 47 Cal.App.4th 1547, 1566, 55 Cal.Rptr.2d 465; see also *Simi Valley Adventist Hospital v. Bontá* (2000) 81 Cal.App.4th 346, 354–355, 96 Cal.Rptr.2d 633.)

[9] **[10]** **[11]** Similarly, here, the School Districts have challenged "an overarching, quasi-legislative policy set by an administrative agency" (*Native Salmon, supra,* 221 Cal.App.3d at p. 1429, 271 Cal.Rptr. 270) rather than a specific, discretionary administrative decision: i.e., the Controller's policy of using the (underground) CSDR to conduct audits in the SDC and EPEPD Programs for the period straddling the fiscal years 1998 to 2003. Declaratory and accompanying traditional mandate relief is appropriate in this context; this is an ongoing controversy limited by the three-year statute of limitations noted above. [5]

And there is no adequate administrative remedy. The trial court made a finding—supported by substantial evidence—that the Commission "consistently refuses to rule on underground regulation claims on the basis of an opinion that it lacks jurisdiction to decide such claims." (The trial court made this finding in discussing the Intradistrict Attendance and Collective Bargaining Programs, but the finding applies equally to the SDC and EPEPD Programs.)

We conclude that declaratory and accompanying traditional mandate relief applies not only to the Intradistrict Attendance and Collective Bargaining Programs, but also to the SDC and EPEPD Programs for the fiscal years at issue. [6]

*810 V. Health Fee Elimination Program

[12] In 1986, and again in 1989 (after statutory amendment), the Commission determined **46** that the Health Fee Elimination Program imposed a reimbursable state-mandated cost on those community college districts that provide health services, by requiring those districts to maintain in the future the level of service they had provided in the 1986–1987 fiscal year (termed, the "maintenance of effort" requirement); this "maintenance of effort" had to take place even if the districts, as they were and are permitted to do under the relevant statute, eliminated their nominal statutory student health fee ($7.50 per semester maximum (former Ed.Code, § 72246, Stats.1984, 2d Ex.Sess., ch. 1, p. 6642)); $10 per semester maximum (current Ed.Code, § 76355, subd. (a)(1)). [7]

The College Districts contend that the Controller's Claiming Instruction for the Health Fee Elimination Program is an underground regulation under the APA and beyond the Controller's authority. Specifically, the College Districts argue that the Controller's Health Fee Rule misapplies the Commission's Health Fee Elimination Program P & G's by automatically reducing reimbursement claims by the amount that districts are statutorily authorized to charge students for health fees, even when a district chooses not to charge its students those fees.

Since 1989, the Commission's Health Fee Elimination Program P & G's have stated in pertinent part:

"Any offsetting savings the claimant experiences as a direct result of this statute [i.e., the health fee statutes—formerly Ed.Code, § 72246; now Ed.Code, § 76355] must be deducted from the [reimbursement] costs claimed. In addition, reimbursement for this mandate received from any source, e.g., federal, state, etc., shall be identified and deducted from this claim. This shall include the amount of $7.50 per full-time student per semester, $5.00 per full-time student for summer school, or $5.00 per full-time student per quarter, as authorized by Education Code section 72246[, subdivision] (a). This shall also include payments (fees) received from individuals other than students who are not covered by Education Code Section 72246 for health services."

***811** The Controller's Health Fee Rule (i.e., its Health Fee Elimination Program-specific Claiming Instruction) states in pertinent part:

"Eligible claimants will be reimbursed for health service costs at the level of service provided in the 1986/87 fiscal year. The reimbursement will be reduced by the amount of student health fees authorized per the Education Code [section] 76355."

The College Districts maintain that the Controller's Health Fee Rule constitutes an invalid, underground regulation —i.e., one not adopted pursuant to the APA—because it meets the two-part test of a "regulation": (1) the Controller generally applies it; and (2) the rule implements, interprets or makes specific the Commission's Health Fee Elimination Program P & G's. ****47** (*Morning Star, supra,* 38 Cal.4th at pp. 333–334, 42 Cal.Rptr.3d 47, 132 P.3d 249.)

There is no quibble with part (1)—general application. The real issue is with part (2) of the test—defining a "regulation" as implementing, interpreting, or making specific the Health Fee Elimination Program P & G's. The College Districts argue that those P & G's require that the mandate claimant have actually "experience[d]" or "received" an amount of health service money for that amount to be deducted from the reimbursement claim. That is, if a college district does not charge its students a health service fee, as the district is statutorily permitted to do, then the district has not "experienced" or "received" that fee, and that amount cannot be deducted. The College Districts note that the Health Fee Rule, by contrast, states flatly that "reimbursement will be reduced by the amount of student health fees authorized per the Education Code [section] 76355."

The College Districts' argument carries some weight, especially when viewed solely within the prism of comparing the Health Fee Elimination Program P & G's to the Health Fee Rule semantically. But the argument falters when exposed to the broader context of the nature of state-mandated costs and common sense.

As for the nature of state-mandated costs, section 17514 defines "costs mandated by the state" to mean "any *increased costs* which a local agency or school district is *required to incur* after July 1, 1980, as a result of any statute enacted on or after January 1, 1975, or any executive order implementing any statute enacted on or after January 1, 1975, which mandates a new program or higher level of service of an existing program within the meaning of Section 6 of Article XIIIB of the California Constitution." (Italics added.) And section 17556 reflects this definition by stating that costs are not deemed mandated by the state to the extent the "local agency or school district *has the authority* to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service." (§ 17556, subd. (d), italics added.)

[13] ***812** The College Districts point out, though, in a series of overlapping arguments, that sections 17514 and 17556 govern the *Commission's* determination of whether a program is a state-mandated program, not the *Controller's* determination as to audit reductions; and the Commission has already found the Health Fee Elimination Program to be a state-mandated program. This observation, however, does not diminish the basic principle underlying the state mandate process that sections 17514 and 17566, subdivision (d) embody: To the extent a local agency or school district "has the authority" to charge for the mandated program or increased level of service, that charge cannot be recovered as a state-mandated cost. [8] (See *Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 401, 69 Cal.Rptr.2d 231 ["the plain language of [section 17556, subdivision (d)] precludes reimbursement where the local agency has the authority, i.e., the right or the power, to levy fees sufficient to cover the costs of the state-mandated program"]; see *Connell,* at pp. 397–398, 69 Cal.Rptr.2d 231.)

And this basic principle flows from common sense as well. As the Controller succinctly ****48** puts it, "Claimants can choose not to require these fees, but not at the state's expense."

[14] The College Districts also argue that the Controller lacks the authority to rely on these Government Code sections to uphold its Health Fee Rule. The argument is that, since the Health Fee Rule is a claiming instruction, its validity must be determined *solely* through the Commission's P & G's. To accept this argument, though, we would have to ignore, and so would the Controller, the fundamental legal principles underlying state-mandated costs. We conclude the Health Fee Rule is valid.

DISPOSITION

We direct the trial court to issue a peremptory writ of mandate that invalidates the Controller's audits of the School Districts' SDC and EPEPD Program reimbursement claims for the applicable periods identified in footnote 2, *ante,* encompassing the fiscal years 1998 to 2003, to the extent those audits were based on the CSDR and did not become final audit determinations prior to the applicable three-year statute of limitations. If it chooses to do so, the Controller may re-audit the relevant reimbursement claims based on the documentation requirements of the P & G's and claiming ***813** instructions when the mandate costs were incurred (i.e., not using the CSDR). In all other respects, the judgment is affirmed.

The parties shall each bear their own costs on appeal. (Cal. Rules of Court, rule 8.278(a)(3).)

We concur: SCOTLAND, P.J., and NICHOLSON, J.

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Footnotes

1 Undesignated statutory references are to the Government Code.

2 Because of the large number of school districts and program audits involved, as well as the slightly varying fiscal years at issue corresponding to these districts and program audits, we will use the general phrasing "applicable periods roughly encompassing the fiscal years 1998 to 2003" to describe the audits at issue. The parties are well aware of the particular audits being challenged for this period. Regardless, the School Districts must meet the applicable three-year statute of limitations that governs lawsuits based on statutory liability (like state-mandated reimbursement) for any audits of the four programs that have been determined on the basis of the invalidated CSDR. (Code Civ. Proc., § 338; *Union of American Physicians & Dentists v. Kizer* (1990) 223 Cal.App.3d 490, 504, fn. 5, 272 Cal.Rptr. 886.) San Juan School District filed its petition and complaint on March 2, 2007. The rest of the School Districts, together, filed their petition and complaint on May 23, 2006. The trial court consolidated these two petitions and complaints on March 27, 2007.

The School Districts made challenges to other programs as well, but these challenges are not at issue on appeal.

3 On May 27, 2004, the Commission validly amended its SDC Program P & G's to adopt this CSDR language.

4 As a related aside, it is interesting to note that the Controller's SDC-specific Claiming Instructions that were in place during the pre–2004 P & G's stated that, "[f]or audit purposes, all supporting documents must be retained [by claimant] [only] for a period of two years after the end of the calendar year in which the reimbursement claim was filed or last amended, whichever is later"; but the Controller had three years in which to conduct a reimbursement audit "after the date that the actual reimbursement claim is filed or last amended, whichever is later." (§ 17558.5, subd. (a).)

5 The Controller had requested that, at a minimum, we stay this appeal in light of the Commission's pending decision to incorporate the Controller's CSDR into the Commission's P & G's for the Intradistrict Attendance and Collective Bargaining Programs, as the Commission has done for the SDC and EPEPD Programs. In a subsequent request for judicial notice, the Controller has now noted that the Commission, on January 29, 2010, amended its P & G's for the Intradistrict Attendance and Collective Bargaining Programs to adopt the CSDR for each program. We deny this request for judicial notice. This is because

the central issue in the present appeal concerns the Controller's policy of using the CSDR *during the 1998 to 2003 fiscal years,* when the CSDR was an underground regulation. This issue is not resolved by the Commission's *subsequent* incorporation of the CSDR into its Intradistrict Attendance and Collective Bargaining Programs' P & G's.

Also, we deny the School Districts' request for judicial notice of the Commission's Incorrect Reduction Claim caseload summary and the Controller's list of final audit reports for California school districts and community college districts.

6 In light of our resolution, we need not consider the School Districts' alternative claim that the Controller's CSDR constitutes an unlawful retroactive rule, or the School Districts' additional claim that regardless whether an actual controversy exists for purposes of declaratory relief, the requested writ relief is not moot.

7 As Education Code section 76355, subdivision (a)(1) states: "The governing board of a district maintaining a community college may require community college students to pay a fee in the total amount of not more than ten dollars ($10) for each semester, seven dollars ($7) for summer school, seven dollars ($7) for each intersession of at least four weeks, or seven dollars ($7) for each quarter for health supervision and services, including direct or indirect medical and hospitalization services, or the operation of a student health center or centers, or both." (An inflationary adjustment is provided for in subdivision (a)(2) of § 76355.)

8 In light of sections 17514 and 17556, subdivision (d), the Commission found the Health Fee Elimination Program to be a reimbursable state-mandated program to the extent the cost to community college districts of maintaining their level of health services at the 1986–1987 level, as required by the Health Fee Elimination Program mandate, is not covered by the nominal health fee authorized by section 76355, subdivision (a)(1) ($10 maximum per semester per student).

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ATTACHMENT D-9

KeyCite Yellow Flag - Negative Treatment
Declined to Extend by Newhall County Water District v. Castaic Lake Water Agency, Cal.App. 2 Dist., January 19, 2016

51 Cal.4th 421
Supreme Court of California

CALIFORNIA FARM BUREAU FEDERATION et al., Plaintiffs and Appellants,
v.
STATE WATER RESOURCES CONTROL BOARD, Defendant and Respondent.

No. S150518.
|
Jan. 31, 2011.
|
As Modified April 20, 2011.
|
Rehearing Denied April 20, 2011.

Synopsis

Background: Farm bureau federation, water associations, and individual fee payers filed lawsuit against State Water Resources Control Board (SWRCB) for declaratory and injunctive relief, and writ of mandate, after SWRCB denied plaintiffs' requests for reconsideration and refund of new annual fees imposed by statutes on holders of water right permits and licenses. The Superior Court, Sacramento County, Nos. 03CS01776 and 04CS00473, Raymond M. Cadei, J., denied plaintiffs' petitions for writ of mandate and ruled that fees imposed under statutes and emergency regulations were valid regulatory fees. Plaintiffs appealed. The Court of Appeal reversed with directions. The Supreme Court granted review, superseding the opinion of the Court of Appeal.

Holdings: The Supreme Court, Corrigan, J., held that:

[1] statute requiring fees on appropriative water rights was not subject to supermajority vote requirement on its face;

[2] statute requiring fees on appropriative water rights was not subject to constitutional limitation on ad valorem real estate taxes;

[3] fees on appropriative rights held by federal entities may be allocated to federal water delivery contractors to the extent of contractors' beneficial interest;

[4] statute requiring fees on appropriative water rights did not improperly apply to federal entities themselves; and

[5] contractors' beneficial interest in federal water rights was not limited to the amount of water contracted for delivery.

Affirmed in part, reversed in part, and remanded.

Moreno, J., filed concurring opinion, in which Werdegar, J., joined.

Opinion, 53 Cal.Rptr.3d 445, superseded.

West Headnotes (30)

[1] Water Law
Nature and Elements in General

For purposes of the rule that the State Water Resources Control Board (SWRCB) regulates all appropriative water rights acquired since 1914, an "appropriative right" is the right to take water from a watercourse that does not run adjacent to a landowner's property. West's Ann.Cal.Water Code § 1225 et seq.

4 Cases that cite this headnote

[2] Water Law
Regulation and Permit Systems for Allocating Riparian Rights to Take or Use Water

Water Law
Powers and authority

The Water Rights Division of the State Water Resources Control Board (SWRCB) has no permitting or licensing authority over riparian or pueblo rights, or over appropriative rights acquired before 1914. West's Ann.Cal.Water Code § 1225 et seq.

5 Cases that cite this headnote

[3] **Water Law**
Correlative Rights of Riparian Owners
Water Law
Extent of right to use water in general
Water Law
Reasonable use

Under the common law riparian doctrine, a person owning land bordering a stream has the right to reasonable and beneficial use of water on his or her land, but a riparian owner must share the right to use water with other riparian owners.

1 Cases that cite this headnote

[4] **Taxation**
Distinguishing "tax" and "license" or "fee"

The plaintiff challenging a fee as a tax enacted in violation of the supermajority requirement for tax increases bears the burden of proof with respect to all facts essential to its claim for relief, to establish a prima facie case showing that the fee is invalid. West's Ann.Cal. Const. Art. 13A, § 3; West's Ann.Cal.Evid.Code § 500.

5 Cases that cite this headnote

[5] **Taxation**
Weight and Sufficiency of Evidence

The plaintiff challenging a fee as a tax enacted in violation of the supermajority requirement for tax increases must present evidence sufficient to establish in the mind of the trier of fact or the court a requisite degree of belief, commonly proof by a preponderance of the evidence. West's Ann.Cal. Const. Art. 13A, § 3; West's Ann.Cal.Evid.Code § 500.

Cases that cite this headnote

[6] **Evidence**
Extent of burden in general

Unlike the "burden of producing evidence," which may shift between the parties, the burden of proof does not shift; it remains with the party who originally bears it. West's Ann.Cal.Evid.Code § 110.

1 Cases that cite this headnote

[7] **Evidence**
Party asserting or denying existence of facts
Evidence
Failure to sustain burden
Trial
Prima facie case

The burden of producing evidence as to a particular fact rests on the party with the burden of proof as to that fact, and if that party fails to produce sufficient evidence to make a prima facie case, it risks nonsuit or other unfavorable determination.

1 Cases that cite this headnote

[8] **Evidence**
Extent of burden in general

Once the party with the burden of proof as to a particular fact produces evidence sufficient to make its prima facie case, the burden of producing evidence shifts to the other party to refute the prima facie case. West's Ann.Cal.Evid.Code § 110.

1 Cases that cite this headnote

[9] **Taxation**
Distinguishing "tax" and "license" or "fee"

Once plaintiffs challenging a fee as a tax enacted in violation of the supermajority vote requirement for tax increases have made their prima facie case, the state bears the burden of production and must show (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens

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on or benefits from the regulatory activity. West's Ann.Cal. Const. Art. 13A, § 3.

5 Cases that cite this headnote

[10] Taxation

Distinguishing "tax" and "license" or "fee"

Water Law

Powers, proceedings and review

Water Law

Terms and Conditions of Permit

Water Code provision enacted by simple majority of the Legislature, requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder, did not violate the supermajority vote requirement for tax increases on its face, since it did not explicitly impose a tax, even though the fees were deposited in the Water Rights Fund along with fees from other sources, where the fees were linked to activities the SWRCB's Division of Water Rights performed. West's Ann.Cal. Const. Art. 13A, § 3; West's Ann.Cal.Water Code §§ 1525, 1551, 1552.

See Annot., Constitutionality of statutes affecting riparian rights (1928) 56 A.L.R. 277; Cal. Jur. 3d Property Taxes §§ 5, 12; 9 Witkin, Summary of Cal. Law (10th ed. 2005) Taxation, §§ 140, 130.

Cases that cite this headnote

[11] Taxation

Distinguishing "tax" and "license" or "fee"

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, ordinarily taxes are imposed for revenue purposes and not in return for a specific benefit conferred or privilege granted. West's Ann.Cal. Const. Art. 13A, § 3.

3 Cases that cite this headnote

[12] Taxation

Distinguishing "tax" and "license" or "fee"

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges, but compulsory fees may be deemed legitimate fees rather than taxes. West's Ann.Cal. Const. Art. 13A, § 3.

1 Cases that cite this headnote

[13] Taxation

Distinguishing "tax" and "license" or "fee"

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, a fee may be charged by a government entity so long as it does not exceed the reasonable cost of providing services necessary to regulate the activity for which the fee is charged, but a valid fee may not be imposed for unrelated revenue purposes. West's Ann.Cal. Const. Art. 13A, § 3.

4 Cases that cite this headnote

[14] Taxation

Distinguishing "tax" and "license" or "fee"

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, a regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of a regulation, such as all costs incident to the issuance of the license or permit, investigation, inspection, administration, maintenance of a system of supervision, and enforcement. West's Ann.Cal. Const. Art. 13A, § 3.

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1 Cases that cite this headnote

[15] Taxation
Distinguishing "tax" and "license" or "fee"

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, regulatory fees are valid despite the absence of any perceived "benefit" accruing to the fee payers. West's Ann.Cal. Const. Art. 13A, § 3.

Cases that cite this headnote

[16] Taxation
Distinguishing "tax" and "license" or "fee"

For a provision to impose a regulatory fee rather than a tax subject to constitutional supermajority vote requirement, legislators need only apply sound judgment and consider probabilities according to the best honest viewpoint of informed officials in determining the amount of the regulatory fee. West's Ann.Cal. Const. Art. 13A, § 3.

1 Cases that cite this headnote

[17] Taxation
Distinguishing "tax" and "license" or "fee"

Simply because a fee exceeds the reasonable cost of providing the service or regulatory activity for which it is charged does not transform it into a tax subject to constitutional supermajority vote requirement. West's Ann.Cal. Const. Art. 13A, § 3.

1 Cases that cite this headnote

[18] Taxation
Distinguishing "tax" and "license" or "fee"

A regulatory fee does not become a tax subject to constitutional supermajority vote requirement simply because the fee may be disproportionate to the service rendered to individual payors. West's Ann.Cal. Const. Art. 13A, § 3.

2 Cases that cite this headnote

[19] Taxation
Distinguishing "tax" and "license" or "fee"

In determining whether a provision imposes a regulatory fee rather than a tax subject to constitutional supermajority vote requirement, the question of proportionality is not measured on an individual basis; rather, it is measured collectively, considering all rate payors. West's Ann.Cal. Const. Art. 13A, § 3.

4 Cases that cite this headnote

[20] Taxation
Distinguishing "tax" and "license" or "fee"

A fee cannot exceed the reasonable cost of regulation with the generated surplus used for general revenue collection, and an excessive fee that is used to generate general revenue becomes a tax subject to constitutional supermajority vote requirement. West's Ann.Cal. Const. Art. 13A, § 3.

7 Cases that cite this headnote

[21] Water Law
Powers, proceedings and review

Water Law
Terms and Conditions of Permit

The "total amount" and "total revenue" provisions of the Water Code provision requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder does not require the SWRCB to set the fees so as to collect anything more than the administrative costs incurred in carrying out the permit functions authorized by the statute. West's Ann.Cal.Water Code § 1525.

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Cases that cite this headnote

[22] Appeal and Error
Verdict, findings, and judgment

Remand was necessary for trial court to make sufficient factual findings for the Supreme Court to rule on the question of whether fees imposed by State Water Resources Control Board (SWRCB) on appropriative right permit or license holders, as imposed, were reasonably proportional to the costs of the regulatory program as required to be "fees" exempt from constitutional supermajority vote requirement for taxes, in denying petitions for writ of mandate and ruling that the fees were valid regulatory fees. West's Ann.Cal. Const. Art. 13A, § 3; West's Ann.Cal.Water Code § 1525.

2 Cases that cite this headnote

[23] Taxation
Distinguishing "tax" and "license" or "fee"

Water Law
Powers, proceedings and review

Water Law
Terms and Conditions of Permit

Water Code provision requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder was not an unconstitutional "new ad valorem tax on real property" on its face, since it did not explicitly impose a tax, even though the fees were deposited in the Water Rights Fund along with fees from other sources, where the fees were linked to activities the SWRCB's Division of Water Rights performed. West's Ann.Cal. Const. Art. 13A, § 3; West's Ann.Cal.Water Code § 1525(a).

2 Cases that cite this headnote

[24] Taxation
United States entities, property, and securities

Under principles of sovereign immunity, the federal government is immune from state taxation absent its consent.

Cases that cite this headnote

[25] Indians
Water Rights and Management

Water Law
Powers, proceedings and review

Water Law
Terms and Conditions of Permit

When a private contractor's use of United States property may be taxed, federal law permits the State Water Resources Control Board's (SWRCB) practice of allocating annual fees on appropriative rights held by federal or tribal obligees that claim sovereign immunity to persons or entities that have water delivery contracts with the obligees, but the allocation is limited to the extent the contractor has beneficial or possessory use of the property. West's Ann.Cal.Water Code §§ 1525(a), 1540, 1560.

Cases that cite this headnote

[26] Water Law
Powers, proceedings and review

Water Law
Terms and Conditions of Permit

The Water Code provision requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder does not improperly impose the fees on water rights of the United States in violation of sovereign immunity, where the statute includes an exception for cases where SWRCB determines that the payer "will not pay the fee based on the fact that the fee payer has sovereign immunity under" the state statute providing that the fees apply to the United States "to the extent authorized under" federal law. West's Ann.Cal.Water Code §§ 1525(a), 1540, 1560.

Cases that cite this headnote

[27] Taxation
Distinguishing "tax" and "license" or "fee"

When conducting a Supremacy Clause analysis, federal courts do not distinguish between fees and taxes. U.S.C.A. Const. Art. 6, cl. 2.

Cases that cite this headnote

[28] Constitutional Law
Sewer, water, and drains

Constitutional Law
Water, sewer, and irrigation

Indians
Validity

Water Law
Statutory provisions

Water Law
Terms and Conditions of Permit

The statutes providing that if a federal or tribal obligee asserts sovereign immunity against annual fees to be paid by appropriative right permit or license holders, the State Water Resources Control Board (SWRCB) may allocate the fee, or a portion of the fee, to persons or entities that have water delivery contracts with the obligee, does not facially violate state and federal rights to equal protection and due process. U.S.C.A. Const.Amend. 14; West's Ann.Cal.Const. Art. 1, §§ 7(a), 15; West's Ann.Cal.Water Code §§ 1525(a), 1540, 1560.

Cases that cite this headnote

[29] Taxation
United States entities, property, and securities

To successfully defend a Supremacy Clause challenge to a tax on persons or entities that contract with the federal government, the taxing authority must segregate and tax only the beneficial or possessory interest in the property. U.S.C.A. Const. Art. 6, cl. 2.

Cases that cite this headnote

[30] Water Law
Powers and authority

Water Law
Contracts between federal government and local districts or associations

A fair determination of federal water delivery contractors' taxable beneficial interest in appropriative water rights held by the federal government would include consideration of the system that supports and ensures the delivery of the amount of water contracted, less any amounts used for hydroelectric generation, but not limited to the amount of water contracted for delivery. West's Ann.Cal.Water Code §§ 1525(a), 1540, 1560.

Cases that cite this headnote

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Opinion

CORRIGAN, J.

***428** ****117** The California Constitution provides that any act to increase taxes must be passed by a two-thirds vote of the Legislature.[1] On the other hand, statutes that create or raise regulatory fees need only *****43** the assent of a simple majority.[2] In 2003, the Legislature passed amendments to the Water Code[3] by a 53 percent majority. Current section 1525 was enacted as part of these amendments. The threshold issue here is whether section 1525, subdivision (a) imposes a tax or a fee. We hold that the amendments and section 1525 do not explicitly impose a tax and, therefore, are not facially unconstitutional. However, because the record is unclear as to whether the fees were reasonably apportioned in terms of the regulatory activity's costs and the fees assessed, we direct the Court of Appeal to remand the matter to the trial court to make these findings.

A second issue is whether the Water Code amendments, or their implementing regulations, violate the supremacy clause of the United States Constitution by over-assessing the beneficial interests of those who hold contractual rights to delivery of water from the federally administered Central Valley Project (hereafter, the federal contractors). We conclude that the statutes are not facially unconstitutional. We further determine that the constitutionality of the implementing regulations depends on whether they fairly assess and apportion the federal contractors' beneficial interests. However, because of conflicting factual assertions and an unclear record concerning the extent and value of those interests, we also direct remand to the trial court for findings on this issue.

I. FACTUAL AND PROCEDURAL BACKGROUND[4]

[1] **[2]** **[3]** The State Water Resources Control Board (SWRCB or Board) is responsible for the "orderly and efficient administration of ... water resources" and exercises "adjudicatory and regulatory functions of the state." (§ 174.) The water in California belongs to the people, but the right to *use* water may be acquired as provided by law. (§§ 102, 1201.) The SWRCB's Division of ***429** Water Rights (Water Rights Division or Division)[5] administers ****118** the water rights program, but its authority is limited. The SWRCB regulates all appropriative water rights acquired since 1914. An appropriative right is the right to take water from a watercourse that does not run adjacent to a landowner's property. Since 1914, all appropriative rights have been acquired through a system of permits and licenses[6] *****44** that the SWRCB or its predecessor state entities have issued. Before 1914, appropriative rights were

acquired under common law principles or earlier statutes. The Water Rights Division has no permitting or licensing authority over riparian [7] or pueblo [8] rights, or over appropriative rights acquired before 1914. The SWRCB does have authority to prevent illegal diversions and to prevent waste or unreasonable use of water, regardless of the basis under which the right is held. (§ 275.) Riparian, pueblo, and pre–1914 appropriative rights account for 38 percent of currently held water rights.

Rights regulated under SWRCB licenses and permits include about 40 percent of state water subject to water rights. The federal government holds the remaining 22 percent of water rights. The United States Bureau of Reclamation (Bureau of Reclamation or Bureau) holds the permits and licenses to, and operates, the Central Valley Project (CVP or Project.) The ***430** Project diverts and stores water from numerous sources. [9] The Bureau contracts out the responsibility to control, distribute, and use water under the permits it holds. However, these federal contracts involve use of less than 6 percent of the water over which the Bureau holds rights. The remaining water is diverted and stored by the Bureau for hydroelectric, wildlife and other purposes.

Historically, the operation of the Water Rights Division was supported by the state's general fund (General Fund), with only 0.5 percent of costs covered by fees. In 2003, the Legislative Analyst recommended that the Division's operating costs be shifted from the General Fund and covered instead by user fees imposed on permit and license holders. [10] The SWRCB strongly opposed the recommendation. The SWRCB pointed out that its authority to impose fees did not extend to those holding water rights that were not based on its permits and licenses. While riparian, pueblo, and pre–1914 rights (collectively, RPP rights) are protected by conditions in new (post–1914) permits and through the Water Rights Division's enforcement *****45** of activity, the Division did not have authority to impose fees on those RPP rights holders. As noted, the RPP holders comprise 38 percent of water rights holders in California. The SWRCB argued that while ****119** permit and license holders should pay their share, proportional fees on them could not cover the total cost of the Division's operation. Additionally, as explained in greater detail below, the federal Bureau of Reclamation and Indian tribes resist paying fees, relying on the principle of sovereign immunity.

These difficulties notwithstanding, the Legislature adopted the Legislative Analyst's recommendation and passed Senate Bill No. 1049 (2003–2004 Reg. Sess.), repealing certain sections of the Water Code and enacting sections 1525–1560. Together, these statutes are designed to make the Water Rights Division entirely fee supported.

A. The Fee Legislation

We begin with a summary of the relevant statutes.

***431** Section 1525

Section 1525 sets forth the parties and entities subject to the new fees. [11] *****46** Section 1525, subdivision (a) requires the SWRCB to adopt a schedule of *annual fees* to be paid by each permit or license holder. This group does not include riparian, pueblo, or pre–1914 rights holders. Subdivision (b) of section 1525 requires the SWRCB to establish the schedule for a *one-time* ***432** *application fee* for permits to appropriate water, for approval of leases, and for petitions relating to those applications.

Section 1525, subdivision (c) provides that the SWRCB "shall set the fee schedule authorized by this section so that the total amount of fees collected pursuant to this section equals that amount necessary to recover costs" of the Division's activities. Subdivision ****120** (c) sets out "recoverable costs" in substantial detail but the costs recoverable are "not limited to" those activities identified. (§ 1525, subd. (c).) Subdivision (d)(3) similarly requires the SWRCB to "set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the revenue levels set forth in the annual Budget Act for this activity." (§ 1525, subd. (d)(3).)

In other words, the statute requires that the total budgeted cost of the Division's operations be recovered from the fees. The SWRCB is to review and revise the fees each year as necessary, to ensure they conform with the revenue levels set in the annual budget act (Budget Act). If the revenue collected during the preceding year is either greater or less than the revenue levels set forth in the Budget Act, the SWRCB may adjust the annual fees to compensate for the disparity. (§ 1525, subd. (d)(3).) The SWRCB is also authorized to adopt "emergency regulations" to implement the fee schedule. (§ 1525, subd. (d)(1).)

Section 1537

Section 1537 generally covers collection. While the Board sets the fees, the money is actually collected by the Board of Equalization (BOE). The BOE collects and refunds annual fees collected under the Fee Collection Procedures Law, part of the Revenue and Taxation Code, as limited by subdivision (b)(2) through (4) of section 1537. The BOE has no role in reviewing refund claims under section 1537 or the emergency regulations.

Sections 1540 and 1560

Section 1540 concerns the allocation of annual fees to federal contractors. Section 1560 sets out the options that may be pursued when the federal Bureau of Reclamation or an Indian tribe declines to pay a fee by relying on sovereign immunity.[12] ***47 As relevant here, the federal government and Indian tribes are the entities eligible to assert sovereign immunity.

*433 **Sections 1550, 1551, and 1552**

Sections 1550 and 1551 establish the Water Rights Fund, into which the BOE must deposit fees collected on behalf of the SWRCB. The Water Rights Fund is separate from the General Fund. Money in the Water Rights Fund may be used only for purposes set out in section 1552, which includes SWRCB expenditures necessary to carry out the work of the Water Rights Division, BOE expenditures in connection with collecting the SWRCB fees, and the payment of refunds. (§ 1552.)

B. The Emergency Regulations

To implement section 1525's fee requirement, the SWRCB adopted **121 California Code of Regulations, title 23, sections 1066 and 1073 (regulation 1066 and regulation 1073). These regulations set formulas to calculate annual fees for permit and license holders, and for the federal contractors. Fees for issuance, supervision, and modification of permits and licenses, i.e., the revenue-producing activities now required to cover the entire cost of the Division's operations, were to be paid by the permit and license holders regulated by the SWRCB. No money would come from the General Fund. The Court of Appeal explained the difficulty the SWRCB had in setting the fees: "First, the SWRCB had to raise $4.4 million immediately to cover the cost of the water rights program in the second half of the 2003–2004 fiscal year. Second, the funding source had to be 'relatively stable.' Third, because of time constraints, SWRCB had to rely on its existing data base in *434 calculating the amount of fees to be assessed. Fourth, although it cost SWRCB between $17,000 and $20,000 to process an application to appropriate water, SWRCB expected people would not seek SWRCB services if the one-time service fees were too high. Fifth, because most persons and entities subject to the annual fee held permits or licenses for less than 10 acre-feet of water, [[13]] a minimum fee was necessary to cover the cost of sending out the fee bills. Sixth, SWRCB anticipated that 40 percent of the water right permit and license holders would refuse to pay annual fees. Seventh, the SWRCB did not have permitting authority over certain holders of water rights (specifically the holders of riparian, pueblo and pre–1914 appropriative rights) amounting to approximately 38 percent of the water diverted in the state."

***48 **C. Annual Fee Formula for Post–1914 Permit and License Holders**

Regulation 1066 applies to post–1914 permit and license holders. Regulation 1066, subdivision (a)[14] set the minimum annual fee as the greater of $100, or $.03 for each acre-foot based on the total annual amount of diversion authorized by the permit or license.

To determine the annual fees, the Board started with the $4.4 million budget amount and assumed it would be unable to collect 40 percent of billings from water right holders who claimed sovereign immunity or who refused to pay their bills. It divided the $4.4 million mandated by the Legislature by 0.6 to account for the estimated 40 percent non-collection rate. This increased its targeted revenue to approximately $7 million.

D. Annual Fee Formula for Federal Contractors

Regulation 1073, which implemented the provisions of Water Code sections 1540 and 1560, addressed rights held by the Bureau of Reclamation, but contracted out to federal contractors. Regulation 1073, subdivision (b)(2) applied a formula to calculate the annual fee imposed on those contractors "[i]f the [Bureau of Reclamation] decline[d] or [was] likely to decline to pay the fee or expense ... for the [Central Valley Project]." In general, regulation 1073 assessed annual fees against contractors based on a prorated portion of the total amount of annual fees associated with all Bureau permits and licenses,

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rather than the portion available under the terms of their contracts.

***435 E. Proceedings Below**

In January 2004, the BOE sent fee notices to the section 1525 permit and license holders and to the federal contractors. The Budget Act set a target of $4.4 million in fee revenue because the balance for the first half of 2003–2004 was paid from General Fund revenue. $7.4 million in water rights fees was collected for fiscal year 2003–2004. The imposition of water rights fees was challenged ****122** by several groups of plaintiffs representing various water rights holders. [15]

Plaintiffs sought declaratory and injunctive relief and a writ of mandate. They alleged that the statutory scheme adopted by the Legislature and the emergency regulations adopted to implement the scheme were unconstitutional both on their face and as applied. The trial court denied the writ of mandate, ruling that the money collected constituted valid regulatory fees, *****49** rather than taxes. It also rejected plaintiffs' other constitutional claims.

The Court of Appeal reversed in part, holding that section 1525 was constitutional on its face, but that "as applied" under the emergency regulations, it imposed illegal levies. It remanded the matter to the trial court with instructions that it "(1) stay further proceedings before the SWRCB and/or BOE until the SWRCB adopts new fee schedule formulas and a procedure for calculating refunds if any; (2) order the SWRCB to adopt valid fee schedule formulas within 180 days of the finality of this opinion; (3) order the SWRCB to determine the amount of annual fees improperly assessed under regulations 1066 and 1073 for the 2003–2004 fiscal year and establish a procedure for calculating refunds, if any, due within 180 days of the finality of this opinion; and (4) order the Board of Equalization, through the SWRCB, to refund any annual fees unlawfully collected to fee payers who filed timely petitions for reconsideration with the SWRCB...." [16]

***436 II. DISCUSSION**

A. Standard of Review

Whether section 1525 imposes a tax or a fee is a question of law decided upon an independent review of the record. (*Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866, 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350 (*Sinclair Paint*).)

[4] [5] [6] The plaintiff challenging a fee bears the burden of proof to establish a prima facie case showing that the fee is invalid. (See *Sea & Sage Audubon Society, Inc. v. Planning Com.* (1983) 34 Cal.3d 412, 421, 194 Cal.Rptr. 357, 668 P.2d 664; *Sargent Fletcher, Inc. v. Able Corp.* (2003) 110 Cal.App.4th 1658, 1668, 3 Cal.Rptr.3d 279 (*Sargent Fletcher*).) In other words, the plaintiff bears the burden of proof [17] "with respect to all facts essential to its claim for relief." (*Homebuilders Assn. of Tulare/Kings Counties, Inc. v. City of Lemoore* (2010) 185 Cal.App.4th 554, 562, 112 Cal.Rptr.3d 7; see Evid.Code, § 500.) The plaintiff "must present evidence sufficient to establish in the mind of the trier of fact or the court a requisite degree of belief (commonly proof by a preponderance of the evidence). [Citation.] The burden of proof *does not shift* ... it remains with the party who originally bears it." (*Sargent Fletcher, supra,* 110 Cal.App.4th at p. 1667, 3 Cal.Rptr.3d 279, original italics.)

[7] [8] This burden of persuasion is different from the "burden of producing evidence" (see Evid.Code, § 110), which may shift between the parties. [18] "[T]he burden of producing ****123** evidence as to a particular fact rests on the party with the burden of proof as to that fact. [Citations.] If that party fails to produce sufficient evidence to make a prima facie case, it risks nonsuit or other unfavorable determination. [Citations.] But once that party produces evidence sufficient to make its prima facie case, the burden of producing evidence *shifts* to the other party to refute the prima facie case." (*Sargent Fletcher, supra,* 110 Cal.App.4th at pp. 1667–1668, 3 Cal.Rptr.3d 279, original italics.)

*****50 [9]** Thus, once plaintiffs have made their prima facie case, the state bears the burden of production and must show " '(1) the estimated costs of the ***437** service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity.' " (*Sinclair Paint, supra,* 15 Cal.4th at p. 878, 64 Cal.Rptr.2d 447, 937 P.2d 1350; see *California Assn. of Prof. Scientists v. Department of Fish & Game* (2000) 79 Cal.App.4th 935, 945, 94 Cal.Rptr.2d 535 (*Prof. Scientists*).)

B. Valid Fee or Invalid Tax?

Facial challenge

[10] Plaintiff Farm Bureau contends that section 1525's annual fee requirement is unconstitutional on its face because it imposes a tax, not a valid regulatory fee. [19] We reject this contention.

California Constitution, article XIIIA, section 3 requires that "any changes in state taxes enacted for the purpose of increasing revenues" be approved by a two-thirds majority of the Legislature. Senate Bill No. 1049 (2003–2004 Reg. Sess.) passed the Legislature with only a 53 percent majority. Thus, if the amount charged under section 1525 is a tax, it is invalid. If it is a regulatory fee, it is not subject to the supermajority requirement.

[11] **[12]** We have recognized that " 'tax' has no fixed meaning, and that the distinction between taxes and fees is frequently 'blurred,' taking on different meanings in different contexts. [Citations.]" (*Sinclair Paint, supra,* 15 Cal.4th at p. 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Ordinarily taxes are imposed for revenue purposes and not "in return for a specific benefit conferred or privilege granted. [Citations.] Most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges. [Citations.] But compulsory fees may be deemed legitimate fees rather than taxes. [Citation.]" (*Ibid.*)

[13] In contrast, a fee may be charged by a government entity so long as it does not exceed the reasonable cost of providing services necessary to regulate the activity for which the fee is charged. A valid fee may not be imposed for unrelated revenue purposes. (*Sinclair Paint, supra,* 15 Cal.4th at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350; *Pennell v. City of San Jose* (1986) 42 Cal.3d 365, 375, 228 Cal.Rptr. 726, 721 P.2d 1111.) [20]

[14] **[15]** **[16]** **[17]** **[18]** **[19]** ***438** The scope of a regulatory fee is somewhat flexible and is related to the overall purposes of the regulatory governmental action. " 'A regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of the regulation.' [Citation.] 'Such costs ... include all those incident to the issuance of the license or permit, investigation, inspection, administration, maintenance of a system of supervision and enforcement.' [Citation.] Regulatory fees are valid despite the absence of any perceived 'benefit' accruing to the fee payers. [Citation.] Legislators 'need only apply sound judgment and consider "probabilities according to the best honest viewpoint of informed officials" in determining the amount of the *****51** regulatory fee.' [Citation.]" (*Prof. Scientists, supra,* 79 Cal.App.4th at p. 945, 94 Cal.Rptr.2d 535.) "Simply because a fee exceeds ****124** the reasonable cost of providing the service or regulatory activity for which it is charged does not transform it into a tax." (*Barratt American, Inc. v. City of Rancho Cucamonga* (2005) 37 Cal.4th 685, 700, 37 Cal.Rptr.3d 149, 124 P.3d 719.) A regulatory fee does not become a tax simply because the fee may be disproportionate to the service rendered to individual payors. (*Brydon v. East Bay Mun. Utility Dist.* (1994) 24 Cal.App.4th 178, 194, 29 Cal.Rptr.2d 128.) The question of proportionality is not measured on an individual basis. Rather, it is measured collectively, considering all rate payors. (*Prof. Scientists, supra,* 79 Cal.App.4th at p. 948, 94 Cal.Rptr.2d 535.)

[20] Thus, permissible fees must be related to the overall cost of the governmental regulation. They need not be finely calibrated to the precise benefit each individual fee payor might derive. What a fee cannot do is exceed the reasonable cost of regulation with the generated surplus used for general revenue collection. An excessive fee that is used to generate general revenue becomes a tax.

Reference to the statutory language reveals a specific intention to avoid imposition of a tax. By its terms, section 1525 permits the imposition of fees only for the costs of the functions or activities described, and not for general revenue purposes. Section 1525, subdivision (c) carefully sets out that the fees imposed shall relate to costs linked to issuing, monitoring, enforcing and administering licenses and permits, and lists the recoverable costs in some detail. Section 1551 directs that the fees collected be deposited in the Water Rights Fund, not in the General Fund. Section 1552 describes the ***439** purposes for which the money in the Water Rights Fund may be expended. [21] Although the fees set forth in section 1551 come from various sources, including some that do not involve the services described in section 1525, [22] it cannot be argued that the fees are excessive just because *****52** sections 1551 and 1552 list a variety of revenues to be deposited in the Water Rights Fund.

Section 1552 does not describe how the various revenues deposited in the Water Rights Fund should be allocated. However, no statutory language precludes the segregation and application of collected fees to fund services described in that section. [23]

[21] Section 1525 does not require the SWRCB to collect anything more than the administrative "costs incurred" in carrying out the functions authorized in its subdivisions (a), (b) and (c). Also, section 1525, subdivision (c) directs the SWRCB to set the fee schedules so that the "total amount of ****125** fees collected ... equals that amount necessary to recover costs incurred in connection with" the Division's administration of the provisions of subdivisions (a) and (b). Similarly, section 1525, subdivision (d)(3) requires the SWRCB to "set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the revenue levels ***440** set forth in the annual Budget Act *for this activity.*" (Italics added.) Although the "activity" subject to fees under this section could represent all of the Division's activities, the Court of Appeal correctly noted, "[T]here is nothing in the 'total amount' or 'total revenue' provisions of subdivisions (c) and (d) that requires the SWRCB to set the fees so as to collect anything more than the administrative 'costs incurred' in carrying out the permit functions authorized in subdivisions (a), (b) and (c)." Also, there is a safeguard in subdivision (d)(3) authorizing the SWRCB to "further adjust the annual fees" if it "determines that the revenue collected during the preceding year was greater than, or less than, the revenue levels set forth in the annual Budget Act...." (§ 1525, subd. (d)(3).) Thus, the fees charged under section 1525 are linked to the activities the Division performs.

"As applied" challenge

Plaintiffs also contend section 1525 is unconstitutional as applied through the fee schedule in regulation 1066 because the fees are so disproportionate that they are unreasonable. Central to the resolution of this issue is an understanding of the extent and costs of the Division's regulatory "activity." (§ 1525, subd. (d)(3).) The parties diverge in their approach.

As noted, on its face the statutory scheme appears simply to permit the recovery of costs the SWRCB incurs in annual supervision of water usage and the processing of applications for new or modified rights. However, plaintiffs argue the following: (1) While the Division engages in a variety of activities that benefit all water rights holders, and the general public, it is only authorized to impose fees on 40 percent of rights holders. (2) Because the statutory scheme requires that 100 percent of the Division's annual budget must be recovered through fees, the result is that 40 percent of rights holders are charged for the entire cost of operations that benefit all rights holders and the public at large. This disparity is brought to bear not on the face of the statutes, but in the regulations authorizing fee collection. Plaintiffs claim the regulations impose unreasonable fees because they are so disproportionate to the benefit derived by the fee payors or the burden they place on the regulatory system. (See *Sinclair Paint, supra,* 15 Cal.4th at p. 878, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Therefore, plaintiffs contend the fees operate as a tax and are unconstitutional because the authority for *****53** their imposition was not approved by a two-thirds vote of the Legislature.

On the other hand, the SWRCB claims that the fees are proportional and that plaintiffs' focus on the benefits of the regulatory program is misplaced. It argues that the broad benefits of the program must be distinguished from its costs. The Board contends that it can allocate the majority of its regulatory costs to persons subject to the water rights permit and license system because ***441** its costs flow primarily from the administration of that permit and license system. It acknowledges that the benefits that result from the regulation of permits and licenses may be characterized as benefits not only to permit and license holders, but also to the general public, and other water rights holders not subject to its fee system. But, the Board argues, that does not alter the fact that its costs are largely due to its oversight and administration of the permit and license system and not the regulation of the public or other water rights holders. The Board claims that some 95 percent of its time and expense are directed toward servicing and regulating those licensees and permittees against whom the challenged fees were assessed. As we explain below, however, the trial court made no findings on this claim.

In weighing these arguments, we look to our decision in *Sinclair Paint, supra,* 15 Cal.4th at page 866, 64 Cal.Rptr.2d 447, 937 P.2d 1350. There, the plaintiff challenged the fee in question on the basis that the fee was not regulatory in nature, but rather was ****126** aimed at raising revenue. [24] We acknowledged that "the term

'special taxes' ... ' "does not embrace fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes." [Citations.]' " (*Sinclair Paint, supra,* 15 Cal.4th at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) We held that the fee in question was a regulatory fee and not a tax because it was "imposed ... to mitigate the actual or anticipated adverse effects of the fee payers' operations." (*Id.* at p. 870, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Thus, in *Sinclair Paint,* to determine the tax or fee issue, we directed courts to examine the costs of the regulatory activity and determine if there was a reasonable relationship between the fees assessed and the costs of the regulatory activity. (*Id.* at pp. 870, 878, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) [25]

[22] Thus, the question revolves around the scope and the cost of the Division's regulatory activity and the relationship between those costs and the fees imposed. It is further complicated by the fact that not all those who hold water rights are required to pay the fee. Unfortunately, the record before us is insufficient to resolve the "tax or fee" question. The trial court's order lacks sufficient factual findings for us to determine whether the fees, as imposed, were reasonably proportional to the costs of the regulatory program. In fact, at the hearing on plaintiffs' motion for a peremptory writ of mandate, ***54** the trial court stated it did not believe it was required to make detailed findings.

***442** We have previously noted that "[i]t has long been the general rule and understanding that 'an appeal reviews the correctness of a judgment as of the time of its rendition, upon a record of matters which were before the trial court for its consideration.' [Citation.] This rule reflects an 'essential distinction between the trial and the appellate court ... that it is the province of the trial court to decide questions of fact and of the appellate court to decide questions of law....' [Citation.] The rule promotes the orderly settling of factual questions and disputes in the trial court, provides a meaningful record for review, and serves to avoid prolonged delays on appeal." (*In re Zeth S.* (2003) 31 Cal.4th 396, 405, 2 Cal.Rptr.3d 683, 73 P.3d 541.) Here, the trial court erred by failing to provide a sufficient record to rule on the question of law. Accordingly, this matter must be remanded. The trial court is directed to make detailed findings focusing on the Board's evidentiary showing that the associated costs of the regulatory activity were reasonably related to the fees assessed on the payors. (*Sinclair Paint, supra,* 15 Cal.4th at p. 870, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Of course, plaintiffs are free to renew their claim that the fees assessed exceeded the reasonable cost of the Division's services. (*Id.* at p. 881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) [26]

The trial court's findings should include whether the fees are reasonably related to the total budgeted cost of the Division's "activity" (see § 1525, subd. (c)), keeping in mind that a government agency should be accorded some flexibility in calculating the amount and distribution of a regulatory fee. Focusing on the activity and its associated costs will allow the trial court to determine whether the assessed fees were reasonably proportional and thus not a tax. (*Sinclair Paint, supra,* 15 Cal.4th at p. 870, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) The court must determine whether the statutory scheme and its implementing regulations provide a fair, **127** reasonable, and substantially proportionate assessment of all costs related to the regulation of affected payors.

C. Ad Valorem Real Property Tax

Plaintiffs Northern California Water Association and Central Valley Water Project Association contend that section 1525 imposes an unconstitutional "new ad valorem tax[ ] on real property." As these parties observe, Proposition 13 prohibits this particular category of new taxes, regardless of legislative approval. (Cal. Const., art. XIII A, § 3.)

[23] The gravamen of the contention is that the water rights obtained through the Division's permits and licenses are interests in real property, and that the license and permit charges imposed under section 1525 are thus taxes ***443** improperly based on the ownership of real property interests. However, we have determined above that section 1525 does not, on its face, impose a tax, as opposed to a regulatory fee unaffected by Proposition 13. A fortiori, the face of the statute assesses no new "ad valorem tax[ ] on real property."

***55** Any further consideration of the ad valorem real property tax issue is premature. We have deemed it necessary to remand for further evidence and findings whether the specific system of charges developed by the SWRCB under the authority of section 1525, subdivision (a) imposes taxes, rather than fees. If the remand leads to

the conclusion that the charges are valid fees, not taxes, it will follow that they do not constitute ad valorem taxes on real property.

On the other hand, if the remand results in a conclusion that the current charges are taxes, not fees, those taxes will be unconstitutional under Proposition 13, whether or not they are "ad valorem taxes on real property" (Cal. Const., art. XIII A, § 3), because they were authorized by less than a two-thirds legislative vote (*ibid.*). Accordingly, we express no further views on this subject.

D. Federal Contractors

Facial challenge

[24] These same plaintiffs also contend that sections 1540 and 1560 are unconstitutional on their face because they violate the supremacy clause of the United States Constitution. (See *McCulloch v. Maryland* (1819) 17 U.S. (4 Wheat.) 316, 425–437, 4 L.Ed. 579.) Under established principles of sovereign immunity, the federal government is immune from state taxation absent its consent. (See *Davis v. Michigan Dept. of Treasury* (1989) 489 U.S. 803, 812–813, 109 S.Ct. 1500, 103 L.Ed.2d 891.)

Section 1540 provides in relevant part: "If the board determines that the person or entity on whom a fee or expense is imposed will not pay the fee ... based on the fact that the fee payer has sovereign immunity under Section 1560, the board may allocate the fee or expense, or an appropriate portion of the fee or expense, to persons or entities who have contracts for the delivery of water from the person or entity on whom the fee or expense was initially imposed. The allocation of the fee or expense to these contractors does not affect ownership of any permit, license, or other water right, and does not vest any equitable title in the contractors."

Section 1560 states that the fees imposed under section 1525 apply to the United States and Indian tribes "to the extent authorized under federal ***444** or tribal law." (§ 1560, subd. (a).) Also, section 1560, subdivision (b)(2) provides that the SWRCB should allocate the fees as provided in section 1540 should the United States or an Indian tribe refuse to pay them.

[25] **[26]** **[27]** Thus, the plain language of section 1540 provides that if a federal or tribal obligee asserts sovereign immunity under section 1560, the SWRCB may allocate the fee, or a portion of the fee, to persons or entities that have water delivery contracts with the obligee. This practice is permitted under federal law when a private contractor's use of United States property may be taxed.[27] But the allocation is limited to the extent the contractor has beneficial or possessory use of the property. (See *United States v. County of Fresno* (1977) 429 U.S. 452, 462, 97 S.Ct. 699, 50 L.Ed.2d 683 (*County of Fresno*); *United States v. Nye County Nevada* (9th Cir.1991) 938 F.2d 1040, 1042–1043 ****128** (*Nye County*); *United States v. Hawkins County, Tennessee* (6th Cir.1988) 859 F.2d 20, 23 (*Hawkins County*).)[28] We reject *****56** the contention that the statutory scheme imposes the fees on water rights of the United States and not the private contractors. Clearly, any attempt to impose fees on the federal government would be resisted on sovereign immunity grounds.

[28] Accordingly, neither section 1540 nor section 1560 authorizes imposition of a fee that facially violates the supremacy clause or state and federal rights to equal protection and due process.

"As applied" challenge

We next address the implementing regulation. Under regulation 1073, the SWRCB assessed annual costs against the federal contractors, prorating among them the amount of annual fees associated with *all* the Bureau of Reclamation's permits and licenses—over 116 million acre-feet. However, while the Bureau holds all the permits and licenses, the contractors have contractual rights for water delivery over only 6.6 million acre-feet or about 5 percent of all rights held by the Bureau. The Court of Appeal held that regulation 1073 violated the supremacy clause because it required "the federal contractors to pay for the entire amount of annual fees that would otherwise be imposed on the Bureau."

[29] ***445** To successfully defend a supremacy clause challenge to a tax on persons or entities that contract with the federal government, the taxing authority must segregate and tax only the beneficial or possessory interest in the property. (See *County of Fresno, supra,* 429 U.S. at p. 462, 97 S.Ct. 699; *Nye County, supra,* 938 F.2d at pp. 1042–1043; *Hawkins County, supra,* 859 F.2d at p. 23.) Thus, although the SWRCB has the authority to impose regulatory costs on the federal contractors, it can do so only to the extent of the contractors' interest.

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Regulation 1073's formula required the federal contractors to pay for the entire amount of annual costs that would be imposed on the Bureau of Reclamation despite the fact that their contractual rights represented a small proportion of the whole. Plaintiffs claim that the result is a disproportionate assessment of fees, thereby making regulation 1073 unconstitutional under the supremacy clause.[29] (*County of Fresno, supra,* 429 U.S. at p. 462, 97 S.Ct. 699.) They contend that the fees should be based on the amount of water they contracted to deliver.

The SWRCB counters that the imposition of the fee should not be limited to the amount of water actually deliverable under the federal contracts. The SWRCB argues that it correctly calculated the fees using the face value of the permitted and licensed water rights. The face value is the total annual amount of water diversion authorized by the federally held permit or license. The SWRCB argues that the amount of diversions authorized by the federally held permits and licenses generally exceeds the amount of the water delivery contracts. The difference between the amount available for diversion and the amount actually delivered is due to factors that include hydrological variation, the need to hold water in storage for future dry years, conveyance and evaporation losses, and water releases to mitigate for project impacts on fish and wildlife.

In addition, the SWRCB argues the following. The Bureau of Reclamation controls the CVP water under permits and licenses issued and regulated by the Water ***57** Rights Division. The water is held for two primary purposes: hydroelectric power generation and water supply. The SWRCB sought to ***446** apportion a ****129** fair share of the regulatory costs associated with these permits and licenses to those water users who benefit through their water delivery contracts with the Bureau. As a result, the SWRCB initially discounted the value of the permits and licenses by approximately 50 percent to account for hydroelectric power generation use, then allocated to the federal contractors a pro rata share of the regulatory costs to the remaining value of the Bureau's permits and licenses that related to water supply. Accordingly, the Board argues, these charges were reasonably calculated because they apportioned the Division's costs of administering the Bureau's permits and licenses, exclusive of those costs related to hydroelectric generation, to the federal contractors who benefited from the receipt of the water.

[30] The SWRCB asserts that this is a fair apportionment of costs that withstands a supremacy clause challenge. It argues the federal contractors' beneficial interest is not properly valued by a simple calculation of the proportion of total CVP water the contractors are entitled to receive under their contracts. It claims that a fair determination of the federal contractors' beneficial interest must include consideration of the system that supports and ensures the delivery of the amount contracted, not just the amount of water contracted for delivery. Thus, the SWRCB proposes that the federal contractors have a taxable interest in the "face value" of the Bureau's water rights held under permits and licenses, less any amounts used for hydroelectric generation.

We agree with the SWRCB. However, again due to conflicting factual assertions and an inadequate record, we cannot determine how much of the total water in question is used to support the water delivered and can thus be allocated to the federal contractors' beneficial interest. Accordingly, we remand for the trial court to determine the contractors' beneficial interest and the value of that interest. The trial court shall make findings as to whether the Board has fairly evaluated the federal contractors' beneficial interest, such that water not actually under contract for delivery is fairly attributable to the value of the delivery contracts themselves.[30]

DISPOSITION

We affirm the Court of Appeal's judgment holding that the fee statutes at issue are facially constitutional. However, the Court of Appeal's judgment is ***447** reversed as to its determination that the statutes and their implementing regulations are unconstitutional as applied. We remand this matter for the Court of Appeal to remand to the trial court for proceedings consistent with this opinion.

WE CONCUR: KENNARD, Acting C.J., BAXTER, WERDEGAR, CHIN, and MORENO, JJ., and GEORGE, J.[*]

Concurring Opinion by MORENO, J.

I concur in the majority opinion. I write separately to offer these additional reflections on the "as applied" challenge to the fee as a tax.

***58** A charge that is labeled a regulatory fee may indeed be a tax in disguise if "the amount of fees assessed and paid exceeded the reasonable cost of providing the [regulatory] services for which the fees were charged, or [if] the fees were levied for unrelated revenue purposes." (*Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866, 881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Here, there is no allegation that the fees in question are being used for unrelated revenue purposes. Rather, it is contended that only 40 percent of water rights holders are being charged a fee that by right should be charged to all water rights holders, and therefore the fee is not sufficiently linked to the regulatory costs generated by those on whom the fee is imposed and constitutes a tax.

**130 Every government entity that imposes a regulatory fee must decide who should be subject to the fee and who should not. A number of factors may go into that decision, including assessments of the regulatory burdens imposed by the various actors and the administrative convenience of imposing the fee. As the majority states: " 'Legislators "need only apply sound judgment and consider 'probabilities according to the best honest viewpoint of informed officials' in determining the amount of the regulatory fee." [Citation.]' " (Maj. opn., *ante,* 121 Cal.Rptr.3d at pp. 50–51, 247 P.3d at p. 123.) So, too, legislators and regulators need only make reasonable decisions about who should be subject to a regulatory fee.

In the present case, the State Water Resources Control Board claims that "some 95 percent of its time and expense are directed toward servicing and regulating those licensees and permittees against whom the challenged fees were assessed." (Maj. opn., *ante,* 121 Cal.Rptr.3d at p. 53, 247 P.3d at p. 125.) The support for this contention *448 stems primarily from a document produced by the board on April 15, 2004, shortly after the present litigation commenced. Because of the uncertain reliability of this document, as well as the trial court's lack of findings, remand is appropriate to determine whether the board's decisions regarding who would be subject to the fee were reasonable.

I CONCUR: WERDEGAR, J.

All Citations

51 Cal.4th 421, 247 P.3d 112, 121 Cal.Rptr.3d 37, 11 Cal. Daily Op. Serv. 1429, 2011 Daily Journal D.A.R. 1698

Footnotes

1 California Constitution, article XIIIA, section 3, originally approved by initiative as Proposition 13, sometimes referred to as the "People's Initiative to Limit Property Taxation," on June 6, 1978.

2 On November 2, 2010, the voters approved Proposition 26, which requires a two-thirds supermajority vote of the Legislature to pass certain fees. None of the parties have asserted that the law enacted by Proposition 26 applies to this case.

3 Hereafter, undesignated statutory references are to the Water Code.

4 The factual and procedural background is largely adopted from the Court of Appeal opinion.

5 The Division consists of three sections: permitting, licensing, and hearings and special projects. As noted by the Court of Appeal, "[t]he permitting section 'processes water right applications, petitions to change terms in water right permits and water right licenses. Groundwater recordations, [and] statements of water diversion and use, which are a recordation function [*sic.*]....' The licensing section enforces existing permits and licenses and handles work associated with licensing a permit. The hearings and special projects section assists the SWRCB with various types of administrative hearings, reviews environmental documents filed in support of water rights applications and petitions, assists with the implementation of the Bay–Delta Water Quality Control Plan, and certifies water quality...." Although the SWRCB has other divisions in its organization, we are concerned only with the Water Rights Division.

6 Anyone seeking to obtain an appropriative water right files an application with the SWRCB (§ 1225 et seq.), which issues a water right permit. (§ 1380 et seq.) Beneficial use of water perfected under this post–1914 statutory scheme is confirmed by a license issued by the SWRCB. (§§ 1605, 1610.) The license is, in effect, a title or deed to the water right and is recorded in the county in which the diversion takes place. (§ 1650.)

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7 Under the common law riparian doctrine, a person owning land bordering a stream has the right to reasonable and beneficial use of water on his or her land. (*People v. Shirokow* (1980) 26 Cal.3d 301, 307, 162 Cal.Rptr. 30, 605 P.2d 859 (*Shirokow*).) A riparian owner must share the right to use water with other riparian owners. (See *Harris v. Harrison* (1892) 93 Cal. 676, 681, 29 P. 325.)

8 "The pueblo water right—a distinctive feature of California water law—is the paramount right of an American city as successor of a Spanish or Mexican pueblo (municipality) to the use of water naturally occurring within the old pueblo limits for the use of the inhabitants of the city." (Hutchins, The Cal. Law of Water Rights (1956) p. 256.)

9 "In 1933, primarily to control flooding in the Central Valley, the California Legislature approved the Central Valley Project (CVP), which is the nation's largest water reclamation project and California's largest water supplier. [Citation.] Originally a state project, the CVP was turned over to the federal Bureau of Reclamation, which operates the CVP under rights granted by the SWRCB." (*In re Bay–Delta etc.* (2008) 43 Cal.4th 1143, 1154, 77 Cal.Rptr.3d 578, 184 P.3d 709, fn. omitted.) To achieve its purposes, "[t]he CVP operates 21 reservoirs, 11 power plants, and 500 miles of major canals and aqueducts." (*Id.* at p. 1154, fn. 1, 77 Cal.Rptr.3d 578, 184 P.3d 709.)

10 The proposal called for General Fund support for the first half of the 2003–2004 fiscal year with fee increases covering the second half of the year. Thereafter, total Water Rights Division operations would be fee supported.

11 In relevant part, section 1525 provides:

"(a) Each person or entity who holds a permit or license to appropriate water, and each lessor of water leased under Chapter 1.5 (commencing with Section 1020) of Part 1, shall pay an annual fee according to a fee schedule established by the board.

"(b) Each person or entity who files any of the following shall pay a fee according to a fee schedule established by the board:

"(1) An application for a permit to appropriate water.

"(2) A registration of appropriation for a small domestic use or livestock stockpond.

"(3) A petition for an extension of time within which to begin construction, to complete construction, or to apply the water to full beneficial use under a permit.

"(4) A petition to change the point of diversion, place of use, or purpose of use, under a permit or license.

"(5) A petition to change the conditions of a permit or license, requested by the permittee or licensee, that is not otherwise subject to paragraph (3) or (4).

"(6) A petition to change the point of discharge, place of use, or purpose of use, of treated wastewater, requested pursuant to Section 1211.

"(7) An application for approval of a water lease agreement.

"(8) A request for release from priority pursuant to Section 10504.

"(9) An application for an assignment of a state-filed application pursuant to Section 10504.

"(c) The board shall set the fee schedule authorized by this section so that the total amount of fees collected pursuant to this section equals that amount necessary to recover costs incurred in connection with the issuance, administration, review, monitoring, and enforcement of permits, licenses, certificates, and registrations to appropriate water, water leases, and orders approving changes in point of discharge, place of use, or purpose of use of treated wastewater. The board may include, as recoverable costs, but is not limited to including, the costs incurred in reviewing applications, registrations, petitions and requests, prescribing terms of permits, licenses, registrations, and change orders, enforcing and evaluating compliance with permits, licenses, certificates, registrations, change orders, and water leases, inspection, monitoring, planning, modeling, reviewing documents prepared for the purpose of regulating the diversion and use of water, applying and enforcing the prohibition set forth in Section 1052 against the unauthorized diversion or use of water subject to this division, and the administrative costs incurred in connection with carrying out these actions.

"(d)(1) The board shall adopt the schedule of fees authorized under this section as emergency regulations in accordance with Section 1530." [¶] ... [¶]

"(3) The board shall set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the revenue levels set forth in the annual Budget Act for this activity. The board shall review and revise the fees each fiscal year as necessary to conform with the revenue levels set forth in the annual Budget Act. If the board determines that the revenue collected during the preceding year was greater than, or less than, the revenue levels set forth in the annual Budget Act, the board may further adjust the annual fees to compensate for the over or under collection of revenue.

"(e) Annual fees imposed pursuant to this section for the 2003–04 fiscal year shall be assessed for the entire 2003–04 fiscal year."

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12 Section 1540 provides:

> "If the board determines that the person or entity on whom a fee or expense is imposed will not pay the fee or expense based on the fact that the fee payer has sovereign immunity under Section 1560, the board may allocate the fee or expense, or an appropriate portion of the fee or expense, to persons or entities who have contracts for the delivery of water from the person or entity on whom the fee or expense was initially imposed. The allocation of the fee or expense to these contractors does not affect ownership of any permit, license, or other water right, and does not vest any equitable title in the contractors."

Section 1560 provides:

"(a) The fees and expenses established under this chapter and Part 3 (commencing with Section 2000) apply to the United States and to Indian tribes, to the extent authorized under federal or tribal law.

"(b) If the United States or an Indian tribe declines to pay a fee or expense, or the board determines that the United States or the Indian tribe is likely to decline to pay a fee or expense, the board may do any of the following:

"(1) Initiate appropriate action to collect the fee or expense, including any appropriate enforcement action for failure to pay the fee or expense, if the board determines that federal or tribal law authorizes collection of the fee or expense.

"(2) Allocate the fee or expense, or an appropriate portion of the fee or expense, in accordance with Section 1540. The board may make this allocation as part of the emergency regulations adopted pursuant to Section 1530.

"(3) Enter into a contractual arrangement that requires the United States or the Indian tribe to reimburse the board, in whole or in part, for the services furnished by the board, either directly or indirectly, in connection with the activity for which the fee or expense is imposed.

"(4) Refuse to process any application, registration, petition, request, or proof of claim for which the fee or expense is not paid, if the board determines that refusal would not be inconsistent with federal law or the public interest."

13 An acre-foot is "[t]he volume of water, 43,560 cubic feet, that will cover an area of one acre to a depth of one foot." (American Heritage Dict. (2d college ed.1982) p. 75.)

14 Regulation 1066, subdivision (a) provided: "A person who holds a water right permit or license shall pay an annual fee that is the greater of $100 or $0.03 per acre-foot based on the total annual amount of diversion authorized by the permit or license." (Cal.Code Regs., tit. 23, § 1066, subd. (a), Register 2003, No. 52 (Dec. 23, 2003).)

15 Plaintiff California Farm Bureau Federation (Farm Bureau) asserts it is authorized to take judicial action to protect the rights of farm families that hold water rights subject to the fees imposed by Senate Bill No. 1049 (2003–2004 Reg. Sess.) and the emergency regulations. The individuals named in its complaint hold water rights and have been assessed the section 1525 fees. Plaintiff Northern California Water Association represents over 70 agricultural water districts within the Sacramento River Basin, some of which hold water rights. Other members receive water under contracts with the Bureau of Reclamation, and others operate hydroelectric plants licensed or regulated by the Federal Energy Regulatory Commission.

Plaintiff Central Valley Water Project Association represents the interests of some 300 agricultural and municipal districts, agencies and communities within the Central and Santa Clara Valleys that have contracts for water from the Central Valley Project.

16 The terms "payor" and "payer" are synonymous and are used variably in case law.

17 The terms "burden of proof" and "burden of persuasion" are synonymous. (1 Witkin, Cal. Evidence (4th ed. 2000) Burden of Proof and Presumptions, § 3, p. 157.)

18 The "burden of producing evidence" has also been referred to as the "burden of production" and the "burden of going forward." (*Sargent Fletcher, supra,* 110 Cal.App.4th at p. 1667, 3 Cal.Rptr.3d 279.)

19 Plaintiffs do not challenge the one-time fees set forth in section 1525, subdivision (b).

20 This case does not involve a special assessment or a development fee, two types of fees that are routinely challenged under Proposition 13. (*Prof. Scientists, supra,* 79 Cal.App.4th at p. 944, 94 Cal.Rptr.2d 535.)

21 Section 1552 provides:

"The money in the Water Rights Fund is available for expenditure, upon appropriation by the Legislature, for the following purposes:

"(a) For expenditure by the State Board of Equalization in the administration of this chapter and the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code) in connection with any fee or expense subject to this chapter.

"(b) For the payment of refunds, pursuant to Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code, of fees or expenses collected pursuant to this chapter.

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"(c) For expenditure by the board for the purposes of carrying out this division, Division 1 (commencing with Section 100), Part 2 (commencing with Section 10500) of Division 6, and Article 7 (commencing with Section 13550) of Chapter 7 of Division 7.

"(d) For expenditures by the board for the purposes of carrying out Sections 13160 and 13160.1 in connection with activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission.

"(e) For expenditures by the board for the purposes of carrying out Sections 13140 and 13170 in connection with plans and policies that address the diversion or use of water."

22 Section 1551 provides:

"All of the following shall be deposited in the Water Rights Fund:

"(a) All fees, expenses, and penalties collected by the board or the State Board of Equalization under this chapter and Part 3 (commencing with Section 2000).

"(b) All funds collected under Section 1052, 1845, or 5107.

"(c) All fees collected under Section 13160.1 in connection with certificates for activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission."

23 The Court of Appeal referred to the situation as "an accounting issue that concerns how the monies are treated within the Water Rights Fund."

24 The plaintiff also did not contend that the fees exceeded the reasonable cost of the services provided or that they were charged for unrelated revenue purposes. (*Sinclair Paint, supra,* 15 Cal.4th at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

25 On remand, we also allowed plaintiffs "to prove ... that the amount of fees assessed and paid exceeded the reasonable cost of providing the ... services for which the fees were charged, or that the fees were levied for unrelated revenue purposes." (*Sinclair Paint, supra,* 15 Cal.4th at p. 881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

26 Because we remand, we need not address the SWRCB's contention that the "polluter pays" rationale justifies the annual cost allocation because the money collected supports regulatory activities that serve an important public purpose and are a valid exercise of the police power.

27 When conducting a supremacy clause analysis, federal courts do not distinguish between fees and taxes. (See *Novato Fire Protection Dist. v. United States* (9th Cir.1999) 181 F.3d 1135, 1138–1139; *United States v. Anderson Cottonwood Irrigation Dist.* (N.D.Cal.1937) 19 F.Supp. 740, 741.)

28 Also, section 1560, subdivision (a) provides that the fees are only to be collected "to the extent authorized under federal or tribal law."

29 We reject plaintiff Northern California Water Association's contention that because the federal government is immune from the fee under federal law there should be no fee imposed on the federal contractors. (*County of Fresno, supra,* 429 U.S. at p. 453, 97 S.Ct. 699.)

Plaintiffs also argue that the annual fee is unconstitutional because the SWRCB failed to provide any evidence showing that this amount is reasonably related to the cost of the regulatory burden. This argument fails. The SWRCB presented evidence to the trial court in support of the amount charged for the annual fee.

30 Because we reverse the Court of Appeal's judgment and remand this matter to the trial court so it can make findings and a determination as to whether the fees were improperly imposed, we need not address plaintiffs' claim that the Court of Appeal erred by limiting refunds.

* Retired Chief Justice of California, assigned by the Chief Justice pursuant to article VI, section 6 of the California Constitution.

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ATTACHMENT D-10

213 Cal.App.4th 1310
Court of Appeal,
Second District, Division 3, California.

Lee SCHMEER et al., Plaintiffs and Appellants,
v.
COUNTY OF LOS ANGELES et al., Defendants and Respondents.

B240592
|
Filed February 21, 2013
|
As Modified March 11, 2013
|
Review Denied May 15, 2013 *

Synopsis

Background: Petitioners filed combined petition for writ of mandate and complaint challenging county ordinance prohibiting retail stores from providing plastic carryout bags and requiring stores to charge customers 10 cents for each paper carryout bag provided. The Superior Court, Los Angeles County, No. BC470705, James C. Chalfant, J., denied relief, and petitioners appealed.

[Holding:] The Court of Appeal, Croskey, Acting P.J. held that paper bag carryout charge was not a "tax" which required voter approval.

Affirmed.

West Headnotes (10)

[1] Constitutional Law
Amendments in general

The court construes provisions added to the state Constitution by a voter initiative by applying the same principles governing the construction of a statute.

Cases that cite this headnote

[2] Constitutional Law
Intent in general

When construing provisions added to the state Constitution by a voter initiative, the court's task is to ascertain the intent of the electorate so as to effectuate the purpose of the law.

Cases that cite this headnote

[3] Constitutional Law
Intent in general

When construing provisions added to the state Constitution by a voter initiative, the court first examines the language of the initiative, as the best indicator of the voters' intent.

3 Cases that cite this headnote

[4] Constitutional Law
Plain, ordinary, or common meaning

When construing provisions added to the state Constitution by a voter initiative, the court gives the words of the initiative their ordinary and usual meaning and construes them in the context of the entire scheme of law of which the initiative is a part, so that the whole may be harmonized and given effect.

Cases that cite this headnote

[5] Constitutional Law
Existence of ambiguity

Constitutional Law
Extrinsic aids to construction in general

If the language of a provisions added to the state Constitution by a voter initiative is unambiguous and a literal construction would not result in absurd consequences, the court presumes that the voters intended the meaning on the face of the initiative and the plain meaning governs; if the language is ambiguous, the court may consider the analyses and arguments contained in the official ballot pamphlet as extrinsic evidence of the voters' intent and understanding of the initiative.

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5 Cases that cite this headnote

[6] Appeal and Error
Statutory or legislative law

The construction of statute or an initiative, including the resolution of any ambiguity, is a question of law reviewed de novo.

1 Cases that cite this headnote

[7] Taxation
Distinguishing 'tax' and 'license' or 'fee'

Charge of $0.10 imposed by county ordinance on retail establishments for each carryout paper bag provided was not a "tax" within meaning of state constitution provision prohibiting any new general or special tax imposed by local government without prior approval by the voters; charge was not remitted to the county, but rather was payable to and retained by the retail store providing the bag, and the store was required to use the funds for specified purposes. Cal. Const. art. 13 C, § 1.

7 Cases that cite this headnote

[8] Taxation
Nature of taxes

The term "tax" in ordinary usage refers to a compulsory payment made to the government or remitted to the government.

2 Cases that cite this headnote

[9] Taxation
Nature of taxes

Taxes ordinarily are imposed to raise revenue for the government, although taxes may be imposed for nonrevenue purposes as well.

4 Cases that cite this headnote

[10] Municipal Corporations
Submission to voters, and levy, assessment, and collection

Language "any levy, charge, or exaction of any kind imposed by a local government" in state constitution provision defining a "tax," for purposes of prohibition against new taxes without prior voter approval, is limited to charges payable to, or for the benefit of, a local government. Cal. Const. art. 13 C, § 1.

See 9 Witkin, Summary of Cal. Law (10th ed. 2005) Taxation, § 136.

10 Cases that cite this headnote

****353** APPEAL from a judgment of the Superior Court of Los Angeles County, James C. Chalfant, Judge. Affirmed. (Los Angeles County Super. Ct. No. BC470705)

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Frank G. Wells Environmental Law Clinic, Sean B. Hecht and Xiao Y. Zhang for Surfrider Foundation, Heal the Bay, The 5 Gyres Institute, Environment California Research and Policy Center, and Seventh Generation Advisors as Amici Curiae on behalf of Defendants and Respondents.

Opinion

CROSKEY, Acting P.J.

***1313** A Los Angeles County ordinance prohibits retail stores from providing plastic carryout bags and requires stores to charge customers 10 cents for each paper carryout bag provided. Lee Schmeer and others (Petitioners) filed a combined petition for writ of mandate and complaint challenging the ordinance. Petitioners contend the ordinance violates article XIII C of the California Constitution, as amended by Proposition 26, because the 10–cent charge is a tax and was not approved by county voters. We conclude that the paper carryout bag charge is not a tax for purposes of article XIII C because the charge is payable to and retained by ***1314** the retail store and is not remitted to the county. We therefore will affirm the judgment in favor of the county and other respondents.

FACTUAL AND PROCEDURAL BACKGROUND

1. *Factual Background*

The Los Angeles County Board of Supervisors enacted ordinance No. 2010–0059 on November 23, 2010. The ordinance prohibits retail stores within unincorporated areas of Los Angeles County from providing plastic carryout bags to customers. The ordinance states that retail stores may provide, for the purpose of carrying goods away from the store, only recyclable paper carryout bags or reusable carryout bags meeting certain requirements (including plastic bags satisfying those requirements). The ordinance also states that retail stores must provide reusable bags to customers, either for sale or free of charge, and encourages retail stores to educate their employees to promote reusable bags and post signs encouraging customers to use reusable bags.

The ordinance further states that retail stores must charge the customer 10 cents for each recyclable paper carryout bag provided and must indicate on the receipt the number of recyclable paper carryout bags provided and the total amount charged for the bags. It states that customers participating in the California Supplemental Food Program for Women, Infants, and Children (Health & Saf.Code, § 123275) or the Supplemental Food Program (Welf. & Inst.Code, § 15500 et seq.) are exempt from the charge and must be provided free of charge either reusable bags or recyclable paper carryout bags. The ordinance states that the money received for recyclable paper bags must be retained by the store and used only for (1) the costs of compliance with the ordinance; ****355** (2) the actual costs of providing recyclable paper bags; or (3) the costs of educational materials or other costs of promoting the use of reusable bags, if any.

The ordinance includes a severability provision stating: "If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid by a decision of any court of competent jurisdiction, that decision will not affect the validity of the remaining portions of the ordinance. The Board of Supervisors hereby declares that it would have passed this ordinance and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of this ordinance would be subsequently declared invalid."

The ordinance became effective on July 1, 2011. The ordinance was not submitted to the county electorate for its approval.

***1315** 2. *Trial Court Proceedings*

Lee Schmeer, Salim Bana, Jeff Wheeler, Chris Wheeler and Hilex Poly Co. LLC (Hilex) filed a combined petition for writ of mandate and complaint in October 2011 against the County of Los Angeles and three county officials. Petitioners allege that the individual petitioners are California taxpayers who have been required to pay the paper carryout bag charge and that Hilex is a manufacturer of plastic bags prohibited by the ordinance.

Petitioners allege that the paper carryout bag charge required under the ordinance is a "tax" as defined in article XIII C of the California Constitution, as amended by Proposition 26. They allege that the charge was imposed by the county in violation of section 2 of article XIII C, which prohibits any new general or special tax imposed by local government without prior approval by the voters. Petitioners allege counts for (1) a writ of mandate to prevent the county from implementing and enforcing the ordinance and (2) a judicial declaration that the paper carryout bag charge violates article XIII C.

The trial court conducted a hearing on the merits of the petition for writ of mandate in March 2012. The court adopted its written tentative decision denying the petition as its final ruling. The court concluded that the paper carryout bag charge is not a general or special tax because the money is retained by the retail stores and is not remitted to the county. The court also concluded

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that even if the charge fell within the general definition of a tax under Proposition 26, the charge would satisfy an exception to that definition for "[a] charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege" (Cal. Const., art. XIII C, § 1(e)(1)). The court stated that the county, through retail stores, conferred the benefit of a paper carryout bag only on customers paying the charge, satisfying the first prong of the exception. The court stated that Petitioners waived the argument that the charge did not satisfy the second prong of the exception by failing to assert that argument in their opening brief on the petition. The court stated further that, in any event, substantial evidence shows that the money received by the stores for recyclable paper bags will be used for the purposes required under the ordinance. The court therefore concluded that Petitioners were not entitled to a writ of mandate.

Petitioners' counsel acknowledged that the trial court's ruling on the petition for writ of mandate effectively adjudicated the count for declaratory relief as well. The court entered a judgment in April 2012 denying Petitioners any relief on their ****356** combined petition for writ of mandate and complaint. Petitioners timely appealed the judgment.

*1316 *CONTENTIONS*

Petitioners contend (1) the paper carryout bag charge is a special tax imposed by the county without the voters' prior approval and therefore violates article XIII C of the California Constitution; (2) the charge does not satisfy the exception for a charge imposed for a specific benefit conferred or privilege granted, or any other exception under article XIII C; and (3) the challenged provisions of the ordinance are not severable, so the entire ordinance must be invalidated, including the ban on single–use plastic bags.

DISCUSSION

1. *Standard of Review*

The trial court's ruling turned on its construction of article XIII C of the California Constitution, as amended by Proposition 26, and its determination that the amount charged did not exceed the reasonable costs. We review the ruling de novo to the extent that the court decided questions of law concerning the construction of constitutional provisions and not turning on any disputed facts. (*Professional Engineers in California Government v. Kempton* (2007) 40 Cal.4th 1016, 1032, 56 Cal.Rptr.3d 814, 155 P.3d 226 (*Professional Engineers*).) We review the court's factual findings under the substantial evidence standard. (*Ibid.*)

2. *Construction of a Voter Initiative*

[1] **[2]** **[3]** **[4]** We construe provisions added to the state Constitution by a voter initiative by applying the same principles governing the construction of a statute. (*Professional Engineers, supra,* 40 Cal.4th at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226.) Our task is to ascertain the intent of the electorate so as to effectuate the purpose of the law. (*Robert L. v. Superior Court* (2003) 30 Cal.4th 894, 901, 135 Cal.Rptr.2d 30, 69 P.3d 951.) We first examine the language of the initiative as the best indicator of the voters' intent. (*Kwikset Corp. v. Superior Court* (2011) 51 Cal.4th 310, 321, 120 Cal.Rptr.3d 741, 246 P.3d 877.) We give the words of the initiative their ordinary and usual meaning and construe them in the context of the entire scheme of law of which the initiative is a part, so that the whole may be harmonized and given effect. (*Professional Engineers, supra,* at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226; *State Farm Mutual Automobile Ins. Co. v. Garamendi* (2004) 32 Cal.4th 1029, 1043, 12 Cal.Rptr.3d 343, 88 P.3d 71.)

[5] If the language is unambiguous and a literal construction would not result in absurd consequences, we presume that the voters intended the meaning on the face of the initiative and the plain meaning governs. (*Professional Engineers, supra,* 40 Cal.4th at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226; ***1317** *Coalition of Concerned Communities, Inc. v. City of Los Angeles* (2004) 34 Cal.4th 733, 737, 21 Cal.Rptr.3d 676, 101 P.3d 563.) If the language is ambiguous, we may consider the analyses and arguments contained in the official ballot pamphlet as extrinsic evidence of the voters' intent and understanding of the initiative. (*Professional Engineers, supra,* at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226.)

[6] The construction of statute or an initiative, including the resolution of any ambiguity, is a question of law that we review de novo. (*Bruns v. E–Commerce Exchange, Inc.*

(2011) 51 Cal.4th 717, 724, 122 Cal.Rptr.3d 331, 248 P.3d 1185.)

3. *Historical Foundations of Proposition 26*

a. *Proposition 13*

California voters adopted Proposition 13 in June 1978, adding ****357** article XIII A to the California Constitution. Proposition 13 "impos[ed] important limitations upon the assessment and taxing powers of state and local governments." (*Amador Valley Joint Union High Sch. Dist. v. State Bd. of Equalization* (1978) 22 Cal.3d 208, 218, 149 Cal.Rptr. 239, 583 P.2d 1281 (*Amador Valley*).) Proposition 13 generally (1) limited the rate of any ad valorem tax on real property to 1 percent; (2) limited increases in the assessed value of real property to 2 percent annually absent a change in ownership; (3) required that " 'any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods of computation' " must be approved by two-thirds of the Legislature; and (4) required that special taxes imposed by cities, counties and special districts must be approved by a two-thirds vote of the electors. (*Amador Valley, supra,* at p. 220, 149 Cal.Rptr. 239, 583 P.2d 1281, quoting former art. XIII A, § 3 as added by Prop. 13.)

The California Supreme Court in *Amador Valley, supra,* 22 Cal.3d at page 231, 149 Cal.Rptr. 239, 583 P.2d 1281 , stated that the various elements of Proposition 13 formed "an interlocking 'package' " with the purpose of providing effective real property tax relief. *Amador Valley* rejected several constitutional challenges to the initiative. Local governments, however, soon found ways to generate additional revenue without a two-thirds vote of the electors despite Proposition 13. Some of those efforts were approved by the courts.

The California Supreme Court in *Los Angeles County Transportation Com. v. Richmond* (1982) 31 Cal.3d 197, 208, 182 Cal.Rptr. 324, 643 P.2d 941 (*Richmond*), held that a sales tax imposed by the Los Angeles County Transportation Commission and approved by a majority, but less than two-thirds, of county voters was validly adopted. The state Legislature, before the ***1318** passage of Proposition 13, had authorized the local commission to adopt a sales tax to fund public transit projects. Writing for a plurality of three justices, Justice Mosk stated that the term "special districts" in section 4 of article XIII A of the California Constitution was ambiguous. (*Richmond, supra,* at p. 201, 182 Cal.Rptr. 324, 643 P.2d 941 (plur. opn. of Mosk, J.).) Justice Mosk stated that the requirement of a two-thirds vote imposed by the state's voters on local voters was "fundamentally undemocratic" and that the language of section 4 therefore must be strictly construed in favor of allowing local voters to approve special taxes by a majority vote rather than a two-thirds vote. (*Richmond, supra,* at p. 205, 182 Cal.Rptr. 324, 643 P.2d 941 (plur. opn. of Mosk, J.).) Noting that section 4 expressly prohibited cities, counties and special districts from imposing ad valorem taxes on real property or transaction or sales taxes on the sale of real property even with a two-thirds vote, and citing language in the ballot pamphlet, the plurality held that "special districts" under section 4 must be limited to special districts authorized to levy taxes on real property. (*Richmond, supra,* at p. 205, 182 Cal.Rptr. 324, 643 P.2d 941 (plur. opn. of Mosk, J.).) Two justices concurred in the judgment and also concluded that the term "special districts" was limited to special districts authorized to levy taxes on real property. (*Richmond, supra,* at p. 209, 182 Cal.Rptr. 324, 643 P.2d 941 (conc. opn. of Kaus, J.).)

Justice Richardson stated in a dissent that the sales tax imposed by the local commission served as a convenient substitute for an increase in real property taxes. (*Richmond, supra,* 31 Cal.3d at pp. 212–213, 182 Cal.Rptr. 324, 643 P.2d 941 (dis. opn. of Richardson, J.).) The dissent stated that under the holding by the majority, the creation of districts without real property ****358** taxing authority provided a means by which local government could readily avoid the restrictions of Proposition 13. (*Id.* at p. 213, 182 Cal.Rptr. 324, 643 P.2d 941.) The dissent concluded that just as the county would be prohibited from imposing the new tax without a two-thirds vote of its voters, the local commission as the county's surrogate should be prohibited from imposing the new tax without the required voter approval. (*Id.* at p. 215, 182 Cal.Rptr. 324, 643 P.2d 941.)

City and County of San Francisco v. Farrell (1982) 32 Cal.3d 47, 184 Cal.Rptr. 713, 648 P.2d 935 held that a payroll and gross receipts tax imposed on businesses operating within the City and County of San Francisco, but not approved by a two-thirds vote of the voters, was valid. *Farrell* concluded that the requirement in section

4 of article XIII A of the California Constitution that "special taxes" imposed by cities, counties and special districts must be approved by a two-thirds vote of the electors applied only to taxes levied for a specific purpose and did not apply to taxes paid into the general fund to be used for general governmental purposes. (*Farrell, supra,* at p. 57, 184 Cal.Rptr. 713, 648 P.2d 935.)

Rider v. County of San Diego (1991) 1 Cal.4th 1, 2 Cal.Rptr.2d 490, 820 P.2d 1000 found invalid a sales tax imposed by the County of San Diego ***1319** for the purpose of financing the construction and operation of criminal detention and courthouse facilities. The tax was enacted without the approval of two-thirds of the voters. [1] Distinguishing *Richmond, supra,* 31 Cal.3d 197, 182 Cal.Rptr. 324, 643 P.2d 941, the *Rider* court held that a local agency that the trial court found was created solely for the purpose of circumventing Proposition 13's two-thirds voter approval requirement was a "special district" (Cal. Const., art. XIII A, § 4) despite its lack of authority to levy taxes on real property. (*Rider, supra,* at pp. 8, 10, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* stated, "To hold otherwise clearly would create a wide loophole in Proposition 13 as feared by the dissent in *Richmond*." (*Id.* at p. 10, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* noted a proliferation of governmental entities lacking the power to levy real property taxes raising revenues through sales taxes without the approval of two-thirds of the voters following *Richmond, supra,* 31 Cal.3d 197, 182 Cal.Rptr. 324, 643 P.2d 941. (*Rider, supra,* at p. 10, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* stated that the framers of Proposition 13 and the voters who adopted it could not have "intended to adopt a definition [of 'special districts'] that could so readily permit circumvention of section 4." (*Rider, supra,* at p. 11, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* held that the term "special district" includes "any local taxing agency created to raise funds for city or county purposes to replace revenues lost by reason of the restrictions of Proposition 13." (*Ibid.*)

Knox v. City of Orland (1992) 4 Cal.4th 132, 14 Cal.Rptr.2d 159, 841 P.2d 144 held that a charge levied against real property in the City of Orland for the maintenance of public parks was a "special assessment," and was not a "special tax" within the meaning of section 4 of article XIII A of the California Constitution. *Knox* stated that a special assessment is a charge levied against real property within a particular district for the purpose of conferring a special benefit on the assessed properties beyond any benefit received by the general public. (*Knox, supra,* at pp. 141–142, 14 Cal.Rptr.2d 159, 841 P.2d 144.) A "special tax," in contrast, is imposed to provide ****359** benefits to the general public. (*Id.* at pp. 142–143, 14 Cal.Rptr.2d 159, 841 P.2d 144.) *Knox* concluded that the park maintenance charge was a special assessment and therefore was not subject to the two-thirds voter approval requirement. (*Id.* at pp. 140–141, 145, 14 Cal.Rptr.2d 159, 841 P.2d 144.)

b. *Proposition 218*

California voters adopted Proposition 218 in November 1992, adding articles XIII C and XIII D to the California Constitution. Proposition 218 imposed additional voting approval requirements on the imposition of taxes by a local government. Proposition 218 also added to Proposition 13's limitations on ad valorem property taxes and special taxes similar limitations on assessments, fees, and charges relating to real property. (***1320** *Apartment Assn. of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 837, 102 Cal.Rptr.2d 719, 14 P.3d 930 (*Apartment Assn.*).) The initiative measure's findings and declaration of purpose stated:

"The people of the State of California hereby find and declare that Proposition 13 was intended to provide effective tax relief and to require voter approval of tax increases. However, local governments have subjected taxpayers to excessive tax, assessment, fee and charge increases that not only frustrate the purposes of voter approval for tax increases, but also threaten the economic security of all Californians and the California economy itself. This measure protects taxpayers by limiting the methods by which local governments exact revenue from taxpayers without their consent." (Ballot Pamp., Gen. Elec. (Nov. 5, 1996) text of Prop. 218, § 2, p. 108, reprinted in Historical Notes, 2A West's Ann. Cal. Const. (2013 supp.) foll. art. XIII C, § 1, p. 171.)

Section 2, subdivision (a) of article XIII C of the California Constitution, added by Proposition 218, states: "All taxes imposed by any local government shall be deemed to be either general taxes or special taxes. Special purpose districts or agencies, including school districts, shall have no power to levy general taxes." Section 1 of article XIII C defines "[g]eneral tax" as "any tax imposed for general governmental purposes" and defines "[s]pecial

tax" as "any tax imposed for specific purposes, including a tax imposed for specific purposes, which is placed into a general fund." (*Id.,* subds.(a), (d).) Proposition 218 required that all general taxes imposed by a local government must be approved by a majority vote of the electorate and all special taxes imposed by a local government must be approved by a two-thirds vote of the electorate. [2] (Cal. Const., art. XIII C, § 2, subds. (b), (d).) Proposition 218, however, did not define the term "tax."

Section 3, subdivision (a) of article XIII D of the California Constitution, added by Proposition 218, states that the only "taxes, assessments, fees, or charges" that a local government may impose "as an incident of property ownership" are ad valorem property taxes, special taxes approved by two-thirds of the voters, "[a]ssessments as provided by this article," and "[f]ees or charges for property related services as provided by this article." Proposition 218 restricted local government's ability to impose real property assessments by (1) tightening the definition of "special benefit" ****360** and "proportionality" (Cal. Const., art. XIII D, §§ 2, subd. (i), 4, subd. (a)); (2) establishing strict procedural requirements for the imposition of an assessment (*id.,* § 4, subds.(b)-(e)); and (3) shifting to the public agency the burden of demonstrating the legality of an assessment (*id.,* § 4, subd. (f)). (***1321** *Silicon Valley Taxpayers' Assn., Inc. v. Santa Clara County Open Space Authority* (2008) 44 Cal.4th 431, 443–444, 79 Cal.Rptr.3d 312, 187 P.3d 37.) Proposition 218 also established procedural requirements for the imposition of new or increased fees and charges relating to real property and requirements for existing fees and charges. (Cal. Const., art. XIII D, § 6.)

Apartment Assn., supra, 24 Cal.4th at page 838, 102 Cal.Rptr.2d 719, 14 P.3d 930, held that article XIII D of the California Constitution restricted only fees imposed on real property owners in their capacity as owners and therefore did not apply to an inspection fee imposed by the City of Los Angeles on property owners in their capacity as landlords.

c. *Sinclair Paint Co. v. State Board of Equalization*

In *Sinclair Paint Co. v. State Board of Equalization* (1997) 15 Cal.4th 866, 64 Cal.Rptr.2d 447, 937 P.2d 1350, the California Supreme Court decided the question whether fees imposed by the Legislature on manufacturers and others contributing to environmental lead contamination were "taxes enacted for the purpose of increasing revenues" under former section 3 of article XIII A of the California Constitution, and therefore subject to the requirement of a two-thirds vote of the Legislature. (*Sinclair Paint, supra,* at p. 873, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* construed the language " 'taxes enacted for the purpose of increasing revenues' " in former section 3 of article XIII A, which had not been construed in any California appellate opinion, by reference to prior opinions construing the term "special taxes" in section 4 of article XIII A. (*Sinclair Paint, supra,* at pp. 873–881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated:

"The cases recognize that 'tax' has no fixed meaning, and that the distinction between taxes and fees is frequently 'blurred,' taking on different meanings in different contexts. [Citations.] In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted. [Citations.]....

"The 'special tax' cases have involved three general categories of fees or assessments: (1) special assessments, based on the value of benefits conferred on property; (2) development fees, exacted in return for permits or other government privileges; and (3) regulatory fees, imposed under the police power." (*Sinclair Paint,supra,* 15 Cal.4th at p. 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

Sinclair Paint stated that the courts had held that special assessments and development fees satisfying certain requirements were not "special taxes" under article XIII A, section 4. (*Sinclair Paint,supra,* 15 Cal.4th at pp. 874–875, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated that regulatory fees that do not exceed the reasonable cost of providing the services for which the ***1322** fees are charged and are not levied for any unrelated revenue purposes also are not "special taxes" subject to the two-thirds voting requirement of section 4. (*Sinclair Paint, supra,* at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* rejected the holding by the Court of Appeal in that case that the fees were not regulatory in nature because the legislation imposing the fees imposed no other conditions ****361** on persons subject to the fees. Instead, *Sinclair Paint* concluded that the fees were regulatory because the legislation "requires manufacturers and other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their

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products created in the community." (*Id.* at p. 877, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated that such " 'mitigating effects' fees" were just as regulatory in nature as fees imposed on polluters or producers of contaminating products for the initial permit or licensing programs, and that such fees in substantial amounts also regulate future conduct by deterring the conduct subject to the fee and by encouraging research and development of alternative products. (*Ibid.*)

Sinclair Paint rejected the argument that the state had no authority to impose the fees, stating that the case law "clearly indicates that the police power is broad enough to include mandatory remedial measures to mitigate the *past, present, or future* adverse impact of the fee payer's operations, at least where, as here, the measure requires a casual connection or nexus between the product and its adverse effects. [Citations.]" (*Sinclair Paint,supra,* 15 Cal.4th at pp. 877–878, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated that if the primary purpose of a fee is to regulate rather than to raise revenue, the fee is not a tax. (*Id.* at p. 880, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

4. *Proposition 26*

California voters approved Proposition 26 on November 2, 2010. Proposition 26 expanded the definition of taxes so as to include fees and charges, with specified exceptions; required a two-thirds vote of the Legislature to approve laws increasing taxes on any taxpayers; and shifted to the state or local government the burden of demonstrating that any charge, levy or assessment is not a tax. Proposition 26 amended section 3 of article XIII A and section 1 of article XIII C of the California Constitution. The initiative was an effort to close perceived loopholes in Propositions 13 and 218 and was largely a response to *Sinclair Paint, supra,* 15 Cal.4th 866, 64 Cal.Rptr.2d 447, 937 P.2d 1350. Proposition 26's findings and declaration of purpose stated:

"The people of the State of California find and declare that:

"(a) Since the people overwhelmingly approved Proposition 13 in 1978, the Constitution of the State of California has required that increases in state taxes be adopted by not less than two-thirds of the members elected to each house of the Legislature.

***1323** "(b) Since the enactment of Proposition 218 in 1996, the Constitution of the State of California has required that increases in local taxes be approved by the voters.

"(c) Despite these limitations, California taxes have continued to escalate. Rates for state personal income taxes, state and local sales and use taxes, and a myriad of state and local business taxes are at all–time highs. Californians are taxed at one of the highest levels of any state in the nation.

"(d) Recently, the Legislature added another $12 billion in new taxes to be paid by drivers, shoppers, and anyone who earns an income.

"(e) This escalation in taxation does not account for the recent phenomenon whereby the Legislature and local governments have disguised new taxes as 'fees' in order to extract even more revenue from California taxpayers without having to abide by these constitutional voting requirements. Fees couched as 'regulatory' but which ****362** exceed the reasonable costs of actual regulation or are simply imposed to raise revenue for a new program and are not part of any licensing or permitting program are actually taxes and should be subject to the limitations applicable to the imposition of taxes.

"(f) In order to ensure the effectiveness of these constitutional limitations, this measure also defines a 'tax' for state and local purposes so that neither the Legislature nor local governments can circumvent these restrictions on increasing taxes by simply defining new or expanded taxes as 'fees.' " (Ballot Pamp., Gen. Elec. (Nov. 2, 2010) text of Prop. 26, § 1, p. 114, reprinted in Historical Notes, 2A West's Ann. Cal. Const. (2013 supp.) foll. art. XIII C, § 3, pp. 141–142.)

****363** Proposition 26 amended section 3 of article XIII A of the California Constitution to read:

"(a) Any change in state statute which results in any taxpayer paying a higher tax must be imposed by an act passed by not less than two-thirds of all members elected to each of the two houses of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed.

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"(b) As used in this section, 'tax' means any levy, charge, or exaction of any kind imposed by the State, except the following:

"(1) A charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does ***1324** not exceed the reasonable costs to the State of conferring the benefit or granting the privilege to the payor.

"(2) A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the State of providing the service or product to the payor.

"(3) A charge imposed for the reasonable regulatory costs to the State incident to issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.

"(4) A charge imposed for entrance to or use of state property, or the purchase, rental, or lease of state property, except charges governed by Section 15 of Article XI.

"(5) A fine, penalty, or other monetary charge imposed by the judicial branch of government or the State, as a result of a violation of law.

"(c) Any tax adopted after January 1, 2010, but prior to the effective date of this act, that was not adopted in compliance with the requirements of this section is void 12 months after the effective date of this act unless the tax is reenacted by the Legislature and signed into law by the Governor in compliance with the requirements of this section.

"(d) The State bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity." [3]

Proposition 26 amended section 1 of article XIII C of the California Constitution to read:

***1325** "(a) 'General tax' means any tax imposed for general governmental purposes.

"(b) 'Local government' means any county, city, city and county, including a charter city or county, any special district, or any other local or regional governmental entity.

"(c) 'Special district' means an agency of the state, formed pursuant to general law or a special act, for the local performance of governmental or proprietary functions with limited geographic boundaries including, but not limited to, school districts and redevelopment agencies.

"(d) 'Special tax' means any tax imposed for specific purposes, including a tax imposed for specific purposes, which is placed into a general fund.

"(e) As used in this article, 'tax' means any levy, charge, or exaction of any kind imposed by a local government, except the following:

"(1) A charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege.

"(2) A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.

"(3) A charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.

"(4) A charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property.

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"(5) A fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law.

"(6) A charge imposed as a condition of property development.

"(7) Assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

***1326** "The local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity." [4]

Proposition 26, in an effort to curb the perceived problem of a proliferation of regulatory fees imposed by the state without a two-thirds vote of the Legislature or imposed ****364** by local governments without the voters' approval, defined a "tax" to include "any levy, charge, or exaction of any kind imposed by" the state or a local government, with specified exceptions. The question here is whether the paper carryout bag charge constitutes a tax and therefore is subject to one of the two voter approval requirements (Cal. Const., art. XIII C, § 2, subds. (b), (d)).

5. *The Paper Carryout Bag Charge Is Not a Tax*

[7] The county contends the paper carryout bag charge is not a tax because it is payable to and retained by the retail store and is not remitted to the county. We agree.

[8] **[9]** The term "tax" in ordinary usage refers to a compulsory payment made to the government or remitted to the government. Taxes ordinarily are imposed to raise revenue for the government (*California Farm Bureau Federation v. State Water Resources Control Bd.* (2011) 51 Cal.4th 421, 437, 121 Cal.Rptr.3d 37, 247 P.3d 112 (*California Farm*) ["Ordinarily taxes are imposed for revenue purposes and not 'in return for a specific benefit conferred or privilege granted' "]; *Sinclair Paint, supra,* 15 Cal.4th at p. 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350 ["In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted"]; *Morning Star Co. v. Board of Equalization* (2011) 201 Cal.App.4th 737, 750, 135 Cal.Rptr.3d 457), although taxes may be imposed for nonrevenue purposes as well (see *Washington v. Confederated Tribes of Colville Indian Reservation* (1980) 447 U.S. 134, 158, 100 S.Ct. 2069, 65 L.Ed.2d 10 ["taxes can be used for distributive or regulatory purposes, as well as for raising revenue"]).

The definition of a "tax" in California Constitution, article XIII C, section 1, subdivision (e) does not explicitly state that the levy, charge or exaction must be payable to a local government, but does state that it must be "imposed by a local government." In light of the ordinary meaning of a "tax" as a ***1327** compulsory payment made to the government or remitted to the government, we conclude that subdivision (e) is ambiguous as to whether a levy, charge or exaction must be payable to a local government in order to constitute a tax. Our consideration of other language added to article XIII C by Proposition 26 helps to resolve this ambiguity.

Subdivision (e) of article XIII C, section 1 lists seven exceptions to the rule that " 'tax' means any levy, charge, or exaction of any kind imposed by a local government" (*ibid.*). The exceptions (quoted *ante*) all relate to charges ordinarily payable to the government, including charges imposed in connection with governmental activities or use of government property, fines imposed by the government for a violation of law, development fees and real property assessments. (*Ibid.*)

The first three exceptions, in particular, state that a charge imposed by a local government is not a tax if the charge does not exceed "the reasonable costs to the local government" of conferring a specific benefit or privilege directly to the payor or providing a specific service or product directly to the payor, and also except from the definition of a tax a charge "for the reasonable regulatory costs to a local government for issuing licenses and permits" and related activities. (Cal. Const., art. XIII C, § 1, subd. (e), items (1), (2) & (3).) These exceptions, generally speaking, except from the definition of a "tax" charges not exceeding the reasonable costs to the local government of providing specific benefits or regulatory services. These exceptions do not contemplate the situation where a charge is paid to an entity or ****365** person other than a local government or where such an entity or person incurs reasonable costs. In our view, this suggests an understanding that the language "any

levy, charge, or exaction of any kind imposed by a local government" in the first paragraph of article XIII C, section 1, subdivision (e) is limited to charges payable to a local government. This is consistent with the ordinary meaning of the term "tax." [5]

No reason appears on the face of Proposition 26, or from our consideration of the ballot pamphlet and the historical foundations of the initiative, ***1328** to conclude that the voters approving the initiative intended the definition of a "tax" to include both charges payable to a local government and charges payable to a nongovernmental entity or person, while limiting the "reasonable costs" exceptions to charges payable to a local government. In other words, there is no reason to believe that the voters approving Proposition 26 intended to except from the definition of a "tax" and, consequently, from the voter approval requirements, charges payable to a local government not exceeding the reasonable costs of providing specific benefits or regulatory activities, but intended the same charges if made payable to another person or entity in an amount not exceeding the reasonable costs to be considered taxes subject to the voter approval requirements.

The analysis and arguments for and against the initiative in the official ballot pamphlet discussed the impact of the initiative on the ability of local government to raise revenues. The analysis by the Legislative Analyst stated, "Generally, the types of fees and charges that would become taxes under the measure are ones that government imposes to address health, environmental, or other societal or economic concerns." A chart listed several examples of regulatory fees that could be considered taxes under the measure, stating as to each one that the state or local government "uses the funds" for specified purposes, necessarily implying that the fees were payable to the government. There was no discussion in the ballot pamphlet of any charges or fees payable to a nongovernmental entity or person and nothing to suggest to the voters that Proposition 26 would have any impact on such charges or fees. [6]

[10] ****366** Accordingly, we conclude that the language "any levy, charge, or exaction of any kind imposed by a local government" in the first paragraph of ***1329** article XIII C, section 1, subdivision (e) is limited to charges payable to, or for the benefit of, a local government. [7]

Petitioners note that Proposition 26 deleted the language "any change in state taxes enacted for the purpose of increasing revenues collected pursuant thereto" in article XIII A, section 3 of the California Constitution and replaced it with "[a]ny change in state statute which results in any taxpayer paying a higher tax." Petitioners argue that this amendment indicates an intent to eliminate the prior requirement that a charge must produce revenue for the government to be considered a tax. We disagree. This amendment was to the provision requiring approval by two-thirds of the Legislature for any increase in state taxes. The provisions requiring voter approval for increases in local taxes (Cal. Const., art. XIII A, § 4, art. XIII C, § 2), in contrast, never included the language "for the purpose of increasing revenues" or any similar limiting language. The purpose of this amendment to article XIII A, section 3 was to end the Legislature's practice of approving by a simple majority vote so-called "revenue-neutral" laws that increased taxes for some taxpayers but decreased taxes for others. The Legislative Analyst's analysis in the official ballot pamphlet stated:

"*Current Requirement.* The State Constitution currently specifies that laws enacted 'for the purpose of increasing revenues' must be approved by two-thirds of each house of the Legislature. Under current practice, a law that increases the amount of taxes charged to some taxpayers but offers an equal (or larger) reduction in taxes for other taxpayers has been viewed as not increasing revenues. As such, it can be approved by a majority vote of the Legislature.

"*New Approval Requirement.* The measure specifies that state laws that result in *any* taxpayer paying a higher tax must be approved by two-thirds of each house of the Legislature." (Boldface omitted.)

Accordingly, we conclude that the amendment to article XIII A, section 3 does not support Petitioners' position. The paper carryout bag charge is payable to and retained by the retail store providing the bag, which is required to use the funds for specified purposes. The charge is not remitted to the county. Because the charge is not remitted to the county and raises no revenue for the county, we conclude that the charge is not a "tax" for purposes of article XIII C of the California Constitution. The voter approval requirements of article XIII C, section 2 ***1330** therefore are inapplicable. In light of our conclusion, we

need not decide whether, if the charge were otherwise considered a tax, any of the specified exceptions would apply.

DISPOSITION

The judgment is affirmed. Respondents are entitled to recover their costs on appeal.

****367** WE CONCUR:

KITCHING, J.

ALDRICH, J.

All Citations

213 Cal.App.4th 1310, 153 Cal.Rptr.3d 352, 13 Cal. Daily Op. Serv. 2037, 2013 Daily Journal D.A.R. 2393

Footnotes

* Kennard and Corrigan, JJ., are of the opinion the petition should be granted.

1 The tax was approved by 50.8%, a bare majority of the county voters. (*Rider, supra,* 1 Cal.4th at p. 6, 2 Cal.Rptr.2d 490, 820 P.2d 1000.)

2 Article XIII C, section 2, subdivision (b) states, in relevant part, "No local government may impose, extend, or increase any general tax unless and until that tax is submitted to the electorate and approved by a majority vote." Subdivision (d) states, in relevant part, "No local government may impose, extend, or increase any special tax unless and until that tax is submitted to the electorate and approved by a two-thirds vote."

3 Section 3 of article XIII A stated, in its entirety, before the enactment of Proposition 26: "From and after the effective date of this article, any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods of computation must be imposed by an Act passed by not less than two-thirds of all members elected to each of the two houses of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed." Proposition 26 amended the first sentence of section 3, designated the first paragraph as subdivision (a), and added subdivisions (b), (c) and (d).

4 Proposition 26 added subdivision (e) of article XIII C, section 1 and left subdivisions (a) through (d) of section 1 unchanged.

5 None of the seven exceptions expressly refers to the reasonable costs to a nongovernmental entity or person or to activities undertaken by or payments typically made to a nongovernmental entity or person. Consideration of the final paragraph of article XIII C, section 1, subdivision (e) supports the view that the exceptions all refer to activities directly undertaken by the local government. The final paragraph states, "The local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of *the governmental activity,* and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, *the governmental activity*." (Italics added.) Use of the term "the governmental activity" as a shorthand reference for the activities described in the exceptions suggests that the exceptions all refer to activities undertaken directly by the local government.

6 Another part of the Legislative Analyst's analysis provided other examples of regulatory fees, including "fees on the purchase of beverage containers to support recycling programs." The California Beverage Container Recycling and Litter Reduction Law (Pub. Resources Code, § 14500 et seq.) requires a payment by the distributor to the Department of Resources Recycling and Recovery for each beverage container sold or transferred to a retailer. (*Id.,* § 14574.) The burden of the distributor's payment is passed on to the consumer through a fee charged by the retailer. The payments are deposited into a fund in the state treasury and used for the administration of the recycling program. (*Id.,* §§ 14574, 14580, subd. (a).) Here, in contrast, the paper carryout bag charge is retained by the retailer, and no payment is made into any government fund. Contrary to Petitioners' argument, the charge here is not akin to a beverage container fee, and the reference in the ballot materials to beverage container fees did not suggest to the voters that a charge such as the paper carryout bag charge would be considered a tax.

7 A charge payable to a third party creditor to extinguish a debt owed by a local government, for example, would effectively be equivalent to a payment made to the local government.

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ATTACHMENT E-1

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER: WQ 99 - 05

Own Motion Review of the Petition of
Environmental Health Coalition
to Review Waste Discharge Requirements Order No. 96-03,
NPDES Permit No. CAS0108740
for Storm Water and Urban Runoff from the
Orange County Flood Control District
and the
Incorporated Cities of Orange County
Within the San Diego Region,
Issued by the
California Regional Water Quality Control Board,
San Diego Region.

SWRCB/OCC File A-1041

BY THE BOARD:

In Order WQ 98-01, the State Water Resources Control Board (State Water Board) ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Water Quality Control Boards (Regional Water Boards) for Vallejo and Riverside respectively, the United States Environmental Protection Agency (EPA) objected to the permits. The EPA objection was based on the receiving water limitation language. The EPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

In light of EPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Water Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the EPA language. Based on the reasons stated here, and as a precedent decision,[1] the following receiving water limitation language shall be included in future municipal storm water permits.[2]

RECEVING WATER LIMITATIONS

The permittees shall comply with Discharge Prohibitions [ ][3] and Receiving Water Limitations [ ] through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this permit including any modifications. The SWMP shall be designed to achieve compliance with Receiving Water Limitations [ ]. If exceedance(s) of water quality objectives or water quality standards (collectively, WQS) persist notwithstanding implementation of the SWMP and other requirements of this permit, the permittees shall assure compliance with Discharge Prohibitions [ ] and Receiving Water Limitations [ ] by complying with the following procedure:

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[1] In SWRCB Order WR 96-1, the State Water Board determined that water quality orders are precedent decisions. (See Gov. Code §11425.60.)

[2] This language may be revised as necessary to ensure that terminology conforms with the rest of the permit.

[3] Insert appropriate numbers for prohibitions and limitations that implement water quality objectives and water quality standards.

a. Upon a determination by either the permittees or the Regional Water Board that discharges are causing or contributing to an exceedance of an applicable WQS, the permittees shall promptly notify and thereafter submit a report to the Regional Water Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. The report may be incorporated in the annual update to the SWMP unless the Regional Water Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Water Board may require modifications to the report.

b. Submit any modifications to the report required by the Regional Water Board within 30 days of notification.

c. Within 30 days following approval of the report described above by the Regional Water Board, the permittees shall revise the SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.

d. Implement the revised SWMP and monitoring program in accordance with the approved schedule.

So long as the permittees have complied with the procedures set forth above and are implementing the revised SWMP, the permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Water Board to develop additional BMPs.

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ORDER

IT IS ORDERED that Order WQ 98-01 is revised as discussed above.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 17, 1999.

AYE: James M. Stubchaer
Mary Jane Forster
John W. Brown
Arthur G. Baggett, Jr.

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

ATTACHMENT E-2

ATTACHMENT E-3

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER: WQ 2000 - 11

In the Matter of the Petitions of
THE CITIES OF BELLFLOWER, ET AL., THE CITY OF ARCADIA, AND WESTERN STATES PETROLEUM ASSOCIATION
Review of January 26, 2000 Action of the Regional Board
and
Actions and Failures to Act
by both the
California Regional Water Quality Control Board,
Los Angeles Region and Its Executive Officer
Pursuant to Order No. 96-054,
Permit for Municipal Storm Water and Urban Run-Off Discharges Within
Los Angeles County
[NPDES NO. CAS614001]

SWRCB/OCC FILES A-1280, A-1280(a) and A-1280(b)

BY THE BOARD:

On July 15, 1996, the Los Angeles Regional Water Quality Control Board (Regional Water Board) issued a revised national pollutant discharge elimination system (NPDES) permit in Order No. 96-054 (permit) to the 85 incorporated cities and the county within Los Angeles County (the County).[1] The permit covers storm water discharges from municipal separate storm sewer systems throughout the County.[2]

[1] This was the second storm water permit adopted for Los Angeles County and its cities. The first permit was the subject of an earlier Order. (In the Matter of Natural Resources Defense Council, Inc., Order WQ 91-04). In this permit, the County is designated as the Principal Permittee, and each city is designated as a permittee. The County is required to submit various documents on behalf of all of the permittees.

[2] The Regional Water Board has since issued a separate permit for one city, Long Beach. The relevant provisions of the Long Beach permit are similar to those in Order No. 96-054.

The permit contains provisions for the regulation of storm water discharges from development planning and construction.[3] Pursuant to these provisions, the County was required to submit Standard Urban Storm Water Mitigation Plans (SUSMPs).[4] The SUSMPs are plans that designate best management practices (BMPs) that must be used in specified categories of development projects. The County submitted SUSMPs, but the Regional Water Board approved the SUSMPs only after making revisions. The Executive Officer issued the revised SUSMPs on March 8, 2000.[5]

On February 25, 2000, the State Water Resources Control Board (State Water Board or Board) received a petition for review of the actions and failures to act regarding the SUSMPs from a number of cities, the Building Industry Association of Southern California and the Building Industry Legal Defense Foundation (jointly referred to as Cities). A second petition was received from the City of Arcadia. And a third petition was received from the Western States Petroleum Association (WSPA). On April 7, 2000, the petitioners filed amendments to their petitions, concerning the March 8, 2000 issuance of the SUSMPs. The Cities' amendment also revised the list of cities included in the petition. The Cities' petition now includes 32 cities. The petitions are legally and factually related, and have therefore been consolidated for purposes of review.[6] The petitioners also requested a stay of the SUSMPs. This request was denied by letter, dated May 11, 2000.

[3] Permit, Part 2.III. These provisions focus more on post-construction impacts of development than on discharges from construction activities.
[4] Permit, Part 2.III.A.1.c.
[5] These are referred to herein as the Final SUSMPs. The Final SUSMPs also apply to Long Beach, even though it is subject to a separate permit.
[6] Cal. Code of Regs., tit. 23, section 2054.

On June 7 and 8, 2000, the Board held a hearing in Torrance. Several entities, including the petitioners, the Regional Water Board, and several environmental groups[7], were designated parties. The evidence from that hearing has been included in the record before the Board. The record for comments on the petition was kept open until the end of the hearing. The parties were allowed to submit post-hearing briefs.[8]

I. BACKGROUND

In prior Orders[9] this Board has explained the need for the municipal storm water programs and the emphasis on BMPs in lieu of numeric effluent limitations. The emphasis for preventing pollution from storm water discharges is still on the development and implementation of effective BMPs, but with the expectation that the level of effort will increase over time. In its Interim Permitting Approach[10], the United States Environmental Protection Agency (U.S. EPA) stated that first-round permits should include BMPs, and expanded or better-tailored BMPs in subsequent permits where necessary to attain water quality standards. Dischargers, consultants, and academic institutions in California and nationwide have conducted numerous studies on the effectiveness of BMPs and appropriate design standards. While many questions are still

[7] The environmental groups are Natural Resources Defense Council, Inc., Santa Monica BayKeeper, and Heal the Bay.

[8] There are several documents that were not timely received and, therefore, are not made a part of the record before the Board. The hearing notice specified that all evidence from parties must be received by May 31, 2000. The Regional Water Board submitted documents on June 6, 2000. The hearing notice specified that policy statements were due by the close of the hearing. Several comment letters were received June 12, 13, and 19, 2000. None of these submittals are a part of the record. The post-hearing briefs were subject to a 10-page limit. The environmental groups submitted objections to the post-hearing brief submitted by the Cities. First, the environmental groups challenge the length of the brief. All briefs were subject to a 10-page limit. The Cities submitted a 10-page brief, with a 22-page attachment showing extensive proposed revisions to the SUSMPs. This submittal violates the page limit, and only the brief is considered part of the record. Second, the environmental groups claim that an e-mail message referred to by the petitioners is subject to attorney-client privilege and should not have been used in this hearing. This e-mail message, from the Regional Water Board's counsel to one of its engineers, was placed in the Regional Water Board's administrative record and submitted to the State Water Board. Any privilege that may have attached to the message has been waived and no longer exists. Finally, the post-hearing brief from the City of Arcadia was received late and will not be considered. Documents submitted late for interim deadlines (such as the deadline for submitting responses to the petitions), have been included in the record.

[9] See, especially Orders WQ 91-03 (In the Matter of Citizens for a Better Environment et al.) and WQ 91-04.

[10] Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. (61 Federal Register 57425.)

outstanding, more is expected of municipal dischargers, and many are implementing more effective programs.

While storm water management plans are improving, our knowledge of the impacts is also growing. Urban runoff has been determined to be a significant contributor of impairment to waters throughout the state. In Los Angeles specifically, beach closures are sometimes associated with urban runoff. In adopting the SUSMPs, the Regional Water Board took note of the urgent need for preventing further pollution from urban runoff and storm water discharges.

It is important to emphasize the role of the SUSMPs within the totality of regulating storm water discharges, and the purpose of these particular control measures. The requirement to prepare SUSMPS was part of the development controls in the permit. In addition to development controls, the permit requires education, public outreach, programs to restrict illicit connections and discharges, and controls on public facilities. In the context of the entire effort required by the permit, the development controls can be seen as preventing the existing situation from becoming worse.

The Final SUSMPs include a list of mandatory BMPs for nine categories of development. There are provisions that are applicable to all categories and lists of BMPs for individual categories. Requirements applicable to all categories include provisions to limit erosion from new development and redevelopment, requirements to conserve natural areas, protection of slopes and channels, and storm drain stenciling. Examples of BMPs specific to categories of discharge include design of loading docks for commercial projects and design of fueling areas for retail gasoline outlets. In most respects, the Final SUSMPs were similar to those proposed by the County. The significant departures were the inclusion of a numeric design standard for structural or treatment control BMPs, and the inclusion of certain types of projects that were not

covered in the County's proposal. The design standard creates objective and measurable criteria for the amount of runoff that must be treated or infiltrated by BMPs.

The record indicates that the purpose of the development controls, including the SUSMPs, is not simply to prevent pollution associated with construction runoff. As the petitioners point out, construction discharges are already subject to this Board's Statewide Construction Permit. The development controls in the SUSMPs, on the other hand, focus on post-construction runoff. They are aimed at limiting not just the pollutants in runoff from the new development, but also the volume of runoff that enters the municipal storm sewer system. By limiting runoff from new development, the SUSMPs prevent increased impacts from urban runoff generally. There is adequate technical information in the record to show that by controlling the volume of runoff from new development, BMPs can be effective in reducing the discharge of pollutants in storm water runoff.

The Procedure for Adopting the SUSMPs

The permit requires a program for controls on Development Planning and Construction. It involved a number of submissions by the County in consultation with the Cities. The first step was submission of a checklist for determining priority projects and exempt projects. The checklist was due on January 30, 1998. A list of recommended BMPs for development projects was also due on that date. The SUSMPs were due within six months of approval of the BMP list, and were to incorporate BMPs for certain categories of development. Following approval of the SUSMPs, the cities and County were to implement development programs for priority projects, consistent with the BMP list and the SUSMPs.

The BMP list was not approved until April 22, 1999. Thereafter, the County submitted proposed SUSMPs on July 22, 1999. The Regional Water Board held a public workshop on

August 10, 1999. Following the workshop, the County submitted revisions to the SUSMPs on August 12, 1999. On August 16, 1999, the Regional water Board gave notice that it would discuss the SUSMPs in a public meeting on September 16, 1999. There was significant discussion at that meeting regarding the intent of the Executive Officer to approve the SUSMPs, but with revisions including a numeric design standard. At the conclusion of the meeting, the Regional Water Board members asked the Executive Officer to revise the SUSMPs and bring them back to another meeting. On December 7, 1999, the Executive Officer circulated revised SUSMPs for public review. This document incorporated a numeric design standard and made other revisions to the permittees' proposal. The Regional Water Board held a hearing on the SUSMPs on January 26, 2000. At that meeting, the Regional Water Board endorsed the SUSMPs revised by the Executive Officer, but directed him to make further changes. The Executive Officer issued the Final SUSMPs on March 8, 2000.

The Contents of the Final SUSMPs

The permit provides that the SUSMPs must incorporate the appropriate elements of the BMP list and, at a minimum, apply to seven development categories: 100-plus home subdivisions; 10-plus home subdivisions; 100,000-plus square foot commercial developments; automotive repair shops; retail gasoline outlets; restaurants; and hillside single-family dwellings.

The SUSMPs proposed by the County applied to these seven categories. Various BMPs applied to the different categories, and the SUSMPs contained narrative mitigation requirements for source control and treatment. The July proposals stated:

> "The development must be designed so as to mitigate (infiltrate and/or treat) the site runoff generated from impervious directly connected areas that may contribute pollutants of concern to the storm water conveyance system."

There were no numeric design criteria for mitigation. According to various participants, earlier County drafts had included design standards to mitigate flows from 0.6-inch storm events. But any numeric criteria had been removed from the version that was submitted.

In its revised SUSMPs, submitted on August 12, the County explained in its cover letter that the mitigation language did not mean that all runoff must be mitigated. Rather, the County's intent was to omit a numerical standard from the SUSMPs. The revised SUSMPs no longer referred to mitigation at all. Instead, the following language replaced the mitigation requirement:

> "The development must be designed so as to minimize, to the maximum extent practicable (MEP), the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official."

The Final SUSMPs, as approved by the Executive Officer and the Regional Water Board, included several revisions from the County's submittal. The revision that is of greatest concern to the petitioners is the addition of Design Standards for Structural or Treatment Control BMPs.[11] The design standards require that developments subject to the SUSMPs shall be designed to mitigate storm water runoff (by treatment or infiltration) from one of the following:

> "1. The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area…, or
> 2. The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment…, or
> 3. The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or
> 4. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event."

[11] The Final SUSMPs also include the narrative language quoted from the County's August 22, 1999 proposal.

The Final SUSMPs also applied to two additional categories of development: parking lots over 5,000 square feet or with 25 or more spaces and exposed to storm water, and to developments in environmentally-sensitive areas. Other revisions included application to all projects in the categories instead of discretionary projects only and the definition of redevelopment.

II. CONTENTIONS AND FINDINGS[12]

Contention: The petitioners contend that the Regional Water Board erred in not complying with the Administrative Review Process within the permit, and acted arbitrarily and capriciously and in violation of the Clean Water Act and state law.

Finding: The permit required the County, in consultation with the cities subject to the permit, to submit SUSMPs. The permit includes some general minimum requirements for the SUSMPs.[13] The Executive Officer is granted authority to approve the SUSMPs.[14]

The permit also contains an administrative review process.[15] The permit states that the administrative review process "formalizes the procedure for review and acceptance of reports and documents" and "provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement action."[16] Following this introductory statement, the permit includes two procedures. The first is for review and approval or disapproval of reports and documents. The second is the dispute resolution section that must be followed prior to enforcement action.

[12] This Order does not address all of the issues raised by the petitioners. The Board finds that the issues that are not addressed are insubstantial and not appropriate for State Water Board review. (See *People v. Barry* (1987) 194 Cal.App.3d 158, [239 Cal.Rptr. 349], Cal. Code Regs., tit. 3, § 052.)
[13] Permit, Part 2, III.A.1.c.
[14] Permit, Part 2, III.A.2.
[15] Permit, Part 2, I.G.
[16] *Id*.

The process for review of documents that are subject to the Executive Officer's approval is that the Executive Officer will notify the permittees of the results of the review and approval or disapproval within 120 days. If the Executive Officer does not do so, the permittees must notify the Regional Water Board of their intent to implement the documents without approval. The Executive Officer then has 10 days to respond, or the permittees may implement the program and the Executive Officer may not make modifications.

The dispute resolution procedure is to be used when the Executive Officer determines that a permittee's storm water program is insufficient to meet the permit's provisions. The Executive Officer must send a "Notice of Intent to Meet and Confer" with the permittee. A meet and confer period then ensues, resulting in a written "Storm Water Program Compliance Amendment (SWPCA)." The permittee is provided time to comply with the SWPCA. The Executive Officer is not allowed to take enforcement action against a permittee until the Executive Officer notifies the permittee in writing that the administrative review process has been exhausted and that a violation exists warranting enforcement.

The petitioners contend that the Executive Officer failed to notify the permittees that their SUSMPs were inadequate within 120 days of its submittal. The petitioners also argue that, by revising the SUSMPs without pursuing the dispute resolution process, the Regional Water Board "violated" the terms of the permit.

The provision for review of documents, which clearly includes the SUSMPs, requires that the Executive Officer notify the permittees of the results of the review and approval or disapproval within 120 days. The County submitted the revised SUSMPs on August 12, 1999. Within 120 days, the Regional Water Board held a workshop where staff expressed their concerns with the SUSMPs. Also within 120 days the Regional Water Board itself held a public

meeting where there was extensive discussion and concern by board members that the SUSMPs did not include a numeric standard. And, prior to any notification by the permittees that they would proceed with implementing their SUSMPs, the Regional Water Board held a hearing January 26, 2000, where it directed the Executive Officer to issue the SUSMPs with revisions. The Executive Officer did so on March 8, 2000.

It is clear from the record that the Executive Officer, and the Regional Water Board itself, did inform the permittees that the SUSMPs were inadequate. There was no requirement for a specific form for expressing disapproval of documents. The extensive discussion and meetings on the need for revisions to the SUSMPs, and the Executive Officer's approval of revised SUSMPs, plainly refutes the allegation that the Regional Water Board never notified the permittees of its disapproval of the County's proposed SUSMPs.

The permittees also claim that the Regional Water Board "violated" the permit by failing to institute the meet and confer process.[17] The dispute resolution process, which includes meet and confer, did not apply to the decision to disapprove the proposed SUSMPs. That process is only required when the Regional Water Board ultimately takes an enforcement action against a permittee. It is separate from the process for review and approval or disapproval of documents, and does not even appear to relate to possible enforcement actions for submission of inadequate documents. This is illustrated by the fact that the provision regarding documents refers to submittals from both the Principal Permittee and the individual permittees, while the dispute resolution provision refers only to the permittees. This distinction is relevant because the County is charged with submitting the documents, while the individual permittees are responsible for compliance. A fair reading of the entire section on the administrative review process is that the

[17] We note that permits are issued to permittees to allow discharges to waters of the state. It is only permittees, and not Regional Water Boards, who can be charged with violating permits.

review and approval or disapproval of documents applies to submission of documents by the County on behalf of the cities, while the dispute resolution process applies to enforcement actions against any permittees for failing to implement adequate programs.

Contention: The petitioners contend that the Regional Water Board was not authorized to revise the SUSMPs to add more stringent requirements.

Finding: The petitioners contend that the mitigation standards in the SUSMPs are more stringent than the requirement in the permit to reduce pollutants in storm water runoff to the maximum extent practicable (MEP)[18]. The issue of what level of protection constitutes MEP will be discussed *Infra*, in the discussion of the reasonableness of the numeric standards. But the petitioners also make certain procedural claims on this point. They argue that in approving the BMP list, the Regional Water Board determined that those BMPs constituted MEP and that the Board could not add additional BMPs in the SUSMPs. They also contend the Regional Water Board itself had no authority to "usurp" the Executive Officer's role in reviewing the SUSMPs.[19] Finally, the petitioners contend that the Regional Water Board was not authorized to mandate a program for the permittees without amending the permit.

The permit requires the County to submit a list of BMPs for approval. The Regional Water Board approved this list. Following approval of the list, the County was required to submit the SUSMPs, which must "incorporate the appropriate elements of the recommended BMPs list."[20] The petitioners contend that by approving the list, the Regional Water Board determined that those BMPs constituted MEP, and that under the terms of the permit the Regional Water Board could not require additional BMPs.

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[18] The technology-based standard for controls under municipal storm water permits is MEP. For a fuller discussion of this standard, see Order WQ 91-03.

[19] It is undisputed that, at its January 26, 2000 meeting, the Board directed the Executive Officer to make additional revisions to the SUSMPs.

[20] Permit, Part 2, III.A.1.c.

In addressing this contention, we face what appears to be a fundamental misunderstanding of the numeric design standards on the part of the petitioners. The design standards are objective criteria that developers must achieve in designing their BMPs. The design standards are not separate BMPs. The standards tell what magnitude of storm event the BMPs must be designed to treat or infiltrate. They do not specify the BMPs that must be employed.

The SUSMPs as submitted by the County specify BMPs for various categories of development. Many of these BMPs are designed to minimize the pollutants in storm water runoff, by reducing flow through infiltration or by treatment. Examples of BMPs proposed by the County include infiltration basins and trenches, oil/water separators, and media filtration. The County's proposed SUSMPs also included language requiring minimizing the introduction of pollutants to the storm water conveyance system. That language remains unchanged in the Final SUSMPs. The only significant difference between the two versions of the SUSMPs was that the Regional Water Board established numeric criteria for designing the BMPs.

In adopting the Final SUSMPs, the Regional Water Board based its decision on the MEP standard.[21] The Regional Water Board did not significantly revise the BMP list or specify further the actions that developers must take to comply with the SUSMPs. Thus, we find that the Regional Water Board did not inappropriately revise its determination of what constituted MEP.

The Regional Water Board is the political body responsible for water quality control in the Los Angeles region.[22] While the Regional Water Board may delegate specified powers and duties to its Executive Officer,[23] it can at any time act on its own behalf. The fact that the Board authorized its Executive Officer to approve the SUSMPs in the permit did not mean that the Board thereby denied itself the opportunity to provide direction to the Executive Officer in his

[21] Resolution R-00-02.
[22] Water Code sections 13200 and 13225.
[23] Water Code section 13223.

approval. Such an interpretation of its delegation authority would result in an improper failure of the Board to assume responsibility for water quality in the region.

We also find that the Regional Water Board was authorized to revise the SUSMPs to achieve compliance with the permit's requirements. The SUSMPs are a part of implementation of the permit. Because the permit regulates storm water discharges throughout the entire Los Angeles region and it is implemented by 85 cities and the County, it is obvious that the permit could not spell out every detail of the program for the five-year term of the permit. Instead, the implementation is through the submission, review and approval, and implementation of various programs, including the SUSMPs.[24] Where it receives a submission that it finds is not consistent with the requirements of the permit, it is reasonable for the Regional Water Board to be able to require revisions. The Regional Water Board is not required to amend the permit each time it approves a submittal or approves a submittal with revisions. On the other hand, if the Regional Water Board's action in requiring revisions is inconsistent with the terms of the permit, then the Board should not act without first amending the permit. While the Regional Water Board could have required the County to make the revisions rather than making them itself, we see no harm in the Regional Water Board's approach.

As will be discussed below, in most respects the Final SUSMPs are consistent with the permit. But there are some portions of the SUSMPs that are not consistent, and in those cases the SUSMPs provisions are further revised in this Order.

Contention: The petitioners make various procedural claims, including that they were denied due process, and that the Regional Water Board violated the Administrative Procedure

[24] A fuller discussion of the use of storm water management plans to incorporate a developing program is found in Order No. WQ 91-03.

Act, the California Environmental Quality Act (CEQA), and the California Constitution, Article XIII B, section 6 (regarding state mandates).

Finding: The petitioners point out that at the January 26, 2000 Regional Water Board hearing, there was some confusion over late changes to the SUSMPs and they contend they were not provided adequate opportunity to comment. There was significant discussion of the SUSMPs over several months. We do not agree with the petitioners that a program of this magnitude must necessarily take years to develop. But we are concerned that at the January 26, 2000 hearing, interested persons and permittees were not given adequate time to review late revisions or to comment on them. Given the intense interest in this issue, the Regional Water Board should have diverged from its strict rule limiting individual speakers to three minutes and conducted a more formal process. Such a process should provide adequate time for comment, including continuances where appropriate.[25] But to the extent the Regional Water Board's process caused any harm, this Board cured those harms. We held a two-day hearing in Los Angeles County, where all parties were allowed significant time to present their positions and testimony. In addition, we allowed the introduction of new evidence that had not been presented to the Regional Water Board. At this point, all parties have been afforded a full opportunity to review the Final SUSMPs, to present their positions and evidence, and to engage in cross-examination. The petitioners' due process rights have been protected.

The Board has already addressed the contentions regarding compliance with other laws in prior decisions. The Administrative Procedure Act exempts the adoption of permits from its requirements.[26] While the SUSMPs are not a permit, they are implementing documents for a

[25] For future adjudicative proceedings that are highly controversial or involve complex factual or legal issues, we encourage regional water boards to follow the procedures for formal hearings set forth in Cal. Code of Regs., tit. 23, section 648 et seq.

[26] Government Code section 11352; See, Order No. 95-4 (In the Matter of the City and County of San Francisco).

permit, and are therefore subject to the exemption. Moreover, they are relevant only to this permit, and are not a general rule of application. The constitutional provisions regarding state mandates also do not apply to NPDES permits.[27] As will be explained below, the SUSMPs as revised herein, are consistent with MEP and therefore are federally mandated. The provisions of CEQA requiring adoption of environmental documents also do not apply to NPDES permits.[28] Again, as an implementing document for the permit, there is no requirement for a separate CEQA analysis.[29]

Contention: The petitioners contend that the SUSMPs do not properly apply the maximum extent practicable standard.

Finding: The permit, consistent with Clean Water Act section 402(p)(3)(B)(iii), requires controls to reduce the discharge of pollutants to the maximum extent practicable, or MEP.[30] In approving the Final SUSMPs, the Regional Water Board acknowledged that one of the primary objectives of the municipal storm water program is the requirement to reduce the discharge of pollutants from storm water conveyance systems to the MEP.[31] While all parties appear to agree that the standard for the SUSMPs is MEP, they disagree about what level of effort is necessary to comply with that standard.

The petitioners approach this issue from two angles. First, they contend that the SUSMPs will not provide water quality benefits that reflect MEP. Second, they contend that there could be adverse impacts on groundwater quality that have not been adequately evaluated.

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[27] See, Order No. WQ 90-3 (In the Matter of San Diego Unified Port District).
[28] Water Code section 13389.
[29] We do note with interest the environmental groups' comment that if the permittees believed it was necessary to comply with the APA and CEQA prior to adoption of the SUSMPs, then they themselves would have violated those acts in their submissions of the proposed SUSMPs.
[30] Permit, Finding 13.
[31] Final SUSMPs, at page 2; Resolution No. R-00-02, at page 3.

Storm Water Design Standards as MEP

In adopting the Final SUSMPs, the Regional Water Board found that many rivers and streams in Los Angeles County are impaired for pollutants found in storm water and urban runoff, and that storm water runoff carries pollutants from nearly all types of developed properties.[32] Pollutant loading from the aggregate of development in the basin results in impairments from sediments, metals, complex organic compounds, oil and grease, nutrients, and pesticides.[33] The Final SUSMPs reflect two goals: to reduce the amounts of these pollutants in runoff and to reduce the ability of runoff to act as a conveyance system to deliver more pollutants to receiving waters. The Final SUSMPs, which include lists of BMPs and design standards requiring treatment or infiltration, address these two goals.

Clean Water Act section 402(p)(3)(B)(iii), which sets forth the requirements for establishing MEP in municipal storm water permits, provides that such permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." The United States Environmental Protection Agency (U.S. EPA), in a guidance document, explains that BMPs should be used in first-round storm water permits, and "expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards."[34] The Clean Water Act, as interpreted by U.S. EPA, does require that, in a second-round permit,[35] expanded BMPs may be appropriate. In light of the number of water

[32] Resolution No. R-00-02.
[33] *Id*.
[34] Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 Federal Register 57425 (1996).
[35] The original permit was issued in 1990. The 1996 permit is a second-round permit.

bodies impaired by runoff in Los Angeles County, it was appropriate to expand the scope of BMPs during the permit term.

The regulations implementing section 402(p) specifically require municipalities to have controls to reduce the discharge of pollutants from their storm sewer systems that "receive discharges from areas of new development and significant redevelopment," including post-construction discharges.[36] Clearly, it was appropriate for the Regional Water Board to require BMPs for new development and significant redevelopment. The permittees, who submitted their own version of SUSMPs with listed BMPs for categories of development, appear to have no real quarrel with this general mandate.

This Board has already endorsed requirements to limit the flow of the "first flush" of storm water, which may contain more significant pollutants.[37] The permittees' own version of the SUSMPs required mitigation of storm water runoff by treatment or infiltration, thus conceding the propriety of these two approaches to lessening the impact of storm water discharges. The crux of the disagreement is that the Regional Water Board added numeric design standards to establish the amount of runoff that must be treated or infiltrated, and required the mandatory application of these standards to categories of development.

The addition of measurable standards for designing the BMPs provides additional guidance to developers and establishes a clear target for the development of the BMPs. The U.S. EPA guidance manual suggests the use of design criteria and performance standards for post-construction BMPs.[38] The numeric criteria the Regional Water Board adopted essentially

[36] 40 CFR section 122.26(d)(2)(iv)(A)(2).
[37] In the Matter of National Steel and Shipbuilding Company, et al., Order WQ 98-07, at slip opinion 7.
[38] Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Strom Sewer Systems, at page 6-4 (November 1992).

requires that 85 percent of the runoff from the development be infiltrated or treated.[39] In adopting these standards, the Regional Water Board based its decision on a research review of standards in other states and a statistical analysis of the rainfall in the area. The standard was set to gain the maximum benefit in mitigation while imposing the least burden on developers.[40] In light of the evidence of the use of this or more stringent standards in other states, the expert testimony supporting this standard, the endorsement by U.S. EPA in its comments, and the cost-effectiveness of its implementation (discussed below), the Regional Water Board acted appropriately in determining that the standards reflect MEP.[41]

We also find that the Regional Water Board appropriately applied these standards to seven of the categories listed in the SUSMPs: single-family hillside residences, 100,000 square foot commercial developments, automotive repair shops, restaurants, home subdivisions with 10 to 99 housing units, home subdivisions with 100 or more housing units, and parking lots with 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff.[42] These categories, except for parking lots, were already targeted for special treatment in the permit. The evidence shows that each listed category can be a significant source of pollutants and/or runoff following development. It is appropriate that the design standards apply so that BMPs for these categories of development result in the infiltration or treatment of a significant about of the runoff.

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[39] Four different methods of calculation are permitted, so the percentage of capture may vary slightly.

[40] At the hearing in this matter, Regional Water Board staff explained that the standard was set at the bottom of the "knee" of the curve where the benefits of the mitigation requirements decrease and the cost increases. Other states have set the standard higher along this curve, requiring 90 to 95 percent mitigation.

[41] This conclusion in no way departs from our acceptance of BMPs in lieu of numeric effluent limitations in storm water permits. (See, e.g., Order WQ 91-03 and Order WQ 91-04.) The numeric standard is a design standard for BMPs. It does not quantify or limit the pollutants in the effluent. It also does not specify which of the listed BMPs must be employed.

[42] As discussed below, this Board is revising the SUSMPs to delete the application of the design standards to retail gasoline outlets and to locations within or directly adjacent to or discharging directly to environmentally-sensitive areas.

Potential Impacts on Ground Water

The petitioners contend that infiltration of runoff may lead to ground water pollution, and that the Regional Water Board did not properly consider such potential impacts. The mitigation standards provide for a waiver where there is a risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than ten feet from the soil surface.[43] The Final SUSMPs also include a discussion on how to use infiltration so that the risk of contamination of groundwater is reduced, and where infiltration is not appropriate.[44]

The Regional Water Board did consider the potential impacts to groundwater from infiltration, and included appropriate limitations and guidance on its use as a BMP. These provisions will ensure adequate protection of groundwater from any adverse impacts due to infiltration.

Contention: The petitioners contend the Regional Water Board failed to show that the SUSMPs as adopted are cost-effective and that the benefits to be obtained outweigh the costs.

Finding: The petitioners refer to the Preamble to the Phase II storm water regulations[45] as the basis for their economic argument. The quoted language, however, does not wholly support the petitioners' contention. The Preamble states that President Clinton's Clean Water Initiative clarifies "that the maximum extent practicable standard should be applied in a site-specific, flexible manner, taking into account cost considerations as well as water quality effects."[46] It is clear that cost should be considered in determining MEP; this does not mean that

[43] Final SUSMP, page 14.
[44] *Id*., at page 15.
[45] 64 Federal Register 68722 and following. These regulations do not apply to the permit, but the general language on MEP is relevant to EPA's interpretation of the standard.
[46] 64 Federal Register 68722, 68732 (December 8, 1999).

the Regional Water Board must demonstrate that the water quality benefits outweigh the economic costs.

While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. Probably the most comparable law that uses the term is the Superfund legislation, or CERCLA, at section 121(b). The legislative history of CERCLA indicates that the relevant factors, to determine whether MEP is met in choosing solutions and treatment technologies, include technical feasibility, cost, and state and public acceptance.[47] Another example of a definition of MEP is found in a regulation adopted by the Department of Transportation for onshore oil pipelines. MEP is defined as to "the limits of available technology and the practical and technical limits on a pipeline operator . . . ."[48]

These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.

In reviewing the record, it is apparent that the Regional Water Board did evaluate the cost of the SUSMPs. While the petitioners claim there is no evidence in the record to show the

[47] 132 Cong. Rec. H 9561 (Oct. 8, 1986).
[48] 49 CFR section 194.5.

SUSMPs are necessary and cost effective, the opposite is true. The record is replete with documentation of costs of pilot mitigation projects, studies from similar programs in other states, and research studies. The Regional Water Board complied with the requirement to consider cost.

The Regional Water Board found that the cost to include BMPs that will meet the mitigation criteria will be one to two percent of the total development cost. This amount appears reasonable, especially in light of the amount of impervious surface already in Los Angeles County and the impacts on impaired water bodies. In considering the cost of compliance, it is also important to consider the costs of impairment. The beach closures in the Los Angeles region, well documented in the evidence, have reached critical proportions. These beach closures clearly have a financial impact on the area, and should be positively affected by the SUSMPs.

We do note that there could be further cost savings for developers if the permittees develop a regional solution for the problem. We recommend that the cities and the County, along with other interested agencies, work to develop regional solutions so that individual dischargers are not forced to create numerous small-scale projects. While the SUSMPs are an appropriate means of requiring mitigation of storm water discharges, we also encourage innovative regional approaches.[49]

Contention: The petitioners have raised contentions regarding details of the SUSMPs, including the amount of time allowed for inclusion of SUSMPs in local ordinances, and their application to both "discretionary" and "non-discretionary" projects. In addition, during the hearing certain ambiguities in the wording of the Final SUSMPs became apparent, including the provisions regarding redevelopment and environmentally-sensitive areas. In this portion of the

[49] We note that the SUSMPs as written do not in any way preclude the development of regional solutions approved by the Regional Water Board as a means to comply with the BMP and design standard requirements.

Order we address these issues and also the application of the design standards to retail gasoline outlets (RGOs) and the waiver funding requirements.

Finding: The testimony at the hearing in this matter revealed that there are specific provisions of the SUSMPs that create confusion as to the types of development projects subject to the mitigation design standards. The petitioners also contend that application of the standards to specific types of development either is unreasonable or is inconsistent with the terms of the permit. The specific requirements are discussed below.

Retail Gasoline Outlets

Petitioner WSPA contends that RGOs should be excluded from the SUSMPs. Its petition raised the same general contentions as the other petitioners, but at the hearing WSPA presented evidence specific to RGOs. In particular, WSPA raised questions about the propriety of applying the design standards for BMPs to RGOs. In considering this issue, we conclude that construction of RGOs is already heavily regulated and that owners may be limited in their ability to construct infiltration facilities. Moreover, in light of the small size of many RGOs and the proximity to underground tanks, treatment may not always be feasible, or safe. The mandatory BMPs that are included in the SUSMPs may be adequate to achieve MEP at RGOs, but the Regional Water Board should add additional mandatory BMPs, such as use of dry cleanup methods (e.g. sweeping) for removal of litter and debris, use of rags and absorbents for leaks and spills, restricting the practice of washing down hard surfaces unless the wash water is collected and disposed of properly, annual training of employees on proper spill cleanup and waste disposal methods, and the inclusion of BMPs to address trash receptacle areas and air/water supply

areas.[50] We conclude that because RGOs are already heavily regulated and may be limited in their ability to construct infiltration facilities or to perform treatment, they should not be subject to the BMP design standards at this time, and recommend that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor. This Order should not be construed to preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued.

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Redevelopment Projects

The SUSMPs were written to apply to new development and to some types of redevelopment in nine categories of projects. The definition of "redevelopment" reflected the intent of the Regional Water Board to define the scope of redevelopment projects subject to the requirements. That definition[51], however, was somewhat confusing, and it was apparent from testimony at the hearing that the parties had different understandings of the scope of redevelopment subject to the SUSMPs. In their post-hearing briefs, the various parties appeared to agree on the actual intent of the Regional Water Board in including redevelopment in the SUSMPs. This intent was to include redevelopment that adds or creates at least 5,000 square feet of impervious surface to the original development and, where the addition constitutes less than 50 percent of the original development, to limit the application of the BMP design standards to the addition.

[50] These BMPs are from a list of BMPs in a publication of the California Storm Water Quality Task Force. (Best Management Practice Guide – Retail Gasoline Outlets. March 1997.) This publication includes BMPs in addition to those listed in the SUSMPs. All BMPs recommended in this publication should be mandated.

[51] The SUSMPs state: "Redevelopment" means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces or the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces.

While some parties requested further requirements for development, it appears that the Regional Water Board's original intent was relatively simple to apply and results in a fair and appropriate application of the SUSMPs' requirements to redevelopment. Therefore, we will revise the definition in the SUSMPs accordingly.

Environmentally-Sensitive Areas

The permit required that the SUSMPs address at least seven development categories.[52] The final SUSMPs added two more categories: parking lots of 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff; and location within or directly adjacent to an environmentally-sensitive area (ESA). The petitioners contend that the addition of ESAs was inappropriate because the permit refers only to "development categories"[53] and ESA is a location category.

Whether or not the Regional Water Board went beyond the permit's terms in including this category, we find a fundamental problem with the language of the SUSMPs regarding ESAs. All of the other categories are relatively simple to apply because they describe the types of development that fall within the category. For instance, the threshold for a commercial development is 100,000 square feet. If the development is smaller, it is not subject to the SUSMPs. But for developments within ESAs, the SUSMPs contain no threshold. This absence led to speculation by the petitioners that something as small as a new patio on a home in an ESA would make the SUSMPs applicable. The Regional Water Board, at the hearing and in its post-hearing brief, conceded that there should be some threshold. While the Regional Water Board

[52] The categories listed in the permit are: single-family hill residences, 100,000 square-foot commercial developments, automotive repair shops, retail gasoline outlets, restaurants, home subdivisions with 10 to 99 housing units, and home subdivisions with 100 or more housing units. Permit, Part 2, III.A.1.c.
[53] *Id.*

did recommend a specific threshold, we believe that it is inappropriate for this Board to add a threshold that has not been fully discussed by all interested persons.

While it may be appropriate to include more stringent controls for developments in ESAs, we also note that such developments are already subject to extensive regulation under other regulatory programs. Moreover, in light of the permit language limiting the SUSMPs to development categories, ESAs are not an appropriate category within the SUSMPs. The Regional Water Board may choose to consider the issue further when it reissues the permit.

Discretionary and Non-Discretionary, or Ministerial, Projects

The petitioners contend that the SUSMPs should apply only to projects that are considered "discretionary" within the meaning of California Environmental Quality Act (CEQA).[54] They argue that the inclusion of non-discretionary, or ministerial, projects is inconsistent with the terms of the permit.

The permit provisions on development projects do refer to "discretionary" projects in several places. The permittees are directed to develop a checklist for determining priority and exempt projects.[55] Priority projects are defined as development and redevelopment projects requiring discretionary approval, which may have a potential significant effect on storm water quality.[56] The permittees are also required to develop a BMP list.[57] In developing the SUSMPs, the permittees are required to incorporate appropriate elements of the BMP list.[58] Next, the permittees must develop a program on planning control measures for priority projects (which are limited to projects requiring discretionary approval), consistent with the list of BMPs and the

[54] Public Resources Code section 21000 *et seq*.
[55] Permit, Part 2, III.A.1.a.
[56] *Id*.
[57] Permit, Part 2, III.A.1.b.
[58] Permit, Part 2, III.A.1.c.

SUSMPs.[59] The permit further states that, in order to assure compliance with these requirements, the permittees must develop guidelines on preparing CEQA documents that link mitigation conditions to "local discretionary project approvals."[60]

Taken as a whole, the provisions of the permit appear to link the development requirements for SUSMPs to developments that receive discretionary approval by local governments, as defined in CEQA. The SUSMPs are an implementation tool for the permit and must be consistent with the permit. While the limitation of the SUSMPs to discretionary projects may not be sufficiently broad for an effective storm water control program, the Regional Water Board acted inappropriately in expanding the SUSMPs to include non-discretionary projects. The Regional Water Board may consider expanding the development controls beyond CEQA discretionary projects when it reissues the permit. But at this time, the SUSMPs must be revised so that they are limited to development projects requiring discretionary approval within the meaning of CEQA.[61]

Waiver Funding Requirement

Where a waiver is granted from the design standard requirements, the Final SUSMPs provide that the permittee must require the project proponent to transfer the cost savings to a storm water mitigation fund. The fund is to be operated by a public agency or a non-profit entity, to promote regional or alternative solutions for storm water pollution in the same storm watershed. The petitioners contend that the funding requirement will create an additional administrative burden.

[59] Permit, Part 2, III.a.2.
[60] Permit, Part 2, III.a.3.b.
[61] We note that the Final SUSMPs already include a definition of "discretionary project" consistent with the definition in the CEQA guidelines. Final SUSMPs at page 4 of 25; Title 14, California Code of Regulations, section 15357. Apparently this definition was inadvertently retained after the Regional Water Board decided to expand the SUSMPs beyond discretionary projects.

The concept of a mitigation fund or "bank" is a positive idea for obtaining regional solutions to storm water runoff. As a long-term strategy, municipal storm water dischargers should work to establish regional mitigation facilities, which may be more cost-effective and more technically effective than mitigation structures at individual developments. But at this point there are not sufficient resources in place to require all permittees to establish such funds or to find appropriate non-profit organizations. Before mandating funding, preliminary questions should be answered, including who will manage the fund, what types of projects it will be used for, what entities can legally operate such funds, and how permittees will determine the amount of the assessments. It would be appropriate for the County to consider developing a program with the appropriate flood control agency, or as a model for the separate cities to develop. There may be suitable agencies to administer such funds, but the development of programs may take some time. The Regional Water Board should consider adopting such a program when it reissues the permit, after consultation with the appropriate local agencies.

III. CONCLUSIONS

Based on the discussion above, the Board concludes that:

1. The Regional Water Board complied with the procedural requirements of the permit, including the Administrative Review Process, in approving the Final SUSMPs.
2. The Regional Water Board was authorized to revise the SUSMPs by including more stringent requirements than the permittees had proposed.
3. The Regional Water Board complied with did not violate the Administrative Procedure Act, CEQA, or the Constitutional provisions on state mandates. The petitioners' due process rights have been protected
4. The Regional Water Board considered the costs of the SUSMPs, and acted reasonably in requiring these controls in light of the expected benefits to water quality.

5. The Final SUSMPs reflect a reasonable interpretation of development controls that achieve reduction of pollutants in storm water discharges to the maximum extent practicable.
6. The SUSMPs include adequate protections of groundwater quality from any impacts from infiltration.
7. The SUSMPs will be revised to clarify the intent of the Regional Water Board and to make them consistent with the permit. Specifically, retail gasoline outlets should not be subject to the BMP design standards because they are already heavily regulated and may be limited in their ability to construct infiltration facilities or to perform treatment. Redevelopment projects should be subject to the SUSMPs only if they result in creation or addition of 5,000 square feet of impervious surfaces. Environmentally-sensitive areas should not be listed as a category in the SUSMPs. The SUSMPs should only apply to discretionary projects. The requirement for funding by project proponents who receive waivers should be deleted. The SUSMPs will be amended as shown in the attachment to this Order.
8. In light of the revisions of the SUSMPs made by this Order, and to allow the permittees adequate time to adopt implementing ordinances, the deadline for adopting ordinances will be revised to January 15, 2001, and the effective date of the Final SUSMPs will be revised to February 15, 2001.

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IV. ORDER

IT IS HEREBY ORDERED that the Standard Urban Storm Water Mitigation Plans for Los Angeles County and Cities in Los Angeles County is revised consistent with the amendments attached hereto. In all other respects the petitions are dismissed.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 5, 2000.

AYE: Arthur G. Baggett, Jr.
Mary Jane Forster
John W. Brown

NO: None

ABSENT: Peter S. Silva

ABSTAIN: None

/s/
Maureen Marché
Administrative Assistant to the Board

AMENDMENTS TO SUSMPS

[These amendments are to the Final SUSMP, as published March 8, 2000]

Page 3 of 25

First full paragraph:

All **discretionary development and redevelopment** projects that fall into one of ~~seven~~ **the following** categories are ~~identified in the Los Angeles County MS4 Permit as requiring~~ **subject to these** SUSMPs. These categories are:

- Single-family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 to 99 housing units
- Home Subdivisions with 100 or more housing units
- **Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff**

Second full paragraph:

~~The Regional Board Executive Officer has designated two additional categories subject to SUSMP requirements for the Los Angeles County MS4 Permit. These categories are:~~

- ~~Location within or directly adjacent to or discharging directly to an environmentally sensitive area, and~~
- ~~Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff~~

Fourth full paragraph:

Permittees shall amend codes, if necessary, not later than ~~September 8, 2000~~ **January 15, 2001**, to give legal effect to the SUSMP requirements. The SUSMP requirements for projects identified herein shall take effect not later than ~~October 8, 2000~~ **February 15, 2001**.

Page 4 of 25

Delete definition of "Environmentally Sensitive Area"

Revise Definition of "Redevelopment":

"Redevelopment" means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces ~~or the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure~~. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routing maintenance activity; and land disturbing activities related with structural or impervious surfaces. **Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to these SUSMPs, the Design Standards apply only to the addition, and not to the entire development.**

Page 10 of 25

Add to "Limited Exclusion": Retail Gasoline Outlets

Page 15 of 25

Delete the first full paragraph (storm water mitigation funding)

ATTACHMENT E-4

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2009-0008

In the Matter of the Petition of

COUNTY OF LOS ANGELES AND LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

Waste Discharge Requirements Order No. R4-2006-0074
Issued by the
California Regional Water Quality Control Board,
Los Angeles Region

SWRCB/OCC FILE A-1780

BY THE BOARD:

In 2001, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted Waste Discharge Requirements Order No. 01-182 (the permit), a national pollutant discharge elimination system (NPDES) municipal storm water permit. The permit authorizes storm water discharges from municipalities throughout the County of Los Angeles.[1] In 2002, the Los Angeles Water Board established a total maximum daily load (TMDL) for bacteria at Santa Monica Bay beaches during dry weather (the TMDL). The TMDL includes a waste load allocation for municipal storm water discharges. On September 14, 2006, the Los Angeles Water Board modified the permit by adopting Waste Discharge Requirements Order No. R4-2006-0074 (the Permit modification). The Los Angeles Water Board crafted the Permit modification to implement the summer dry weather waste load allocations in the TMDL.

On October 16, 2006, the County of Los Angeles and the Los Angeles County Flood Control District (Petitioners) filed a petition with the State Water Resources Control Board (State Water Board), challenging the Permit modification. The Petitioners asked that the petition be placed in abeyance. Two years later, in September 2008, the Petitioners activated

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[1] The City of Long Beach is subject to a separate municipal storm water permit. (Los Angeles Water Board Order 99-060 [NPDES No. CAS004002].)

the petition. In this Order, the State Water Board concludes that the Los Angeles Water Board's implementation of the TMDL through the Permit modification was appropriate and proper.[2]

I. BACKGROUND

A. Regulatory Background

The Petitioners contend the Los Angeles Water Board improperly translated the provisions of an existing TMDL into a municipal storm water permit. In this section, we provide a brief overview of relevant portions of the regulatory frameworks for TMDLs and for storm water regulation.

1. TMDLs

In State Water Board Order WQ 2001-06 (*Tosco*), this Board provided a detailed background of TMDLs. As we explained in the *Tosco* order, water quality standards provide the foundation for identifying impaired waters that require a TMDL. Clean Water Act section 303(c) requires the states to adopt water quality standards that protect the public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act. Water quality standards consist of the beneficial uses of a water body and the criteria to protect those uses. For waters subject to the Clean Water Act, California's water quality standards are typically found in regional water quality control plans (basin plans) and in statewide plans.

Clean Water Act section 303(d) requires states to identify waters of the United States for which technology-based effluent limitations are not stringent enough to implement water quality standards. We refer to those waters that are not attaining water quality standards as impaired waters, and identify the impaired waters on the state's 303(d) list of water quality limited segments.

For the pollutants causing impairment of waters of the United States, Clean Water Act section 303(d) requires states to establish TMDLs. "A TMDL defines the specified maximum amount of a pollutant which can be discharged or 'loaded' into [impaired waters] from all combined sources."[3] A TMDL is the sum of the individual wasteload allocations assigned to point sources, load allocations for nonpoint sources, and other elements designed to achieve

[2] To the extent Petitioners raised issues not discussed in this order, such issues are hereby dismissed as not substantial or appropriate for review by the State Water Board. (See *People v. Barry* (1987) 194 Cal.App.3d 158, 175-177; *Johnson v. State Water Resources Control Board* (2004) 123 Cal.App.4th 1107; Cal. Code Regs., tit. 23, § 2052, subd. (a)(1).)

[3] *Dioxin/Organochlorine Center v. Clarke* (9th Cir. 1995) 57 F.3d 1517, 1520.

water quality standards.[4] Regional water quality control boards typically adopt TMDLs as part of each region's basin plan[5] and therefore include programs for implementation.[6] In essence, TMDLs serve as a backstop provision of the Clean Water Act designed to implement water quality standards when other provisions have failed to achieve water quality standards.

TMDLs are not self-executing, but instead, rely upon further orders or actions to adjust pollutant restrictions on individual dischargers.[7] Federal regulations state that water quality based effluent limitations in NPDES permits must be consistent with the assumptions and requirements of the wasteload allocations in the TMDL, if the TMDL has been approved by the United States Environmental Protection Agency (U.S. EPA).[8]

The State Water Board estimates that statewide over 580 TMDLs will be needed for the current impaired waters list of 2,238 pollutant/water body combinations. Over 115 TMDLs are currently under development.

2. Municipal Storm Water Regulation

This Board has discussed the regulatory requirements for municipal storm water discharges in prior orders.[9] Section 402(p) of the Clean Water Act prohibits the discharge of pollutants from specified municipal separate storm sewer systems (MS4s) to waters of the United States except as authorized by an NPDES permit. Section 402(p) contains two substantive standards applicable to municipal storm water permits: MS4 permits (1) "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers;"[10] and (2) "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."[11]

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[4] 40 C.F.R. § 130.3(i).

[5] See 40 C.F.R. §§ 130.6(c)(1) & 130.7.

[6] Wat. Code, §§ 13050, subd. (j), & 13242.

[7] *City of Arcadia v. EPA* (N.D.Cal. 2003) 265 F.Supp.2d 1142, 1144-1145; see also, e.g., State Water Board Resolution 2002-0149, ¶ 9 (approving Santa Monica Beaches Dry Weather Bacteria TMDL and noting that numeric targets and wasteload allocations are not directly enforceable and will need to be translated into individual permit requirements during a subsequent permitting action).

[8] 40 C.F.R. § 122.44(d)(1)(vii)(B).

[9] See, e.g., State Water Board Orders WQ 91-03 (*Communities for a Better Environment*), WQ 96-13 (*Save San Francisco Bay Ass'n*), WQ 2000-11 (*Cities of Bellflower et al.*), and WQ 2001-15 (*BIA*).

[10] 33 U.S.C., § 1342(p)(3)(B)(ii).

[11] *Id.*, § 1342(p)(3)(B)(iii).

U.S. EPA promulgated regulations establishing minimum requirements for all MS4 permits. The regulations generally focus on requirements that MS4s implement programs to reduce the amount of pollutants found in storm water discharges to the maximum extent practicable. The regulations also require the MS4's program to include an element to detect and remove illicit discharges and improper disposal into the storm sewer.[12] U.S. EPA added the illicit discharge program requirement with the stated intent of implementing the Clean Water Act provision requiring permits to "effectively prohibit non-storm water discharges."[13] Neither the Clean Water Act nor the federal storm water regulations define "non-storm water." "Illicit discharge" is defined as any discharge to an MS4 "not composed entirely of storm water."[14] Thus, "illicit discharge" is the most nearly applicable definition of "non-storm water" found in federal law and is often used interchangeably with that term.

B. Procedural Background

In 1998, the State Water Board added 44 Santa Monica Bay beaches to its 303(d) list due to bacteria impairments. As required by the Clean Water Act, the Los Angeles Water Board adopted a TMDL entitled *Dry Weather TMDL for Bacteria at Santa Monica Bay Beaches* (the TMDL) on January 24, 2002. The State Water Board approved the TMDL on September 19, 2002. The California Office of Administrative Law and U.S. EPA subsequently approved the TMDL, and the TMDL became effective on July 15, 2003.

The Los Angeles Water Board established the TMDL to protect swimmers and other recreational users of Santa Monica Bay beaches when there are dry weather conditions and the beaches are most heavily used. Dry weather is defined in the TMDL to mean those days with less than 0.1 inches of rain and days at least three days after a day with 0.1 inches of rain or more. The TMDL recognizes that, under certain conditions, even undeveloped watersheds may have exceedances of bacteria water quality standards. As a result, the TMDL differentiates between summer dry weather (April 1 to October 31) and winter dry weather (November 1 to March 31). In summer dry weather, a reference beach in an undeveloped watershed had no exceedances of bacteria water quality standards. The resulting summer dry weather wasteload allocations in the TMDL are, therefore, zero days of exceedance of the bacteria water quality standards at a particular beach. In winter dry weather, the reference

[12] 40 C.F.R. § 122.26(d)(2)(iv)(B).

[13] National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule (hereafter Phase I preamble), 55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).

[14] 40 C.F.R. § 122.26(b)(2). The definition of "illicit discharge" does provide exceptions for discharges pursuant to a separate NPDES permit and for discharges resulting from fire fighting activities. (*Ibid*.)

beach had three exceedances of the bacteria water quality standards. The resulting winter dry weather wasteload allocations allowed no more than three days of exceedance of the bacteria water quality standards at a particular beach.[15]

The TMDL includes wasteload allocations for municipal storm water discharges. Recognizing the different challenges associated with achieving the summer and winter dry weather wasteload allocations, as well as the higher summertime use of the beaches, the Los Angeles Water Board's implementation plan for the TMDL established a shorter schedule for achieving the summer dry weather wasteload allocations. The basin plan amendment establishing the TMDL included an implementation plan with a final compliance date of July 15, 2006 for summer dry weather. The final date for winter dry weather is July 15, 2009. By those dates, the TMDL's implementation plan anticipated there were to be no more discharges from MS4s that cause or contribute to exceedances of bacteria water quality standards on summer dry weather days.

The TMDL applies to Santa Monica Bay beaches along 55 miles of coastline, from Leo Carillo State Beach in the north to Outer Cabrillo beach in the south. Together, the beaches host an average of 55 million visitors per year, who add approximately $1.7 billion dollars to the local economy.

In May 2006, the Los Angeles Water Board's staff provided notice of its proposal to reopen and modify the permit in order to establish permit requirements consistent with the TMDL and its implementation plan. The proposed modification would make the TMDL's wasteload allocations enforceable, and be consistent with U.S. EPA's regulation requiring that effluent limitations in NPDES permits be consistent with the assumptions and requirements of the wasteload allocations in the TMDL.[16] The Los Angeles Water Board solicited and received two rounds of comments on the proposed permit revisions, held a public workshop to solicit oral and written comments, and issued two sets of responses to comments. During the comment period, the Los Angeles Water Board received many comment letters, including letters of support from Governor Schwarzenegger and other public officials. On September 14, 2006, the Los Angeles Water Board held a public hearing and adopted a permit modification that included requirements to implement the TMDL's summer dry weather wasteload allocations.

[15] Relying on antidegradation principles, the TMDL established winter dry weather wasteload allocations of zero, one, two, or three days of bacteria exceedances based on a particular beach's historical water quality.

[16] 40 C.F.R. §122.44(d)(1)(vii)(B).

The modification prohibits discharges that cause or contribute to exceedances of bacteria water quality standards at Santa Monica Bay beaches on summer dry weather days. The Permit modification added Part 2.5 to the Receiving Water Limitations. Part 2.5 states:

> During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to exceedances in the Wave Wash, of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.

The Permit modification also added a discharge prohibition. Discharge Prohibition 1.B states: "Discharges of Summer Dry Weather flows from MS4s into Santa Monica Bay that cause or contribute to exceedances of the bacteria Receiving Water Limitations in Part 2.5 below are prohibited." Neither the discharge prohibition nor the receiving water limitations includes an iterative process towards compliance.

Petitioners submitted a timely joint petition to the State Water Board on October 16, 2006. Pursuant to State Water Board regulations,[17] the petition was held in abeyance for nearly two years before Petitioners activated it on September 18, 2008. On that date, Petitioners also submitted a supplemental statement of points and authorities, which the State Water Board hereby adds to the administrative record. Petitioners, the Los Angeles Water Board, and a group of three environmental organizations sought leave to make additional submissions and to add evidence to the administrative record.[18] Those requests are hereby denied.[19]

II. ISSUES AND FINDINGS

Contention: The discharge prohibition and receiving water limitations added by the Permit modification are ambiguous and should be clarified.

Finding: The contested provisions are sufficiently clear and were properly adopted. We conclude that no changes are necessary and reject this contention. Petitioners claim that the discharge prohibition and receiving water limitations added by the Permit modification could be construed to prohibit storm water discharges containing bacteria, despite the Los Angeles Water Board's stated intention to limit those provisions to non-storm

[17] See Cal. Code Regs., tit. 23, § 2050.5, subd. (d).

[18] The filings include Petitioners' request to file a reply pleading, and various requests for administrative notice and to submit additional evidence.

[19] See Cal. Code Regs., tit. 23, §§ 2050.5, subd. (a), & 2050.6.

water discharges. In Petitioners' view, the words "non-storm water" should be added to Part 2.5 of the permit's receiving water limitations to match that intent and to clarify that Part 2.5 does not apply to storm water discharges.

Part 2.5 of the permit reads: "During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to [bacteria] exceedances…." The permit defines dry weather as "days with less than 0.1 inch of rainfall and occurring more than three days after a rain day."[20] "Summer Dry Weather" is a dry weather day occurring from April 1 to October 31 of each year.[21]

Petitioners' proposed revision to Part 2.5 would read: "During Summer Dry Weather there shall be no *non-storm water* discharges of bacteria from MS4s . . . ." (Italics added.) They argue that, without the change, Part 2.5 may apply to "storm water" because that term is defined in federal regulations to include "surface run-off and drainage." Petitioners imply that the federal reference to "surface run-off and drainage" includes run-off and drainage discharges that occur during dry weather periods of the summer.

We decline to accept Petitioners' proposed language, including their similar proposal for Discharge Prohibition 1.B, because the language chosen by the Los Angeles Water Board is clear and appropriate. The challenged permit provisions do not apply to storm water flows. U.S. EPA has previously rejected the notion that "storm water," as defined at 40 Code of Federal Regulations section 122.26(b)(13), includes dry weather flows. In U.S. EPA's preamble to the storm water regulations, U.S. EPA rejected an attempt to define storm water to include categories of discharges "not in any way related to precipitation events."[22] The Los Angeles Water Board's permit language follows U.S. EPA's approach. The new Permit provisions specifically regulate dry weather discharges, which are defined to exclude discharges occurring during or immediately following a reportable precipitation event. Any discharges during such dry weather days would not be precipitation-related. No liability will attach under these provisions for discharges during, or as the result of, a rainfall event exceeding 0.1 inches.

In any event, Petitioners' proposed language deviates from that of the underlying wasteload allocation. That wasteload allocation defines "dry weather" and "summer dry weather" with language identical to that used in the challenged provisions.[23] The discharges

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[20] Permit, Part 5, Definitions.

[21] *Ibid*.

[22] 55 Fed. Reg. 47990, 47995.

[23] See Basin Plan, Tables 7-4.1, 7-4.2a.

regulated by the wasteload allocation are not qualified by the modifier "non-storm water," or any other term. Because 40 Code of Federal Regulations section 122.44(d)(1)(vii) requires effluent limitations to be consistent with the assumptions and requirements of the underlying wasteload allocation, we refuse to unnecessarily add language that, if anything, could cause confusion and threaten compliance with U.S. EPA's regulation.

Contention: The receiving water limitations and discharge prohibition are numeric effluent limitations and, therefore, do not follow the accepted approach for controlling municipal storm water discharges.

Finding: The contested provisions are appropriate and proper. The summer dry weather discharges, as defined by the Permit and the TMDL, are more appropriately regarded as non-storm water discharges, which the Clean Water Act requires to be effectively prohibited.

Petitioners liken the challenged provisions to numeric effluent limitations, and then cite various state and federal sources to argue that using numeric effluent limitations to implement a TMDL in a storm water permit is inappropriate. Petitioners point to State Water Board Order WQ 2001-15 (*BIA*), where we stated that, for municipal storm water permits, "we will generally not require 'strict compliance' with water quality standards through numeric effluent limitations," and instead "we will continue to follow an iterative approach, which seeks compliance over time" with water quality standards.[24] They also point to a U.S. EPA guidance document entitled *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs* (the U.S. EPA guidance document).[25] Petitioners cite a provision therein that reads, "because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction discharges."[26]

The references relied upon by Petitioners are inapposite, and do not support invalidating the Los Angeles Water Board's requirements. Instead, the Petitioners' references are directed at the regulation of storm water discharges. The Permit modification is limited to non-storm water discharges which occur during summer dry weather. The U.S. EPA guidance document is limited to wasteload allocations "for storm water discharges" and permit limitations

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[24] *BIA*, *supra*, at p. 8.

[25] U.S. EPA, *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs*, Memorandum from U.S. EPA Director, Office of Wetlands, Oceans and Watersheds Robert H. Wayland, III and Director, Office of Wastewater Management James Hanlon to Water Division Directors, Regions 1-10, Nov. 22, 2002 (hereafter U.S. EPA guidance document).

[26] *Id.*, at p. 4.

and conditions "based on the [wasteload allocations] for storm water discharges."[27] Furthermore, the Clean Water Act and the federal storm water regulations assign different performance requirements for storm water and non-storm water discharges. These distinctions in the guidance document, the Clean Water Act, and the storm water regulations make it clear that a regulatory approach for storm water - such as the iterative approach we have previously endorsed - is not necessarily appropriate for non-storm water.

We instead look to directly relevant authorities. Federal law requires municipal storm water permit limitations to be consistent with applicable wasteload allocations.[28] The Clean Water Act requires MS4 permit requirements to effectively prohibit non-storm water discharges.[29] Similarly, California law requires NPDES permits to apply "any more stringent effluent standards or limitations necessary to implement water quality control plans...."[30]

The basin plan established a compliance deadline of July 15, 2006, for achieving final compliance with the summer dry weather wasteload allocations for bacteria. The TMDL, which is a component of the Los Angeles Water Board's basin plan, assigns a wasteload allocation to certain "local agencies that are permittees or co-permittees on a municipal storm water permit."[31] The basin plan further establishes that these agencies are responsible for complying with the summer dry weather wasteload allocation. The summer dry weather wasteload allocation prohibits the exceedance of bacteria water quality objectives on summer dry weather days at specified locations.[32] The Permit modification is consistent with the wasteload allocation and other basin plan provisions.

The Permit modification is also consistent with the federal framework for non-storm water discharges. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B), which implements the Clean Water Act's requirement for the effective prohibition of non-storm water discharges, requires municipal storm water permittees to detect and remove all categories of non-storm water discharges to the MS4, or to require the non-storm water discharger to obtain a separate NPDES permit. While MS4 permits generally contain exceptions for some non-storm water discharges, these exceptions do not extend to non-storm water discharges identified as a

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[27] U.S. EPA guidance document, *supra*, at p. 1.

[28] 40 C.F.R. § 122.44(d)(1)(vii)(B).

[29] 33 U.S.C. § 1342(p)(3)(B)(ii).

[30] Wat. Code, § 13377.

[31] Basin Plan, Table 7-4.1, fn. 3.

[32] *Id.*, Table 7-4.1.

source of pollutants.[33] In adopting the TMDL, the Los Angeles Water Board identified summer dry weather discharges as a source of water quality exceedances for bacteria. Prohibiting summer dry weather bacteria exceedances caused or contributed to by MS4s is therefore consistent with the federal framework for non-storm water discharges.

Moreover, the references Petitioners' rely upon to challenge the prohibitions and receiving water limitations as strict, numeric effluent limitations are not relevant to this petition. The contested provisions are receiving water limitations, not numeric effluent limitations. The contested provisions do not impose a numeric limitation measured at a point source outfall. Instead, compliance with the limitations is measured in the receiving water, and more specifically, at the "wave wash" for the individual beaches. The TMDL defines the wave wash "as the point at which the storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water."[34] The provisions are directed at the quality of the receiving water, as affected by the discharge. They do not establish numeric effluent limitations for the discharge to the receiving water.[35],[36]

While the issue before us only concerns permit requirements to implement summer dry weather wasteload allocations and therefore non-storm water discharges, the result would not necessarily be different for municipal *storm water* discharges subject to a TMDL. TMDLs, which take significant resources to develop and finalize, are devised with specific implementation plans and compliance dates designed to bring impaired waters into compliance with water quality standards. It is our intent that federally mandated TMDLs be given substantive effect. Doing so can improve the efficacy of California's NPDES storm water permits. This is not to say that a wasteload allocation will result in numeric effluent limitations for municipal storm water discharges. But, when an approved TMDL is in place, the water boards will give substantive effect to the TMDL and allow it to become much more than an academic exercise. Whether a future municipal storm water permit requirement appropriately implements a storm water wasteload allocation will need to be decided based on the regional

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[33] See 40 C.F.R. § 122.26(d)(2)(iv)(B)(1). The exempted categories include, but are not limited to, water line flushing, rising ground waters, landscape irrigation, and street wash water.

[34] Basin Plan, Table 7-4.1, fn. 1.

[35] See, e.g., *BIA*, *supra*; State Water Board Order WQ 99-05 (*Environmental Health Coalition*). Those Orders endorsed receiving water limitations modified by an iterative process. The absence of an accompanying iterative process does not convert receiving water limitations into numeric effluent limitations.

[36] For the purposes of state enforcement under the Porter-Cologne Act's mandatory minimum penalties law, California distinguishes numeric restrictions on discharged effluent from receiving water limitations. (Wat. Code, § 13385.1, subd. (c).)

water quality control board's findings supporting either the numeric or non-numeric effluent limitations contained in the permit.

III. ORDER

IT IS HEREBY ORDERED THAT the petition of the County of Los Angeles and Los Angeles County Flood Control District is denied.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 4, 2009.

AYE:	Chairman Charles R. Hoppin Vice Chair Frances Spivy-Weber Board Member Arthur G. Baggett, Jr. Board Member Tam M. Doduc
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend
Clerk to the Board

ATTACHMENT E-5

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2015-0075

In the Matter of Review of

Order No. R4-2012-0175, NPDES Permit No. CAS004001

WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) DISCHARGES WITHIN THE COASTAL WATERSHEDS OF LOS ANGELES COUNTY, EXCEPT THOSE DISCHARGES ORIGINATING FROM THE CITY OF LONG BEACH MS4

Issued by the
California Regional Water Quality Control Board,
Los Angeles Region

SWRCB/OCC FILES A-2236 (a)-(kk)

BY THE BOARD:

In this order, the State Water Resources Control Board (State Water Board) reviews Order No. R4-2012-0175 (NPDES Permit No. CAS004001) adopted by the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) on November 8, 2012. Order No. R4-2012-0175 regulates discharges of storm water and non-storm water from the municipal separate storm sewer systems (MS4s) located within the coastal watersheds of Los Angeles County, with the exception of the City of Long Beach MS4, and is hereinafter referred to as the "Los Angeles MS4 Order" or the "Order." We received 37 petitions challenging various provisions of the Los Angeles MS4 Order. For the reasons discussed herein, we generally uphold the Los Angeles MS4 Order, but with a number of revisions to the findings and provisions in response to issues raised in the petitions and as a result of our own review of the Order.

I. BACKGROUND

The Los Angeles MS4 Order regulates discharges from the MS4s operated by the Los Angeles County Flood Control District, Los Angeles County, and 84 municipal permittees (Permittees) in a drainage area that encompasses more than 3,000 square miles and multiple watersheds. The Order was issued by the Los Angeles Water Board in

accordance with section 402(p)(3)(B) of the Clean Water Act[1] and sections 13263 and 13377 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act),[2] as a National Pollutant Discharge Elimination System (NPDES) permit to control storm water and non-storm water discharges that enter the area's water bodies from the storm sewer systems owned or operated by the multiple governmental entities named in the Order. The Los Angeles MS4 Order superseded Los Angeles Water Board Order No. 01-182 (2001 Los Angeles MS4 Order), and is the fourth iteration of the NPDES permit for MS4 discharges in the relevant area.

The Los Angeles MS4 Order incorporates most of the pre-existing requirements of the 2001 Los Angeles MS4 Order, including the water quality-based requirement to not cause or contribute to exceedances of water quality standards in the receiving water. The Los Angeles MS4 Order also requires Permittees to comply with new water quality-based requirements to implement 33 watershed-based total maximum daily loads (TMDLs) for the region. The Order links both of these water quality-based requirements to the programmatic elements of the Order by allowing Permittees to comply with the water quality-based requirements, in part, by developing and implementing a watershed management program (WMP) or enhanced watershed management program (EWMP), as more specifically defined in the Order.

Following adoption of the Los Angeles MS4 Order, we received 37 timely petitions challenging various provisions of the Order and, in particular, the provisions implementing TMDLs and integrating water quality-based requirements and watershed-based program implementation. Several petitioners asked that their petitions be held in abeyance;[3] however, due to the number of active petitions also seeking review, we declined to hold those petitions in abeyance at that time.[4] Five petitioners additionally requested that we partially stay the Los Angeles MS4 Order. Following review, the Executive Director of the State Water Board denied the stay requests for failure to comply with the prerequisites for a stay as specified in California Code of Regulations, title 23, section 2053.

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[1] 33 U.S.C. § 1342(p)(3)(B).

[2] Wat. Code, §§ 13263, 13377.

[3] See Cal. Code Regs., tit. 23, § 2050.5, subd. (d).

[4] By letter dated January 30, 2013, we provided an opportunity for petitioners to submit an explanation for why a petition should be held in abeyance notwithstanding the existence of the active petitions. In response, two petitioners, City of Signal Hill and the City of Claremont, argued that their petitions raised unique issues not common to the remaining petitions and therefor appropriate for abeyance. We thereafter denied their requests on July 29, 2013, finding that the unique issues could nevertheless be resolved concurrently with the issues in the other petitions. On October 9, 2013, the City of Claremont withdrew two of the claims in its petition.

We deemed the petitions complete by letter dated July 8, 2013, and, as permitted under our regulations,[5] consolidated the petitions for review.

An issue front and center in the petitions is the appropriateness of the approach of the Los Angeles MS4 Order in addressing what we generally refer to as "receiving water limitations." Receiving water limitations in MS4 permits are requirements that specify that storm water and non-storm water discharges must not cause or contribute to exceedances of water quality standards in the waters of the United States that receive those discharges. In precedential State Water Board Order WQ 99-05 (*Environmental Health Coalition*), we directed that all MS4 permits contain specific language that explains how the receiving water limitations will be implemented. (For clarity, we refer to MS4 permit language that relates to implementation of the permit's receiving water limitations as "receiving water limitations provisions.") We held a workshop on November 20, 2012, concerning receiving water limitations in MS4 permits. The purpose of the workshop was to receive public comment on an issue paper discussing several alternatives to the receiving water limitations provisions currently included in MS4 permits as directed by Order WQ 99-05 (Receiving Water Limitations Issue Paper).[6]

Because the Los Angeles MS4 Order contains new provisions that authorize the Permittees to develop and implement WMP/EWMPs in lieu of requiring compliance with the receiving water limitations provisions, we view our review of the Order as an appropriate avenue for resolving some of the issues raised in our November 20, 2012 workshop. Through notice to all interested persons, we bifurcated the responses to the petitions and solicited two separate sets of responses: (1) Responses to address issues related to whether the WMP/EWMP alternatives contained in the Los Angeles MS4 Order are an appropriate approach to revising the receiving water limitations provisions in MS4 permits (August 15, 2013 Receiving Water Limitations Submissions); and (2) Responses to address all other issues raised in the petitions (October 15, 2013 Responses).[7] We held a workshop on October 8, 2013, to hear public comment on the first set of responses.

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[5] Cal. Code Regs., tit. 23, § 2054.

[6] Information on that workshop is available at <http://www.waterboards.ca.gov/water_issues/programs/stormwater/rwl.shtml> (as of Nov 18, 2014).

[7] We requested the bifurcated responses initially by letter dated July 15, 2013. Subsequent letters on July 29, 2013, and September 18, 2013, clarified the nature of the submissions and extended the submission deadline for the second response.

State Water Board regulations generally require final disposition on petitions within 270 days of the date a petition is deemed complete.[8] However, in this case, we required additional time to review the large number of issues raised in the petitions. When the State Water Board anticipates addressing a petition on the merits after the review period passes, it may indicate that it will review the matter on its own motion.[9] On April 1, 2014, we adopted Order WQ 2014-0056 taking up review of the issues in the petitions on our own motion.[10]

We now resolve the issues in the petitions with this order.

II. ISSUES AND FINDINGS

The 37 petitions raise over sixty contentions claiming deficiencies in the Los Angeles MS4 Order. This Order addresses the most significant contentions. To the extent petitioners raised issues that are not discussed in this Order, such issues are dismissed as not raising substantial issues appropriate for State Water Board review.[11]

Before proceeding to the merits of the petitions, we will resolve several procedural issues.

Requests to Take Official Notice or Supplement the Record with Additional Evidence

We received a number of requests to take official notice of documents not in the administrative record of the adoption of the Los Angeles MS4 Order by the Los Angeles Water Board (hereinafter Administrative Record)[12] and a number of requests to admit supplemental evidence not considered by the Los Angeles Water Board.[13] We reviewed the requests with

[8] Cal. Code Regs., tit. 23, § 2050.5, subd. (b).

[9] See Wat. Code, § 13320, subd. (a); Cal. Code Regs., tit. 23, § 2050.5, subd. (c).

[10] To avoid premature litigation on the petition issues as a result of our review extending past the 270 day-regulatory review period, at our suggestion most of the petitioners asked that their petitions be placed in abeyance until adoption by the State Water Board of a final order. We granted those requests. Simultaneously with adopting this order, we are removing the petitions from abeyance and acting upon them.

[11] *People v. Barry* (1987) 194 Cal.App.3d 158, 175-177; *Johnson v. State Water Resources Control Bd.* (2004) 123 Cal.App.4th 1107, 1114; Cal. Code Regs., tit. 23, § 2052, subd. (a)(1).

[12] The Administrative Record was prepared by the Los Angeles Water Board and is available at <http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/AdminRecordOrderNoR4_2012_0175/index.shtml> (as of Nov. 18, 2014).

[13] Several requests for official notice or to admit supplemental evidence were received concurrently with submission of the petitions, with the August 15, 2013 Receiving Water Limitations Submissions, and with the October 15, 2013 Responses. Additional requests for official notice were submitted concurrently with comments on first and revised public drafts of this order and were opposed by several parties. (Request for Official Notice, Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay, Jan. 21, 2015; Request for Official Notice, Natural Resources Defense Council, Los Angeles Waterkeeper and Heal the Bay, June 2, 2015.) Although we have reviewed these additional requests for official notice, we have not granted the requests for the various reasons articulated in this section, in Section II.B.8, and in footnote 74.

consideration of whether they were appropriate for notice or admission based on the legal standards governing our proceedings[14] and whether the documents would materially aid in our review of the issues in the proceedings. We grant the requests with regard to documents 1-7 below, and additionally take official notice on our own motion of documents 8, 9, and 10:[15]

1. Order No. 2013-0001-DWQ, NPDES Permit for Storm Water Discharges from Small MS4s, adopted by State Water Board, February 5, 2013;[16]
2. Modified NPDES Permit No. DC0000022 for the MS4 for the District of Columbia issued by the United States Environmental Protection Agency (USEPA), November 9, 2012, and a responsiveness summary issued in support of its original adoption of the permit, October 7, 2011;[17]
3. Administrative Procedures Update Number 90-004 on Antidegradation Policy Implementation for NPDES Permitting, issued by the State Water Board, July 2, 1990;[18]
4. Chapter 7 of the NPDES Permit Writers' Manual, updated by USEPA, September 2010;[19]
5. Letter to the Water Management Administration, Maryland Department of the Environment, issued by USEPA, August 8, 2012;[20]

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[14] For official notice see Cal. Code Regs., tit. 23, § 648.2; Gov. Code, § 11515; Evid. Code, § 452. For admission of supplemental evidence see Cal. Code Regs., tit. 23, § 2050.6.

[15] We note that two documents for which we received requests for official notice are already in the administrative record: USEPA, Memorandum Setting Forth Revisions to the November 22, 2002 Memorandum Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (Nov. 12, 2010) (Administrative Record, section 10.II, RB-AR23962-23968); USEPA, Chapter 6 of the NPDES Permit Writers' Manual (updated Sept. 2010) (Administrative Record, section 10.IV, RB-AR24905-24932).

[16] County of Los Angeles October 15, 2013 Response, Att. C; also available at <http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/phsii2012_5th/order_final.pdf> (as of Nov. 18, 2014).

[17] Los Angeles Water Board Request for State Water Board to Take Official Notice of Or Accept as Supplemental Evidence Exhibit A through SS (Oct. 15, 2013) (Los Angeles Water Board Request for Official Notice), Exh.'s A, B; also available at <http://www.epa.gov/reg3wapd/pdf/pdf_npdes/stormwater/DCMS4/MS4FinalLimitedModDocument/FinalModifiedPermit_10-25-12.pdf> and <http://www.epa.gov/reg3wapd/pdf/pdf_npdes/stormwater/DCMS4/FinalPermit2011/DCMS4FINALResponsivenessSummary093011.pdf> (as of Nov. 18, 2014).

[18] Los Angeles Water Board Request for Official Notice, Exh.C; also available at <http://www.swrcb.ca.gov/water_issues/programs/npdes/docs/apu_90_004.pdf> (as of Nov.18, 2014).

[19] Chapter 7 of USEPA's NPDES Permit Writers' Manual, EPA-833-K-10-001, September 2010 (NPDES Permit Writers' Manual) was submitted as Exhibit C to Natural Resources Defense Council, Los Angeles Waterkeeper and Heal the Bay Request for Official Notice (Dec. 10, 2012) (Environmental Petitioners' Request for Official Notice). The chapter may additionally be accessed through links at <http://water.epa.gov/polwaste/npdes/basics/NPDES-Permit-Writers-Manual.cfm> (as of Nov.18, 2014).

6. Memorandum to the Water Management Division Directors, Regions I-X, and NPDES State Directors, issued by USEPA, 1989;[21]
7. "Guidance on Implementing the Antidegradation Provisions of 40 C.F.R. 131.12," issued by USEPA, Region 9, June 3, 1987;[22]
8. Order WQ 2014-0077-DWQ, amending NPDES Statewide Storm Water Permit for State of California Department of Transportation, Order 2012-0011-DWQ, adopted by State Water Board, May 20, 2014;[23]
9. Statement from USEPA soliciting comments on the USEPA Memorandum Setting forth Revisions to the November 22, 2002 Memorandum Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (November 12, 2010), issued March 17, 2011.[24]
10. Memorandum, "Revisions to the November 22, 2002 Memorandum 'Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,'" issued by USEPA, November 26, 2014.[25]

In addition, we are incorporating the administrative record of the November 20, 2012 workshop on receiving water limitations, including the Receiving Water Limitations Issue Paper and comments by interested persons, into our record for the petitions on the Los Angeles MS4 Order.[26]

(continued from previous page)

[20] Environmental Petitioners' Request for Official Notice, Exh.B, available at <http://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2236/a2236m_rfon.pdf> (as of Nov. 18, 2014).

[21] Environmental Petitioners' Request for Official Notice, Exh.D; also available at <http://www.epa.gov/npdes/pubs/owm0231.pdf> (as of Nov. 18, 2014).

[22] Environmental Petitioners' Request for Official Notice, Exh.E; available at <http://www.waterboards.ca.gov/public_notices/petitions/water_quality/docs/a2236/a2236m_rfon.pdf> (as of Nov. 18, 2014).

[23] Available at <http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2014/wqo2014_0077_dwq.pdf> (as of Nov. 18, 2014).

[24] Available at <http://water.epa.gov/polwaste/npdes/stormwater/upload/sw_tmdlwla_comments.pdf> (as of Nov. 18, 2014).

[25] Available at <http://water.epa.gov/polwaste/npdes/stormwater/upload/EPA_SW_TMDL_Memo.pdf> (as of March 30, 2015).

[26] The Receiving Water Limitations Issue Paper and comments and workshop presentations by interested person are available at <http://www.waterboards.ca.gov/water_issues/programs/stormwater/rwl.shtml>.

Among other requests, we are not granting the requests to take official notice of or supplement the Administrative Record with the notices of intent, workplans, draft programs, and other documents filed by Permittees toward development of WMPs/EWMPs and associated monitoring programs following adoption of the Los Angeles MS4 Order or comments submitted on those documents, or the conditional approvals of several of the programs. With regard to factual evidence regarding actions taken by Permittees to comply with the Los Angeles MS4 Order after it was adopted, we believe it appropriate to close the record with the adoption of the Los Angeles MS4 Order. However, we are keenly aware that the success of the Los Angeles MS4 Order in addressing water quality issues depends primarily on the careful and effective development and implementation of programs consistent with the requirements of the Order; we speak to that issue later in our discussion.

City of El Monte's Amended Petition

Petitioner City of El Monte (El Monte) timely filed a petition on December 10, 2012, challenging a number of provisions of the Los Angeles MS4 Order. Thereafter, on February 19, 2013, El Monte filed an amended petition, based on information it asserted was not available prior to the deadline for submission of the petition.

Water Code section 13320, subdivision (a) provides that a petition for review of a regional water quality control board (regional water board) action must be filed within 30 days of the regional water board's action.[27] The State Water Board interprets that requirement strictly and petitions filed more than 30 days from regional water board action are rejected as untimely. El Monte asserted that the two additional arguments raised in the amended petition were based on information that was not available prior to the deadline for submitting the petition and were therefore appropriate for State Water Board consideration.

Even if we were required by statute or regulation to accept amended petitions based on new information, here, El Monte's new arguments are not supported by information previously unavailable. First, El Monte argues that the Supreme Court's decision in *Los Angeles County Flood Control District v. Natural Resources Defense Council* (2013) 133 S.Ct. 710 invalidated certain provisions of the Los Angeles MS4 Order that require compliance with water quality standards and total maximum daily load requirements through receiving water monitoring. Contrary to El Monte's assertion, the decision by the Supreme Court did not invalidate any requirements of the Los Angeles MS4 Order and did not result in any changes to

[27] See also Cal. Code Regs., tit. 23, § 2050.

the Order. The Supreme Court decision, to the extent it applies to the legal issues before us in this matter, constitutes precedential case law and must be considered in our review of the Los Angeles MS4 Order, but it does not constitute new information that supports an amended petition.[28]

Second, El Monte argues that the Los Angeles Water Board failed to consider various provisions of the California Watershed Improvement Act of 2009[29] when it adopted the Los Angeles MS4 Order. To the extent El Monte believed that the California Watershed Improvement Act was relevant to adoption of the Los Angeles MS4 Order, El Monte had the opportunity to raise that issue in comments before the Los Angeles Water Board and in its timely petition to the State Water Board. Having failed to raise the issue before the Los Angeles Water Board and in its timely petition, El Monte cannot raise the issue in an amended petition.[30]

We reject El Monte's amended petition as untimely.

Environmental Petitioners' Motion to Strike

Petitioners Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay (Environmental Petitioners), submitted a motion on November 11, 2013, requesting that the State Water Board strike sections of the October 15, 2013 Responses by six petitioners (Motion to Strike). The relevant sections respond to a collateral estoppel argument made by the Environmental Petitioners in their August 15, 2013 Receiving Water Limitations Submission to the State Water Board. Several parties asserted in their petitions that requiring compliance with water quality standards in MS4 permits violates federal law or conflicts with prior State Water Board precedent. The Environmental Petitioners responded in their August 15, 2013 Receiving Water Limitations Submission that these arguments were barred by collateral estoppel because the claims were settled in prior court cases challenging the 2001 Los Angeles MS4 Order. Six of the October 15, 2013 Responses, namely those by the Cities of

[28] We note that the State Water Board has the option of allowing additional briefing when there are material legal developments concerning issues raised in a petition, but we did not find such briefing would aid review of the petitions in this case.

[29] Wat. Code, § 16100 et seq.

[30] In addition to being untimely, El Monte's argument lacks merit. The California Watershed Improvement Act of 2009 grants authority to local government permittees regulated by an MS4 permit to develop and implement watershed improvement plans, but does not limit the authority of a regional water board to impose terms related to watershed management in an MS4 permit. Further, the terms of the WMPs/EWMPs are largely consistent with the watershed improvement plans authorized by the Act, so a permittee can comply with the Los Angeles MS4 Order while also using the authority provided by the California Watershed Improvement Act of 2009 if it so chooses.

Arcadia, Claremont, Covina, Duarte and Huntington Park, San Marino et al.,[31] and Sierra Madre, incorporated a response to the collateral estoppel argument.

We stated in a July 15, 2013 letter that"[i]nterested persons may not use the [October 15] [32] deadline for responses on the remaining petition issues as an opportunity to respond to comments filed on the receiving water limitations approach." We clarified further in a July 29, 2013 letter: "[W]hen submitting subsequent responses to the petitions in accordance with the [October 15] deadline, petitioners and interested persons should not raise new issues related to the specific questions regarding the watershed management program/enhanced watershed management program or respond to any August 15, 2013, submissions; however petitioners and interested persons will not be precluded from responding to specific issues raised in the original petitions on grounds that the issues are related to the receiving water limitations language."

We find that the collateral estoppel responses by the six petitioners are disallowed by the direction we provided in our July 15 and July 29, 2013 letters. However, as will be apparent in our discussion in section II.A, we do not rely on the Environmental Petitioners' collateral estoppel argument in resolving the petitions. Our determination that portions of the October 15, 2013 Responses are disallowed is, therefore, immaterial to the resolution of the issues.[33]

Having resolved the procedural issues, we turn to the merits of the Petitions.

A. Implementation of the Iterative Process as Compliance with Receiving Water Limitations

The Los Angeles MS4 Order includes receiving water limitations provisions that are consistent with our direction in Order WQ 99-05 in Part V.A of the Los Angeles MS4 Order. Part V.A. provides, in part, as follows:

> 1. Discharges from the MS4 that cause or contribute to the violation of receiving water limitations are prohibited.

[31] The cities of San Marino, Rancho Palos Verdes, South El Monte, Norwalk, Artesia, Torrance, Beverly Hills, Hidden Hills, Westlake Village, La Mirada, Vernon, Monrovia, Agoura Hills, Commerce, Downey, Inglewood, Culver City, and Redondo Beach submitted a joint October 15, 2013 Response.

[32] The July 15, 2013 letter set a deadline of September 20, 2013, which was subsequently extended to October 15, 2013.

[33] In a November 21, 2013 letter, we indicated that we would consider the Motion to Strike concurrently with drafting of this Order, but that we would not accept any additional submissions in this matter, including any responses to the Motion to Strike. City of San Marino objected to the letter and submitted an opposition to the Motion to Strike. Several petitioners submitted joinders in City of San Marino's motion. For the same reasons articulated above, we are not accepting these submissions; they would not affect our resolution of the issues.

2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible [footnote omitted], shall not cause or contribute to a condition of nuisance.

3. The Permittees shall comply with Parts V.A.1 and V.A.2 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the storm water management program and its components and other requirements of this Order including any modifications. . . .[34]

The petitioners that are permittees (hereinafter referred to as "Permittee Petitioners")[35] argue that the above language either means, or should be read and/or clarified to mean, that good faith engagement in the requirements of Part V.A.3, traditionally referred to as the "iterative process," constitutes compliance with Parts V.A.1. and V.A.2. The position put forth by Permittee Petitioners is one we took up when we initiated a process to re-examine the receiving water limitations and iterative process in MS4 permits statewide with our Receiving Water Limitations Issue Paper and the November 20, 2012 workshop. We summarize the law and policy regarding Permittee Petitioners' position again here and ultimately disagree with Permittee Petitioners that implementation of the iterative process does or should constitute compliance with receiving water limitations.

The Clean Water Act generally requires NPDES permits to include technology-based effluent limitations and any more stringent limitations necessary to meet water quality standards.[36] In the context of NPDES permits for MS4s, however, the Clean Water Act does not explicitly reference the requirement to meet water quality standards. MS4 discharges must meet a technology-based standard of prohibiting non-storm water discharges and reducing pollutants in the discharge to the Maximum Extent Practicable (MEP) in all cases, but requiring strict compliance with water quality standards (e.g., by imposing numeric effluent limitations) is at the discretion of the permitting agency.[37] Specifically the Clean Water Act states as follows:

> Permits for discharges from municipal storm sewers –
>
> . . .
>
> (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

[34] Los Angeles MS4 Order, Part V.A, pp. 38-39.

[35] For ease of reference, where an argument is made by multiple Permittee Petitioners, even if not by all, we attribute that argument to Permittee Petitioners generally, and do not list which of the 37 Permittee Petitioners in fact make the argument. Where only one or two Permittee Petitioners make a particular argument, we have identified the specific Permittee Petitioner(s).

[36] 33 U.S.C. §§ 1311, 1342(a).

[37] 33 U.S.C. § 1342(p)(3)(B); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.

> (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as . . . the State determines appropriate for the control of such pollutants.[38]

Thus, a permitting agency imposes requirements related to attainment of water quality standards where it determines that those provisions are "appropriate for the control of [relevant] pollutants" pursuant to the Clean Water Act municipal storm water provisions.

Under the Porter-Cologne Act, waste discharge requirements must implement applicable water quality control plans, which include the beneficial uses to be protected for a given water body and the water quality objectives reasonably required for that protection.[39] In this respect, the Porter-Cologne Act treats MS4 dischargers and other dischargers even-handedly and anticipates that all waste discharge requirements will implement the water quality control plans. However, when implementing requirements under the Porter-Cologne Act that are not compelled by federal law, the State Water Board and regional water boards (collectively, "water boards") have some flexibility to consider other factors, such as economics, when establishing the appropriate requirements.[40] Accordingly, since the State Water Board has discretion under federal law to determine whether to require strict compliance with the water quality standards of the water quality control plans for MS4 discharges, the State Water Board may also utilize the flexibility under the Porter-Cologne Act to decline to require strict compliance with water quality standards for MS4 discharges.

We have previously exercised the discretion we have under federal law in favor of requiring compliance with water quality standards, but have required less than strict compliance. We have directed, in precedential orders, that MS4 permits require discharges to be controlled so as not to cause or contribute to exceedances of water quality standards in receiving waters,[41] but have prescribed an iterative process whereby an exceedance of a water quality standard triggers a process of BMP improvements. That iterative process involves reporting of the violation, submission of a report describing proposed improvements to BMPs

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[38] 33 U.S.C. § 1342(p)(3)(B).

[39] Wat. Code, § 13263. The term "water quality standards" encompasses the beneficial uses of the water body and the water quality objectives (or "water quality criteria" under federal terminology) that must be met in the waters of the United States to protect beneficial uses. Water quality standards also include the federal and state antidegradation policy.

[40] Wat. Code, §§ 13241, 13263; *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.

[41] State Water Board Orders WQ 98-01 (*Environmental Health Coalition*), WQ 99-05 (*Environmental Health Coalition)*, WQ 2001-15 (*Building Industry Association of San Diego*).

expected to better meet water quality standards, and implementation of these new BMPs.[42] The current language of the existing receiving waters limitations provisions was actually developed by USEPA when it vetoed two regional water board MS4 permits that utilized a prior version of the State Water Board's receiving water limitations provisions.[43] In State Water Board Order WQ 99-05, we directed that all regional boards use USEPA's receiving water limitations provisions.

There has been significant confusion within the regulated MS4 community regarding the relationship between the receiving water limitations and the iterative process, in part because the water boards have commonly directed dischargers to achieve compliance with water quality standards by improving control measures through the iterative process. But the iterative process, as established in our precedential orders and as generally written into MS4 permits adopted by the water boards, does not provide a "safe harbor" to MS4 dischargers. When a discharger is shown to be causing or contributing to an exceedance of water quality standards, that discharger is in violation of the permit's receiving water limitations and potentially subject to enforcement by the water boards or through a citizen suit, regardless of whether or not the discharger is actively engaged in the iterative process.[44]

The position that the receiving water limitations are independent from the provisions that establish the iterative process has been judicially upheld on several occasions. The receiving water limitations provisions of the 2001 Los Angeles MS4 Order specifically have been litigated twice, and in both cases, the courts upheld the provisions and the Los Angeles Water Board's interpretation of the provisions. In a decision resolving a challenge to the 2001 Los Angeles MS4 Order, the Los Angeles County Superior Court stated: "[T]he Regional [Water] Board acted within its authority when it included [water quality standards compliance] in

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[42] State Water Board Order WQ 99-05, pp. 2-3; see also State Water Board Order WQ 2001-15, pp. 7-9. Additionally, consistent with federal law, we found it appropriate to require implementation of BMPs in lieu of numeric water quality-based effluent limitations to meet water quality standards. *See* State Water Board Orders WQ 91-03 (*Citizens for a Better Environment)*, WQ 91-04 (*Natural Resources Defense Council*), WQ 98-01, WQ 2001-15. This issue is discussed in greater detail in Section II.C. of this order.

[43] See State Water Board Orders WQ 99-05, WQ 2001-15.

[44] Several Permittee Petitioners have argued that the State Water Board's opinion in State Water Board Order WQ 2001-15 must be read to endorse a safe harbor in the iterative process. We disagree. Regardless, the State Water Board's position that the iterative process of the subject permit did not create a "safe harbor" from compliance with receiving water limitations was clearly established in subsequent litigation on that order. (See *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (Super. Ct. 2003, No. GIC780263), affd. *Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866.)

the Permit without a 'safe harbor,' whether or not compliance therewith requires efforts that exceed the 'MEP' standard."[45] The lack of a safe harbor in the iterative process of the 2001 Los Angeles MS4 Order was again acknowledged in 2011 and 2013, this time by the Ninth Circuit Court of Appeal. In these instances, the Ninth Circuit was considering a citizen suit brought by the Natural Resources Defense Council against the County of Los Angeles and the Los Angeles County Flood Control District for alleged violations of the receiving water limitations of that order. The Ninth Circuit held that, as the receiving water limitations of the 2001 Los Angeles MS4 Order (and accordingly as the precedential language in State Water Board Order WQ 99-05) was drafted, engagement in the iterative process does not excuse liability for violations of water quality standards.[46] The California Court of Appeal has come to the same conclusion in interpreting similar receiving water limitations provisions in MS4 Orders issued by the San Diego Regional Water Quality Control Board in 2001 and the Santa Ana Regional Water Quality Control Board in 2002.[47]

While we reiterate that the judicial rulings have been consistent with the water boards' intention and position regarding the relationship between the receiving water limitations and the iterative process, we acknowledge that some in the regulated community perceived the 2011 Ninth Circuit opinion in particular as a re-interpretation of that relationship. Our Receiving Water Limitations Issue Paper and subsequent workshop reflected our desire to re-examine the issue in response to concerns expressed by the regulated community in the aftermath of that ruling.

As stated above, both the Clean Water Act and the Porter-Cologne Act afford some discretion to not require strict compliance with water quality standards for MS4 discharges. In each of the discussed court cases above, the court's decision is based on the specific permit language; thus the cases do not address our authority with regard to requiring compliance with water quality standards in an MS4 permit as a threshold matter, and they do not require us to continue to exercise our discretion as we decided in State Water Board Order

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[45] *In re Los Angeles County Municipal Storm Water Permit Litigation* (L.A. Super. Ct., No. BS 080548, Mar. 24, 2005) Statement of Decision from Phase I Trial on Petitions for Writ of Mandate, pp. 4-5, 7. The decision was affirmed on appeal (*County of Los Angeles v. State Water Resources Control Board* (2006) 143 Cal.App.4th 985); however, this particular issue was not discussed in the court of appeal's decision.

[46] *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2011) 673 F.3d. 880, rev'd on other grounds sub nom. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2013) 133 S.Ct. 710, mod. by *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194, cert. den. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2014) 134 S.Ct. 2135.

[47] *Building Industry Assn. of San Diego County, supra*,124 Cal.App.4th 866; *City of Rancho Cucamonga v. Regional Water Quality Control Bd.* (2006) 135 Cal.App.4th 1377.

WQ 99-05. Although it would be inconsistent with USEPA's general practice of requiring compliance with water quality standards over time through an iterative process,[48] we may even have the flexibility to reverse[49] our own precedent regarding receiving water limitations and receiving water limitations provisions and make a policy determination that, going forward, we will either no longer require compliance with water quality standards in MS4 permits, or will deem good faith engagement in the iterative process to constitute such compliance.[50]

However, with this Order, we now decline to do either. As the storm water management programs of municipalities have matured, an increasing body of monitoring data indicates that many water quality standards are in fact not being met by many MS4s. The iterative process has been underutilized and ineffective to date in bringing MS4 discharges into compliance with water quality standards. Compliance with water quality standards is and should remain the ultimate goal of any MS4 permit. We reiterate and confirm our determination that provisions requiring compliance with receiving water limitations are "appropriate for the control of . . . pollutants" addressed in MS4 permits and that therefore, consistent with our authority under the Clean Water Act, we will continue to require compliance with receiving water limitations.[51]

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[48] See, e.g. Modified NPDES Permit No. DC0000022 for the MS4 for the District of Columbia, *supra*, fn. 17.

[49] Of course any change of direction would be subject to ordinary principles of administrative law. (See Code Civ. Proc., § 1094.5, subd. (b).)

[50] As such, it is not necessary to address the collateral estoppel arguments raised by the Environmental Petitioners and opposed by Permittee Petitioners. We agree that it is settled law that we have the discretion to require compliance with water quality standards in an MS4 permit under federal and state law. We also agree that it is settled law that the receiving water limitations provisions currently spelled out in our MS4 permits do not carve out a safe harbor in the iterative process. But the question for us is whether we should continue to exercise our discretion to utilize the same approach to receiving water limitations established under our prior precedent, or proceed in a new direction.

[51] Several Permittee Petitioners argued in comments submitted on the first draft of this order that, because we find that we have some discretion under Clean Water Act section 402(p)(3) to not require compliance with receiving water limitations, the Los Angeles Water Board's action in requiring such compliance -- and our action in affirming it -- is pursuant to state authority. (See, e.g., Cities of Arcadia, Claremont, and Covina, Comment Letter, Jan. 21, 2015.) The Permittee Petitioners argue that the action is therefore subject to evaluation in light of the factors set out in Water Code section 13263 and 13241 pursuant to *City of Burbank, supra,* 35 Cal.4th 613. Under *City of Burbank,* a regional water board must consider the factors specified in section 13241 when issuing waste discharge requirements under section 13263, subdivision (a), but only to the extent those waste discharge requirements exceed the requirements of the federal Clean Water Act. (35 Cal.4th at 627.) Nowhere in our discussion in this section do we mean to disavow either that the Los Angeles Water Board acted under federal authority to impose "such other provisions as . . .determine[d] appropriate for the control of . . . pollutants" in adopting the receiving water limitations provisions of the Los Angeles MS4 Order in the first instance or that we are acting under federal authority in upholding those provisions. (33 U.S.C. § 1342(p)(3)(B)(iii).) The receiving water limitations provisions do not exceed the requirements of federal law. We nevertheless also point out that the Los Angeles Water Board engaged in an analysis of the factors under section 13241 when adopting the Order. (See Los Angeles MS4 Order, Att. F, Fact Sheet, pp. F-139 to F-155.)

As we explained in 2001, "[u]rban runoff is causing and contributing to impacts on receiving waters throughout the state and impairing their beneficial uses."[52] More than a decade later, this is still true. By definition, many of our urban waterways will never attain water quality standards and fully realize their beneficial uses if municipal runoff is allowed to continue to cause or contribute to exceedances of water quality standards. Further, the efforts of other dischargers who are required to not cause or contribute to exceedances of water quality standards would be largely in vain if we did not regulate MS4 dischargers with a somewhat even hand.

Such an approach is additionally consistent with the Porter-Cologne Act's emphasis on water quality control plans as the cornerstone of water quality planning and regulation and the act's expectation that all waste discharge requirements will implement the water quality control plans. We believe that direct enforcement of water quality standards is necessary to protect water quality, at a minimum as a back-stop where dischargers fail to meet requirements of the Order designed to achieve progress toward meeting the standards. We will not reverse our precedential determination in State Water Board Order WQ 99-05 that established the receiving water limitations provisions for MS4 permits statewide and reiterate that we will continue to read those provisions consistent with how the courts have: engagement in the iterative process does not excuse exceedances of water quality standards. We accordingly also decline to direct any revisions to the receiving water limitations provisions of the Los Angeles MS4 Order, which are consistent with our precedential language.[53]

Yet, we are sympathetic to the assertions made by MS4 dischargers that the receiving water limitations provisions mandated by our Order WQ 99-05 may result in many years of permit noncompliance, because it may take years of technical efforts to achieve compliance with the receiving water limitations, especially for wet weather discharges.

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[52] State Water Board Order WQ 2001-15, p. 7.

[53] We disagree with Permittee Petitioners' argument that the receiving water limitations in Part V.A of the Los Angeles MS4 Order are confusing, unclear, or overbroad, because they prohibit causing or contributing to a violation of a receiving water limitation rather than a violation of water quality standards. The Los Angeles Water Board defines "receiving water" as "[a] 'water of the United States' in to which waste and/or pollutants are or may be discharged." (Los Angeles MS4 Order, Att. A., p. A-16.) The Los Angeles Water Board further defines "receiving water limitations" as "[a]ny applicable numeric or narrative water quality objective or criterion, or limitation to implement the applicable water quality objective or criterion, for the receiving water as contained in Chapter 3 or 7 of the Water Quality Control Plan for the Los Angeles Region (Basin Plan), water quality control plans or policies adopted by the State Water Board, or federal regulations, including but not limited to, 40 CFR §131.38." (*Ibid.*) Receiving water limitations are therefore the water quality standards, including water quality objectives and criteria, that apply to the receiving water as expressed in the water quality control plan for the region, statewide water quality control plans that specify objectives for water bodies in the region, State Water Board policies for water quality control, and federal regulations.

Accordingly, we believe that the MS4 permits should incorporate a well-defined, transparent, and finite alternative path to permit compliance that allows MS4 dischargers that are willing to pursue significant undertakings beyond the iterative process to be deemed in compliance with the receiving water limitations.

With the WMP/EWMP provisions of the Los Angeles MS4 Order, the Los Angeles Water Board is striving to allow one such alternative compliance path. As such, the fundamental issue for review before us in this matter is whether the Los Angeles MS4 Order's WMP/EWMP provisions constitute a legal and technically sound compliance alternative for achieving receiving water limitations. We discuss and resolve this issue in the next section.

B. WMP/EWMP as Alternative Compliance Options for Complying with Receiving Water Limitations

The WMP/EWMP provisions allow Permittees to choose an integrated and collaborative watershed-based approach to meeting the requirements of the Los Angeles MS4 Order, including the receiving water limitations. Permittees develop a plan, either collaboratively or individually, that addresses water quality priorities within a watershed. Permittees first prioritize water quality issues within each watershed. Permittees may use the WMP/EWMP to address water body-pollutant combinations for which a TMDL has been developed, giving highest priority to those with interim and final compliance deadlines within the permit term. Permittees may also address water body-pollutant combinations for which no TMDL has been developed, but where the water body is impaired or shows exceedances of the standards for the relevant pollutant from an MS4 source. Once prioritization is completed, Permittees assess the sources of the pollutants and select watershed strategies that are designed to eliminate non-storm water discharges to the MS4 that are a source of pollutants, that meet all applicable TMDL-derived interim and final water quality-based effluent limitations (WQBELs) and/or limitations to be met in the receiving water (referred to herein as "other TMDL-specific limitations")[54] pursuant to corresponding compliance schedules, and that ensure that discharges from the MS4 do not cause or contribute to exceedances of receiving water limitations. Except as described below for storm water retention projects, Permittees conduct a "reasonable assurance analysis" for each water body-pollutant combination incorporated into the

[54] Some of the TMDL limitations of the Los Angeles MS4 Order are expressed not as WQBELs but as standards to be met in the receiving water. The Los Angeles MS4 Order refers to these limitations as "receiving water limitations;" however, in order to avoid confusion with the general receiving water limitations in Part V.A., we will use the term "other TMDL-specific limitations." Accordingly, while the Los Angeles MS4 Order uses the term "receiving water limitations" to refer to both the receiving water limitations in part V.A and some of the TMDL-based requirements in Attachments L-R, when we use the term we refer only to the receiving water limitations in part V.A.

WMP/EWMP to demonstrate the ability of the program to meet those objectives. Permittees additionally implement an integrated monitoring and assessment program to determine progress, adapting strategies and measures as necessary.[55]

In addition to all the requirements above, for those Permittees that choose to develop and implement an EWMP, the EWMP provisions also require that Permittees collaborate on multi-benefit regional projects and, wherever feasible, retain all non-storm runoff, as well as all storm water runoff from the 85th percentile 24-hour storm event (hereinafter "storm water retention approach") for the drainage areas tributary to the projects.[56]

The primary controversy concerning the WMP/EWMP provisions of the Los Angeles MS4 Order is the manner in which they interact with the receiving water limitations and the WQBELs and other TMDL-specific limitations. Under certain conditions detailed in the Order, Permittees may be deemed in compliance with the receiving water limitations and the WQBELs and other TMDL-specific limitations by fully implementing the WMP/EWMP, rather than by demonstrating that the receiving water limitations and the WQBELs and other TMDL-specific limitations have actually been achieved. Specifically:

1. Permittees that develop and implement a WMP/EWMP and fully comply with all requirements and dates of achievement for the WMP/ EWMP as established in the Los Angeles MS4 Order, are deemed to be in compliance with the receiving water limitations in Part V.A for the water body-pollutant combinations addressed by the WMP/EWMP.[57]

2. Permittees fully in compliance with the requirements and dates of achievement of the WMP/EWMP are deemed in compliance with the *interim* WQBELs and other TMDL-specific limitations in Attachments L-R for the water body-pollutant combinations addressed by the WMP/EWMP.[58]

3. Permittees implementing an EWMP and utilizing the storm water retention approach in a drainage area tributary to the applicable water body are deemed in compliance with the *final* WQBELs and other TMDL-specific limitations in Attachments L-R for the water body-pollutant combinations addressed by the storm water retention approach.[59]

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[55] Los Angeles MS4 Order, Part VI.C., pp. 49-67.

[56] *Id.*, Part VI.C.1.g., pp. 48-49.

[57] *Id.*, Part VI.C.2.b., p. 52.

[58] *Id.*, Parts VI.C.3.a., p. 53, VI.E.2.d.i.4., pp. 143-44. The Los Angeles MS4 Order establishes separate requirements for Trash TMDLs and the WMP/EWMP are not a means of achieving compliance with the Trash TMDL provisions. (See Part VI.E.5, pp. 147-154.) References to TMDLs in this section exclude the Trash TMDLs.

[59] *Id.*, Part VI.E.2.e.i.(4), p. 145. As with Part VI.E.2.d.i.4, this Part does not apply to Trash TMDLs.

4. Because the Order additionally provides that full compliance with the general TMDL requirements in Part VI.E and the WQBELs and other TMDL-specific limitations in Attachments L through R constitutes compliance with the receiving water limitations in V.A for the specific pollutants addressed by the relevant TMDL, [60] provisions 2 and 3 above also constitute compliance with the receiving water limitations for the particular water body-pollutant combinations.

5. Finally, Permittees that have declared their intention to develop a WMP/EWMP may be deemed in compliance with receiving water limitations and with interim WQBELs with compliance deadlines occurring prior to approval of the WMP/EWMP if they meet certain conditions during the development phase.[61]

Both Environmental Petitioners and Permittee Petitioners put forth a number of arguments to the effect that the WMP/EWMP provisions of the Los Angeles MS4 Order are contrary to federal and state law or reflect poor policy. We discuss each argument below.

1. Anti-backsliding

The Environmental Petitioners argue that the inclusion of the WMP/EWMP in the Los Angeles MS4 Order violates the anti-backsliding provisions of the Clean Water Act and of the federal regulations.[62] The Clean Water Act generally prohibits the relaxation of an effluent limitation established in an NPDES permit when that permit is renewed; the federal regulations include similar provisions. The Environmental Petitioners argue that the WMP/EWMP of the Los Angeles MS4 Order, by allowing a discharger to be deemed in compliance with receiving water limitations, even where a discharger may in fact be causing or contributing to an exceedance of a water quality standard, represent a relaxation of the receiving water limitations provisions contained in the 2001 Los Angeles MS4 Order.[63]

We do not agree with the Environmental Petitioners that the WMP/EWMP provisions of the Los Angeles MS4 Order violate the anti-backsliding provisions of either the Clean Water Act or the federal regulations. Anti-backsliding provisions are an important aspect

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[60] *Id.*, Part VI.E.2.c.ii., p. 143. Although this provision reflects a departure from provisions in previous MS4 permits, the provision has not generated controversy and has not been contested in the petitions. The State Water Board supports this provision in MS4 permits, as discussed at section II.B.5.b. of this order.

[61] *Id.*, Parts VI.C. 2.d., pp. 52-53, VI.E.2.d.i.(4)(d), p. 144.

[62] 33 U.S.C. § 1342(o); 40 C.F.R. §122.44(*l*).

[63] The receiving water limitations of the 2001 Los Angeles MS4 Order (like the receiving water limitations in Section V.A. of the Los Angeles MS4 Order) were modeled on the precedential language in State Water Board Order WQ 99-05.

of the Clean Water Act that generally promote continued progress toward clean water, but the provisions do not apply in all circumstances and are subject to certain exceptions. The 2001 Los Angeles MS4 Order required compliance with receiving water limitations, directed Permittees to achieve those limitations through the iterative process, but retained the Los Angeles Water Board's discretion to enforce compliance with the receiving water limitations at any time. The Los Angeles MS4 Order requires compliance with receiving water limitations, but allows implementation of control measures through the WMPs/EWMPs to constitute such compliance, and reserves direct enforcement of the receiving water limitations to situations where a permittee fails to comply with the WMP/EWMP provisions. The approaches under the prior and current orders are designed to achieve the same results – compliance with receiving water limitations – but through distinct paths that are not easily comparable for purposes of the specific, technical anti-backsliding requirements laid out in federal law.[64] We nevertheless discuss the provisions below.

The Clean Water Act contains both statutory anti-backsliding provisions in section 402(o) and regulatory anti-backsliding provisions in 40 C.F.R. section 122.44(*l*). The Clean Water Act's statutory prohibition against backsliding applies under a narrow set of criteria specified in Clean Water Act section 402(o). First, section 402(o) prohibits relaxing effluent limitations originally established based on best professional judgment, when there is a newly revised effluent limitation guideline.[65] The WMP/EWMP is not derived from an effluent limitation guideline, so this first prohibition is inapplicable. Second, section 402(o) prohibits relaxing effluent limitations imposed pursuant to Clean Water Act sections 301(b)(1)(C) or 303(d) or (e).[66] The receiving water limitations provisions in the 2001 Los Angeles MS4 Order were not

[64] Responding to an argument that NPDES Permit No. DC00000221 for MS4 discharges to the District of Columbia violated anti-backsliding requirements by removing certain numeric limitations in the prior permit, USEPA stated: "The Commenter implies that a Permit that replaces a numeric effluent limit with a non-numeric one is somehow automatically less stringent on that parameter. However, the narrative requirement only violates the anti-backsliding prohibition if the two provisions are comparable. . . . In this case, the two provisions are not comparable: EPA has determined that compliance with the performance standards in the Final Permit will result in more water quality protections for the DC MS4's receiving streams than did the previous aggregate numeric limit." (Responsiveness Summary, p. 84, *supra,* fn.17, citing *Communities for a Better Environment v. State Water Resources Control Bd.* (2005) 132 Cal. App. 4th 1313.)

[65] 33 U.S.C. § 1342(o)(1) ("In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 1314 (b) of this title subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.").

[66] *Ibid.* ("In the case of effluent limitations established on the basis of section 1311 (b)(1)(C) or section 1313 (d) or (e) of this title, a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with section 1313 (d)(4) of this title.").

established based on either section 301(b)(1)(C) or section 303(d) or (e), so this prohibition on backsliding is inapplicable.[67] The receiving water limitations provisions in MS4 permits are imposed under section 402(p)(3)(B) of the Clean Water Act rather than under section 301(b)(1)(C),[68] and are accordingly not subject to the anti-backsliding requirements of section 402(o).

With respect to the regulatory anti-backsliding provisions in 40 Code of Federal Regulations section 122.44(*l*), the non-applicability is less clear cut. USEPA promulgated 40 Code of Federal Regulations section 122.44(*l*)(1) and its predecessor anti-backsliding regulations prior to the Water Quality Act of 1987, which established the municipal permitting requirements of section 402(p)(3)(B). There is ample regulatory history to demonstrate USEPA's intent in establishing the anti-backsliding policy and regulations with respect to evolving technology standards for traditional point sources.[69] We have found no definitive guidance, however, since that time from USEPA or the courts applying the general provisions of section 122.44(*l*) in the context of municipal storm water permits.[70] Further, we have previously noted that anti-backsliding principles may be difficult to assess in the context of non-

[67] The Environmental Petitioners do not argue that the Los Angeles MS4 Order is contrary to Clean Water Act section 303(d)(4) (33 U.S.C. § 1313(d)(4)), which also sets out anti-backsliding requirements. Section 303(d)(4) sets out the conditions under which effluent limitations based on TMDL wasteload allocations may be relaxed. Specifically, effluent limitations for a discharge impacting an impaired water body where standards have not yet been attained may only be relaxed if either the cumulative effect of the revisions still assures the attainment of the water quality standards or the designated use that is not being attained is removed. (33 U.S.C. § 1313(d)(4)(A).) Where a water body has attained standards, effluent limitations may only be relaxed consistent with the federal antidegradation policy. (33 U.S.C. § 1313(d)(4)(B).)

[68] *Defenders of Wildlife*, *supra*, 191 F.3d at pp. 1165-1166.

[69] See, e.g., 44 Fed.Reg. 32854, 32864 (Jun. 7, 1979) (describing codification of predecessor regulation codified at 40 C.F.R. 122.15(i).) In the context of municipal storm water, the MEP standard is the technology standard; the record here supports that MEP, as reflected in the permit conditions, has evolved since the issuance of the 2001 Los Angeles MS4 Order to become more stringent. (See, e.g., Los Angeles MS4 Order, Part VI.D.9.h.vii., p.132, compared to 2001 Los Angeles MS4 Order, Part 4.F.5.c., pp.48-49 [trash controls]; Los Angeles MS4 Order, Part VI.D.7.c., pp. 97-109, as compared to 2001 Los Angeles MS4 Order, Part 4.D.3., pp.36-37 [new development/redevelopment project performance criteria]; Los Angeles MS4 Order, Part VI.D.8.d., pp.113-114, as compared to 2001 Los Angeles MS4 Order, Part 4.E., pp.42-45 [requirements for construction sites less than one acre].)

[70] As requested by the Environmental Petitioners, we took official notice of a Letter to the Water Management Administration, Maryland Department of the Environment, issued by USEPA Region III on August 8, 2012. (See fn. 19). We acknowledge that the letter states at page 3 that a provision in the Prince George County, Maryland, Phase I MS4 draft permit allowing for more time to complete tasks that were required under the previous permit constituted backsliding. The letter refers in passing to section 122.44(*l*)(1), but the letter has no regulatory effect and, further, is devoid of any analysis. The Environmental Petitioners have also pointed us to discussion of the regulatory anti-backsliding provisions in the NPDES Permit Writers' Manual. (NPDES Permit Writers' Manual, p. 7-4.) The relevant section of the NPDES Permit Writers' Manual does not explicitly distinguish between municipal storm water permits and traditional NPDES Permits in its discussion of the applicability of regulatory anti-backsliding provisions; however, nor does it specifically direct application of the anti-backsliding regulatory provisions to municipal storm water permits. We do not find this discussion to be to be determinative on the issue.

quantitative, non-numeric requirements such as BMPs and plans.[71] It is unnecessary, however, to resolve the ultimate applicability of the regulatory anti-backsliding provisions, because, assuming for the sake of argument they do apply, the WMP/EWMP provisions would qualify for an exception to backsliding as discussed below.

Even if the receiving water limitations in MS4 permits could be considered subject to the anti-backsliding requirements of the Clean Water Act or the federal regulations, backsliding would be permissible based on the new information available to the Los Angeles Water Board when it developed and adopted the Los Angeles MS4 Order. The Clean Water Act and federal regulations contain exceptions to the anti-backsliding requirements where new information is available to the permitting authority that was not available at the time of the issuance of the prior permit and that would have justified the imposition of less stringent effluent limitations at that time.[72] The Los Angeles Water Board makes a compelling argument in its October 15, 2013 Response that the development of 33 watershed-based TMDLs adopted since 2001, the inclusion and implementation of three of those TMDLs in the 2001 Los Angeles MS4 Order, and the TMDL-specific and general monitoring and analysis during implementation, have made new information available to the Los Angeles Water Board that fundamentally shaped the WMP/EWMP alternative of the Los Angeles MS4 Order. The Los Angeles Water Board states that the new information resulted in a new understanding that "time to plan, design, fund, operate and maintain [best management practices (BMPs)] is necessary to attain water quality improvements, and these BMPs are best implemented on a watershed scale."[73] The Los Angeles Water Board further points out that, in terms of water supply, there has been a paradigm shift in the last decade from viewing storm water as a liability to viewing it as a regional asset, and that the Los Angeles MS4 Order was drafted to incorporate this new paradigm into its structure.

The WMP/EWMP approach represents a comprehensive attempt to implement the Board's new understanding regarding how to make progress toward achieving water quality

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[71] See Order WQ 96-13 (*Save San Francisco Bay Association*) at pp. 8-10. Although the relevant portion of that decision primarily concerned Clean Water Act section 402(o), its analysis is equally instructive with respect to 40 C.F.R. section 122.44(*l*). (In passing, we note that the order appears to assume that the permit's water quality-based requirements for the MS4 permit were derived pursuant to section 301(b)(1)(C); however, that assumption is in error based on the *Defenders of Wildlife* decision and subsequent State Water Board precedent.)

[72] See 33 U.S.C. § 1342(o)(2)(B)(i); 40 C.F.R. § 122.44(*l*)(1) (anti-backsliding does not apply if the circumstances on which the previous permit was based have materially and substantially changed and would constitute cause for permit modification under 40 C.F.R. section 122.62); 40 C.F.R. § 122.62(a)(2) (stating that new information not available at the time the previous permit was issued is cause for modification); see also 40 C.F.R. §122.44(*l*)(2)(i)(B)(1).

[73] Los Angeles Water Board October 15, 2013 Response, p. 51.

standards as well as supporting the development of new water supplies.[74] The anti-backsliding requirements of the Clean Water Act and the federal regulations thus did not foreclose the incorporation of the WMP/EWMP alternatives into the Los Angeles MS4 Order even though the alternatives allow additional time to achieve receiving water limitations as compared to the immediate compliance required under the 2001 Los Angeles MS4 Order.

We shall amend Finding II.N. and Part III.D.4, page F-20, of Attachment F, Fact Sheet, as follows:

Finding II.N:

N. Anti-Backsliding Requirements. Section 402(o)(2) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous permit. **The Fact Sheet of this Order contains further discussion regarding anti-backsliding.**

Attachment F, Fact Sheet, Part III.D.4:

4. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. ~~All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous permit.~~ **While this Order allows implementation of Watershed Management Plans/EWMPs to constitute compliance with receiving water limitations under certain circumstances, the availability of that alternative and the corresponding availability of additional time to come into compliance with receiving water limitations, does not violate the anti-backsliding provisions. The receiving**

[74] The Environmental Petitioners argue that information relied on to develop the WMP/EWMP approach was available to the Los Angeles Water Board at the time of the issuance of the 2001 Los Angeles MS4 Order, since regional and watershed based strategies and technologies in storm water planning, as well as the potential benefits of storm water for water supply, were considered prior to the last permit cycle. Similarly, the Environmental Petitioners argue that some of the data gathered through TMDL development was through the process of assessing impairments and through preparing drafts of the TMDL and was therefore available to the Los Angeles Water Board in 2001. (Environmental Petitioners, Written Comments, Jan. 21, 2015, pp. 15-17, 23-25.) The Environmental Petitioners have asked us to take official notice of several documents that support these assertions. It is not necessary for us to do so because we do not disagree with the Environmental Petitioners that some of the information that the Los Angeles Water Board has cited in support of an exception to the anti-backsliding requirements was available at the time of the adoption of the 2001 Los Angeles MS4 Order. We nevertheless concur with the Los Angeles Water Board that the more than a decade of implementation of storm water requirements, as well as the development and implementation of TMDL requirements, since 2001, has, as a whole, fundamentally reshaped our understanding of the physical and time scale on which such measures must be implemented to bring MS4s into compliance with receiving water limitations. Further, we find that all regional water boards are informed by the information gained in the Los Angeles region, so that any regional water board that adopts an alternative compliance path in a subsequent Phase I permit would not be in violation of anti-backsliding requirements, regardless of the particular storm water permitting history of that region.

water limitations provisions of this Order are imposed under section 402(p)(3)(B) of the Clean Water Act rather than based on best professional judgment, or based on section 301(b)(1)(C) or sections 303(d) or (e), and are accordingly not subject to the anti-backsliding requirements of section 402(o). Although the non-applicability is less clear with respect to the regulatory anti-backsliding provisions in 40 Code of Federal Regulations section 122.44(*l*), the regulatory history suggests that USEPA's intent was to establish the anti-backsliding regulations with respect to evolving technology standards for traditional point sources. (See, e.g., 44 Fed.Reg. 32854, 32864 (Jun. 7, 1979)). It is unnecessary, however, to resolve the ultimate applicability of the regulatory anti-backsliding provisions, because the WMP/EWMP provisions qualify for an exception to backsliding as based on new information. The Watershed Management Plan/EWMP provisions of this Order were informed by new information available to the Board from experience and knowledge gained through the process of developing 33 watershed-based TMDLs and implementing several of the TMDLs since the adoption of the previous permit. In particular, the Board recognized the significance of allowing time to plan, design, fund, operate and maintain watershed-based BMPs necessary to attain water quality improvements and additionally recognized the potential for municipal storm water to benefit water supply. Thus, even if the receiving water limitations are subject to anti-backsliding requirements, they were revised based on new information that would support an exception to the anti-backsliding provisions. (33 U.S.C. § 1342(o)(2)(B)(i); 40 C.F.R. § 122.44(l)(1); 40 C.F.R. §122.44(l)(2)(i)(B)(1)).

2. Antidegradation

The Environmental Petitioners argue that the WMP/EWMP provisions of the Los Angeles MS4 Order violate the federal and state antidegradation policies.[75] The federal and state antidegradation policies generally require that the existing quality of water bodies be maintained, unless degradation is justified through specific findings. At a minimum, any degradation may not lower the quality of the water below the water quality standards.[76]

The federal and state antidegradation policies are not identical; however, where the federal antidegradation policy is applicable, the State Water Board has interpreted State Water Board Resolution No. 68-16, the state antidegradation policy, to incorporate the federal antidegradation policy.[77] In the context of the Los Angeles MS4 Order, a federal NPDES permit, compliance with the federal antidegradation policy would require consideration of the following: First, the Los Angeles MS4 Order must ensure that "existing instream uses and the level of

[75] 40 C.F.R. § 131.12; State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality Waters in California (State Water Board Resolution No. 68-16).

[76] *Ibid.*

[77] State Water Board Order WQ 86-17 (*Fay*), pp. 16-19.

water quality necessary to protect the existing uses" is maintained and protected.[78] Second, if the baseline quality of a water body for a given constituent "exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected" through the requirements of the Los Angeles MS4 Order unless the Los Angeles Water Board makes findings that (1) any lowering of the water quality is "necessary to accommodate important economic or social development in the area in which the waters are located;" (2) "water quality adequate to protect existing uses fully" is assured; and (3) "the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control" are achieved.[79]

The Los Angeles MS4 Order must also comply with any requirements of State Water Board Resolution No. 68-16 beyond those imposed through incorporation of the federal antidegradation policy.[80] In particular, the Los Angeles Water Board must find that not only present, but also anticipated future uses of water are protected, and must ensure "best practicable treatment or control" of the discharges."[81] The baseline quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of Resolution No. 68-16, or a lower level if that lower level was allowed through a permitting action that was consistent with the federal and state antidegradation policies.[82]

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[78] 40 C.F.R. § 131.12(a)(1). This provision has been interpreted to mean that, "[i]f baseline water quality is equal to or less than the quality as defined by the water quality objective, water quality shall be maintained or improved to a level that achieves the objectives." (State Water Board, Administrative Procedures Update, Antidegradation Policy Implementation for NPDES Permitting, 90-004 (APU 90-004), p. 4.) This provision is completely consistent with, and implemented by, the receiving water limitations provisions discussed above.

[79] 40 C.F.R. § 131.12(a)(2); see also State Water Board Resolution No. 68-16, Resolve 2. The federal regulations additionally require strict maintenance of water quality for "outstanding national resources." (40 C.F.R. § 131.12(a)(3).) There are no designated outstanding national resource waters covered by the Los Angeles MS4 Order.

[80] See State Water Board Order WQ 86-17 (*Fay)*, p. 23, fn. 11.

[81] State Water Board Resolution No. 68-16, Resolve 2. Best practicable treatment or control is not defined in Resolution No. 68-16; however, the State Water Board has evaluated what level of treatment or control is technically achievable using "best efforts." (See State Water Board Orders WQ 81-5 (*City of Lompoc*), WQ 82-5 (*Chino Basin Municipal Water District)*, WQ 90-6 (*Environmental Resources Protection Council*).) A Questions and Answers document on Resolution No. 68-16 by the State Water Board states as follows: "To evaluate the best practicable treatment or control method, the discharger should compare the proposed method to existing proven technology; evaluate performance data, e.g. through treatability studies; compare alternative methods of treatment or control; and/or consider the method currently used by the discharger or similarly situated dischargers . . .The costs of the treatment or control should also be considered . . . ." (Questions and Answers, Resolution No. 68-16, State Water Board (Feb. 16, 1995), pp. 5-6.)

[82] APU 90-004, p.4. The baseline for application of the federal antidegradation policy is 1975. For state antidegradation requirements, see also *Asociacion de Gente Unida por el Agua v. Central Valley Water Board* (2012) 210 Cal.App.4th 1255,1270. The baseline for the application of the state antidegradation policy is generally the highest water quality achieved since 1968. However, where a water quality objective for a particular constituent was adopted after 1968, the baseline for that constituent is the highest water quality achieved since the adoption of the *(Continued)*

The Los Angeles MS4 Order contains a conclusory antidegradation finding, but the Fact Sheet contains additional discussion.[83] The Fact Sheet discussion essentially conveys that, where there are high quality waters in the region, the antidegradation requirements are met because the Order requires best practicable treatment or control in the form of MEP and water quality standards compliance and, further, where the water quality is already impaired, the Order requires implementation of TMDL requirements to achieve water quality standards over time. The Fact Sheet also finds that the Los Angeles MS4 Order does not authorize an increase in waste discharges. The Los Angeles Water Board argues that it was not required to make more detailed findings because, using its best professional judgment and available data, it concluded that the Los Angeles MS4 Order would prevent any degradation. For this proposition, the Los Angeles Water Board cites to State Water Board guidance from 1990 (APU 90-004).[84] The guidance may be construed to exempt the Los Angeles Water Board from conducting an extensive pollutant by pollutant analysis for each water body in the region, but it does not exempt the Board from clearly stating its basis for finding that its action is consistent with the antidegradation policies.

The Los Angeles Water Board has provided a more extensive analysis of why the Los Angeles MS4 Order complies with the antidegradation policies in its October 15, 2013 Response. The Los Angeles Water Board argues that most of the water bodies impacted by the Los Angeles MS4 Order are already impaired for multiple constituents and that, even if some of these water bodies may have been higher quality in 1968, a scenario largely contradicted by the available data,[85] the appropriate baseline for the quality of such waters is the level of control achieved under the prior permit. The Los Angeles Water Board further argues that the Los Angeles MS4 Order has provisions that are equally or more stringent than those of the

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(continued from previous page)
objective. Resolution 68-16 requires a comparison of the existing quality to "the quality established in policies as of the date on which such policies become effective." (Resolution 68-16, Resolve 1.)

[83] Los Angeles MS4 Order, Finding II.M; Fact Sheet, Att. F, pp. F19-F20.

[84] APU 90-004, p. 2.

[85] We reviewed the Administrative Record, including the 1998 Clean Water Act section 303(d) List (May 12, 1999) (Administrative Record, section 10.VI.E., RB-AR35684-35733), the 2010 Clean Water Act section 303(d) List (Oct.11, 2011) (Administrative Record, section 10.VI.E., RB-AR35734-35785), Santa Monica Bay Restoration Project, An Assessment of Inputs of Fecal Indication Organisms and Human Enteric Viruses from Two Santa Monica Bay Storm Drains (1990) (Administrative Record, section 10.VI.E, RB-AR43363-43413), Toxic Substances Monitoring Program, 10 Year Summary Report 1978-1987 (Administrative Record, Order No. 01-182, R0044602-0045053) and comments submitted by interested persons to the Los Angeles Water Board (Administrative Record RB-AR1006-1038, RB-AR1100-1128, RB-AR1768-2119, RB-AR2653-2847, RB-AR5642-17888). We found no specific evidence presented to the Los Angeles Water Board of high quality waters in the region with regard to pollutants typically associated with storm water discharges; however, we also recognize that in the absence of specific evidence of high quality waters, a blanket statement that there are no high quality water body-pollutant combinations may be overbroad.

2001 Los Angeles MS4 Order and therefore will not allow water quality to degrade below the level of control achieved under the prior permit.

We agree with the Los Angeles Water Board that the Los Angeles MS4 Order maintains and improves the level of control achieved under the 2001 Los Angeles MS4 Order. We expect that the Los Angeles MS4 Order's TMDL requirements and receiving water limitations, which may be implemented through the WMP/EWMP provisions, will be the means for achieving water quality standards for the majority of degraded water bodies in the region. To assert, as the Environmental Petitioners do, that compliance with the receiving water limitations provisions of the 2001 Los Angeles Order is more stringent than establishing specific implementation requirements with clear deadlines for TMDL and receiving water limitations compliance is misguided. We are concerned with the totality of the provisions in the two permits and find that, viewed from that broader perspective, the Los Angeles MS4 Order is at least as stringent in addressing degradation as its predecessor.[86] The Los Angeles MS4 Order improves on past practices that have been inadequate to protect water quality, and includes a monitoring and assessment program that will identify any changes in water quality.[87] In general, under the Los Angeles MS4 Order, we expect to see a trajectory away from any past degradation, even if there may be some continued short-term degradation.

We are not persuaded, however, that the level of control achieved under the 2001 Los Angeles MS4 Order necessarily represents the baseline for purposes of an antidegradation analysis. The 2001 Los Angeles MS4 Order had only minimal findings regarding antidegradation and it is not apparent that any degradation that may have continued under the conditions of the 2001 Los Angeles MS4 Order was anticipated by the Los Angeles Water Board and supported with appropriate analysis regarding economic and social benefits[88] and best practicable treatment or control. We therefore find that the appropriate baseline remains 1968 or the highest quality of receiving waters attained since 1968. We acknowledge

[86] In making this finding we also recognize that the Permittees may be deemed in compliance with receiving water limitations prior to approval of the WMP/EWMP. (Los Angeles MS4 Order Parts VI.C.2.d., pp. 52-53, VI.E.2.d.i.(4)(d), p. 144.) As discussed further under section II.B.6., we find that the Los Angeles Water Board reasonably exercised its discretion in allowing for compliance during the program development phase and further that the program development phase does not detract from the overall effectiveness of the permit provisions.

[87] *See Asociacion de Gente Unida, supra*, 210 Cal.App.4th at p. 1278.

[88] We note that the administrative record provides evidence that some discharge of storm water is to the maximum benefit of the people of the state because such discharge is necessary for flood control and public safety and helps accommodate development. (See, e.g., Administrative Record, section 10.VI.C, RB-AR30101; RB-AR32557-32558.)

that the evidence in the record indicates that it is unlikely that many water bodies were high quality even as far back as 1968, but we cannot make a blanket statement to that effect.[89]

Despite this conclusion, we will not remand the antidegradation issue to the Los Angeles Water Board for further consideration, but will make the findings ourselves based on the record before us. Our findings are necessarily made at a generalized level. Even if the directive of APU 90-004 to carry out a complete antidegradation analysis for each water body-pollutant combination is applicable here, there is simply insufficient data available (to us or the Los Angeles Water Board) to make such findings. The APU 90-004 contemplates the appropriate antidegradation analysis for a discrete discharge or facility. It has limited value when considering antidegradation in the context of storm water discharges from diffuse sources, conveyed through multiple outfalls, with multiple pollutants impacting multiple water bodies within a municipality, or in this case, region, especially given that reliable data on the baseline water quality from 1968 is not available.[90]

The Environmental Petitioners propose that antidegradation be addressed in subsequent actions of the Los Angeles Water Board by requiring that the reasonable assurance analysis (discussed in greater detail in section II.B.4.c. of this Order) supporting a WMP/EWMP also demonstrate that the proposed control measures will maintain high quality of waters with regard to pollutants for which they are not impaired. We reject this approach for two reasons. First, the Los Angeles Water Board was required under the federal and state antidegradation policies to evaluate whether permit conditions would lead to degradation of high quality waters at the time of permit issuance. Second, requiring Permittees to incorporate an evaluation of all water body-pollutant combinations, including those where there are no impairments or exceedances, would require them to expand the reasonable assurance analysis beyond its useful function and manageable scope.

We shall amend Finding II.M and Part D.3 at pages F-19 to F-20 of Attachment F, the Fact Sheet, as follows:

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[89] See fn. 85.

[90] We note that USEPA did not conduct a detailed antidegradation analysis in issuing NPDES Permit No. DC00000221 for MS4 discharges to the District of Columbia, presumably for similar reasons. The court in *Asociacion de Gente Unida* relied on APU 90-004 in part in rejecting an antidegradation analysis conducted by the Central Valley Regional Water Quality Control Board for discharges of pollutants to groundwater from dairy facilities region-wide, but the court's objection was to the regional water board's reliance on an illusory prohibition of discharge to groundwater in finding that no antidegradation analysis was required, not to the sufficiency of any generalized antidegradation analysis the Board might have conducted in lieu of its reliance on the prohibition. (210 Cal.App.4th at pp. 1271-1273.)

Finding II. M.

M. Antidegradation Policy
40 CFR section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State"). Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16 **as set out in the Fact Sheet.**

Attachment F, Fact Sheet Part III.D.3.

3. Antidegradation Policy. 40 CFR section 131.12[4] requires that the state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State"). Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Resolution No. 68-16 and 40 CFR section 131.12 require the Regional Water Board to maintain high quality waters of the State **unless degradation is justified based on specific findings. First, the Board must ensure that "existing instream uses and the level of water quality necessary to protect the existing uses" are maintained and protected. Second, if the baseline quality of a water body for a given constituent exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected through the requirements of the Order unless the Board makes findings that (1) any lowering of the water quality is necessary to accommodate important economic or social development in the area in which the waters are located; (2) water quality adequate to protect existing uses fully is assured; and (3) the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control are achieved. The Board must also comply with any requirements of State Water Board Resolution No. 68-16 beyond those imposed through incorporation of the federal antidegradation policy. In particular, the Board must find that not only present, but also anticipated future uses of water are protected, and must ensure best practicable treatment or control of the discharges. The baseline quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of Resolution No. 68-16, or a lower level if that lower level was allowed through a permitting action that was consistent with the federal and state antidegradation policies.** ~~until it is demonstrated that any change in quality will~~

~~be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Water Board's policies. Resolution 68-16 requires that discharges of waste be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained.~~

The discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR section 131.12 and Resolution 68-16 **as set out in the Findings below:**~~.~~

1. ~~Many of the water bodies within the area covered by this Order are of high quality. The Order requires the Permittees to meet best practicable treatment or control to meet water quality standards. As required by 40 CFR section 122.44(a), the Permittees must comply with the "maximum extent practicable" technology-based standard set forth in CWA section 402(p).~~ Many of the waters within the area covered by this Order are impaired ~~and~~ **for multiple pollutants discharged through MS4s and are not high quality waters with regard to these pollutants. In most cases, there is insufficient data to determine whether these water bodies were impaired as early as 1968, but the limited available data shows impairment dating back for more than two decades. Many such water bodies are** listed on the State's CWA Section 303(d) List and either the Regional Water Board or USEPA has established TMDLs to address the impairments. **This Order ensures that existing instream (beneficial) water uses and the level of water quality necessary to protect the existing uses is maintained and protected**. This Order requires the Permittees to comply with permit provisions to implement the WLAs set forth in the TMDLs in order to restore the beneficial uses of the impaired water bodies consistent with the assumptions and requirements of the TMDLs. **This Order further requires compliance with receiving water limitations to meet water quality standards in the receiving water either by demonstrating compliance pursuant to Part V.A and the Permittee's monitoring and reporting program pursuant to Part VI.B or by implementing Watershed Management Programs/EWMPs with a compliance schedule.** This Order includes requirements to develop and implement storm water management programs, achieve water quality-based effluent limitations, and effectively prohibit non-storm water discharges through the MS4.

2. To the extent that some of the water bodies within the jurisdiction are high quality waters with regard to some constituents, this Order finds as follows:

a. Allowing limited degradation of high quality water bodies through MS4 discharges is necessary to accommodate important economic or social development in the area and is consistent with the maximum benefit to the people of the state. The discharge of storm water in certain circumstances is to the maximum benefit to the people of the state because it can assist with maintaining instream flows that support beneficial uses, may spur the development of multiple-benefit projects, and may be necessary for flood control, and public safety as well as to accommodate development in the

area. The alternative – capturing all storm water from all storm events – would be an enormous opportunity cost that would preclude MS4 permittees from spending substantial funds on other important social needs. The Order ensures that any limited degradation does not affect existing and anticipated future uses of the water and does not result in water quality less than established standards. The Order requires compliance with receiving water limitations that act as a floor to any limited degradation.

b. The Order requires the highest statutory and regulatory requirements and requires that the Permittees meet best practicable treatment or control. The Order prohibits all non-storm water discharges, with a few enumerated exceptions, through the MS4 to the receiving waters. As required by 40 CFR section 122.44(a), the Permittees must comply with the "maximum extent practicable" technology-based standard set forth in CWA section 402(p), and implement extensive minimum control measures in a storm water management program. Recognizing that best practicable treatment or control may evolve over time, the Order includes new and more specific requirements as compared to Order No. 01-182. The Order incorporates options to implement Watershed Management Programs or EWMPs that must specify concrete and detailed structural and non-structural storm water controls that must be implemented in accordance with an approved time schedule. The Order contains provisions to encourage, wherever feasible, retention of the storm water from the 85th percentile 24-hour storm event.

~~The issuance of this Order does not authorize an increase in the amount of discharge of waste. The Order includes new requirements to implement WLAs assigned to Los Angeles County MS4 discharges that have been established in 33 TMDLs, most of which were not included in the previous Order.~~

3. Compliance Schedules and the Appropriateness of Enforcement Orders

The Environmental Petitioners concede that immediate compliance with receiving water limitations is not achievable in many instances and that some additional time to reach compliance is warranted. They have proposed an alternative to the WMP/EWMP that would incorporate many of the provisions of those programs but require implementation through the mechanism of a time schedule order or other enforcement order rather than as permit conditions. The Los Angeles MS4 Order already provides that Permittees who are out of compliance with final WQBELs and other TMDL-specific limitations may request a time schedule order.[91] Under the alternative proposed by the Environmental Petitioners, all Permittees that are currently out of compliance with receiving water limitations not addressed by a TMDL as well as with interim TMDL requirements with passed compliance deadlines, would be issued a time schedule order or other enforcement order not to exceed the five year term of

[91] Los Angeles MS4 Order, Part VI.E.4., pp.146-147.

the permit. The Permittees would then implement a WMP/EWMP type plan to achieve compliance with the appropriate limitations within the confines of the enforcement order.

In the prior two sections, we found that the WMP/EWMP provisions are not contrary to the anti-backsliding or antidegradation requirements of federal and state law. We therefore disagree with the Environmental Petitioners that the relevant provisions must be stricken from the Order and incorporated instead into an enforcement order for those reasons. We also find that, given that strict compliance with water quality standards is discretionary in MS4 permits, the Los Angeles Water Board was not restricted to limiting the schedule for compliance with receiving water limitations to the term of the Los Angeles MS4 Order.

Further, from a policy perspective, we find that the MS4 Permittees that are developing and implementing a WMP/EWMP should be allowed additional time to come into compliance with receiving water limitations and interim and final TMDLs through provisions built directly into their permit, rather than through enforcement orders. Building a time schedule into the permit itself, as the Los Angeles MS4 Order does, is appropriate because it allows a more efficient regulatory structure compared to having to issue multiple enforcement orders. More importantly, it is appropriate to regulate Permittees in a manner that allows them to strive for compliance with the permit terms, provided no provision of law otherwise precludes including the schedule in the NPDES permit. For example, for traditional point source discharges subject to strict compliance with water quality standards pursuant to section 301(b)(1)(C), the terms of a compliance schedule are dictated by our compliance schedule policy (State Water Board Resolution 2008-0025) and any additional time for compliance could only be under the auspices of an enforcement order outside the permit.[92]

The WMP/EWMP provisions constitute an effort to set ambitious, yet achievable, targets for Permittees; receiving water limitations, on the other hand, while the ultimate goal of MS4 permitting, may not in all cases be achievable within the five-year permit cycle. Generally, permits are best structured so that enforcement actions are employed when a discharger shows some shortcoming in achieving a realistic, even if ambitious, permit condition and not under circumstances where even the most diligent and good faith effort will fail to achieve the required condition. We add that it is our intention to encourage a watershed-based approach to addressing storm water issues going forward and that it would be contrary to that intention to

[92] We also note that the State Water Board's Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2005) (State Implementation Policy) and the CTR itself (40 C.F.R. § 131.38(e)) restrict the scope of compliance schedules for effluent limitations addressing the discharge of toxic pollutants; however the policy does not apply to storm water discharges. (State Implementation Policy, p.3, fn.1.)

structure the watershed-based requirements as an enforcement order. We will not require Permittees that propose and timely implement a WMP/EWMP to request time schedule orders or other enforcement orders as a precondition of being in compliance with the receiving water limitations or interim TMDL requirements of the Los Angeles MS4 Order.

While declining to structure the WMP/EWMP provisions generally as an enforcement order, we acknowledge that time schedule orders are appropriate under some circumstances. We have already noted that the Los Angeles MS4 Order allows a Permittee to request a time schedule order where a final compliance deadline for a state-adopted TMDL has passed and the Permittee believes that additional time to comply with the requirement is necessary.[93] We expect that a Permittee will request a time schedule order also if the Permittee fails to meet a final compliance deadline for a TMDL after the adoption date of the Los Angeles MS4 Order. We will also provide that a Permittee may request a time schedule order if the Permittee fails to meet a final compliance deadline for a receiving water limitation set in the Permittee's WMP/EWMP.

We shall add a new Part VI.C.6.b and revise Part VI.E.4.b as follows:

Part VI.C.6

b. Where a Permittee believes that additional time to comply with a final receiving water limitation compliance deadline set within a WMP/EWMP is necessary, and the Permittee fails to timely request or is not granted an extension by the Executive Officer, a Permittee may, no less than 90 days prior to the final compliance deadline, request a time schedule order pursuant to California Water Code section 13300 for the Regional Water Board's consideration.

Part VI.E.4

b. Where a Permittee believes that additional time to comply with the final water quality-based effluent limitations and/or receiving water limitations is necessary, a Permittee may within 45 days of Order adoption**, or no less than 90 days prior to the final compliance deadline if after adoption of the Order,** request a time schedule order pursuant to California Water Code section 13300 for the Regional Water Board's consideration.

4. Rigor and Accountability in the WMPs/EWMPs

We now turn to a consideration, from a technical as well as policy lens, as to whether the WMPs/EWMPs are structured in a manner that will maximize the likelihood of

[93] *Ibid.*

reaching the ultimate goal of the compliance alternative – achieving receiving water limitations.[94] We can support an alternative approach to compliance with receiving water limitations only to the extent that that approach requires clear and concrete milestones and deadlines toward achievement of receiving water limitations and a rigorous and transparent process to ensure that those milestones and deadlines are in fact met. Conversely, we cannot accept a process that leads to a continuous loop of iterative WMP/EWMP implementation without ultimate achievement of receiving water limitations.

We find below that the WMP/EWMP provisions generally ensure the appropriate rigor, transparency, and accountability, and that, with the few revisions we direct, are designed to lead to achievement of receiving water limitations.[95]

a. Milestones and Compliance Deadlines

We first consider whether the WMP/EWMP provisions require clear, concrete, and finite milestones and deadlines.

For water body-pollutant combinations addressed by TMDLs, the Los Angeles MS4 Order requires the Permittees to incorporate the compliance schedules found in Attachments L through R of the Order, which reflect previously adopted TMDL-based requirements, into the WMP/EWMP, and, as necessary, to develop interim milestones and dates for their achievement.[96] A Permittee that does not thereafter comply with the approved compliance schedule must instead demonstrate compliance with the WQBELs and other TMDL-specific limitations of the Order.[97] For water body-pollutant combinations not addressed by a TMDL, but where the relevant pollutant is one for which the water body is identified as impaired on the Clean Water Act section 303(d) List and the pollutant is in the same class as a TMDL pollutant, the Order requires that the WMP/EWMP incorporate a schedule consistent with the TMDL schedule for the same class pollutant.[98] A Permittee that does not thereafter comply with

[94] From a legal standpoint, our analysis serves to verify that the Los Angeles MS4 Order's alternative compliance approach through WMPs/EWMPs is supported by the findings and by evidence in the record. (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506.)

[95] We do not agree with Permittee Petitioners that the WMP/EWMP provisions are precluded by the program requirements of 40 Code of Federal Regulations section 122.26. Nor do we agree that the requirements are vague or lack definition. The WMP/EWMP provisions of the Order are guidelines for development of a subsequent program with more specificity to be approved by the Los Angeles Water Board or its Executive Officer.

[96] Los Angeles MS4 Order, Part VI.C.5.c., pp.64-65.

[97] *Id.*, Part VI.E.2.d.i(4)(c), p.144.

[98] *Id.*, Part VI.C.2.a.i., pp. 49-50.

the approved compliance schedule must instead demonstrate immediate compliance with the receiving water limitations in Part V.A.[99] We will not disturb these provisions.

With regard to exceedances of receiving water limitations not addressed by a TMDL, and where the pollutant is not in the same class as a pollutant addressed by a TMDL, the Order requires that the WMP/EWMP include milestones based on measurable criteria or indicators and a schedule for achieving the milestones. The WMP/EWMP must also incorporate a final date for achievement of receiving water limitations, but that date is circumscribed simply as "as soon as possible."[100] Parts VI.C.2.a.ii.(4) and VI.C.2.a.iii.(2)(c) help clarify the meaning of "as soon as possible:"

> Permittees shall identify enforceable requirements and milestones and dates for their achievement to control MS4 discharges such that they do not cause or contribute to exceedances of receiving water limitations within a timeframe(s) that is as short as possible, taking into account the technological, operation, and economic factors that affect the design, development, and implementation of the control measures that are necessary. The time between dates shall not exceed one year. Milestones shall relate to a specific water quality endpoint (e.g., x% of the MS4 drainage area is meeting the receiving water limitations) and dates shall relate either to taking a specific action or meeting a milestone.[101]

We will make a revision to the compliance schedule provisions to make it clear that the term "as soon as possible" is to be interpreted consistent with the more specific direction cited above. However, because the WMP/EWMP, and therefore the proposed compliance schedule, is subject to public review and comment and approval by the Los Angeles Water Board or its

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[99] *Id.*, Part VI.C.2.c., p.52.

[100] *Id.*, Part VI.C.5.c.iii.(3), p. 65. If the pollutant is not in the same class as those addressed in a TMDL, but the water body is still identified as impaired for that pollutant, the WMP/EWMP must either have a final compliance deadline within the 5 year permit term or Permittees are expected to initiate development of a stakeholder-proposed TMDL and incorporate a compliance schedule consistent with the TMDL. (*Id.*, Part VI.C.2.a. ii., pp. 50-51) (If the exceedances are in a drainage area implementing the storm water retention approach, there is no requirement to initiate the TMDL development process.) The requirement to address receiving water limitations is ongoing. As exceedances are found through monitoring for water body-pollutant combinations not identified on the 303(d) List, Permittees must either meet receiving water limitations or include the water body-pollutant combination in the WMP/EWMP and set enforceable requirements and milestones and dates for their achievement within a time frame that is as short as possible. (*Id.*, Part VI.C.2.a.iii, pp. 51-52.) Permittees are deemed in compliance with receiving water limitations only for water body-pollutant combinations addressed in the WMP/EWMPs. Thus, as pointed out by several interested parties, for lower priority water body-pollutant combinations not incorporated into a WMP/EWMP for which exceedances are detected, Permittees may be in violation of the receiving water limitations. A Permittee always has the ability to reprioritize a water body-pollutant combination from low priority to high priority and amend its WMP/EWMP to incorporate measures to address that water body-pollutant combination.

[101] *Id.*, Parts VI.C.2.a.ii.4, p. 50, VI.C.2.a.iii.(2)(c), p. 51 (identical language).

Executive Officer,[102] we do not find it necessary to constrain the determination of milestones and dates for the achievement of receiving water limitations any further.

We shall amend Part VI.C.5.c.iii.(3)(b) as follows:

(b) A final date for achieving the receiving water limitations as soon as possible**, consistent with Parts VI.C.2.a.ii.(4) & VI.C.2.a.iii.(2)(c)**.

b. Constraints on Extension of Deadlines

The fact that the Los Angeles MS4 Order requires the establishment of concrete and rigorous deadlines within the WMP/EWMP for the achievement of receiving water limitations is critical to ensuring progress on such achievement; however, the Order also contemplates that the deadlines, with the exception of those compliance deadlines established in a TMDL, may be extended.[103] The WMP/EWMP is subject to an adaptive management process. Based on the results of that process the Permittees may propose modifications, including modifications to compliance deadlines and interim milestones, in the Annual Report.[104]

The potential for multiple extensions is nevertheless ameliorated by the fact that extensions of compliance deadlines and interim milestones require Los Angeles Water Board Executive Officer approval,[105] and are accordingly, subject to a 30-day public comment period.[106] The public comment period will allow all other interested persons to weigh in on the appropriateness of any requested extensions. If thereafter dissatisfied with the determination made by the Executive Officer, interested persons may additionally seek review of the Executive Officer's decision by the Los Angeles Water Board.[107] Of course, in cases where no extension

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[102] *Id.*, Part VI.C.4.c., p.56, Table 9, p. 54, Part VI.A.5.b., p. 42, Att. F, Fact Sheet, p. F-42. Under Part VI.A.5.b, "[a]ll documents submitted to the Regional Water Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment."

[103] *Id.*, Parts VI.C.7, p.66, VI.C.8, pp.66-67.

[104] *Id.*, Part, VI.C.8, p.67. Under another provision of the Order, Permittees may at any time request an extension of deadlines for achievement of interim milestones established to address exceedances of receiving water limitations not otherwise addressed by a TMDL. (*Id.*, Part VI.C.6.a., p.65.) (We note that the cited provision refers to "milestones established pursuant to Part VI.C.4.c.ii.(3)," but the intent appears to have been to reference Part VI.C.5.c.iii.(3).) But as we read the Los Angeles MS4 Order, extensions of not just interim deadlines for achievement of milestones but also final compliance deadlines to achieve receiving water limitations are already allowed under the adaptive management provisions of Part VI.C.8.a.ii.: "Based on the results of the adaptive management process, Permittees shall report any modifications, including where appropriate *new compliance deadlines* and interim milestones, with the exception of those compliance deadlines established in a TMDL, necessary to improve the effectiveness of the Watershed Management Program or EWMP, in the Annual Report . . . ." (Emphasis added.)

[105] *Id.*, Parts VI.C.8, p.67, VI.C.6.a., p.65. We recognize that as currently written the adaptive management provisions in effect deem any modifications to the WMPs/EWMPs approved if the Executive Officer "expresses no objections" within 60 days. (*Id.,* Part VI.C.8.a.iii., p. 67.) With our revisions, any deadline extensions must be affirmatively approved by the Executive Officer.

[106] *Id.*, Part VI.A.5.b, p. 42.

[107] *Id.*, Part VI.A.6, p.42.

is available, as with final deadlines established in TMDLs,[108] or where no extension is requested or granted, failure to meet a deadline means that the Permittee will have to comply from that time forward with the receiving water limitations or WQBELs and other TMDL-specific limitations or request a time schedule order. Therefore, Permittees cannot rely on the certainty of a deadline extension, and Permittees have a strong incentive to implement control measures that will in fact get them to compliance by the established deadline. Given that the Permittees and the Los Angeles Water Board are working with limited data regarding storm water impacts and control measure performance, especially where TMDLs have not been developed, we are hesitant to remove all flexibility for deadline extensions, and find that the Order strikes an appropriate balance.

Permittee Petitioners seek even greater flexibility under the WMP/EWMP provisions for adjusting approved control measures and time lines. They advocate for amendments that would allow a Permittee to propose alternative controls or time lines upon a demonstration that required controls for timely achievement of a limitation are either technically infeasible or otherwise constitute a substantial hardship to the Permittee. We have found above that, in the case of final deadlines set in the WMP/EWMP for achievement of receiving water limitations not otherwise addressed in a TMDL, the Los Angeles MS4 Order already provides for an opportunity to propose new deadlines through the adaptive management process. We will make a clarifying revision below to confirm that Permittees may ask for extensions in meeting receiving water limitations not addressed by a TMDL. Technical infeasibility or substantial hardship may be grounds for such a request. The Los Angeles Water Board Executive Officer, in turn, may, after allowing for public review and comment, choose to (1) extend the deadline, (2) decline the extension but approve any time schedule order requested by the Permittee, or (3) decline the extension and not approve a time schedule order, with the result that the Permittee will be out of compliance with the provision of the WMP/EWMP and therefore the receiving water limitations of Part V.A. As stated previously, interested persons may thereafter ask the Los Angeles Water Board to review the Executive Officer's determination.[109]

With regard to final deadlines for WQBELs and other TMDL-specific limitations, we will not amend the WMP/EWMP provisions to add flexibility for extensions. We find that the only option appropriately available to a Permittee unable to meet final deadlines that are set out in a TMDL and incorporated into the Los Angeles MS4 Order and the WMP/EWMPs, is to

[108] *Id.*, Part VI.C.8.a.ii., p.67.

[109] *Id.*, Part VI.A.6, p.42.

request a time schedule order, consistent with Part VI.E.2.e. of the Order, as that Part was amended in section II.B.3. above.[110]

We shall amend Part VI.C.6.a as follows:

a. Permittees may request an extension of deadlines for achievement of interim milestones **and final compliance deadlines** established pursuant to Part VI.C.4**5**.c.iii.~~(3) only~~**, with the exception of those final compliance deadlines established in a TMDL**. Permittees shall provide requests in writing at least 90 days prior to the deadline and shall include in the request the justification for the extension. Extensions ~~shall be subject to approval by~~ **must be affirmatively approved by** the Regional Water Board Executive Officer, **notwithstanding Part VI.C.8.a.iii.**

c. Rigor and Accountability in the Process

We see three additional components of the WMPs/EWMPs as essential to ensuring that the proposed WMPs/EWMPs are in fact designed to achieve receiving water limitations within the appropriate time frame.

First, as documents to be approved by either the Los Angeles Water Board or its Executive Officer, the WMPs/EWMPs are subject to a public review and comment period.[111] Such review includes consideration of proposed control measures, deadlines for achievement of final limitations, and the reasonable assurance analysis that supports the WMP/EWMP. We expect this public process to vet the proposed WMPs/EWMPs and facilitate revisions to strengthen the programs as needed, thereby providing some assurance that approved WMPs/EWMPs will achieve the water quality targets set out.

Second, the requirement for a reasonable assurance analysis in particular is designed to ensure that Permittees are choosing appropriate controls and milestones for the WMP/EWMP.[112] Competent use of the reasonable assurance analysis should facilitate achievement of final compliance within the specified deadlines.[113]

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[110] Final TMDL deadlines are established and incorporated into the Basin Plans during the TMDL development process. That process invites stakeholder participation and the proposed schedule is subject to public review and comment and approval by the relevant regional water board, the State Water Board, and USEPA. The deadlines are established with consideration of the time needed for compliance for all dischargers contributing to an impairment, including industrial and construction storm water dischargers and traditional NPDES dischargers. Although we recognize that it may not always be feasible for municipal storm water dischargers to meet final TMDL deadlines, short of amending the Basin Plan to modify the deadlines (see *California Association of Sanitation Agencies v. State Water Resources Control Board* (2012) 208 Cal.App.4th 1438), we find it appropriate for the dischargers to request time schedule orders rather than be granted an extension within the provisions of the Los Angeles MS4 Order.

[111] See Los Angeles MS4 Order, Parts VI.C.4.d., p. 57, VI.C.6, p. 65, Table 9, p.54; see also id., Part VI.A.5., p. 42.

[112] *Id.*, Part VI.C.5.b.iv.(5), pp. 63-64.

[113] We note that the Los Angeles Water Board has released guidance on the development of a reasonable assurance analysis. The guidance was released after adoption of the Los Angeles MS4 Order and accordingly is not *(Continued)*

Third, the adaptive management provisions of the Order ensure that the Permittees will evaluate monitoring data and other new information every two years and consider progress up to that point on achieving WQBELs and other TMDL-specific limitations. Permittees are required as part of the adaptive management process to propose modifications to improve the effectiveness of the WMP/EWMP and implement those modifications.[114]

While we are supportive of all of these measures, we find that they should be strengthened. As a preliminary matter, we will require the Permittees to submit specific information, concurrently with the two-year adaptive management process, that will assist the Los Angeles Water Board in determining how effective the WMP/EWMP path is in spurring the completion of on-the-ground structural control measures that lead to measurable water quality improvement. As we discuss further in Section II.B.8 of this Order, we will direct the Los Angeles Water Board to report to the State Water Board periodically on the effectiveness of the WMP/EWMP approach and expect the additional information submitted by the Permittees to inform that report.

More significantly, we will add a provision that requires Permittees to comprehensively update the reasonable assurance analysis and the WMP/EWMP, following an opportunity to implement the adaptive management process. Given the limitations inherent in models, as well as the potential incentive to choose the lowest effort and cost level predicted by the model to achieve receiving water limitations,[115] we are concerned that reliance on one initial reasonable assurance analysis is insufficient to ensure that in the long term WMPs/EWMPs will

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part of the Administrative Record. We nevertheless take this opportunity to state that we expect any revisions and updates to the guidance to be subject to a public process as part of reissuance of the Los Angeles MS4 Order.

[114] Los Angeles MS4 Order, Part VI.C.8., pp. 66-67. We add that the adaptive management process will also allow Permittees to revise their WMPs/EWMPs to take advantage of funding opportunities as they arise in the future, including funding opportunities through Assembly Bill 2403 (approved by Governor, June 28, 2014 (2013-2014 Reg. Sess.)) and Proposition 1 (approved by ballot Nov. 4, 2014). We are cognizant of criticism that the adaptive management process is just another version of the ineffective iterative process of the receiving water limitations. These arguments are misplaced. Unlike the iterative process of the receiving water limitations, the adaptive management process is only one component of a series of actions required under the WMP/EWMP and acts as a periodic check to ensure that all the other requirements are achieving the stated goals of the WMP/EWMP within clearly stated deadlines. As our discussion above makes clear, we would not endorse an alternative compliance path with the sole requirement to adaptively manage implemented control measures. Further, the adaptive management process in the Los Angeles MS4 Order differs from the iterative process in that Permittees must carry out the adaptive management process every two years, limiting any discretionary determination as to when the program must be evaluated. (Los Angeles MS4 Order, Part VI.C.8.a.)

[115] The numerical analysis methods and models approved for use by Permittees for estimating hydrologic conditions and contaminant fate and transport in the watersheds should, in principle, be able to propagate any and all known uncertainty to the outputs and results. It is in the public interest that the Los Angeles Water Board communicate this uncertainty to all stakeholders, as the results in most cases will affect the beneficial uses of California waters. Moreover, it is highly desirable that, to the extent possible, the Los Angeles Water Board define a minimum level of uncertainty (or level of confidence) acceptable for a reasonable assurance analysis to be approved.

achieve relevant water quality goals. . Currently, as stated above, the Permittees are required to implement the adaptive management process every two years from the date of program approval. Under the provision we add, the Permittees will be required to comprehensively update the reasonable assurance analysis (including potentially considering whether the model itself and its assumptions require updating) and the WMP/EWMP after several years of adaptive management, based on previous years' monitoring data and other performance measures. The Permittee will submit a full revised package to the Los Angeles Water Board Executive Officer for approval, following public review.

Given that the WMPs/EWMPs in many cases address water quality targets that are to be achieved a decade or more in the future, a periodic, complete re-consideration and recalibration of the assumptions and predictions that support the proposed control measures and implementation schedule in light of new data, above and beyond the two-year adaptive management requirements of the Los Angeles MS4 Order, is essential, notwithstanding the additional time and effort that Permittees must expend on the update. We also recognize that such review is a staff intensive process for the Los Angeles Water Board, but addressing storm water impacts is a priority for that Board. Although we expect that the update will be necessary in most cases, the new requirements provide that the Executive Officer of the Los Angeles Water Board may waive the requirement for an update if the Permittee demonstrates through water quality monitoring that the WMP/EWMP is meeting appropriate targets. Our direction to require a comprehensive update of the reasonable assurance analyses and the WMPs/EWMPs after several cycles of adaptive management should in no way be construed as limiting the Los Angeles Water Board Executive Officer's discretion to request such updates earlier in the implementation process or the obligation of the Permittees to initiate such updates earlier in the implementation process based on the ongoing adaptive management process.

The second added provision will not be relevant for the permit term of the order before us; however, we anticipate that the next iteration of an MS4 Order for the Los Angeles area will closely track the Los Angeles MS4 Order to allow for continued implementation of the WMP/EWMPs.

We shall amend Part VI.C.8 by adding new subsections a.iv. and b. as follows:

a.

iv. Permittees shall report the following information to the Regional Water Board concurrently with the reporting for the adaptive management process:

(1) On-the-ground structural control measures completed;

(2) Non-structural control measures completed;

(3) Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;

(4) Comparison of the effectiveness of the control measures to the results projected by the RAA;

(5) Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;

(6) Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures;

(7) Status of funding and implementation for control measures proposed to be completed in the next two years.

b. Watershed Management Program Resubmittal Process

i. In addition to adapting the Watershed Management Program or EWMP every two years as described in Part VI.C.8.a., Permittees must submit an updated Watershed Management Program or EWMP with an updated Reasonable Assurance Analysis by June 30, 2021, or sooner as directed by the Regional Water Board Executive Officer or as deemed necessary by Permittees through the Adaptive Management Process, for review and approval by the Regional Water Board Executive Officer. The updated Reasonable Assurance Analysis must incorporate both water quality data and control measure performance data, and any other information informing the two-year adaptive management process, gathered through December 31, 2020. As appropriate, the Permittees must consider any new numeric analyses or other methods developed for the reasonable assurance analysis. The updated Watershed Management Program or EWMP must comply with all provisions in Part VI.C. The Regional Water Board Executive Officer will allow a 60-day public review and comment period with an option to request a hearing. The Regional Water Board Executive Officer must approve or disapprove the updated Watershed Management Program or EWMP by June 30, 2022. The Executive Officer may waive the requirement of this provision, following a 60-day public review and comment period, if a Permittee demonstrates through water quality monitoring data that the approved Watershed Management Program or EWMP is meeting appropriate water quality targets in accordance with established deadlines.

5. Determination of Compliance with Final Requirements

a. Compliance with Final TMDL Requirements[116]

Part VI.E.2.e.i.4. of the Los Angeles MS4 Order provides that Permittees will be deemed in compliance with the final WQBELs and other TMDL-specific limitations if "[i]n drainage areas where Permittees are implementing an EWMP, (i) all non-storm water and (ii) all storm water runoff up to and including the volume equivalent to the 85th percentile, 24 hour event is retained for the drainage area tributary to the applicable receiving water."[117] Part VI.E.2.e.i.4 is one of four options available to the Permittee in Part VI.E.2.e. to be deemed in compliance with WQBELs and other TMDL-specific limitations. The other three options allow a Permittee to establish compliance with a final WQBEL or other TMDL-specific limitation by showing that (1) there are no violations of the final WQBEL; (2) there are no exceedances of the receiving water limitation for the specific pollutant in the receiving water at or downstream of the Permittee's outfall, or (3) there is no direct or indirect discharge from the Permittee's MS4 to the receiving water during any relevant time period.[118] These three options ensure that either the receiving water limitations or WQBELs and other TMDL-specific limitations are in fact being complied with. In contrast, the storm water retention approach assumes compliance with *final* WQBELs and other TMDL-specific limitations, and accordingly, compliance with the receiving water limitations in Part V for the relevant water body-pollutant combinations,[119] even if the final WQBELs and other TMDL-specific limitations are not actually being achieved. The Environmental Petitioners argue that the Los Angeles Water Board has failed to establish through findings and record evidence that the storm water retention approach will in fact achieve compliance with the WQBELs and other TMDL-specific limitations and that the Los Angeles

[116] The Los Angeles MS4 Order additionally deems compliance with *interim* WQBELs and other TMDL-specific limitations if the "Permittee has submitted and is fully implementing an approved" WMP/EWMP. (Los Angeles MS4 Order, Part VI.E.2.d.i.(4), p. 143; see also *id.*, Part VI.C.3.a., p. 53.) Because Permittees are required to incorporate into the WMP/EWMP compliance schedules "compliance deadlines occurring within the permit term for all applicable interim . . . water quality-based effluent limitations and/or receiving water limitations in Part VI.E and Attachments L through R," we expect that in most cases full implementation of the WMP/EWMP necessarily results in compliance with interim WQBELs and other TMDL-specific limitations. However, to the extent this is not the result reached, we find that requiring implementation of the WMP/EWMP with control measures designed to achieve interim WQBELs and other TMDL-specific limitations, in lieu of showing actual compliance with any *interim* numeric requirements, is consistent with the assumptions and requirements of the wasteload allocations of the relevant TMDLs. (40 C.F.R. § 122.44(d)(1)(vii)(B).)

[117] Los Angeles MS4 Order, Part VI.E.2.e.i.(4), p. 145.

[118] *Id.*, Part VI.E.2.e.i.(1)-(3), pp. 144-45.

[119] We note again that Part VI.E.2.c.i. states that Part VI.E establishes the manner of achieving compliance with the receiving water limitations in Part V.A where the receiving water limitations are associated with water body-pollutant combinations addressed in a TMDL.

MS4 Order's reliance on the storm water retention approach for final compliance determination is therefore contrary to the law.

We are supportive of the EWMP's use of the storm water retention approach as a technical requirement. Retention of storm water is likely to be an effective path to water quality improvement. Furthermore, in addition to preventing pollutants from reaching the receiving water except as a result of high precipitation events (which also generally result in significant dilution in the receiving water), the storm water retention approach has additional benefits including recharge of groundwater, increased water supply, reduced hydromodification effects, and creation of more green space to support recreation and habitat.[120]

We have some concerns, however, with the lack of verification in the Los Angeles MS4 Order that final WQBELs and other TMDL-specific limitations or receiving water limitations will in fact be met as a result of implementation of the storm water retention approach. We acknowledge that, in most cases, the final TMDLs have deadlines outside of the permit term for the Los Angeles MS4 Order and that, therefore, with regard to those, our concerns are more theoretical at this point than immediate. Nevertheless, we agree with the Environmental Petitioners that the evidence in the Administrative Record is not sufficient to establish that the storm water retention approach will in all cases result in achievement of final WQBELs and other TMDL-specific limitations and, more importantly, are concerned that the Order itself does not incorporate clear requirements that would provide for such verification in the process of implementation.

With regard to evidence in the Administrative Record, it is clear that the storm water retention approach is a promising approach for achieving compliance with receiving water limitations, with multiple additional environmental benefits. But the research regarding the storm water retention approach is still in early stages and we cannot say with certainty at this point that implementation will lead to compliance with receiving water limitations in all cases.[121]

With that conclusion in mind, we look to the Los Angeles MS4 Order itself to determine if there are sufficient additional provisions to assure that, in the long run, the storm water retention approach will achieve the ultimate goal of compliance with receiving water limitations. We first note that the Order does not require a reasonable assurance analysis when

[120] See e.g. Administrative Record, section 10.VI.C**,** RB-AR29263-29311, RB-AR32318-32350.

[121] We reviewed the citations to the Administrative Record provided in the Los Angeles Water Board October 15, 2013 Response and in the October 15, 2013 Responses of many of the Petitioners. We find that the cited studies show the storm water retention to be a promising approach to meeting water quality standards, but do not establish, at a sufficiently high level of confidence, that the storm water retention approach will definitively achieve compliance with the receiving water limitations.

a Permittee opts for the storm water retention approach. Permittees are required to conduct a reasonable assurance analysis for each water body-pollutant combination addressed by a WMP, with the objective of demonstrating the ability of the controls to ensure that MS4 discharges achieve applicable WQBELs and do not cause or contribute to exceedances of receiving water limitations.[122] The relevant provisions reference EWMPs, but elsewhere the Order states that the reasonable assurance analysis is only required for areas covered by the EWMP where retention of the 85th percentile, 24-hour storm event is not feasible.[123] The Fact Sheet also implies that the requirement for a reasonable assurance analysis is confined to situations where the storm water retention approach is not feasible.[124] In sum, then, Permittees that choose to develop and implement an EWMP are required to conduct a reasonable assurance analysis for each waterbody-pollutant combination addressed by the EWMP, except in the drainage areas that are tributary to the storm water retention projects.

The fact that the storm water retention approach does not require a reasonable assurance analysis prior to implementation to demonstrate the ability of the approach to achieve compliance with the limitations is mitigated in part by required monitoring and adaptive management to verify compliance following implementation. Although the provision could be clearer, we read the language "[i]n drainage areas where Permittees are implementing an EWMP" in Part VI.E.2.e.i.(4) to require Permittees to be in compliance with all aspects of the EWMP, including the monitoring and adaptive management provisions of Parts VI.C.7 and 8, to be deemed in compliance with final limitations through the storm water retention approach. As we read the Order, a Permittee's showing that it has retained all non-storm water and all storm water up to and including the volume equivalent to the 85th percentile, 24-hour event, establishes compliance, but only if the Permittee continues to conduct monitoring and adapt the EWMP in response to the monitoring. The Los Angeles Water Board appears to read the Order the way we do, as it states in its October 15, 2013 Response that "the Permit requires monitoring and adaptive management, which will continue to inform the Los Angeles Water Board regarding the efficacy of this storm water retention approach in conjunction with implementation of the other storm water management program elements and any needed

[122] Los Angeles MS4 Order, Part VI.C.5.b.iv.(5), pp. 63-64.

[123] *Id.*, Part VI.C.1.g., p. 48.

[124] *Id.*, Att. F, Fact Sheet, p. F-39.

modifications to the approach."[125] The Los Angeles Water Board further states in comments submitted on a draft of this order, as follows:

> The Los Angeles MS4 Order does not exclude EWMPs or areas within an EWMP where the stormwater retention standard is achieved from the integrated watershed monitoring, assessment and adaptive management processes. Neither does the Los Angeles MS4 Order specify or contemplate an end to the monitoring, assessment and adaptive management processes in the case of a Watershed Management Program (WMP) or EWMP. These required elements, including receiving water and outfall monitoring, evaluation of these monitoring data, and modification of the EWMP to improve its effectiveness, will be continually conducted throughout the Watershed Management Area addressed by the EWMP. . . . The Los Angeles Water Board understood that these regional multi-benefit projects would take time to implement and that Permittees needed to be afforded this time in the Los Angeles MS4 Order. The Los Angeles Water Board will continually evaluate progress during the implementation period. If, as full implementation nears, some Receiving Water Limitations are still not achieved, the Los Angeles Water Board and State Water Board have a variety of tools that can be used at a regional or statewide level including reconsideration of TMDLs, Basin Planning actions, policy development and permitting, among others.[126]

We will make a revision to Part VI.E.2.e.i. to make it clear that the Permittee must be in compliance with all other requirements of the EWMP in addition to implementation of the storm water retention approach in order to be deemed in compliance with the final WQBELs and other TMDL-specific limitations.

With no definitive evidence in the record establishing that the storm water retention approach will achieve final requirements, no reasonable assurance analysis required at the outset, and reliance only on subsequent monitoring and adaptive management to improve results if final limitations are not in fact achieved, the storm water retention approach does not provide a level of assurance of success that would lead us to conclude that its implementation, with nothing else, is sufficient to constitute compliance with final WQBELs and other TMDL-specific limitations. We understand that there are nevertheless very good reasons to encourage its use. Certainly for all non-storm water and for all storm water generated in storms up to the 85th percentile storm, the storm water retention approach achieves compliance because there is no discharge. And there are significant benefits beyond water quality, including most importantly benefits to water supply. We also believe that public projects requiring investment of this magnitude are unlikely to be carried out without a commitment from the water boards that Permittees will be considered in compliance even if the resulting improvement in water quality

[125] Los Angeles Water Board, October 15, 2013 Response, p. 62.

[126] Los Angeles Water Board, Comment Letter, January 21, 2015, pp. 2-3.

does not rise all the way to complete achievement of the final WQBELs and other TMDL-specific limitations.

We are not willing to go as far as saying that compliance with the storm water retention approach alone constitutes compliance with final WQBELs and other TMDL-specific limitations for all time, regardless of the actual results.[127] Nonetheless, we anticipate that implementation of such projects will bring the drainage area most and, in many cases, all of the way to achievement of water quality standards. Where there is still a gap in required water quality improvement, we expect the Executive Officer of the Los Angeles Water Board to require appropriate actions, consistent with the provisions of the Los Angeles MS4 Order and the Los Angeles Water Board's stated interpretation of those provisions,[128] to close that gap with additional control measures in order for the Permittee to be considered in compliance with the WQBEL or other TMDL-specific limitation. There are various mechanisms to provide assurances that additional control measures will be implemented to achieve the WQBEL or other TMDL-specific limitation, and in some instances, it may be appropriate for the Los Angeles Water Board to issue a time schedule order governing the implementation of further control measures. Further, as acknowledged by the Los Angeles Water Board in its comments, in some circumstances, reconsideration of the underlying TMDLs and the final deadlines within those TMDLs may instead be warranted.[129] We additionally recognize that municipal storm water management is an area of continued development and, with continued research and data evaluation, water quality standards may evolve and become more nuanced or sophisticated over time.

While we decline to interpret the storm water retention approach to, in and of itself, constitute compliance with final WQBELs and other TMDL-specific limitations, we emphasize here that any additional control measures to reach compliance that may be required by the Los Angeles Water Board must not require changes to installed storm water retention projects. Any revisions should be prospective in nature and should not disturb projects that Permittees have already installed in good faith to comply with the provisions of their EWMP.

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[127] Further, Permittees still have substantial incentive to develop and implement an EWMP. If a permittee pursues an EWMP, it will be deemed in compliance with the receiving water limitations during the EWMP development phase, and it may also recognize significant non-water quality benefits.

[128] Los Angeles Water Board, Comment Letter, January 21, 2015, pp. 2-3. As explained in footnote 110, at this time we see limited options available to the Los Angeles Water Board in addressing compliance with final deadlines for WQBELs and other TMDL-specific limitations.

[129] We also acknowledge the need for and commit to supporting state-wide solutions for source reduction as appropriate, similar to the brake pad legislation adopted to address copper discharges. (Senate Bill 346 (approved by the Governor September 27, 2010).)

Ultimately, we must set out to verify through appropriate monitoring that final WQBELs and other TMDL-specific limitations can be achieved through the storm water retention approach, or be willing to revise that approach. However, new or additional measures required at that point should be additive to the storm water retention approach measures already installed.

In sum, despite the uncertainty inherent in allowing the storm water retention approach, we concur in its use in the Los Angeles MS4 Order, with the clarification that ultimate compliance is subject to continued planning, monitoring and adaptive management. We shall amend Part VI.E.2.e.i. as follows:

> i. A Permittee shall be deemed in compliance with an applicable final water quality-based effluent limitation and final receiving water limitation for the pollutant(s) associated with a specific TMDL if any of the following is demonstrated:
>
> . . .
>
> (4) In drainage areas where Permittees are implementing an EWMP, (i) all non-storm water and (ii) all storm water runoff up to and including the volume equivalent to the 85th percentile, 24 hour event is retained for the drainage area tributary to the applicable receiving water**, and the Permittee is implementing all requirements of the EWMP, including, but not limited to, Parts VI.C.7 and VI.C.8 of this Order**. This provision (4) shall not apply to final trash WQBELs.

b. Compliance with Final Receiving Water Limitations

The Los Angeles MS4 Order states that for receiving water limitations associated with water-body pollutant combinations addressed in a TMDL, compliance with the TMDL requirements of the Order in Part VI.E and Attachments L through R constitutes compliance with the receiving water limitations in Part V.A.[130] In other words, if there is an exceedance for a pollutant in a water body that has a TMDL addressing that pollutant, as long as the Permittee is complying with the requirements for the TMDL, the Permittee is deemed in compliance with the receiving water limitation. No petitioner has contested this provision and we find that it constitutes an appropriate approach to compliance with receiving water limitations for water body-pollutant combinations that are addressed by a TMDL.

For exceedances of receiving water limitations for a water body-pollutant combination not addressed by a TMDL, as previously discussed, the Permittee must either incorporate control measures to address the exceedances into the Permittee's WMP/EWMP or comply directly with the receiving water limitations provisions of Part V.A of the Order. For

[130] Los Angeles MS4 Order, Part VI.E.2.c.ii., p. 143.

Permittees that choose the WMP/EWMP approach, the WMP/EWMP must incorporate "a final date for achieving the receiving water limitation."[131] To the extent the Permittee does not achieve the limitation by that final date and does not request and receive an extension, the Permittee has "fail[ed] to meet [a] requirement or date for its achievement in an approved Watershed Management Program or EWMP"[132] and is immediately subject to the receiving water limitations provisions of the Order, with the same result that it is out of compliance. In other words, implementation of non-structural and structural control measures in accordance with the timelines established in the WMP/EWMP constitutes compliance with the receiving water limitations up until the final deadline for achievement of the relevant receiving water limitation; however, at the deadline for final compliance, there must be verification of achievement based on the receiving water limitation itself. While we find that the Order provisions lead to this result as written, for the sake of greater clarity, we will specifically state that final compliance with receiving water limitations must be determined through verification that the receiving water limitation is actually being achieved.

We shall amend Part VI.C.2.c. as follows:

> **c.** If a Permittee fails to meet any requirement or date for its achievement in an approved Watershed Management Program or EWMP, the Permittee shall be subject to the provisions of Part V.A. for the waterbody-pollutant combination(s) that were to be addressed by the requirement. **For water body-pollutant combinations that are not addressed by a TMDL, final compliance with receiving water limitations is determined by verification through monitoring that the receiving water limitation provisions in Part V.A.1 and 2 have been achieved.**

c. Compliance with the Non-Storm Water Discharge Prohibition

The Environmental Petitioners suggest that the Los Angeles MS4 Order is unclear as to whether compliance with the WMP/EWMP may also constitute compliance with the non-storm water discharge prohibition of the Order. We disagree that the Los Angeles MS4 Order is unclear on this issue. The Permittees' obligation to comply with the receiving water limitations and WQBELs and other TMDL-specific limitations in Parts V.A and VI.E is independent of the Permittees' obligation to comply with the effective prohibition of non-storm water discharges in Part III.A. The several provisions stating that Permittees will be deemed to be in compliance with the receiving water limitations of the Los Angeles MS4 Order for implementing the WMP/EWMP specifically reference Parts V.A and VI.E of the Order and not

[131] *Id.*, Part VI.C.5.c.iii.(3)(b), p. 65.

[132] *Id.*, Part VI.C.2.c., p. 52.

III.A.[133] This notwithstanding, Parts VI.C.1.d and VI.C.5.b.iv.(2) require that a Permittee's WMP/EWMP include program elements and control measures to effectively prohibit non-storm water discharges consistent with Part III.A and Part VI.D.4.d or VI.D.10. Therefore, a Permittee's implementation of program elements and control measures consistent with Part III.A and Part VI.D.4.d or VI.D.10, through its approved WMP/EWMP, may provide a mechanism for compliance with Part III.A. Although we accordingly see no need to direct revisions to the Order, we provide this clarification here to respond to the Environmental Petitioners' concern and address any confusion that may exist.

6. "Safe Harbor" During the Planning Phase for the WMP/EWMP

Under the Los Angeles MS4 Order, a Permittee that has declared its intention to develop a WMP/EWMP is deemed in compliance with the receiving water limitations and with interim WQBELs with due dates prior to approval of the WMP/EWMP for the water body-pollutant combinations the WMP/EWMP addresses, provided it meets certain conditions, even though the Permittee is developing, not implementing the WMP/EWMP. Specifically, the Permittee is deemed in compliance if the Permittee (1) provides timely notice of its intent to develop a WMP/EWMP; (2) meets all interim and final deadlines for development of a WMP/EWMP; (3) targets implementation of watershed control measures in the existing program

[133] Los Angeles MS4 Order, Parts VI.C.2.b., p. 52, VI.C.3.a., p. 53, VI.E.2.c.ii., p. 143, VI.C. 2.d., pp. 52-53, VI.E.2.d.i.(4)(d), p. 144. To the extent that a non-storm water discharge authorized by Part III.A may be causing or contributing to an exceedance of receiving water limitations in V.A, compliance with the WMP/EWMP provisions would constitute compliance with the receiving water limitations and any relevant interim WQBELs and other TMDL-specific limitations, as long as the WMP/EWMP addresses the water body-pollutant combination for that water body. However, the discharger would have to additionally comply with requirements in Part III.A. and Part VI.D.4.d or VI.D.10 through its approved WMP/EWMP for conditionally exempt non-storm water discharges that are found to cause or contribute to an exceedance in the receiving water. (See *id.*, Part III.A.4.c.-e., pp. 31-32.) We disagree that every discharge from a Permittee's MS4 to the receiving water of non-storm water that is not specifically authorized under Part III.A will necessarily be subject to enforcement under the Los Angeles MS4 Order. Section 402(p)(3)(B)(ii) of the Clean Water Act imposes a requirement to "effectively prohibit" non-storm water discharges. Part III.A of the Los Angeles MS4 Order effectuates that requirement with a requirement for the Permittee to prohibit non-storm water discharges: "Each Permittee shall, for the portion of the MS4 for which it is an owner or operator, prohibit non-storm water discharges through the MS4 to receiving waters, except where such discharges are . . . [listing exceptions]." (Los Angeles MS4 Order, Part III.A.1, p. 27.) The Los Angeles MS4 Order incorporates a specific and detailed programmatic requirement – the Illicit Connections and Illicit Discharges Elimination Program – for the Permittees to achieve their obligation to effectively prohibit non-storm water discharges. (Los Angeles MS4 Order, Parts VI.D.4.d., pp. 81-86, VI.D.10, pp. 137-141.) We recognize that even the most comprehensive efforts to address unauthorized non-storm water discharges may not eliminate all such discharges. Where a Permittee is fully implementing its Illicit Connections and Illicit Discharges Elimination Program, either pursuant to Parts VI.D.4.d. or VI.D.10, or by incorporation of customized actions into a WMP/EWMP as approved by the Los Angeles Water Board (see Los Angeles MS4 Order Part VI.D.1.a., p. 67), we would expect any enforcement action under Part III.A to be supported by a fact-specific analysis of the nature and source of the unauthorized non-storm water discharge and the efforts of the Permittee to prohibit the discharge.

to address known contributions of pollutants; and (4) receives approval of the WMP/EWMP within the specified time periods.[134]

The Environmental Petitioners object to the availability of a "safe harbor" during the planning phase. We disagree with the Environmental Petitioners that providing a "safe harbor" in the planning phase is disallowed by applicable law -- see our discussion of anti-backsliding requirements in section II.B.1. and antidegradation requirements in section II.B.2. However, we understand that deeming a discharger in compliance with receiving water limitations during the planning phase, not just the implementation phase, could weaken the incentive for Permittees to efficiently and timely seek approval of a WMP/EWMP and to move on to implementation. It is the implementation of the WMP/EWMP that will in fact lead to progress toward compliance with receiving water limitations; the planning phase is essential, but should be only as long as necessary for a well-planned program with carefully analyzed controls to be developed. Given the significance of the water quality issues addressed by the WMP/EWMPs, it is paramount that implementation begin as soon as feasible. Accordingly, the "safe harbor" in the planning phase is appropriate only if it is clearly constrained in a manner that sustains incentives to move on to approval and implementation and is structured with clear, enforceable provisions.

Having reviewed the planning sections of the WMP/EWMP provisions carefully, we find that the Los Angeles MS4 Order does sufficiently constrain the planning phase, so that the "safe harbor" provided is not unreasonable. As already stated, compliance is deemed only if the Permittee is meeting the relevant deadlines for development and approval of the WMP/EWMP.[135] There are no provisions in the Order that allow for extensions to these deadlines. If a Permittee fails to obtain approval within the allowed number of months for the development of a WMP/EWMP, the Order states that the Permittee must then instead demonstrate actual compliance with receiving water limitations and with applicable interim WQBELs.[136] The Los Angeles MS4 Order is also clear that achievement of any TMDL-associated final deadlines occurring prior to the approval deadlines for the WMP/EWMP cannot be excused through commitment to planning for a WMP/EWMP.[137]

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[134] *Id.*, Parts VI.C.2.d., p. 52, VI.C.3.b., p. 53, VI.E.2.d.i.(4)(d), p. 144.

[135] *Id.*, Parts VI.C.2.d., p. 52, VI.C.3.b., p. 53, VI.E.2.d.i.(4)(d), p. 144.

[136] *Id.*, Part VI.C.4.e., p. 58.

[137] *Id.*, Parts VI.C.3.c., p. 53, VI.C.4.d.iii, p. 58. Under Part VI.C.4.d.iii., Permittees must ensure that MS4 discharges achieve compliance with interim, in addition to final, trash WQBELs during the planning phase.

Further, Permittees are subject to a number of conditions during the planning phase that will ensure that progress toward achievement of receiving water limitations is not put on hold pending approval of the plan. These include requirements to put in place Low Impact Development (LID) ordinances and green streets policies[138] and to continue to implement watershed control measures in the existing storm water management programs, including those to eliminate non-storm water discharges,[139] but in a manner that is targeted to address known pollutants.[140]

Given the clear, enforceable requirements limiting the planning phase of the WMP/EWMP provisions, we find that the Los Angeles MS4 Order's inclusion of provisions deeming compliance with the receiving water limitations and with interim WQBELs during development of the programs is reasonable.

In fact, we are concerned that the Los Angeles Water Board has left no room for any deviation from the prescribed development schedule for WMP/EWMPs. A Permittee working in good faith to develop a WMP/EWMP over multiple months may encounter an issue that requires it to ask for a short extension on an interim or final deadline. Under such circumstances, the Los Angeles Water Board should be able to consider the request for the extension, rather than have its hands tied and have to reject a WMP/EWMP based on lack of timeliness. We will add a provision to the Order that provides the Los Angeles Water Board or its Executive Officer discretion in granting such extensions, but the Permittee will not be deemed in compliance with the applicable receiving water limitations and WQBELs during the period of the extension.

We shall add a new Part VI.C.4.g. as follows:

g. Permittees may request an extension of the deadlines for notification of intent to develop a Watershed Management Program or EWMP, submission of a draft plan, and submission of a final plan. The extension is subject to approval by the Regional Water Board or the Executive Officer. Permittees that are granted an extension for any deadlines for development of the WMP/EWMP shall be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A. and with applicable interim water quality-based effluent limitations in Part VI.E pursuant to subparts VI.E.2.d.i.(1)-(3) until the Permittee has an approved WMP/EWMP in place.

[138] *Id.*, Part VI.C.4.c., pp. 56-57.

[139] *Id.*, Part VI.C.4.d.i.-ii., pp. 57-58.

[140] *Id.*, Parts VI.C.2.d.iii., pp. 52-53, VI.C.3.b.iii., p. 53, VI.E.2.d.i.(4)(d)(3), p. 144.

7. Conclusion

In conclusion, we uphold the WMP/EWMP provisions as a reasonable alternative compliance option for meeting receiving water limitations and uphold the WMP/EWMP provisions in all other aspects, except as specifically stated above. We find that the WMP/EWMP approach is a clearly defined, implementable, and enforceable alternative to the receiving water limitations provisions that we mandated in Order WQ 99-05, and that the alternative provides Permittees an ambitious, yet achievable, path forward for steady and efficient progress toward achievement of those limitations while remaining in compliance with the terms of the permit.

We direct all regional water boards to consider the WMP/EWMP approach to receiving water limitations compliance when issuing Phase I MS4 permits going forward.[141] In doing so, we acknowledge that regional differences may dictate a variation on the WMP/EWMP approach, but believe that such variations must nevertheless be guided by a few principles.[142] We expect the regional water boards to follow these principles unless a regional water board makes a specific showing that application of a given principle is not appropriate for region-specific or permit-specific reasons.

1. The receiving water limitations provisions of Phase I MS4 permits should continue to require compliance with water quality standards in the receiving water and should not deem good faith engagement in the iterative process to constitute such compliance. The Phase I MS4 permits should therefore continue to use the receiving water limitations provisions as directed by State Water Board Order WQ 99-05.

[141] We acknowledge that small MS4s permitted under the statewide General Permit for WDRs for Storm Water Discharges from Small MS4s (Order No. 2013-0001-DWQ) (General Phase II MS4 Permit) have similar practical issues as Phase I permittees in complying with receiving water limitations. Nevertheless, because the General Phase II MS4 Permit is issued by the State Water Board, not the regional water boards, we limit our guidance to regional water boards to the Phase I permits. The State Water Board is committed to working with small MS4s, the regional water boards, and interested persons in developing an alternative compliance option for the General Phase II MS4 Permit.

[142] In considering appropriate guidance for regional water boards drafting alternative compliance paths in municipal storm water permits, we have reviewed the proposed "strategic compliance program" model language that was submitted by the California Stormwater Quality Association (CASQA) and supported in whole or in part by a number of interested persons. (CASQA August 15, 2013 Receiving Water Limitations Submission, Attachment A, Section E.) While we have not in these proceedings adopted the CASQA language, or, for that matter, any specific language, for alternative compliance path provisions, regional water boards remain free to consider and incorporate the CASQA approach into their municipal storm water permits to the extent they determine and document that the approach, including any modifications, satisfies the principles we set out in this section as well as all other direction we have provided in this order.

2. The Phase I MS4 permits should include a provision stating that, for water body-pollutant combinations with a TMDL, full compliance with the requirements of the TMDL constitutes compliance with the receiving water limitations for that water body-pollutant combination.
3. The Phase I MS4 permits should incorporate an ambitious, rigorous, and transparent alternative compliance path that allows permittees appropriate time to come into compliance with receiving water limitations without being in violation of the receiving water limitations during full implementation of the compliance alternative.
4. The alternative compliance path should encourage watershed-based approaches, address multiple contaminants, and incorporate TMDL requirements.
5. The alternative compliance path should encourage the use of green infrastructure and the adoption of low impact development principles.
6. The alternative compliance path should encourage multi-benefit regional projects that capture, infiltrate, and reuse storm water and support a local sustainable water supply.
7. The alternative compliance path should have rigor and accountability. Permittees should be required, through a transparent process, to show that they have analyzed the water quality issues in the watershed, prioritized those issues, and proposed appropriate solutions. Permittees should be further required, again through a transparent process, to monitor the results and return to their analysis to verify assumptions and update the solutions. Permittees should be required to conduct this type of adaptive management on their own initiative without waiting for direction from the regional water board.

8. Direction to the Los Angeles Water Board to Report to the State Water Board on Implementation

We recognize that our review has been limited to the provisions of the Los Angeles MS4 Order. The success of the WMP/EWMP approach depends in large part on the steps that follow adoption of these provisions, i.e., the effort invested by Permittees in developing WMPs/EWMPs that truly address the stringent provisions of the Order, the precision with which the Los Angeles Water Board reviews the draft programs and requires revisions, and, most importantly, the actual implementation and appropriate enforcement of the programs once approved. The work going forward must ensure that the WMPs/EWMPs in fact exhibit the rigor and accountability the provisions of the Los Angeles MS4 Order demand. We expect that the Los Angeles Water Board will make careful oversight and enforcement a priority and that they will be aided in this process by the public review and comment opportunities built into the terms of the Order.

The process of developing the WMPs/EWMPs is currently ongoing -- the Los Angeles Water Board has been reviewing draft and revised draft WMPs and workplans for EWMPs – and, although we have been asked by the Environmental Petitioners to take official notice of some of the submissions and conditional approvals in the process, it is premature for the State Water Board to speak to the sufficiency of the resulting WMPs/EWMPs until the Los Angeles Water Board, with full input from the stakeholders, has had the opportunity to consider, revise, and finally approve the programs. We note again that all documents submitted to the Los Angeles Water Board Executive Officer for approval are subject to a 30-day public comment period[143] and that any formal determination or approval by the Executive Officer may be reviewed by the Los Angeles Water Board upon request by an interested person.[144] And an interested person may petition the State Water Board to review an action or failure to act of the Los Angeles Water Board.[145]

Once the WMPs/EWMPs are approved, ensuring that they are diligently and timely implemented must remain a top priority for the Los Angeles Water Board. We expect that the Los Angeles Water Board will continue to work cooperatively and closely with the Permittees, the Environmental Petitioners, and other interested persons in this process, but that the Board will also use its enforcement authority to ensure that appropriate progress is made toward water quality goals. We intend to remain involved in this process, as we must learn statewide from the successes and shortcomings of the approach we are endorsing with this order. We accordingly direct the Los Angeles Water Board to report to us on progress in implementation of the WMPs/EWMPs, and progress in improving water quality during this and the next permit term by February 28, 2018, by February 29, 2020, and by March 31, 2022. Specifically, we ask that the Los Angeles Water Board report on region-wide data for the following:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;

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[143] Los Angeles MS4 Order, Part V.A.5.b, p. 42.

[144] *Id*., Part V.A.6, p. 42.

[145] Wat. Code, § 13320. On April 28, 2015, the Executive Officer of the Los Angeles Water Board conditionally approved several submitted WMPs. On May 28, 2015, the Environmental Petitioners filed a petition challenging the conditional approvals and requesting review by the Los Angeles Water Board and by the State Water Board of the Executive Officer's determination.

- Comparison of the effectiveness of the control measures to the results projected by the reasonable assurance analyses;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the WMPs/EWMPs;
- Control measures proposed to be completed in the next two years pursuant to the WMPs/EWMPs and the schedule for completion of those control measures;
- Status of funding and implementation for control measures proposed to be completed in the next two years;
- Trends in receiving water quality related to pollutants typically associated with storm water;
- Available permit compliance data, including requests for compliance extensions;
- Enforcement actions taken and results.

In addition to covering the above information, the third report shall summarize and reflect the comprehensive information gathered through the updates of the reasonable assurance analyses and WMPs/EWMPs conducted by the Permittees in the second permit term.

C. Appropriateness of TMDL Requirements

Section 303(d) of the Clean Water Act requires the water boards to identify impaired water bodies that do not meet water quality standards after applying required technology-based effluent limitations.[146] TMDLs are developed by either the regional water boards or by USEPA in response to section 303(d) listings of impaired water bodies. A TMDL is defined as the sum of the individual wasteload allocations for point sources of pollution, the load allocations for nonpoint sources of pollution, and the contribution from background sources of pollution,[147] and represents the maximum amount of a pollutant that a water body may receive and still achieve water quality standards. TMDLs developed by regional water boards include implementation provisions[148] and are typically incorporated into the regional water board's water quality control plan.[149] TMDLs developed by USEPA typically contain the total load and load allocations required by section 303(d), but do not set out comprehensive implementation provisions.[150] Most TMDLs are not self-executing, but instead rely upon subsequently-issued permits to impose requirements on discharges that implement the TMDLs' wasteload

[146] 33 U.S.C. § 1313(d).

[147] 40 C.F.R. § 130.2(i).

[148] Wat. Code, §§ 13050, subd. (j), 13242.

[149] See 40 C.F.R. §§ 130.6(c)(1).

[150] *Am. Farm Bureau Fed'n v. U.S. E.P.A.* (M.D. Pa. 2013) 984 F. Supp. 2d 289, 314.

allocations.[151] The Los Angeles MS4 Order includes TMDL-specific requirements that implement 33 TMDLs (twenty-five adopted by the Los Angeles Water Board, seven established by USEPA, and one adopted by the Santa Ana Regional Water Quality Control Board that assigned requirements to two Permittees of the Los Angeles MS4 Order) in Part VI.E and in Attachments L-R.

Petitioners raise a number of challenges to the TMDL-based requirements of the Los Angeles MS4 Order. We take up several of those arguments in this section.[152]

1. Inclusion of Numeric WQBELs

Permittee Petitioners argue that the numeric WQBELs incorporated into the Los Angeles MS4 Order as TMDL-based limitations are contrary to the Clean Water Act and to state law and policy. We disagree.

Under the federal regulations implementing the Clean Water Act, effluent limitations in NPDES permits developed to achieve water quality standards must be consistent with the assumptions and requirements of any available wasteload allocation for the discharge.[153] In addition, the Porter-Cologne Act requires that waste discharge requirements implement any relevant water quality control plans,[154] including TMDL requirements that have been incorporated into the water quality control plans. The Los Angeles MS4 Order incorporates numeric WQBELs and other limitations that the Los Angeles Water Board found are consistent with the TMDL requirements applicable to the Permittees.

Permittee Petitioners argue that there is no requirement under federal law for incorporation of TMDL requirements into an MS4 permit and that the inclusion of the requirements in Part VI.E and in Attachments L-R was therefore at the discretion of the Los Angeles Water Board. They point out, as we acknowledged in section II.A, that MS4 discharges must meet a technology-based standard of prohibiting non-storm water discharges and reducing pollutants in the discharge to the MEP, but that requirements to strictly meet water quality standards are at the discretion of the permitting agency.[155] Because TMDL requirements are a path to achieving water quality standards, the Permittee Petitioners argue, the Los Angeles Water Board had the discretion not to include them in the Los Angeles MS4 Order.

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[151] *City of Arcadia v. EPA* (N.D. Cal. 2013) 265 F.Supp.2d 1142, 1144-1145.

[152] We note that we do not take up any arguments that challenge the terms of the TMDLs. Those arguments should have been made during the public process when the TMDLs were adopted. They are untimely now.

[153] 40 C.F.R. § 122.44(d)(1)(vii)(B).

[154] Wat. Code, § 13263, subd. (a).

[155] 33 U.S.C. § 1342(p); *Defenders of Wildlife*, *supra*, 191 F.3d 1159.

Answering the question of whether the Los Angeles Water Board was required under federal law to strictly effectuate TMDL compliance through the Los Angeles MS4 Order is a largely irrelevant exercise because we have already reaffirmed in this order that we will continue to require water quality standards compliance in MS4 permits. Further, given the back-stop nature of TMDLs, and the fact that each set of dischargers must meet their share of the allocation to reach the total reductions set out, a regime in which municipal storm water dischargers were given a pass on TMDL obligations would render the promise of water quality standards achievement through TMDLs illusory. This is especially true in a large urbanized area where pollutants in storm water constitute a significant share of the impairment and where other dischargers would be disproportionately burdened if MS4s were not held to their allocations. Although not dispositive, we also note that USEPA has assumed in guidance (discussed in more detail below) issued on storm water and TMDL implementation that MS4 permits must incorporate effluent limitations consistent with the assumptions and requirements of relevant wasteload allocations.[156] To the extent the TMDL provisions of the Clean Water Act and the federal regulations could be read to preclude mandatory incorporation of wasteload allocations into an MS4 permit, effluent limitations consistent with those load allocations should nevertheless be required under Clean Water Act section 402, subsection (p)'s direction that the MS4 permit shall require "such other controls" as the permitting authority determines "appropriate for the control of such pollutants."[157] Finally, for TMDLs incorporated into water quality control plans, the implementation plan associated with the TMDL applies to all dischargers named, including MS4 permittees, and the MS4 permits must be consistent with the direction in the water quality control plan.[158]

Having found that the Los Angeles Water Board acted in a manner consistent with federal and state law when it developed WQBELs to address applicable TMDLs, we next turn to whether *numeric* WQBELs were appropriate. We find that the Los Angeles Water Board

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[156] USEPA, Memorandum, "Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," (Nov. 22, 2002) (2002 USEPA Memorandum); see also USEPA, Memorandum, "Revisions to the November 22, 2002 Memorandum 'Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,' " (Nov. 26, 2014) (2014 USEPA Memorandum). The 2014 USEPA Memorandum replaced a memorandum with the same title issued on November 12, 2010, which was subsequently opened to public comment. (USEPA Statement (March 17, 2011), available at <http://water.epa.gov/polwaste/npdes/stormwater/upload/sw_tmdlwla_comments.pdf> (as of Nov. 18, 2014).)

[157] 33 U.S.C. § 1342(p)(3)(B)(iii). See, e.g., State Water Board Orders WQ 91-03, WQ 91-04, WQ 98-01, WQ 99-05, WQ 2001-15.

[158] Wat. Code, § 13263, subd. (a); see also *State Water Res. Control Bd. Cases* (2006) 136 Cal. App. 4th 674, 730 (noting the obligation of the water boards to follow the program of implementation included in a water quality control plan).

acted within its legal authority when establishing numeric WQBELs, and further that its choice of numeric WQBELs was a reasonable exercise of its policy discretion.

In the context of MS4 discharges, effluent limitations in NPDES permits may be expressed in the form of either numeric limitations or best management practices (BMPs). The federal regulations specifically state that BMP-based effluent limitations may be used to control pollutants for storm water discharges.[159] USEPA has issued two memoranda, on November 22, 2002 (2002 USEPA Memorandum), and on November 26, 2014 (2014 USEPA Memorandum), providing guidance to the states on translating wasteload allocations for storm water into effluent limitations in NPDES Permits.[160] The 2002 USEPA Memorandum contemplated that "the NPDES permitting authority will review the information provided by the TMDL . . . and determine whether the effluent limit is appropriately expressed using a BMP approach (including an iterative BMP approach) or a numeric limit."[161] The 2002 USEPA Memorandum further stated that "EPA expects that most WQBELs for NPDES-regulated municipal . . . storm water discharges will be in the form of BMPs, and that numeric limits will be used only in rare instances."[162] The 2014 USEPA Memorandum, after noting the increased information available to the permitting agencies after more than a decade of experience with setting wasteload allocations and effluent limitations, explained that:

> Where the TMDL includes WLAs for stormwater sources that provide numeric pollutant loads, the WLA should, where feasible, be translated into effective, measurable WQBELs that will achieve this objective. This could take the form of a numeric limit, or of a measurable, objective BMP-based limit that is projected to achieve the WLA. . . . The permitting authority's decision as to how to express the WQBEL(s), either as numeric effluent limitations or as BMPs, with clear, specific, and measurable elements, should be based on an analysis of the specific facts and circumstances surrounding the permit, and/or the underlying

[159] 40 C.F.R. § 122.44(k)(2); see also 33 U.S.C. § 1342(p)(3)(B)(iii). 40 Code of Federal Regulations section 122.44(k)(3) further contemplates that BMP-based effluent limitations are appropriate where it is infeasible to develop a numeric effluent limitation.

[160] 2002 USEPA Memorandum; 2014 USEPA Memorandum. In addition to the two memoranda, USEPA published guidance titled "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits" ((Sept. 1996) 61 Federal Register 57425), which recommended inclusion of BMPs in first-round permits, and expanded or better-tailored BMPs in subsequent permits. In 2005, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limitations in storm water permits. The report concluded that it was not feasible, at that time, to set enforceable numeric effluent limitations for municipal storm water discharges.

[161] 2002 USEPA Memorandum, p. 5.

[162] *Id.*, p. 2.

> WLA, including the nature of the stormwater discharge, available data, modeling results, and other relevant information.[163]

Both options – to choose BMP-based WQBELs or to choose numeric WQBELs – were legally available to the Los Angeles Water Board. In adopting numeric WQBELs, the Los Angeles Water Board analyzed the specific facts and circumstances surrounding storm water discharges in the region and reasonably concluded that numeric WQBELs were warranted because storm water discharges constituted a significant contributor to the water quality standards exceedances in the area and the exceedances had not been to date resolved through BMP-based requirements. Moreover, the Los Angeles Water Board concluded that it could feasibly develop numeric WQBELs following the extensive work already conducted to develop the TMDLs, which involved analyzing pollutant sources and allocating loads using empirical relationships or quantitative models. We will not second-guess the determination of the Los Angeles Water Board, given its extensive and unique role in developing the TMDLs and the permit to implement the TMDLs, that numeric WQBELs were appropriate for the Los Angeles MS4 Order.[164]

We emphasize, however, that we are not taking the position that numeric WQBELs are appropriate in all MS4 permits or even with respect to certain TMDLs within an MS4 permit. In a recent amendment to State Water Board Order 2011-0011-DWQ, NPDES Statewide Storm Water Permit for State of California Department of Transportation (Caltrans),[165] we found BMP-based TMDL requirements to be "consistent with the assumptions and requirements of the WLAs" of the TMDLs applicable to Caltrans. That determination was based on a number of factors including the fact that Caltrans, a single discharger, was named in over 80 TMDLs statewide, the fact that Caltrans had relatively little contribution to the exceedances in each of those TMDLs, and the consideration that there was significant efficiency to be gained by streamlining and standardizing control measure implementation throughout Caltrans' statewide storm water program. Similarly, regional water boards may find BMP-based requirements to be appropriate based on TMDL-specific, region-specific, or permittee-specific

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[163] 2014 USEPA Memorandum, p. 6.

[164] The Los Angeles Water Board incorporated a discussion in the Fact Sheet of how the TMDL wasteload allocations were translated into numeric WQBELs in order to implement the TMDLs in the Los Angeles MS4 Order. (Los Angeles MS4 Order, Att.F, Fact Sheet, pp. F-89-F-100). See 40 C.F.R. § 124.8. We are not independently reviewing the calculations and analyses underlying the specific numeric limitations arrived at by the Los Angeles Water Board; rather, our review has been limited to a determination of whether the choice of numeric rather than BMP-based limitations was reasonable. To the extent any petitioners asked us to independently review the issue in their petitions seeking review of the Order, the issue is dismissed. See fn. 11.

[165] State Water Board Order WQ 2014-0077-DWQ.

considerations. In many ways, the Los Angeles MS4 Order was uniquely positioned to incorporate numeric WQBELs because of the extensive TMDL development in the region in the past decade and the documented role of MS4 discharges in contributing to the impairments addressed by those TMDLs. Thus, while we decline to remove the numeric WQBELs from the Los Angeles MS4 Order, we also decline to urge the regional water boards to use numeric WQBELs in all MS4 permits.[166]

2. Requirement for Reasonable Potential Analysis

The federal regulations implementing NPDES permitting require the permitting authority to establish WQBELs for point source discharges when those discharges cause, have the "reasonable potential" to cause, or contribute to an excursion above water quality standards.[167] Permittee Petitioners argue that the Los Angeles Water Board did not conduct an appropriate reasonable potential analysis prior to imposing numeric WQBELs. The argument is misguided. The Los Angeles Water Board established that the MS4 discharges can cause or contribute to exceedances of water quality standards through the process of developing TMDLs and assigning wasteload allocations. At the permitting stage, the Los Angeles Water Board's legal obligation was to develop WQBELs "consistent with the assumptions and requirements of any wasteload allocation" in the TMDLs,[168] and not to reconsider reasonable potential.[169]

3. USEPA-Established TMDLs

USEPA has established seven TMDLs that include wasteload allocations for MS4 discharges covered by the Los Angeles MS4 Order. In contrast to state-adopted TMDLs, USEPA-established TMDLs do not contain an implementation plan or schedule for achievement of the wasteload allocations,[170] with the effect that Permittees must comply with wasteload allocations immediately. To avoid this result, the regional water board may either adopt a

[166] Relying on the 2014 USEPA Memorandum, Permittee Petitioners also argue that the Los Angeles Water Board was required to disaggregate storm water sources within applicable TMDLs. The 2014 USEPA Memorandum only encourages permit writers to assign specific shares of the wasteload allocation to specific permittees during the permitting process, reasoning that permit writers may have more detailed information than the TMDL writers to assign reductions for specific sources. (2014 USEPA Memorandum, p.8.) In an MS4 system as complex and interconnected as that covered under the Los Angeles MS4 Order, we do not expect the permitting authority to be able to disaggregate wasteload allocations by discharger. Further, as discussed in section II.F. on joint responsibility, the Los Angeles MS4 Order has provided a means for Permittees with commingled discharges to demonstrate that they are not responsible for any given exceedance of a limitation.

[167] 40 C.F.R. § 122.44(d)(1)(iii).

[168] 40 C.F.R. § 122.44(d)(1)(vii)(B).

[169] See USEPA, NPDES Permit Writers Manual (updated September 2010), Chapter 6, section 6.3.3.

[170] See, e.g., *Am. Farm Bureau Fed'n v. U.S. E.P.A., supra,* 984 F. Supp. 2d at p. 314.

separate implementation plan as a water quality control plan amendment[171] or issue the Permittee a compliance order with a compliance schedule.[172] For the seven USEPA-established TMDLs applicable to the Permittees, the Los Angeles Water Board authorizes Permittees subject to a wasteload allocation in a USEPA-established TMDL to propose control measures that will be effective in meeting the wasteload allocation, and a schedule for their implementation that is as short as possible, as part of a WMP/EWMP. [173] Permittees that do not submit an adequate WMP/EWMP are required to demonstrate compliance with the wasteload allocations immediately.[174]

Permittee Petitioners argue that the Los Angeles Water Board has acted inconsistently in requiring BMP-based compliance with the USEPA-established TMDLs but requiring numeric WQBELs for the state-established TMDLs. We have already stated above in section C.1 that the permitting authority has discretion to choose between BMP-based and numeric effluent limitations depending on fact-specific considerations. The Los Angeles Water Board was not restricted to choosing one single uniform approach to implementing all 33 TMDLs in the Los Angeles MS4 Order. In fact, straight-jacketing NPDES permit writers to choose one approach to the exclusion of another, even within the confines of a single MS4 permit, would run afoul of USEPA's expectations in the 2014 USEPA Memorandum for a fact-specific, documented justification for the permit requirements included to implement a wasteload allocation.

The Environmental Petitioners argue that the provisions are contrary to law because they excuse Permittees from complying with final numeric wasteload allocations as long as they are implementing the BMPs proposed in the WMP/EWMP. The approach taken by the Los Angeles MS4 Order to compliance here is similar to the provisions for compliance with receiving water limitations that are not otherwise addressed by a TMDL: The Permittee proposes control measures and a timeline that is as short as possible and is considered in compliance with the final numeric limitations while implementing the control measures consistent with the schedule. We find that, given the absence of an implementation plan with final compliance deadlines specified in the Los Angeles Water Board's water quality control

[171] Wat. Code, § 13242.

[172] *Id.*, See, e.g., § 13300.

[173] The Los Angeles MS4 Order's Fact Sheet states that the Los Angeles Water Board may choose to adopt implementation plans or issue enforcement orders in the future. (Los Angeles MS4 Order, Att. F, Fact Sheet, p. F-111.)

[174] Los Angeles MS4 Order, Part VI.E.3., pp. 145-146.

plan, this approach is consistent with the assumptions and requirements of the relevant wasteload allocations. We will not revise the provisions.

D. Non-Storm Water Discharge Provisions

Permittee Petitioners argue that the non-storm water discharge provisions of the Los Angeles MS4 Order are contrary to the Clean Water Act. Specifically, Permittee Petitioners assert that the Los Angeles MS4 Order improperly regulates non-storm water discharges from the MS4 to the receiving waters by imposing the prohibition of discharge "through the MS4 to the receiving waters" and by imposing WQBELs and other numeric limitations, rather than the MEP standard, on dry weather discharges.

The Los Angeles MS4 Order states that "[e]ach Permittee shall, for the portion of the MS4 for which it is an owner or operator, prohibit non-storm water discharges through the MS4 to receiving waters" with certain exceptions including discharges separately regulated under an NPDES permit and discharges conditionally exempt from the prohibition consistent with the federal regulations.[175] Permittee Petitioners take issue with the imposition of the prohibition "through the MS4 to receiving waters" because the language does not track the specific requirement of the Clean Water Act that the MS4 permit "include a requirement to effectively prohibit non-stormwater discharges *into the storm sewer."* (Emphasis added.)[176]

We find the variation in language to be a distinction without a difference. Whether the Los Angeles MS4 Order prohibits non-storm water discharges *into* the MS4 or *through* the MS4 to receiving waters, the intent and effect of the prohibition is to prevent non-exempt non-storm water discharges from reaching the receiving waters.[177] The legal standard governing non-storm water – effective prohibition -- is not altered because the Los Angeles MS4 Order imposes the prohibition at the point of entry into the receiving water rather than the point of entry into the MS4 itself. Instructively, USEPA has used the terms "into," "from," and "through" interchangeably when describing the prohibition.[178]

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[175] *Id.*, Part III.A, pp 27-33.

[176] 33 U.S.C. § 1342(p)(3)(B)(ii).

[177] The Los Angeles Water Board notes that the language in the Los Angeles MS4 Order is not significantly changed from the version in the 2001 Los Angeles MS4 Order, which prohibited non-storm water discharges "into the MS4 and watercourses." The Board additionally asserts that phrasing the prohibition as "through the MS4 to receiving waters" provides Permittees with greater flexibility to use measures that control non-storm water after it enters the MS4, including regional solutions such as low-flow diversions and catch-basin inserts.

[178] See, e.g., 55 Fed. Reg. 47990, 47995-47996 ("Section 402(p)(B)(3) of the CWA requires that permits for discharges *from municipal separate storm sewer systems* require the municipality to 'effectively prohibit' non-storm water discharges *from the municipal separate storm sewer*…Ultimately, such non-storm water discharges *through a municipal separate storm sewer* must either be removed from the system or become subject to an NPDES permit. . . . *(Continued)*

Permittee Petitioners' objection to the phrasing of the prohibition in the Los Angeles MS4 Order appears to be based largely on the assumption that prohibiting non-storm water discharges at the point of entry into the receiving water rather than at the point of entry into the MS4 allows the Los Angeles Water Board to impose requirements on those discharges that would otherwise not be available under the Clean Water Act and federal regulations. We disagree.

As a preliminary matter, regardless of the phrasing of the non-storm water discharge prohibition, MEP is not the standard that governs non-storm water discharges. Permittee Petitioners have asserted that, for non-storm water discharges that enter the MS4, MEP is the governing standard just as it is for storm water discharges. This assertion misinterprets the statute. The Clean Water Act imposes two separate standards for regulation of non-storm water and storm water in an MS4 permit: The MS4 permit "shall include a requirement to effectively prohibit non-stormwater discharges" into the MS4, and "shall require controls to reduce the discharge of pollutants to the maximum extent practicable. . . ."[179] Although the statute imposes the MEP standard to control of "pollutants" rather than specifically to "pollutants in storm water," any reading of section 402(p)(3)(B)(iii) to apply generally to both non-storm water and storm water would render the effective prohibition of non-storm water in section 402(p)(3)(B)(ii) meaningless. The federal regulations confirm the distinction between the treatment of storm water and non-storm water by establishing requirements to prevent illicit discharges from entering the MS4.[180] While the regulations have no definition for "non-storm water discharges," illicit discharges most closely represent the statutory term and are defined as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit . . . and discharges resulting from firefighting activities."[181] Further, contrary to assertions by Permittee Petitioners, the definition of storm water in the federal regulations is not inclusive of dry weather discharges. The federal regulations define storm water as "storm water runoff, snow melt runoff, and surface runoff and

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The CWA prohibits the point source discharge of non-storm water not subject to an NPDES permit *through municipal separate storm sewers to waters of the United States*." (Emphasis added.))

[179] 33 U.S.C. § 1342(p)(3)(b)(iii).

[180] 40 C.F.R. § 122.26(d)(2)(iv)(B).

[181] *Id.*, § 122.26(b)(2). The preamble to the regulations states: "Today's rule defines the term 'illicit discharge' to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit." (55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).)

drainage."[182] Surface runoff and drainage cannot be understood to refer to dry weather discharges where USEPA has specifically stated in the preamble to the relevant regulations that it would not expand the definition of storm water to include "a number of classes of discharges which are not in any way related to precipitation events."[183] Accordingly, dry weather discharges are not a component of storm water discharges subject to the MEP standard.[184]

Second, the Los Angeles Water Board's legal authority to impose TMDL-based WQBELs and other limitations on dry weather discharges is derived not from the phrasing of the discharge prohibition in the statute but from the TMDLs themselves, as well as the Clean Water Act direction to require "such other provisions" as the permitting authority "determines appropriate for the control of such pollutants." We have already found that the Los Angeles MS4 Order reasonably (and legally) incorporated numeric WQBELs and other limitations to implement the TMDLs. The Los Angeles Water Board's authority to impose the limitations for dry weather conditions is accordingly independent of the provisions establishing the non-storm water effective prohibition.

Permittee Petitioners also assert that requiring compliance with the non-storm water discharge prohibition through and from the MS4 would frustrate enforcement of the illicit connection and illicit discharge elimination programs of the Los Angeles MS4 Order, which continue to require the Permittee to prohibit illicit discharges and connections *to* the MS4.[185] On this point, we agree with the Los Angeles Water Board that the illicit connection and illicit discharge elimination program is a means to implement the non-storm water prohibition and independently implementable and enforceable. We are more sympathetic to the argument by Permittee Petitioners that, in the context of a complex MS4 system with commingled discharges, the prohibition of discharges through the MS4 to the receiving waters poses greater compliance challenges than a prohibition of discharges into the MS4; however, the Los Angeles MS4 Order's Monitoring and Reporting Program contains a procedure by which a Permittee will notify the Board and the upstream jurisdiction when non-exempted, non-storm water discharges pose an issue in commingled discharges.[186] Further, the Los Angeles Water Board states in its

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[182] 40 C.F.R. § 122.26(b)(13).

[183] 55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).

[184] We disagree that the phrasing of the non-storm water discharge prohibition in the Los Angeles MS4 Order means that *any* dry weather discharges from the MS4 could be construed as a violation of the Clean Water Act for the same reasons articulated in footnote 133 of this order.

[185] Los Angeles MS4 Order, Parts VI.A.2.a.iii, p. 40, VI.D.4.d., p. 81-86, VI.D.10, p. 137-141.

[186] Los Angeles MS4 Order, Att. E, Monitoring and Reporting Program, Part IX.F.6, p. E-27.

October 15, 2013 Response that the upstream jurisdiction would then have the responsibility to further investigate and address the discharge.[187] The challenge of addressing compliance and enforcement in the context of interconnected MS4s and commingled discharges is a challenge pervasive in the MS4 regulatory structure and not unique to non-storm water discharges. We are not sufficiently persuaded by Permittee Petitioners' arguments regarding compliance to disturb the non-storm water prohibitions as currently established in the Los Angeles MS4 Order.

E. Monitoring Provisions

Relying on Water Code sections 13165, 13225, and 13267, Permittee Petitioners argue that the Los Angeles Water Board was required to conduct a cost-benefit analysis to support the monitoring and reporting requirements of the Los Angeles MS4 Order. Because the monitoring and reporting provisions of the Los Angeles MS4 Order are incorporated pursuant to federal law, the cited provisions are inapplicable here. The monitoring and reporting provisions of the Los Angeles MS4 Order were established under the Clean Water Act and USEPA's regulations.[188] Further, under state law, Water Code section 13383, rather than Water Code section 13267, controls monitoring and reporting requirements in the context of NPDES permitting, and that provision does not include a requirement to ensure that the burden, including costs of the report, bear a reasonable relationship to the need for the report.[189]

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[187] Los Angeles Water Board, October 15, 2013 Response, p. 33 & fn. 116.

[188] See 33 U.S.C. §§ 1318, 1342(a)(2); 40 C.F.R. §§ 122.26(d)(2)(i)(F), 122.26(d)(2)(iii)D), 122.41(h), 122.41(j), 122.41(*l*), 122.42(c),122.44(i), 122.48.

[189] Permittee Petitioners argue that the cost considerations of Water Code sections 13225 and 13267 are relevant to the Los Angeles MS4 Order notwithstanding the fact that it was issued under federal authority because the requirements of those section are not inconsistent with the requirements of section 13383. (See Water Code, §13372, subd. (a) ("To the extent other provisions of this division are consistent with the requirements for state programs . . . those provisions apply . . . ").) This exact assertion was taken up by the trial court in litigation challenging the 2001 Los Angeles MS4 Order and decided in favor of the Los Angeles Water Board. The trial court stated: "As noted in *Silkwood v. Kerr-McGee Corp.* (1984) 464 U.S. 238, the Court held, in part: 'state law is still preempted. . . where the state law stands as an obstacle to the accomplishment of the full purposes and objectives of Congress.' (464 U.S. at p. 248.) Applying Water Code sections 13225 and 13267 would stand, in the words of *Silkwood* as: 'an obstacle to the accomplishment of the full purposes and objectives of [the federal law].' (Ibid)." (*In re Los Angeles County Municipal Storm Water Permit Litigation* (L.A. Super. Ct., No. BS 080548, Mar. 24, 2005) Statement of Decision from Phase II Trial on Petitions for Writ of Mandate, at pp.19-20 (Administrative Record, section 10.II., RB-AR23197-23198.). Further, we note that Water Code section 13383, subdivision (c) specifically references subdivision (c) of section 13267 when establishing facility inspection requirements; in contrast, section 13383, subdivision (a) does not reference subdivision (b) of section 13267, which incorporates the requirement that "[t]he burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." Water Code section 13383, subdivision (a), was therefore arguably intended to stand in place of the requirements in section 13267(b). Finally, even where authority to impose a monitoring and reporting requirement is clearly derived from Water Code section 13267, the provision requires consideration of the costs and benefits of monitoring and reporting, but not a full cost-benefit analysis. We therefore find that the Los Angeles Water Board did not fail to meet its legal obligations by not carrying out a full cost-benefit analysis specific to the monitoring and reporting requirements of the Los Angeles MS4 Order. However, in making this finding, in no way do we mean to disavow the significance of cost consideration in permitting actions, even where not specifically required by law. We note again that the Los Angeles Water Board carefully considered the costs of *(Continued)*

Moreover, the monitoring and reporting requirements of the Los Angeles MS4 Order do not exceed the requirements of the Clean Water Act and the federal regulations.[190] In particular, we find that the receiving water monitoring requirements of the Order are reasonable in light of the need to identify water quality exceedances and evaluate progress in compliance with water quality standards. The argument made by several Permittee Petitioners that the federal regulations allow only two types of monitoring – effluent and ambient – for compliance is without support in the relevant regulations. The relevant law is clear that the permitting authority is required to incorporate monitoring and reporting requirements sufficient to determine compliance with the permit conditions.[191] In contrast, nothing in the Clean Water Act or the regulations states that requiring wet weather receiving water monitoring is beyond the authority of the permitting agency.[192] Further, accepting such a constrained interpretation of the Clean Water Act's monitoring requirements would undermine storm water permitting assessment. Excluding wet weather receiving water monitoring would preclude storm water dischargers from assessing the impacts of their discharges on waters of the United States during the events for which they are primarily being permitted—storm events. We find nothing in the text or preamble of the federal regulations to support a narrow interpretation of monitoring to exclude wet weather receiving monitoring.

To the extent Permittee Petitioners are arguing that the MEP standard, applied at the outfall, constrains the permitting authority's discretion to require monitoring beyond the outfall, we also find no support in the law for that proposition. We have already stated that we will continue to require compliance with water quality standards in MS4 permits. Wet weather receiving water monitoring is fundamental to assessing the effects of storm water discharges on water quality and determining the trends in water quality as Permittees implement control

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compliance with the Los Angeles MS4 Order generally as summarized in the Fact Sheet. (See Los Angeles MS4 Order, Att. F, Fact Sheet, pp. F-144-F-149.) Further, the Los Angeles Water Board considered monitoring costs-related comments on earlier drafts of the Los Angeles MS4 Order, and, in a number of cases, where presented with an argument that a cost related to a particular monitoring requirement was not commensurate with the benefits to be received from that requirement, made revisions to the requirement. (See, e.g., Administrative Record, section 8, RB-AR19653-19654, RB-AR19666, RB-AR19674, RB-AR19681.)

[190] The Los Angeles Water Board provided its rationale for the receiving water monitoring requirements in the Fact Sheet of the Los Angeles MS4 Order. (Los Angeles MS4 Order, Att. F, Fact Sheet, F-113-F-137.)

[191] See 33 U.S.C. § 1318(a)(2); 40 C.F.R. § 122.26(d)(2)(i)(F). While we do not interpret these requirements to mean that each and every permit condition must have a corresponding monitoring and reporting requirement, neither do we see any constraints on the water boards' authority to establish monitoring and reporting requirements.

[192] Permittee Petitioners reference language in the federal regulations concerning "effluent and ambient monitoring" (40 C.F.R. § 122.44(d)(1)(vi)(C)(3)) and appear to be using the phrase as support for their argument. That section is inapposite as it applies to situations where a State has not established a water quality objective for a pollutant present in the effluent and instead establishes effluent limitations on an indicator parameter for the pollutant of concern.

measures. Compliance may be determined at the outfall – for example, where a permittee determines that the discharge does not exceed an applicable WQBEL or receiving water limitation – but outfall monitoring alone cannot provide the broader data related to trends in storm water discharge impacts on the receiving water. Accordingly, receiving water monitoring is a legal and reasonable component of the monitoring and reporting program. Further, because Permittees are responsible for impacts to the receiving waters resulting from their MS4 discharges, Permittees may be required to participate in monitoring not only in receiving waters within their jurisdiction but also in monitoring all receiving waters that their discharges impact.

We will make no revisions to the Monitoring and Reporting provisions of the Order.

F. Joint Responsibility

In the extensive and interconnected system regulated by the Los Angeles MS4 Order, discharges originating from one Permittee's MS4 frequently commingle with discharges from other Permittees' MS4s within or outside of the Permittee's jurisdiction. Permittee Petitioners argue that the Los Angeles MS4 Order improperly ascribes responsibility to all Permittees with commingled discharges where those commingled discharges exceed a WQBEL or cause or contribute to exceedances of receiving water limitations. Specifically, Permittee Petitioners take issue with the fact that the Los Angeles MS4 Order ascribes "joint responsibility"[193] to the co-Permittees without a showing that a particular Permittee has in fact discharged the pollutant causing or contributing to the exceedance.

The Los Angeles Water Board counters that the joint responsibility regime is consistent with the intent of the Clean Water Act and further that it does not compel a Permittee to clean up the discharge of another Permittee. The Los Angeles Water Board points to two provisions for this latter proposition. First, even with joint responsibility, Permittees that have commingled MS4 discharges need only comply with permit conditions relating to discharges from the MS4 for which they are owners or operators.[194] Second, even where joint responsibility is presumed, a Permittee may subsequently counter the presumption of joint responsibility by

[193] "Joint responsibility" is the term used in the Los Angeles MS4 Order. (See Los Angeles MS4 Order, Part II.K.1, p. 23 ("'Joint responsibility' means that the Permitttees that have commingled MS4 discharges are responsible for implementing programs in their respective jurisdictions, or within the MS4 for which they are an owner and/or operator, to meet the water quality-based effluent limitations and/or receiving water limitations assigned to such commingled MS4 discharges.") As defined by the Los Angeles Water Board and as discussed below, this term does not have the same meaning and scope as the legal doctrine of "joint liability."

[194] Los Angeles MS4 Order, Parts II.K.1, pp. 23-24, VI.A.4.a., p. 41; 40 C.F.R. § 122.26(a)(3)(vi); see also, *id*., Part VI.E.2.b.ii., p. 142 (stating in the context of TMDL requirements that, where discharges are commingled and assigned a joint WLA, "each Permittee is only responsible for discharges from the MS4 for which they are owners and/or operators.")

affirmatively demonstrating that its MS4 discharge did not cause or contribute to the relevant exceedances.[195]

Given the size and complexity of the MS4s regulated under the Los Angeles MS4 Order and the challenges inherent in designing a monitoring program that could parse out responsibility for each individual Permittee, we find that a joint responsibility regime is a reasonable approach to assigning initial responsibility for an exceedance. The Los Angeles MS4 Order provisions addressing TMDLs also appropriately take a joint responsibility approach, given that the wasteload allocations from which the WQBELs and other TMDL-specific limitations are derived are most frequently expressed as joint allocations shared by all MS4 dischargers in the watershed. We further agree with the Los Angeles Water Board that the regime is one that is permissible under applicable law. The Clean Water Act contemplates that MS4 permits may be issued on a system-wide or jurisdiction-wide basis[196] and the federal regulations anticipate the need for inter-governmental cooperation.[197] Further, the United States Court of Appeal, Ninth Circuit, recently stated in *Natural Resources Defense Council v. County of Los Angeles* (2013) 725 F.3d 1194 that the permitting authority has wide discretion concerning the terms of a permit, including the manner in which permittees share liability.[198]

Yet, we also find that joint responsibility in an MS4 Order is only appropriate if the ultimate responsibility for addressing an exceedance rests with those permittees that actually cause or contribute to the exceedance in question. The re-issued Los Angeles MS4 Order contains additional specificity and monitoring, beyond that contained in the 2001 Los Angeles MS4 Order, to document compliance and the presence or absence of an individual municipality's contribution of pollutants to the storm water. For this reason, the general reasoning of the Ninth Circuit's 2013 *Natural Resources Defense Council v. County of Los Angeles* decision finding liability based solely on the presence of pollutants above water quality standards in the receiving waters is of limited forward-looking importance. Generally, in the context of MS4 permits, we do not sanction joint responsibility to the extent that that joint

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[195] *Id.*, Part VI.E.2., pp.141-42; see also id., Part II.K.1, pp. 23-24.

[196] 33 U.S.C. § 1342(p)(3)(B)(i).

[197] See 40 C.F.R. §§ 122.26(d)(2)(i)(D), 122.26(d)(2)(iv), 122.26(d)(2)(vii).

[198] *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194, 1205, fn. 16, cert. den. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2014) 134 S.Ct. 2135. The Ninth Circuit went on to find that, based on the specific language of the 2001 Los Angeles MS4 Order, the Permittees were jointly liable for exceedances detected by mass emissions monitoring.

responsibility would require each Permittee to take full responsibility for addressing violations, regardless of whether, and to what extent, each permittee contributed to the violation.[199]

The Los Angeles MS4 Order does not impose such a joint responsibility regime where each Permittee must take full responsibility for addressing other Permittees' violations. In addition to clearly stating that permittees are responsible only for their contribution to the commingled discharges, the Los Angeles MS4 Order provides that Permittees may affirmatively show that their discharge did not cause or contribute to an exceedance. Joint responsibility, as applied by the Los Angeles MS4 Order, is thus consistent with our expectation that ultimate responsibility for addressing an exceedance rests with those Permittees that actually cause or contribute to the exceedance and consistent with the regulatory direction that co-permittees need only comply with permit conditions relating to discharges from the MS4 for which they are owners or operators.

While the result is that the burden rests on the Permittee to demonstrate that its commingled discharge is not the source of an exceedance, rather than on the Los Angeles Water Board to demonstrate that a Permittee's commingled discharge is causing or contributing to the exceedance, the result is not contrary to law. The Los Angeles Water Board has the initial burden to show that a violation of the Los Angeles MS4 Order has occurred,[200] but the Board can do so by establishing an exceedance of a limitation by jointly responsible Permittees and need not identify the exact source of the exceedance. This scheme represents a reasonable policy approach to a complicated compliance question where the Permittees are more closely familiar than the Los Angeles Water Board with their outfalls and their discharges in the extensive and interconnected MS4 network.

We are, however, concerned that the Los Angeles MS4 Order's treatment of the joint responsibility issue is too narrow. The Los Angeles Water Board addresses the issue of joint responsibility primarily in the context of compliance with the TMDL requirements of the Order. Commingled discharges pose the same questions of assigning responsibility where receiving water limitations are exceeded in water bodies receiving MS4 discharges from multiple jurisdictions, but where the pollutant is not addressed by a TMDL. A similar approach to

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[199] In a "joint and several liability" scheme, a plaintiff may collect his or her entire damages from any one defendant, and the defendants must then rely on principles of indemnity or contribution to apportion ultimate liability amongst themselves. (See *American Motorcycle Assn. v. Superior Court of Los Angeles County* (1978) 20 Cal. 3d 578, 586-590.) Because the Los Angeles MS4 Order's joint responsibility scheme does not equate to joint liability, and because we do not find such liability appropriate from a policy perspective, we do not address Petitioners' legal arguments as to whether joint or joint and several liability in the storm water context would be consistent with applicable law.

[200] See e.g. *Sackett v. E.P.A.* (9th Cir. 2010) 622 F.3d 1139 rev'd on other grounds *Sackett v. E.P.A.* (2012) 132 S. Ct. 1367.

assigning responsibility for addressing the exceedances is appropriate there. We will add new language to the Los Angeles MS4 Order mirroring Part VI.E.2.b., but applying the principles more generally.

We also take this opportunity to emphasize that all MS4 permits should be drafted to avoid one potential, but likely unintended, result arising from *Natural Resources Defense Council v. County of Los Angeles*. The broadest reading of the Ninth Circuit's holding following remand from the U.S. Supreme Court would assign joint liability to all Permittees for any exceedance at a monitoring location designated for the purpose of compliance determination, even if the particular pollutant is not typically found in storm water and has a likely alternative source such as an industrial discharger or waste water treatment plan. Providing municipalities an opportunity to demonstrate that they did not contribute to a pollutant present in receiving waters above standards will prevent this outcome.

We shall amend Part VI.B. as follows:

B. Monitoring and Reporting Program (MRP) Requirements

1. Dischargers shall comply with the MRP and future revisions thereto, in Attachment E of this Order or may, in coordination with an approved Watershed Management Program per Part VI.C, implement a customized monitoring program that achieves the five Primary Objectives set forth in Part II.A. of Attachment E and includes the elements set forth in Part II.E. of Attachment E.

2. Compliance Determination for Commingled Discharges

a. For commingled discharges addressed by a TMDL, a Permittee shall demonstrate compliance with the requirements of Part E as specified at Part E.2.b.

b. For commingled discharges not addressed by a TMDL, a Permittee shall demonstrate compliance with the requirements of Part V.A as follows:

i. Pursuant to 40 CFR section 122.26(a)(3)(vi), each Permittee is only responsible for discharges from the MS4 for which they are owners and/or operators.

ii. Where Permittees have commingled discharges to the receiving water, or where Permittees' discharges commingle in the receiving water, compliance in the receiving water shall be determined for the group of Permittees as a whole unless an individual Permittee demonstrates that its discharge did not cause or contribute to the exceedance, pursuant to subpart iv. below.

iii. For purposes of compliance determination, each Permittee is responsible for demonstrating that its discharge did not cause or contribute to an exceedance of the receiving water limitation in the target receiving water.

iv. A Permittee may demonstrate that its discharge did not cause or contribute to an exceedance of a receiving water limitation in one of the following ways:

(1) Demonstrate that there was no discharge from the Permittee's MS4 into the applicable receiving water during the relevant time period;

(2) Demonstrate that the discharge from the Permittee's MS4 was controlled to a level that did not cause or contribute to the exceedance in the receiving water;

(3) Demonstrate that there is an alternative source of the pollutant that caused the exceedance, that the pollutant is not typically associated with MS4 discharges, and that the pollutant was not discharged from the Permittee's MS4; or

(4) Demonstrate that the Permittee is in compliance with the Watershed Management Programs provisions under VI.C.

G. Separation of Functions in Advising the Los Angeles Water Board

Petitioners Cities of Duarte and Huntington Park (Duarte and Huntington Park) argue that their rights to due process of law were violated when the same attorneys advised both the Los Angeles Water Board staff and the Board itself in the course of the proceedings to adopt the Los Angeles MS4 Order. We disagree and reaffirm our position that permitting actions do not require the water boards to separate functions when assigning counsel to advise in development and adoption of a permit.

A water board proceeding to adopt a permit, including an NPDES permit, waste discharge requirements, or a waiver of waste discharge requirements, is an adjudicative proceeding subject to the Administrative Procedure Act's administrative adjudication statutes in Government Code section 11400 et seq.[201] Section 11425.10, part of the "Administrative Adjudication Bill of Rights," provides that "[t]he adjudicative function shall be separated from the investigative, prosecutorial, and advocacy functions with the agency . . . ."[202] In accordance with

[201] See Cal. Code Regs., tit. 23, § 648, subd. (b).

[202] Gov. Code, § 11425.10, subd. (a)(4). Subdivision (a)(4) references section 11425.30, which addresses disqualification of a presiding officer that has served as "investigator, prosecutor, or advocate" in the proceeding or its preadjudicative stage or is subject to "the authority, direction, or discretion" of a person who has served in such roles.

this directive, the water boards separate functions in all enforcement cases, assigning counsel and staff to prosecute the case, and separate counsel and staff to advise the board.

In a permitting action, water board counsel have an advisory role, not an investigative, prosecutorial, or advocacy role. Permitting actions are not investigative in nature and there is no consideration of liability or penalties that would make the action prosecutorial in nature. Further, while both counsel and staff are expected to develop recommendations for their boards, the role of counsel and staff is not to act as an advocate for one particular position or party concerning the permitting action, but to advise the board as neutrals, with consideration of the legal, technical, and policy implications of all options before the board. In the case of counsel, such consideration and advice includes not just legal evaluation of the substantive options for permitting but also of procedural issues such as admissibility of the evidence, conduct of the hearing, and avoidance of board member conflicts. Because counsel and staff are advisors to the board rather than advocates for a particular position, the same counsel may advise staff in the course of development of the permit and the board in the adoption proceedings.

A primary purpose of separation of functions in adjudicatory proceedings is the need to prevent improper ex parte communications.[203] The exceptions to the ex parte communications rules further support the position that counsel advising board staff may also advise the board itself. While section 11430.10 of the Government Code generally prohibits communications concerning issues in a pending administrative proceeding between the presiding officer and an employee of the agency that is a party,[204] one exception provides that a communication "for the purpose of assistance and advice to the presiding officer," in this case the board, "from a person who has not served as investigator, prosecutor, or advocate in the proceeding or its preadjudicative stage" is permissible. Even if board counsel could be considered an advocate in the proceeding, another provision (specifically referencing the water boards) excepts the communication from the general ex parte communications rules. A communication is not an ex parte communication if:

> (c) The communication is for the purpose of advising the presiding officer concerning any of the following matters in an adjudicative hearing that is nonprosecutorial in character:

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[203] See *Dept. of Alcoholic Beverage Control v. Alcoholic Beverage Control Appeals Bd.* (2006) 40 Cal.4th 1, 9-10.

[204] Government Code section 11430.10 prohibits communications between an employee that is a "party" to a pending proceeding and the presiding officer. We disagree that Los Angeles Water Board staff, as an advisor to the Board, was a "party" to the proceedings for adoption of the Los Angeles MS4 Order, but, even if staff could be considered a party, the cited exceptions to the ex parte communications rules would apply.

> . . .
> (2) The advice involves an issue in a proceeding of the San Francisco Bay Conservation and Development Commission, California Tahoe Regional Planning Agency, Delta Protection Commission, Water Resources Control Board, or a regional water quality control board.[205]

The fact that communications that would otherwise be considered prohibited ex parte communications are specifically permitted in non-prosecutorial adjudicative proceedings of the water boards further supports the position that the water boards are not obligated by law to separate functions in permitting actions.

We acknowledge that there may be some unique factual circumstances under which a permitting proceeding could violate due process or the Administrative Procedure Act because board counsel either acted or gave the appearance of acting as a prosecutor or advocate. Duarte and Huntington Park point to a writ of mandate issued by the Los Angeles Superior Court in 2010,[206] holding that a 2006 proceeding to incorporate provisions of the Santa Monica Bay Beaches TMDL into the 2001 Los Angeles MS4 Order was not fairly conducted because Los Angeles Water Board counsel had acted as an advocate for Board staff, directly examining Board staff witnesses, cross-examining witnesses called by permittees, objecting to questions asked by permittees, and making a closing argument on behalf of Board staff, while simultaneously advising the Board. The proceedings to adopt the Los Angeles MS4 Order did not follow the type of adversarial structure that led the Superior Court to find a violation of separation of functions in the 2006 proceedings.[207] Further, nothing in the conduct of the Los Angeles Water Board attorneys in the Los Angeles MS4 Order proceedings leads us to find that they acted as advocates for a particular position or party, rather than as advisors to the Board.

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[205] Gov. Code, § 11430.30. We note that the Law Revision Commission comments on section 11430.30, subdivision (c), state that "[s]ubdivision (c) applies to nonprosecutorial types of administrative adjudications, such as . . . proceedings . . . setting *water quality protection…requirements."* (Emphasis added.) The notes further state that "[t]he provision recognizes that the length and complexity of many cases of this type may as a practical matter make it impossible for any agency to adhere to the restrictions of [ex parte communications], given limited staffing and personnel." (25 Cal.L.Rev.Comm. Reports 711 (1995).) We agree that the lengthy and complex nature of permitting proceedings, and the limited staffing resources of the water boards, caution against an expansive interpretation of separation of functions in non-prosecutorial adjudications.

[206] *County of Los Angeles v. State Water Resources Control Board* (Super. Ct., Los Angeles Co. (June 2, 2010, Minute Order) No. BS122724) (Administrative Record, section 10.II, RB-AR23665-23667.)

[207] We also note that, although the writ directed that petitioners were entitled to a new hearing "in which the same person does not act as both an advocate before the Board and an advisor to the Board," the writ had no direct bearing on the separate proceedings to adopt the Los Angeles MS4 Order. In any case, as discussed, Board attorneys did not act as advocates in the proceedings to adopt the Los Angeles MS4 Order.

The two specific cases pointed to by Duarte and Huntington Park – advice by Board counsel to Board member Mary Ann Lutz regarding recusal due to ex parte communications and advice to the Board generally on the lack of a cost-benefit analysis requirement in federal law – may be contrary to the legal position held by Duarte and Huntington Park, but there is nothing in the record to suggest that the advice was driven by biased advocacy for a Board staff position.[208] In the absence of such evidence, we find no reason to depart from the general rule that separation of functions is not required in a permitting proceeding[209] and find that Los Angeles Water Board counsel acted in accordance with applicable laws in advising Board staff and the Board itself.

H. Signal Hill's Inclusion in the Order

The City of Signal Hill (Signal Hill) argues that the Los Angeles Water Board acted contrary to relevant law when it issued the system-wide Los Angeles MS4 Order that included Signal Hill, even though Signal Hill had submitted an application for an individual permit.[210] We disagree.

Signal Hill points out that the federal regulations allow an operator of an MS4 to choose between submitting an application jointly with one or more other operators for a joint permit or individually for a distinct permit.[211] However, the choice of application does not necessarily dictate the type of permit that the permitting authority ultimately deems appropriate. The permitting authority in turn has discretion to determine if the permit should be issued on a

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[208] See Administrative Record**,** section 7, RB-AR18309-18316, RB-AR18397-18400 (Transcript of Proceedings on Oct. 4, 2012), section 7, RB-AR18892-18894 (Transcript of Proceedings on Oct. 5, 2012).

[209] Although *Morongo Band of Mission Indians v. State Water Resources Control Board* (2009) 45 Cal.4th 731 concerned an enforcement proceeding and therefore is not on point for our legal determination above, we take note of the direction by the California Supreme Court that separation of functions in an administrative tribunal should not be expanded beyond its appropriate scope: "In construing the constitutional due process right to an impartial tribunal, we take a more practical and less pessimistic view of human nature in general and of state administrative agency adjudicators in particular . . . [and where proper procedure is followed and in the absence of a specific demonstration of bias or unacceptable risk of bias] we remain confident that state administrative agency adjudicators will evaluate factual and legal arguments on their merits, applying the law to the evidence in the record to reach fair and reasonable decisions." (*Morongo Band of Mission Indians, supra*, at pp. 741-742.)

[210] Signal Hill was one of several permittees under the 2001 Los Angeles MS4 Order that elected not to submit an application jointly with the other permittees for the renewed permit. The other parties have not challenged their inclusion under the Los Angeles MS4 Order. The Los Angeles Water Board rejected Signal Hill's application as incomplete; however, our determination that the Los Angeles Water Board had the discretion to issue the system-wide Los Angeles MS4 Order is not dependent on that fact.

[211] 40 C.F.R. § 122.26(a)(3)(iii). Signal Hill has also cited regulations applicable to Small MS4s at 40 Code of Federal Regulations sections 122.30 through 122.37. These regulations are not applicable here because the Los Angeles Water Board has designated the Greater Los Angeles County MS4, which includes the incorporated cities and the unincorporated areas of Los Angeles County within coastal watersheds, as a large MS4 pursuant to 40 Code of Federal Regulations section 122.26(b)(4).

jurisdictional or system-wide basis.[212] While the federal regulations do not specifically state that, in exercising that discretion, the permitting authority may override the permit applicant's preference for an individual permit, nothing in the regulations constrains its authority to do so. Section 122.26(a)(3)(iii) of 40 Code of Federal Regulations does not require the permitting authority to take any specific action in response to the submission of an individual application. And sections 122.26(a)(3)(ii) and 122.26(a)(3)(iv) provide that the permitting authority "may issue" system-wide or distinct permits. The preamble to the regulations similarly contemplates wide discretion for the permitting authority to choose system-wide permits, including a permit that would allow an entire system in a geographical region to be designated under one permit.[213] Particularly because the option of a system-wide permit would be significantly frustrated if MS4 operators were allowed to opt out at their discretion, the most reasonable reading of the regulations is that the permitting authority, not the applicant, makes the ultimate decision as to the scope of the permit that will be issued. Accordingly, we find that the Los Angeles Water Board had the discretion under the relevant law to issue the Los Angeles MS4 Order with Signal Hill as a permittee.

We also find that the Los Angeles Water Board's decision regarding Signal Hill was appropriately supported by findings in the Order and in the Fact Sheet.[214] Finding C of the Los Angeles MS4 Order, as well as discussion in the Fact Sheet,[215] establishes that the Los Angeles Water Board found a system-wide permit to be appropriate for a number of reasons, including that Permittees' MS4s comprise a large interconnected system with frequently commingled discharges, that the TMDLs to be implemented apply to the jurisdictional areas of multiple Permittees, that the passage of Assembly Bill 2554[216] in 2010 provided a potential means for funding collaborative water quality improvement plans among Permittees, and that the results of an online survey conducted by Los Angeles Water Board staff showed that the

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[212] 33 U.S.C. § 1342(p)(3)(B)(i); 40 C.F.R. § 122.26(a)(1)(v), (a)(3)(ii), (a)(3)(iv).

[213] See 55 Fed. Reg. 47990, 48039-48043 (preamble to the Phase I regulations noting that section 122.26(a)(3)(iv) would allow an entire system in a geographical region to be designated under one permit and further discussing that sections 122.26(a)(1)(v) and (a)(3)(ii) allow the permitting authority broad discretion in issuing system-wide permits).

[214] *Topanga Assn.*, *supra*, 11 Cal.3d at 515.

[215] Los Angeles MS4 Order, Part II.C., pp. 14-15; id., Att. F, Fact Sheet, pp. F-15-F-18.

[216] Assembly Bill No. 2554, Chapter 602, an act to amend sections 2 and 16 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), relating to the Los Angeles County Flood Control District, Sept. 30, 2010 (Administrative Record, section 10.VI.C., RB-AR29172-29179). The Bill allows the Los Angeles County Flood Control District to assess a property-related fee or charge, subject to voter approval in accordance with proposition 218, for storm water and clean water programs.

majority of Permittees favored either a single MS4 permit for Los Angeles County or several watershed-based permits.

Signal Hill points out that the reasons enumerated by the Los Angeles Water Board as grounds for issuance of a system-wide permit did not preclude the Los Angeles Water Board from issuing an individual permit to the City of Long Beach (Long Beach).[217] The Los Angeles Water Board has provided the rationale for distinguishing Signal Hill and Long Beach in its October 15, 2013 Response. The Los Angeles Water Board explains that Long Beach has had an individual permit for more than a decade and that, unlike Signal Hill, it was not permitted under the 2001 Los Angeles MS4 Order. The Board's decision to issue a separate permit to Long Beach was originally the result of a settlement agreement that resolved litigation on the MS4 permit issued by the Los Angeles Water Board in 1996, and Long Beach has a proven track record in implementing the individual permit while cooperating with Permittees under the Los Angeles MS4 Order.[218] We find that the Los Angeles Water Board reasonably distinguished between Long Beach and the Permittees under the Los Angeles MS4 Order in making determinations as to individual permitting. We will not reverse its determination but we will add a brief statement reflecting that reasoning to the Fact Sheet.

We shall amend section III.D.1.a. at page F-18, Attachment F, Fact Sheet, as follows:

> The Regional Water Board determined that the cities of Signal Hill and Downey, the five upper San Gabriel River cities, and the LACFCD are included as Permittees in this Order. **In making that determination, the Regional Water Board distinguished between the permitting status of those cities and the permitting status of the City of Long Beach at this time because the City of Long Beach has a proven track record in implementing an individual permit and developing a robust monitoring program under that individual permit, as well as in cooperation with other MS4 dischargers on watershed based implementation. While all other incorporated cities with discharges within the coastal watersheds of Los Angeles County, as well as Los Angeles County and the Los Angeles County Flood Control District, are permitted under this Order,** ~~I~~individually tailored permittee requirements are provided in this Order, where appropriate.

[217] Signal Hill is located in the geographical middle of Long Beach and is entirely surrounded by that city.

[218] Los Angeles Water Board, October 15, 2013 Response, p. 25, fn. 78.

III. CONCLUSION

Based on the above discussion, we conclude as follows:

1. Although we are not bound by federal law or state law to require compliance with water quality standards in municipal storm water permits, we will not depart from our prior precedent regarding compliance with water quality standards. The regional water boards shall continue to require compliance with receiving water limitations in municipal storm water permits through incorporation of receiving water limitations provisions consistent with State Water Board Order WQ 99-05.

2. However, we find that municipal storm water dischargers may not be able to achieve water quality standards in the near term and therefore that it is appropriate for municipal storm water permits to incorporate a well-defined, transparent, and finite alternative path to permit compliance that allows MS4 dischargers that are willing to pursue significant undertakings beyond the iterative process to be deemed in compliance with the receiving water limitations.

3. We find that the WMP/EWMP provisions of the Los Angeles MS4 Order, with minor revisions that we incorporate herein, are an appropriate alternative to immediate compliance with receiving water limitations. The WMP/EWMP provisions are ambitious, yet achievable, and include clear and enforceable deadlines for the achievement of receiving water limitations and a rigorous and transparent process for development and implementation of the WMPs/EWMPs.

4. We find that the WMP/EWMP provisions do not violate anti-backsliding requirements.

5. We find that the WMP/EWMP provisions do not violate antidegradation requirements; however, we find that the antidegradation findings made by the Los Angeles Water Board are too cursory and revise those findings consistent with the federal and state antidegradation policies.

6. We find that issuance of time schedule orders is appropriate where a final receiving water limitations deadline set in the WMP/EWMP or a final TMDL-related deadline is not met; however we find that the WMP/EWMP compliance schedule need not otherwise be structured as an enforcement order.

7. We clarify the WMP/EWMP provisions to make it clear that final compliance with receiving water limitations and final WQBELs and other TMDL-specific limitations must be verified through monitoring.

8. We clarify the WMP/EWMP provisions to make it clear that Permittees may request extensions of deadlines incorporated into the WMPs/EWMPs except those final deadlines established in a TMDL. However, any deadline extensions must be approved by the Executive Officer after public review and comment.

9. In order to add greater rigor and accountability to the process of achieving receiving water limitations, we revise the WMP/EWMP provisions to add that the Permittees must comprehensively evaluate new data and information and revise the WMPs/EWMPs, including the supporting reasonable assurance analysis, by June 30, 2021, for approval by the Executive Officer.

10. We find that the storm water retention approach is a promising approach to achieving receiving water limitations, but also find that the Administrative Record does not support a finding that the approach will necessarily lead to achievement of water quality standards in all cases. We revise the WMP/EWMP provisions to clarify that, in the case of implementation of an EWMP with the storm water retention approach, if compliance with a final WQBEL or other TMDL-specific limitation is not in fact achieved in the drainage area, a Permittee will be considered in compliance with the relevant limitation only if the Permittee continues to adaptively manage the EWMP to achieve ultimate compliance with the WQBEL or other TMDL limitation.

11. We find reasonable the WMP/EWMP provisions that allow permittees to be deemed in compliance with receiving water limitations during the planning and development phase of the WMP/EWMP. We revise the WMP/EWMP provisions to state that, if a Permittee fails to meet one of the deadlines, the Permittee may still develop a WMP/EWMP for approval by the Los Angeles Water Board or its Executive Officer; however, the Permittee will not be deemed in compliance with receiving water limitations or WQBELs and other TMDL-specific limitations during the subsequent WMP/EWMP development period.

12. We recognize that the Los Angeles MS4 Order WMP/EWMP compliance path alternative may not be appropriate in all MS4 permits. In order to provide guidance to regional water boards preparing Phase I MS4 permits, we lay out several principles to be followed in drafting receiving water limitations compliance alternatives: Phase I MS4 permits should (1) continue to require compliance with water quality standards in accordance with our Order WQ 99-05; (2) allow compliance with TMDL requirements to constitute compliance with receiving water limitations; (3) provide for a compliance

alternative that allows permittees to achieve compliance with receiving water limitations over a period of time as described above; (4) encourage watershed-based approaches, address multiple contaminants, and incorporate TMDL requirements; (5) encourage the use of green infrastructure and the adoption of low impact development principles; (6) encourage the use of multi-benefit regional projects that capture, infiltrate, and reuse storm water; and (7) require rigor, accountability, and transparency in identification and prioritization of issues in the watershed, in proposal and implementation of control measures, in monitoring of water quality, and in adaptive management of the program. We expect the regional water boards to follow these principles unless the regional water board makes a specific showing that application of a given principle is not appropriate for region-specific or permit-specific reasons.

13. We recognize that the success of the WMP/EWMP approach depends in large part on the steps that follow adoption of the provisions, including the development and approval of rigorous WMPs/EWMPs and the implementation and appropriate enforcement of the programs once approved. We direct the Los Angeles Water Board to periodically report specific information to the State Water Board regarding implementation of the WMPs/EWMPs, including on-the-ground structural control measures completed, monitoring data evaluating the effectiveness of such measures, control measures proposed to be completed and proposed funding and schedule, trends in receiving water quality related to storm water discharges, and compliance and enforcement data.

14. We find that the Los Angeles Water Board acted in a manner consistent with the law when establishing numeric WQBELs. We further find that the development of numeric WQBELs was a reasonable exercise of the Los Angeles Water Board's policy discretion, given its experience in developing the relevant TMDLs and the significance of storm water impacts in the region. However, we find that numeric WQBELs are not necessarily appropriate in all MS4 permits or for all parameters in any single MS4 permit.

15. We find that the Los Angeles Water Board's choice of BMP-based WQBELs, to be proposed by the Permittee in the WMP/EWMP to address USEPA-established TMDLs was reasonable.

16. We find that the Los Angeles Water Board did not act contrary to federal law when it prohibited the discharge of non-storm water "through the MS4 to receiving water" instead of "into" the MS4. Regardless of the exact wording of the prohibition, the standard that applies to non-storm water is the requirement of "effective prohibition." However, the Los Angeles Water Board also has authority to regulate any dry weather discharges from the MS4s under the applicable TMDLs.

17. We find that the monitoring and reporting provisions of the Los Angeles MS4 Order are consistent with applicable law and reasonable.

18. We find that assigning joint responsibility for commingled discharges that cause exceedances is not contrary to applicable law. Given the size and complexity of the MS4s regulated under the Los Angeles MS4 Order, the joint responsibility regime also constitutes a reasonable policy choice. The Los Angeles MS4 Order specifically allows a permittee to avoid joint responsibility by demonstrating that its commingled discharge is not the source of an exceedance.

19. We find that representation of the Los Angeles Water Board and the Los Angeles Water Board staff by the same attorneys in the proceedings to adopt the Los Angeles MS4 Order was lawful and reasonable.

20. We find that the Los Angeles Water Board acted in a manner consistent with applicable law and reasonably when it issued a system-wide permit that included Signal Hill.

Addressing the water quality impacts of municipal storm water is a complex and difficult undertaking, requiring innovative approaches and significant investment of resources. We recognize and appreciate the commendable effort of the Los Angeles Water Board to come up with a workable and collaborative solution to the difficult technical, policy, and legal issues, as well as the demonstrated commitment of many of the area's MS4 dischargers and of the environmental community to work with the Los Angeles Water Board in the development and implementation of the proposed solution. We also recognize the extensive work that interested persons from across the state, including CASQA, have invested in assisting us in understanding how the watershed-based alternative compliance approach developed by the Los Angeles Water Board may inform statewide approaches to addressing achievement of water quality requirements. While storm water poses an immediate water quality problem, we believe that a rigorous and transparent watershed-based approach that emphasizes low impact development, green infrastructure, multi-benefit projects, and capture, infiltration, and reuse of storm water is

a promising long-term approach to addressing the complex issues involved. We must balance requirements for and enforcement of immediate, but often incomplete, solutions with allowing enough time and leeway for dischargers to invest in infrastructure that will provide for a more reliable trajectory away from storm water-caused pollution and degradation. We believe that the Los Angeles MS4 Order, with the revisions we have made, strikes that balance at this stage in our storm water programs, but expect that we will continue to revisit the question of the appropriate balance as the water boards' experience in implementing watershed-based solutions to storm water grows.

IV. ORDER

IT IS HEREBY ORDERED that the Los Angeles MS4 Order is amended as described above in this order. The Los Angeles Water Board is directed to prepare a complete version of the Los Angeles MS4 Order (including any necessary non-substantive conforming corrections), post the conformed Los Angeles MS4 Order on its website, and distribute it as appropriate.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held June 16, 2015.

AYE:	Chair Felicia Marcus Vice Chair Frances Spivy-Weber Board Member Tam M. Doduc Board Member Steven Moore Board Member Dorene D'Adamo
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend
Clerk to the Board

ATTACHMENT F-1

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA

2015

STATE WATER RESOURCES CONTROL BOARD

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

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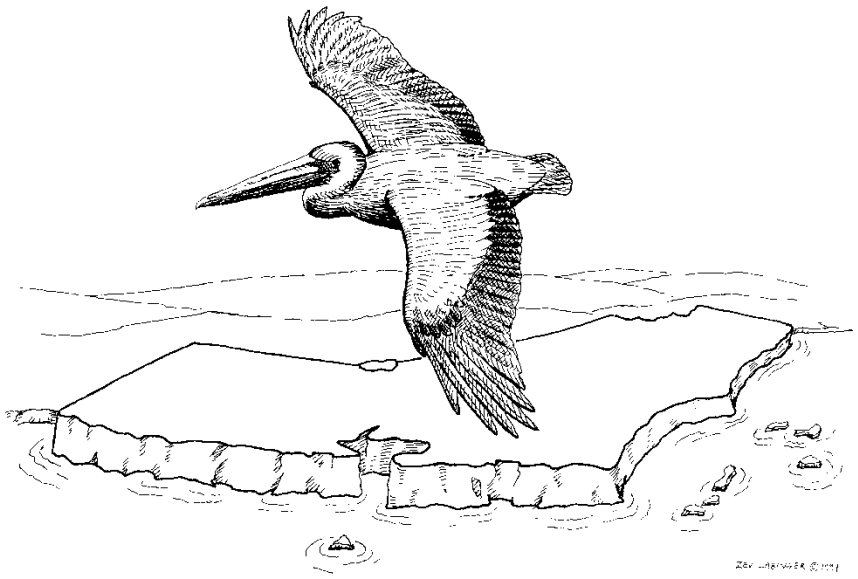
STATE WATER RESOURCES CONTROL BOARD



2015

CALIFORNIA OCEAN PLAN

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA

Amendments to the Water Quality Control Plan for the Ocean Waters of California

Name	Date Adopted	Resolution Number	Effective Date
1. Amendment to the statewide for the Ocean Plan of California addressing desalination facility intakes, brine discharges, and to incorporate other non-substantive changes	5/06/2015	2015-0033	1/28/2016
2. Amendment to the Water Quality Control Plan for Ocean Waters of California to control trash and part 1 trash provisions of the Water Quality Control Plan for inland surface waters, enclosed bays, and estuaries in California	4/7/2015	2015-0019	1/12/2016
3. Adoption of the California Ocean Plan Amendments regarding model monitoring, vessel discharges, and non-substantive changes	10/16/2012	2012-0057	7/01/2013
4. Adopting the California Ocean Plan Amendment implementing State Water Board resolutions 2010-0057 and 2011-013 regarding State Water Quality Protection Areas and Marine Protected Areas	10/16/2012	2012-0056	7/01/2013
5. Adoption of Proposed Amendments to the California Ocean Plan regarding total recoverable metals, compliance schedules, toxicity definitions, and the list of exceptions	9/15/2009	2009-0072	3/10/2010
6. Amendment to the California Ocean Plan: (1) Reasonable Potential, Determining When California Ocean Plan Water Quality-Based Effluent Limitations are Required, and (2) Minor Changes to the Areas of Special Biological Significance, and Exception Provisions	4/21/2005	2005-0035	10/12/2005
7. Amendment to California Ocean Plan Water Contact Bacterial Standards	1/20/2005	2005-0013	10/12/2005
8. Adoption of the Proposed Amendments to the California Ocean Plan regarding Table A, chemical water quality objectives, provisions of compliance, special protection for water quality and designated uses, and administrative changes	11/16/2000	2000-108	12/03/2001
9. Adoption of an Amendment to the Water Quality Control Plan for Ocean Waters of California regarding revisions to the list of critical life stage protocols used in testing the toxicity of waste discharges	3/20/1997	97-026	7/23/1997
10. Approval of Amendment to the Water Quality Control Plan for Ocean Waters of California regarding new water quality objectives in Table B	3/22/1990	90-027	3/22/1990

11. Water Quality Control Plan for Ocean Waters of California, California Ocean Plan	9/22/1988	88-111	9/22/1988
12. Water Quality Control Plan for Ocean Waters of California	11/17/1983	83-087	11/17/1983
13. Water Quality Control Plan for Ocean Waters of California	1/19/1978	78-002	1/19/1978
14. Water Quality Control Plan for Ocean Waters of California	7/06/1972	72-045	7/06/1972

CALIFORNIA OCEAN PLAN

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CALIFORNIA OCEAN PLAN

WATER QUALITY CONTROL PLAN FOR OCEAN WATERS OF CALIFORNIA

INTRODUCTION

A. Purpose and Authority

1. In furtherance of legislative policy set forth in section 13000 of Division 7 of the California Water Code (CWC) (Stats. 1969, Chap. 482) pursuant to the authority contained in section 13170 and 13170.2 (Stats. 1971, Chap. 1288) the State Water Resources Control Board (State Water Board) hereby finds and declares that protection of the quality of the ocean* waters for use and enjoyment by the people of the State requires control of the discharge of waste* to ocean* waters and control of intake seawater* in accordance with the provisions contained herein. The Board finds further that this plan shall be reviewed at least every three years to guarantee that the current standards are adequate and are not allowing degradation* to marine species or posing a threat to public health.

B. Principles

1. Harmony Among Water Quality Control Plans and Policies.

   a. In the adoption and amendment of water quality control plans, it is the intent of this Board that each plan will provide for the attainment and maintenance of the water quality standards of downstream waters.*

   b. To the extent there is a conflict between a provision of this plan and a provision of another statewide plan or policy, or a regional water quality control plan (basin plan), the more stringent provision shall apply except where pursuant to Chap. III.J of this Plan, the State Water Board has approved an exception to the Plan requirements, and except in chapter III.M, in which the provisions of this plan shall govern.

C. Applicability

1. This plan is applicable, in its entirety, to point source discharges to the ocean.* Nonpoint sources of waste* discharges to the ocean* are subject to Chapter I Beneficial Uses, Chapter II - WATER QUALITY OBJECTIVES (wherein compliance with water quality objectives shall, in all cases, be determined by direct measurements in the receiving waters*) and Chapter III - PROGRAM OF IMPLEMENTATION Parts A.2, D, E, and I.

2. This plan is not applicable to discharges to enclosed* bays and estuaries* or inland waters or the control of dredged material.*

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* See Appendix I for definition of terms.

3. Provisions regulating the thermal aspects of waste* discharged to the ocean* are set forth in the Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed* Bays and Estuaries* of California.

4. Provisions regulating the intake of seawater* for desalination facilities* are established pursuant to the authority contained in section 13142.5 subdivision (b) of the California Water Code (Stats. 1976, Chap. 1330).

5. Within this Plan, references to the State Board or State Water Board shall mean the State Water Resources Control Board. References to a Regional Board or Regional Water Board shall mean a California Regional Water Quality Control Board. References to the Environmental Protection Agency, USEPA, or EPA shall mean the federal Environmental Protection Agency.

* See Appendix I for definition of terms.

I. BENEFICIAL USES

A. The beneficial uses of the ocean* waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture*; preservation and enhancement of designated Areas* of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish* harvesting.

* See Appendix I for definition of terms.

II. WATER QUALITY OBJECTIVES

A. General Provisions

1. This chapter sets forth limits or levels of water quality characteristics for ocean* waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The discharge of waste* shall not cause violation of these objectives.

2. The Water Quality Objectives and Effluent Limitations are defined by a statistical distribution when appropriate. This method recognizes the normally occurring variations in treatment efficiency and sampling and analytical techniques and does not condone poor operating practices.

3. Compliance with the water quality objectives of this chapter shall be determined from samples collected at stations representative of the area within the waste* field where initial* dilution is completed.

B. Bacterial Characteristics

1. Water-Contact Standards

Both the State Water Board and the California Department of Public Health (CDPH) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Subsection a of this section contains bacterial objectives adopted by the State Water Board for ocean* waters used for water contact recreation. Subsection b describes the bacteriological standards adopted by CDPH for coastal waters adjacent to public beaches and public water contact sports areas in ocean waters.

a. State Water Board Water-Contact Standards

(1) Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board (i.e., waters designated as REC-1), but including all kelp beds,* the following bacterial objectives shall be maintained throughout the water column:

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

i. Total coliform density shall not exceed 1,000 per 100 mL;
ii. Fecal coliform density shall not exceed 200 per 100 mL; and
iii. Enterococcus density shall not exceed 35 per 100 mL.

Single Sample Maximum:

i. Total coliform density shall not exceed 10,000 per 100 mL;
ii. Fecal coliform density shall not exceed 400 per 100 mL;
iii. Enterococcus density shall not exceed 104 per 100 mL; and

* See Appendix I for definition of terms.

iv. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

(2) The "Initial Dilution* Zone" of wastewater outfalls shall be excluded from designation as kelp beds* for purposes of bacterial standards, and Regional Boards should recommend extension of such exclusion zone where warranted to the State Water Board (for consideration under chapter III. J). Adventitious assemblages of kelp on waste discharge structures (e.g.,outfall pipes and multiport diffusers*) do not constitute kelp beds* for purposes of bacterial standards.

b. CDPH Standards

CDPH has established minimum protective bacteriological standards for coastal waters adjacent to public beaches and for public water-contact sports areas in ocean* waters. These standards are found in the California Code of Regulations, title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water-contact sports area fails to meet these standards, CDPH or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water-contact sports area until the standards are met. The CDPH regulations impose more frequent monitoring and more stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, CDPH imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

2. Shellfish* Harvesting Standards

a. At all areas where shellfish* may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

(1) The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

C. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.

2. The discharge of waste* shall not cause aesthetically undesirable discoloration of the ocean* surface.

3. Natural light* shall not be significantly* reduced at any point outside the initial* dilution zone as the result of the discharge of waste.*

4. The rate of deposition of inert solids and the characteristics of inert solids in ocean* sediments shall not be changed such that benthic communities are degraded.*

* See Appendix I for definition of terms.

5. Trash* shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

D. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste* materials.*
2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly* increased above that present under natural conditions.
4. The concentration of substances set forth in chapter II, Table 1, in marine sediments shall not be increased to levels which would degrade* indigenous biota.
5. The concentration of organic materials* in marine sediments shall not be increased to levels that would degrade* marine life.
6. Nutrient materials* shall not cause objectionable aquatic growths or degrade* indigenous biota.
7. Numerical Water Quality Objectives

   a. Table 1 water quality objectives apply to all discharges within the jurisdiction of this Plan. Unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations.

   b. Table 1 Water Quality Objectives

* See Appendix I for definition of terms.

TABLE 1 (formerly TABLE B)
WATER QUALITY OBJECTIVES

	Units of Measurement	Limiting Concentrations 6-Month Median	Daily Maximum	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic	µg/L	8.	32.	80.
Cadmium	µg/L	1.	4.	10.
Chromium (Hexavalent) (see below, a)	µg/L	2.	8.	20.
Copper	µg/L	3.	12.	30.
Lead	µg/L	2.	8.	20.
Mercury	µg/L	0.04	0.16	0.4
Nickel	µg/L	5.	20.	50.
Selenium	µg/L	15.	60.	150.
Silver	µg/L	0.7	2.8	7.
Zinc	µg/L	20.	80.	200.
Cyanide (see below, b)	µg/L	1.	4.	10.
Total Chlorine Residual (For intermittent chlorine sources see below, c)	µg/L	2.	8.	60.
Ammonia (expressed as nitrogen)	µg/L	600.	2400.	6000.
Acute* Toxicity	TUa	N/A	0.3	N/A
Chronic* Toxicity	TUc	N/A	1.	N/A
Phenolic Compounds (non-chlorinated)	µg/L	30.	120.	300.
Chlorinated Phenolics	µg/L	1.	4.	10.
Endosulfan*	µg/L	0.009	0.018	0.027
Endrin	µg/L	0.002	0.004	0.006
HCH*	µg/L	0.004	0.008	0.012
Radioactivity	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations. Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			

* See Appendix I for definition of terms.

TABLE 1 (formerly TABLE B) Continued

Chemical	30-day Average (µg/L) Decimal Notation	Scientific Notation
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS		
acrolein	220.	2.2×10^{2}
antimony	1,200.	1.2×10^{3}
bis(2-chloroethoxy) methane	4.4	4.4×10^{0}
bis(2-chloroisopropyl) ether	1,200.	1.2×10^{3}
chlorobenzene	570.	5.7×10^{2}
chromium (III)	190,000.	1.9×10^{5}
di-n-butyl phthalate	3,500.	3.5×10^{3}
dichlorobenzenes*	5,100.	5.1×10^{3}
diethyl phthalate	33,000.	3.3×10^{4}
dimethyl phthalate	820,000.	8.2×10^{5}
4,6-dinitro-2-methylphenol	220.	2.2×10^{2}
2,4-dinitrophenol	4.0	4.0×10^{0}
ethylbenzene	4,100.	4.1×10^{3}
fluoranthene	15.	1.5×10^{1}
hexachlorocyclopentadiene	58.	5.8×10^{1}
nitrobenzene	4.9	4.9×10^{0}
thallium	2.	$2. \times 10^{0}$
toluene	85,000.	8.5×10^{4}
tributyltin	0.0014	1.4×10^{-3}
1,1,1-trichloroethane	540,000.	5.4×10^{5}
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
acrylonitrile	0.10	1.0×10^{-1}
aldrin	0.000022	2.2×10^{-5}
benzene	5.9	5.9×10^{0}
benzidine	0.000069	6.9×10^{-5}
beryllium	0.033	3.3×10^{-2}
bis(2-chloroethyl) ether	0.045	4.5×10^{-2}
bis(2-ethylhexyl) phthalate	3.5	3.5×10^{0}
carbon tetrachloride	0.90	9.0×10^{-1}
chlordane*	0.000023	2.3×10^{-5}
chlorodibromomethane	8.6	8.6×10^{0}

* See Appendix I for definition of terms.

TABLE 1 (formerly TABLE B) Continued

Chemical	30-day Average (µg/L) Decimal Notation	Scientific Notation
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS		
chloroform	130.	1.3×10^{2}
DDT*	0.00017	1.7×10^{-4}
1,4-dichlorobenzene	18.	1.8×10^{1}
3,3'-dichlorobenzidine	0.0081	8.1×10^{-3}
1,2-dichloroethane	28.	2.8×10^{1}
1,1-dichloroethylene	0.9	9×10^{-1}
dichlorobromomethane	6.2	6.2×10^{0}
dichloromethane	450.	4.5×10^{2}
1,3-dichloropropene	8.9	8.9×10^{0}
dieldrin	0.00004	4.0×10^{-5}
2,4-dinitrotoluene	2.6	2.6×10^{0}
1,2-diphenylhydrazine	0.16	1.6×10^{-1}
halomethanes*	130.	1.3×10^{2}
heptachlor	0.00005	5×10^{-5}
heptachlor epoxide	0.00002	2×10^{-5}
hexachlorobenzene	0.00021	2.1×10^{-4}
hexachlorobutadiene	14.	1.4×10^{1}
hexachloroethane	2.5	2.5×10^{0}
isophorone	730.	7.3×10^{2}
N-nitrosodimethylamine	7.3	7.3×10^{0}
N-nitrosodi-N-propylamine	0.38	3.8×10^{-1}
N-nitrosodiphenylamine	2.5	2.5×10^{0}
PAHs*	0.0088	8.8×10^{-3}
PCBs*	0.000019	1.9×10^{-5}
TCDD equivalents*	0.0000000039	3.9×10^{-9}
1,1,2,2-tetrachloroethane	2.3	2.3×10^{0}
tetrachloroethylene	2.0	2.0×10^{0}
toxaphene	0.00021	2.1×10^{-4}
trichloroethylene	27.	2.7×10^{1}
1,1,2-trichloroethane	9.4	9.4×10^{0}
2,4,6-trichlorophenol	0.29	2.9×10^{-1}
vinyl chloride	36.	3.6×10^{1}

* See Appendix I for definition of terms.

Table 1 Notes:

a) Dischargers may at their option meet this objective as a total chromium objective.

b) If a discharger can demonstrate to the satisfaction of the Regional Water Board (subject to EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR PART 136, as revised May 14, 1999.

c) Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

$$\log y = -0.43 (\log x) + 1.8$$

where: y = the water quality objective (in µg/L) to apply when chlorine is being discharged;
x = the duration of uninterrupted chlorine discharge in minutes.

E. Biological Characteristics

1. Marine communities, including vertebrate, invertebrate, algae, and plant species, shall not be degraded.*

2. The natural taste, odor, and color of fish, shellfish,* or other marine resources used for human consumption shall not be altered.

3. The concentration of organic materials* in fish, shellfish* or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

F. Radioactivity

1. Discharge of radioactive waste* shall not degrade* marine life.

* See Appendix I for definition of terms.

III. PROGRAM OF IMPLEMENTATION

A. General Provisions

1. Effective Date

a. The *Water Quality Control Plan, Ocean Waters of California, California Ocean Plan* was adopted and has been effective since 1972. There have been multiple amendments of the Ocean Plan since its adoption.

2. General Requirements For Management Of Waste Discharge To The Ocean*

a. Waste* management systems that discharge to the ocean* must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

b. Waste* discharged to the ocean* must be essentially free of:

(1) Material* that is floatable or will become floatable upon discharge.

(2) Settleable material* or substances that may form sediments which will degrade* benthic communities or other aquatic life.

(3) Substances which will accumulate to toxic levels in marine waters, sediments or biota.

(4) Substances that significantly* decrease the natural light* to benthic communities and other marine life.

(5) Materials* that result in aesthetically undesirable discoloration of the ocean* surface.

c. Waste* effluents shall be discharged in a manner which provides sufficient initial* dilution to minimize the concentrations of substances not removed in the treatment.

d. Location of waste* discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

(1) Pathogenic organisms and viruses are not present in areas where shellfish* are harvested for human consumption or in areas used for swimming or other body-contact sports.

(2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.*

(3) Maximum protection is provided to the marine environment.

* See Appendix I for definition of terms.

e. Waste* that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing* and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

3. Areas of Special Biological Significance*

a. ASBS* shall be designated by the State Water Board following the procedures provided in Appendix IV. A list of ASBS* is available in Appendix V.

4. Combined Sewer Overflow: Not withstanding any other provisions in this plan, discharges from the City of San Francisco's combined sewer system are subject to the US EPA's Combined Sewer Overflow Policy.

B. Table 2 Effluent Limitations

TABLE 2 (formerly TABLE A)
EFFLUENT LIMITATIONS

	Unit of Measurement	Limiting Concentrations: Monthly (30-day Average)	Weekly (7-day Average)	Maximum at any time
Grease and Oil	mg/L	25.	40.	75.
Suspended Solids			See below +	
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75.	100.	225.
pH	Units		Within limit of 6.0 to 9.0 at all times	

Table 2 Notes:

\+ Suspended Solids: Dischargers shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean,* except that the effluent limitation to be met shall not be lower than 60 mg/l. Regional Boards may recommend that the State Water Board (chapter III section J), with the concurrence of the Environmental Protection Agency, adjust the lower effluent concentration limit (the 60 mg/l above) to suit the environmental and effluent characteristics of the discharge. As a further consideration in making such recommendation for adjustment, Regional Water Boards should evaluate effects on existing and potential water* reclamation projects.

If the lower effluent concentration limit is adjusted, the discharger shall remove 75% of suspended solids from the influent stream at any time the influent concentration exceeds four times such adjusted effluent limit.

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1. Table 2 effluent limitations apply only to publicly owned treatment works and industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to sections 301, 302, 304, or 306 of the Federal Clean Water Act.

* See Appendix I for definition of terms.

2. Table 2 effluent limitations shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.

3. The State Water Board is authorized to administer and enforce effluent limitations established pursuant to the Federal Clean Water Act. Effluent limitations established under sections 301, 302, 306, 307, 316, 403, and 405 of the aforementioned Federal Act and administrative procedures pertaining thereto are included in this plan by reference. Compliance with Table 2 effluent limitations, or Environmental Protection Agency Effluent Limitations Guidelines for industrial discharges, based on Best Practicable Control Technology, shall be the minimum level* of treatment acceptable under this plan, and shall define reasonable treatment and waste* control technology.

4. Compliance with Table 2 effluent limitations for brine discharges from desalination facilities that commingle brine and wastewater prior to discharge to the ocean may be measured after the brine has been commingled with wastewater, provided that the permittee for the commingled discharge accepts responsibly for any exceedances of the Table 2 effluent limitations.

C. Implementation Provisions for Table 1

1. Effluent concentrations calculated from Table 1 water quality objectives shall apply to a discharger's total effluent, of whatever origin (i.e., gross, not net, discharge), except where otherwise specified in this Plan.

2. If the Regional Water Board determines, using the procedures in Appendix VI, that a pollutant is discharged into ocean* waters at levels which will cause, have the reasonable potential to cause, or contribute to an excursion above a Table 1 water quality objective, the Regional Water Board shall incorporate a water quality-based effluent limitation in the Waste Discharge Requirement for the discharge of that pollutant.

3. Effluent limitations shall be imposed in a manner prescribed by the State Water Board such that the concentrations set forth below as water quality objectives shall not be exceeded in the receiving water* upon completion of initial* dilution, except that objectives indicated for radioactivity shall apply directly to the undiluted waste* effluent.

4. Calculation of Effluent Limitations

a. Effluent limitations for water quality objectives listed in Table 1, with the exception of acute toxicity and radioactivity, shall be determined through the use of the following equation:

Equation 1: $Ce = Co + Dm (Co - Cs)$

where:

Ce = the effluent concentration limit, µg/L

Co = the concentration (water quality objective) to be met at the completion of initial* dilution, µg/L

Cs = background seawater* concentration (see Table 3 below, with all metals expressed as total recoverable concentrations), µg/L

Dm = minimum probable initial* dilution expressed as parts seawater* per part wastewater.

* See Appendix I for definition of terms.

TABLE 3 (formerly TABLE C)
BACKGROUND SEAWATER* CONCENTRATIONS (Cs)

Waste Constituent	Cs (µg/L)
Arsenic	3.
Copper	2.
Mercury	0.0005
Silver	0.16
Zinc	8.
For all other Table 1 parameters, Cs = 0.	

b. Determining a Mixing Zone for the Acute Toxicity* Objective

The mixing zone for the acute toxicity* objective shall be ten percent (10%) of the distance from the edge of the outfall structure to the edge of the chronic mixing zone (zone of initial dilution*). There is no vertical limitation on this zone. The effluent limitation for the acute toxicity* objective listed in Table 1 shall be determined through the use of the following equation:

Equation 2: $Ce = Ca + (0.1)\ Dm\ (Ca)$

where:

Ca = the concentration (water quality objective) to be met at the edge of the acute mixing zone.

Dm = minimum probable initial* dilution expressed as parts seawater* per part wastewater (This equation applies only when Dm > 24).

c. Toxicity Testing Requirements based on the Minimum Initial* Dilution Factor for Ocean Waste* Discharges

(1) Dischargers shall conduct acute toxicity* testing if the minimum initial* dilution of the effluent is greater than 1,000:1 at the edge of the mixing zone.

(2) Dischargers shall conduct either acute or chronic toxicity* testing if the minimum initial* dilution ranges from 350:1 to 1,000:1 depending on the specific discharge conditions. The Regional Water Board shall make this determination.

(3) Dischargers shall conduct chronic toxicity* testing for ocean waste* discharges with minimum initial* dilution factors ranging from 100:1 to 350:1. The Regional Water Board may require that acute toxicity* testing be conducted in addition to chronic as necessary for the protection of beneficial uses of ocean* waters.

(4) Dischargers shall conduct chronic toxicity* testing if the minimum initial* dilution of the effluent falls below 100:1 at the edge of the mixing zone.

* See Appendix I for definition of terms.

d. For the purpose of this Plan, minimum initial* dilution is the lowest average initial* dilution within any single month of the year. Dilution estimates shall be based on observed waste* flow characteristics, observed receiving water* density structure, and the assumption that no currents, of sufficient strength to influence the initial* dilution process, flow across the discharge structure.

e. The Executive Director of the State Water Board shall identify standard dilution models for use in determining Dm, and shall assist the Regional Board in evaluating Dm for specific waste* discharges. Dischargers may propose alternative methods of calculating Dm, and the Regional Board may accept such methods upon verification of its accuracy and applicability.

f. The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.

g. The daily maximum shall apply to flow weighted 24 hour composite samples.

h. The instantaneous maximum shall apply to grab sample determinations.

i. If only one sample is collected during the time period associated with the water quality objective (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

j. Discharge requirements shall also specify effluent limitations in terms of mass emission rate limits utilizing the general formula:

Equation 3: lbs/day = 0.00834 x Ce x Q

where:

Ce = the effluent concentration limit, µg/L

Q = flow rate, million gallons per day (MGD)

k. The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration as Ce and the observed flow rate Q in millions of gallons per day. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as Ce and the observed flow rate Q in millions of gallons per day.

l. Any significant* change in waste* flow shall be cause for reevaluating effluent limitations.

5. Minimum* Levels

For each numeric effluent limitation, the Regional Board must select one or more Minimum* Levels (and their associated analytical methods) for inclusion in the permit. The “reported” Minimum* Level is the Minimum* Level (and its associated analytical

* See Appendix I for definition of terms.

method) chosen by the discharger for reporting and compliance determination from the Minimum* Levels included in their permit.

a. Selection of Minimum* Levels from Appendix II

The Regional Water Board must select all Minimum* Levels from Appendix II that are below the effluent limitation. If the effluent limitation is lower than all the Minimum* Levels in Appendix II, the Regional Board must select the lowest Minimum* Level from Appendix II.

b. Deviations from Minimum* Levels in Appendix II

The Regional Board, in consultation with the State Water Board's Quality Assurance Program, must establish a Minimum* Level to be included in the permit in any of the following situations:

1. A pollutant is not listed in Appendix II.
2. The discharger agrees to use a test method that is more sensitive than those described in 40 CFR 136 (revised May 14, 1999).
3. The discharger agrees to use a Minimum* Level lower than those listed in Appendix II.
4. The discharger demonstrates that their calibration standard matrix is sufficiently different from that used to establish the Minimum* Level in Appendix II and proposes an appropriate Minimum* Level for their matrix.
5. A discharger uses an analytical method having a quantification practice that is not consistent with the definition of Minimum* Level (e.g., US EPA methods 1613, 1624, 1625).

6. Use of Minimum* Levels

a. Minimum* Levels in Appendix II represent the lowest quantifiable concentration in a sample based on the proper application of method-specific analytical procedures and the absence of matrix interferences. Minimum* Levels also represent the lowest standard concentration in the calibration curve for a specific analytical technique after the application of appropriate method-specific factors.

Common analytical practices may require different treatment of the sample relative to the calibration standard. Some examples are given below:

Substance or Grouping	Method-Specific Treatment	Most Common Factor
Volatile Organics	No differential treatment	1
Semi-Volatile Organics	Samples concentrated by extraction	1000
Metals	Samples diluted or concentrated	½ , 2 , and 4
Pesticides	Samples concentrated by extraction	100

b. Other factors may be applied to the Minimum* Level depending on the specific sample preparation steps employed. For example, the treatment typically applied when there are matrix effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied during the

* See Appendix I for definition of terms.

computation of the reporting limit. Application of such factors will alter the reported Minimum* Level.

c. Dischargers are to instruct their laboratories to establish calibration standards so that the Minimum* Level (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve. In accordance with section 4b, above, the discharger's laboratory may employ a calibration standard lower than the Minimum* Level in Appendix II.

7. Sample Reporting Protocols

a. Dischargers must report with each sample result the reported Minimum* Level (selected in accordance with section 4, above) and the laboratory's current MDL.*

b. Dischargers must also report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

(1) Sample results greater than or equal to the reported Minimum* Level must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample).

(2) Sample results less than the reported Minimum* Level, but greater than or equal to the laboratory's MDL,* must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.").

(3) Sample results less than the laboratory's MDL* must be reported as "Not Detected", or ND.

8. Compliance Determination

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

a. Compliance with Single-Constituent Effluent Limitations

Dischargers are out of compliance with the effluent limitation if the concentration of the pollutant (see section 7c, below) in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum* Level.

b. Compliance with Effluent Limitations expressed as a Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCBs*) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

* See Appendix I for definition of terms.

c. Multiple Sample Data Reduction

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported Minimum* Level). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

d. Powerplants and Heat Exchange Dischargers

Due to the large total volume of powerplant and other heat exchange discharges, special procedures must be applied for determining compliance with Table 1 objectives on a routine basis. Effluent concentration values (Ce) shall be determined through the use of equation 1 considering the minimal probable initial* dilution of the combined effluent (in-plant waste* streams plus cooling water flow). These concentration values shall then be converted to mass emission limitations as indicated in equation 3. The mass emission limits will then serve as requirements applied to all in-plant waste* streams taken together which discharge into the cooling water flow, except that limits for total chlorine residual, acute (if applicable per section (3)(c)) and chronic* toxicity* and instantaneous maximum concentrations in Table 1 shall apply to, and be measured in, the combined final effluent, as adjusted for dilution with ocean water. The Table 1 objective for radioactivity shall apply to the undiluted combined final effluent.

9. Pollutant Minimization Program

a. Pollutant Minimization Program Goal

The goal of the Pollutant Minimization Program is to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the effluent limitation.

Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The completion and implementation of a Pollution Prevention Plan, required in accordance with CA Water Code section 13263.3 (d) will fulfill the Pollution Minimization Program requirements in this section.

b. Determining the need for a Pollutant Minimization Program

1. The discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:

(a) The calculated effluent limitation is less than the reported Minimum Level*

(b) The concentration of the pollutant is reported as DNQ

* See Appendix I for definition of terms.

(c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

2. Alternatively, the discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:

(a) The calculated effluent limitation is less than the Method Detection Limit.*

(b) The concentration of the pollutant is reported as ND.

(c) There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

c. Regional Water Boards may include special provisions in the discharge requirements to require the gathering of evidence to determine whether the pollutant is present in the effluent at levels above the calculated effluent limitation. Examples of evidence may include:

1. health advisories for fish consumption,
2. presence of whole effluent toxicity,
3. results of benthic or aquatic organism tissue sampling,
4. sample results from analytical methods more sensitive than methods included in the permit (in accordance with section 4b, above).
5. the concentration of the pollutant is reported as DNQ and the effluent limitation is less than the MDL*

d. Elements of a Pollutant Minimization Program

The Regional Board may consider cost-effectiveness when establishing the requirements of a Pollutant Minimization Program. The program shall include actions and submittals acceptable to the Regional Board including, but not limited to, the following:

1. An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling;
2. Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system;
3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the calculated effluent limitation;
4. Implementation of appropriate cost-effective control measures for the pollutant, consistent with the control strategy; and,
5. An annual status report that shall be sent to the Regional Board including:

(a) All Pollutant Minimization Program monitoring results for the previous year;

(b) A list of potential sources of the reportable pollutant;

(c) A summary of all action taken in accordance with the control strategy; and,

* See Appendix I for definition of terms.

(d) A description of actions to be taken in the following year.

10. Toxicity Reduction Requirements

a. If a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the source of toxicity. Once the source(s) of toxicity is identified, the discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

b. The following shall be incorporated into waste* discharge requirements: (1) a requirement to conduct a TRE if the discharge consistently exceeds its toxicity effluent limitation, and (2) a provision requiring a discharger to take all reasonable steps to reduce toxicity once the source of toxicity is identified.

D. Implementation Provisions for Bacterial Characteristics

1. Water-Contact Monitoring

a. Weekly samples shall be collected from each site. The geometric mean shall be calculated using the five most recent sample results.

b. If a single sample exceeds any of the single sample maximum (*SSM*) standards, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard or until a sanitary survey is conducted to determine the source of the high bacterial densities.

i) Total coliform density will not exceed 10,000 per 100 mL; or
ii) Fecal coliform density will not exceed 400 per 100 mL; or
iii) Total coliform density will not exceed 1,000 per 100 mL when the ratio of fecal/total coliform exceeds 0.1;
iv) enterococcus density will not exceed 104 per 100 mL.

When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

c. It is state policy that the geometric mean bacterial objectives are strongly preferred for use in water body assessment decisions, for example, in developing the Clean Water Act section 303(d) list of impaired waters, because the geometric mean objectives are a more reliable measure of long-term water body conditions. In making assessment decisions on bacterial quality, single sample maximum data must be considered together with any available geometric mean data. The use of only single sample maximum bacterial data is generally inappropriate unless there is a limited data set, the water is subject to short-term spikes in bacterial concentrations, or other circumstances justify the use of only single sample maximum data.

* See Appendix I for definition of terms.

d. For monitoring stations outside of the defined water-contact recreation zone (REC-1), samples will be analyzed for total coliform only.

E. Implementation Provisions for Marine Managed Areas*

1. Section E addresses the following Marine Managed Areas*:

(a) State Water Quality Protection Areas (SWQPAs)* consisting of:

(1) SWQPA – Areas of Special Biological Significance (ASBS)* designated by the State Water Board that require special protections as defined under section 4 below.

(2) SWQPA – General Protection (GP) designated by the State Water Board to protect water quality within Marine Protected Areas (MPAs) that require protection under the provisions described under section 5 below.

(b) Marine Protected Areas as defined in the California Public Resources Code as State Marine Reserves, State Marine Parks and State Marine Conservation Areas, established by the Fish and Game Commission, or the Parks and Recreation Commission.

2. The designation of State Marine Parks and State Marine Conservation Areas may not serve as the sole basis for new or modified limitations, substantive conditions, or prohibitions upon existing municipal point source wastewater discharge outfalls. This provision does not apply to State Marine Reserves.

3. The State Water Board may designate SWQPAs* to prevent the undesirable alteration of natural water quality within MPAs. These designations may include either SWQPA-ASBS or SWQPA-GP or in combination. In considering the designation of SWQPAs over MPAs, the State Water Board will consult with the affected Regional Water Quality Control Board, the Department of Fish and Game and the Department of Parks and Recreation, in accordance with the requirements of Appendix IV.

4. Implementation Provisions For SWQPA-ASBS*

(a) Waste* shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

(b) Regional Water Boards may approve waste* discharge requirements or recommend certification for limited-term (i.e. weeks or months) activities in ASBS.* Limited-term activities include, but are not limited to, activities such as maintenance/repair of existing boat facilities, restoration of sea walls, repair of existing storm water pipes, and replacement/repair of existing bridges. Limited-term activities may result in temporary and short-term changes in existing water quality. Water quality degradation shall be limited to the shortest possible time. The activities must not permanently degrade* water quality or result in water quality

* See Appendix I for definition of terms.

lower than that necessary to protect existing uses, and all practical means of minimizing such degradation shall be implemented.

5. Implementation Provisions for SWQPAs-GP*

(a) Implementation provisions for existing point source wastewater discharges (NPDES)

(1) An SWQPA-GP shall not be designated over existing permitted point source wastewater outfalls or encroach upon the zone of initial dilution* associated with an existing discharge. This requirement does not apply to discharges less than one million gallons per day.

(2) Designation of an SWQPA-GP shall not include conditions to move existing point source wastewater outfalls.

(3) Where a new SWQPA-GP is established in the vicinity of existing municipal wastewater outfalls, there shall be no new or modified limiting condition or prohibitions for the SWQPA-GP relative to those wastewater outfalls.

(4) Regulatory requirements for discharges from existing treated municipal wastewater outfalls shall be derived from the Chapter II – Water Quality Objectives and Chapter III – Program of Implementation.

(b) Implementation provisions for existing seawater* intakes

(1) Existing permitted seawater* intakes other than those serving desalination facilities* must be controlled to minimize entrainment and impingement by using best technology available. Existing permitted seawater* intakes with a capacity less than one million gallons per day are excluded from this requirement.

(2) Existing permitted seawater* intakes serving desalination facilities are governed by the provisions set forth in chapter III.M of this Plan.

(c) Implementation provisions for permitted separate storm sewer system (MS4) discharges and nonpoint source discharges.

(1) Existing waste* discharges are allowed, but shall not cause an undesirable alteration in natural water quality. For purposes of SWQPA-GP, an undesirable alteration in natural water quality means that for intermittent (e.g. wet weather) discharges, Table 1 instantaneous maximum concentrations for chemical constituents, and daily maximum concentrations for chronic toxicity,* must not be exceeded in the receiving water.*

(2) An NPDES permitting authority* may authorize NPDES-permitted non-storm water discharges* to an MS4 with a direct discharge to an SWQPA-GP only to the extent the NPDES permitting authority* finds that the discharge does not cause an undesirable alteration in natural water quality in an SWQPA-GP.

(3) Non-storm water (dry weather) flows are effectively prohibited as required by the applicable permit. Where capacity and infrastructure exists, all dry weather flows

* See Appendix I for definition of terms.

shall be diverted to municipal sanitary sewer systems. The permitting authority* may allow discharges essential for emergency response purposes, structural stability, and slope stability, which may include but are not limited the following:

a. Discharges associated with emergency fire-fighting operations.
b. Foundation and footing drains
c. Water from crawl space or basement pumps.
d. Hillside dewatering.

(4) The following naturally occurring discharges are allowed:

a. Naturally occurring groundwater seepage via a storm drain
b. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

(5) Existing storm water discharges into an SWQPA-GP shall be characterized and assessed to determine what effect if any these inputs are having on natural water quality in the State Water Quality Protection Area. Such assessments shall include an evaluation of cumulative impacts as well as impacts stemming from individual discharges. Information to be considered shall include:

a. Water quality;
b. Flow;
c. Watershed pollutant sources; and
d. Intertidal and/ or subtidal biological surveys.

Within each SWQPA-GP the assessment shall be used to rank these existing discharges into low, medium and high threat impact categories. Cumulative impacts will be ranked similarly as well.

(6) An initial analysis shall be performed for pre- and post-storm receiving water* quality of Table 1 constituents and chronic toxicity.* If post-storm receiving water* quality has larger concentrations of constituents relative to pre-storm, and Table 1 instantaneous maximum concentrations for chemical constituents, and daily maximum concentrations for chronic toxicity,* are exceeded, then receiving water* shall be re-analyzed along with storm runoff (end of pipe) for the constituents that are exceeded.

(7) If undesirable alterations of natural water quality and/or biological communities are identified, control strategies/measures shall be implemented for those dischargers characterized as a high threat or those contributing to higher threat cumulative impacts first.

(8) If those strategies fail, additional control strategies/measures will be implemented for dischargers characterized as medium impact dischargers. If these strategies do not result in improvement of water quality, those discharges classified as low threat shall also implement control strategies/measures.

(d) Implementation Provisions for New Discharges

* See Appendix I for definition of terms.

(1) Point Source Wastewater Outfalls
No new point source wastewater outfalls shall be established within an SWQPA-GP.

(2) Seawater* intakes
No new surface water seawater* intakes shall be established within an SWQPA-GP. This does not apply to subsurface* intakes where studies are prepared showing there is no predictable entrainment, impingement, or construction-related marine life mortality.

(3) All Other New Discharges
There shall be no increase in nonpoint sources or permitted storm drains directly into an SWQPA-GP.

6. Impaired Tributaries to MPAs, SWQPA-ASBS and SWQPA-GP

All water bodies draining to, or that are designated as, MPAs and SWQPAs that appear on the State's CWA section 303(d) list shall be given a high priority to have a TMDL developed and implemented.

F. Revision of Waste* Discharge Requirements

1. The Regional Water Boards may establish more restrictive water quality objectives and effluent limitations than those set forth in this Plan as necessary for the protection of beneficial uses of ocean* waters.

2. Regional Water Boards may impose alternative less restrictive provisions than those contained within Table 1 of the Plan, provided an applicant can demonstrate that:

   a. Reasonable control technologies (including source control, material* substitution, treatment and dispersion) will not provide for complete compliance; or

   b. Any less stringent provisions would encourage water* reclamation;

3. Provided further that:

   a. Any alternative water quality objectives shall be below the conservative estimate of chronic toxicity,* as given in Table 4 (with all metal concentrations expressed as total recoverable concentrations), and such alternative will provide for adequate protection of the marine environment;

   b. A receiving water* quality toxicity objective of 1 TUc is not exceeded; and

   c. The State Water Board grants an exception (chapter III.J) to the Table 1 limits as established in the Regional Board findings and alternative limits.

G. Compliance Schedules in National Pollutant Discharge Elimination System (NPDES) Permits

1. Compliance schedules in NPDES permits are authorized in accordance with the provisions of the State Water Board's Policy for Compliance Schedules in [NPDES] Permits (2008).

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* See Appendix I for definition of terms.

TABLE 4 (formerly TABLE D)
CONSERVATIVE ESTIMATES OF CHRONIC* TOXICITY

Constituent	Estimate of Chronic* Toxicity (µg/L)
Arsenic	19.
Cadmium	8.
Hexavalent Chromium	18.
Copper	5.
Lead	22.
Mercury	0.4
Nickel	48.
Silver	3.
Zinc	51.
Cyanide	10.
Total Chlorine Residual	10.0
Ammonia	4000.0
Phenolic Compounds (non-chlorinated)	a) (see below)
Chlorinated Phenolics	a)
Chlorinated Pesticides and PCBs*	b)

Table 4 Notes:

a) There are insufficient data for phenolics to estimate chronic* toxicity levels. Requests for modification of water quality objectives for these waste* constituents must be supported by chronic* toxicity data for representative sensitive species. In such cases, applicants seeking modification of water quality objectives should consult the Regional Water Quality Control Board to determine the species and test conditions necessary to evaluate chronic effects.

b) Limitations on chlorinated pesticides and PCBs* shall not be modified so that the total of these compounds is increased above the objectives in Table 1.

H. Monitoring Program

1. The Regional Water Boards shall require dischargers to conduct self-monitoring programs and submit reports necessary to determine compliance with the waste* discharge requirements, and may require dischargers to contract with agencies or persons acceptable to the Regional Water Board to provide monitoring reports. Monitoring provisions contained in waste* discharge requirements shall be in accordance with the Monitoring Procedures provided in Appendices III and VI.

2. The Regional Water Board may require monitoring of bioaccumulation of toxicants in the discharge zone. Organisms and techniques for such monitoring shall be chosen by the Regional Water Board on the basis of demonstrated value in waste* discharge monitoring.

* See Appendix I for definition of terms.

I. Discharge Prohibitions

1. Hazardous Substances

a. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste* into the ocean* is prohibited.

2. Areas Designated for Special Water Quality Protection

a. Waste* shall not be discharged to designated Areas* of Special Biological Significance except as provided in chapter III.E Implementation Provisions for Marine Managed Areas.*

3. Sludge

a. Pipeline discharge of sludge to the ocean* is prohibited by federal law; the discharge of municipal and industrial waste* sludge directly to the ocean,* or into a waste* stream that discharges to the ocean,* is prohibited by this Plan. The discharge of sludge digester supernatant directly to the ocean,* or to a waste* stream that discharges to the ocean* without further treatment, is prohibited.

b. It is the policy of the State Water Board that the treatment, use and disposal of sewage sludge shall be carried out in the manner found to have the least adverse impact on the total natural and human environment. Therefore, if federal law is amended to permit such discharge, which could affect California waters, the State Water Board may consider requests for exceptions to this section under Chapter III. J of this Plan, provided further that an Environmental Impact Report on the proposed project shows clearly that any available alternative disposal method will have a greater adverse environmental impact than the proposed project.

4. By-Passing

a. The by-passing of untreated wastes* containing concentrations of pollutants in excess of those of Table 2 or Table 1 to the ocean* is prohibited.

5. Vessels

a. Discharges of hazardous waste (as defined in California Health and Safety Code § 25117 et seq. [but not including sewage]), oily bilge water,* medical waste (as defined in § 117600 et seq. of the California Health and Safety Code) dry-cleaning waste, and film-processing waste from large passenger vessels* and oceangoing vessels* are prohibited.

b. Discharges of graywater* and sewage* from large passenger vessels* are prohibited.

c. Discharges of sewage and sewage sludge from vessels are prohibited in No Discharge Zones* promulgated by U.S. EPA.

* See Appendix I for definition of terms.

6. Trash*

The discharge of Trash* to surface waters of the State or the deposition of Trash* where it may be discharged into surface waters of the State is prohibited. Compliance with this prohibition of discharge shall be achieved as follows:

a. Dischargers with NPDES permits that contain specific requirements for the control of Trash* that are consistent with these Trash Provisions* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.

b. Dischargers with non-NPDES waste discharge requirements (WDRs) or waivers of WDRs that contain specific requirements for the control of Trash* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.

c. Dischargers with NPDES permits, WDRs, or waivers of WDRs that do not contain specific requirements for the control of Trash* are exempt from these Trash Provisions*.

d. Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with this prohibition of discharge.

e. Chapter III.I.6.b and Chapter III.L.3 notwithstanding, this prohibition of discharge applies to the discharge of preproduction plastic* by manufacturers of preproduction plastics*, transporters of preproduction plastics*, and manufacturers that use preproduction plastics* in the manufacture of other products to surface waters of the State, or the deposition of preproduction plastic* where it may be discharged into surface waters of the State, unless the discharger is subject to a NPDES permit for discharges of storm water* associated with industrial activity.

J. State Board Exceptions to Plan Requirements

1. The State Water Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the Environmental Protection Agency, grant exceptions where the Board determines:

   a. The exception will not compromise protection of ocean* waters for beneficial uses, and,

   b. The public interest will be served.

2. All exceptions issued by the State Water Board and in effect at the time of the Triennial Review will be reviewed at that time. If there is sufficient cause to re-open or revoke any exception, the State Water Board may direct staff to prepare a report and to schedule a public hearing. If after the public hearing the State Water Board decides to re-open, revoke, or re-issue a particular exception, it may do so at that time.

* See Appendix I for definition of terms.

K. Implementation Provisions for Vessel Discharges

1. Vessel discharges must comply with State Lands Commission (SLC) requirements for ballast water discharges and hull fouling to control and prevent the introduction of non-indigenous species, found in the Public Resources Code sections 71200 et seq. and title 2, California Code of Regulations, section 22700 et. seq.

2. Discharges incidental to the normal operation large passenger vessels* and ocean-going vessels must be covered and comply with an individual or general NPDES permit.

3. Vessel discharges must not result in violations of water quality objectives in this plan.

4. Vessels subject to the federal NPDES Vessel General Permit (VGP) which are not large passenger vessels* must follow the best management practices for graywater* as required in the VGP, including the use of only those cleaning agents (e.g., soaps and detergents) that are phosphate-free, non-toxic, and non-bioaccumulative.

L. Implementation Provisions for Trash* [(Section L only) effective January 12, 2016]

1. Applicability

a. These Trash Provisions* shall be implemented through a prohibition of discharge (Chapter III.I.6) and through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, waste discharge requirements (WDRs), or waivers of WDRs (as set forth in Chapter III.L.2 and Chapter III.L.3 below).

b. These Trash Provisions* apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these Trash Provisions*[1]; provided, however, that:

(1) Upon the effective date of these Trash Provisions*, the Los Angeles Water Board shall cease its full capture system* certification process and provide that any new full capture systems* shall be certified by the State Water Board in accordance with these Trash Provisions*.

(2) Within one year of the effective date of these Trash Provisions*, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, to particularly consider an approach

[1] In the Los Angeles Region, there are fifteen (15) trash TMDLs for the following watersheds and water bodies: Los Angeles River Watershed, Ballona Creek, Malibu Creek Watershed, Santa Monica Bay Nearshore and Offshore, San Gabriel River East Fork, Revolon Slough and Beardsley Wash, Ventura River Estuary, Machado Lake, Lake Elizabeth, Lake Hughes, Munz Lake, Peck Road Park Lake, Echo Park Lake, Lincoln Park Lake and Legg Lake. Three of these were established by the U.S. EPA: Peck Road Park Lake, Echo Park Lake and Lincoln Park Lake.

* See Appendix I for definition of terms.

that would focus MS4* permittees' trash-control efforts on high-trash generation areas within their jurisdictions.

2. Dischargers Permitted Pursuant to Federal Clean Water Act Section 402(p)

Permitting authorities* shall include the following requirements in NPDES permits issued pursuant to Federal Clean Water Act section 402(p):

a. MS4* permittees with regulatory authority over priority land uses* shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein by either of the following measures:

(1) Track 1: Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the priority land uses* in their jurisdictions; or

(2) Track 2: Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* within either the jurisdiction of the MS4* permittee or within the jurisdiction of the MS4* permittee and contiguous MS4* permittees. The MS4* permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. The MS4* permittee shall demonstrate that such combination achieves full capture system equivalency*. The MS4* permittee may determine which controls to implement to achieve compliance with full capture system equivalency*. It is, however, the State Water Board's expectation that the MS4* permittee will elect to install full capture systems* where such installation is not cost-prohibitive.

b. The California Department of Transportation (Department) shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein in all significant trash generating areas* by installing, operating, and maintaining any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for all storm drains that captures runoff from significant trash generating areas*. The Department shall demonstrate that such combination achieves full capture system equivalency*. In furtherance of this provision, the Department and MS4* permittees that are subject to the provisions of Chapter III.L.2.a herein shall coordinate their efforts to install, operate, and maintain full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* in significant trash generating areas* and/or priority land uses*.

c. Dischargers that are subject to NPDES permits for discharges of storm water* associated with industrial activity (including construction activity) shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein by eliminating Trash* from all storm water* and authorized non-storm water* discharges consistent with an outright prohibition of the discharge of Trash* contained within the applicable NPDES permit regulating the industrial or construction facility. If the discharger can satisfactorily demonstrate to the permitting authority* its inability to comply with the outright prohibition of the

* See Appendix I for definition of terms.

discharge of Trash* contained within the applicable NPDES permit, then the permitting authority* may require the discharger to either:

(1) Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the facility or site regulated by the NPDES permit; or,

(2) Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for the facility or site regulated by the NPDES permit. The discharger shall demonstrate that such combination achieves full capture system equivalency*.

Termination of permit coverage for industrial and construction storm water* dischargers shall be conditioned upon the proper operation and maintenance of all controls (e.g., full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls*) used at their facility(ies).

d. A permitting authority* may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of Trash*. In the event that the permitting authority* makes that determination, the permitting authority* may require the MS4* to comply with Chapter III.L.2.a.1 or Chapter III.L.2.a.2, as determined by the permitting authority*, with respect to such land uses or locations.

3. Other Dischargers

A permitting authority* may require dischargers, described in Chapter III.I.6.c or Chapter III.I.6.d, that are not subject to Chapter III.L.2 herein, to implement any appropriate Trash* controls in areas or facilities that may generate Trash*. Such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4* permit, or marinas.

4. Time Schedule

The permitting authority* shall modify, re-issue, or newly adopt NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act that are subject to the provisions of Chapter III.L.2 herein to include requirements consistent with these Trash Provisions*. The permitting authorities* shall abide by the following time schedules:

a. NPDES Permits Regulating MS4* Permittees that have Regulatory Authority over Priority Land Uses*.[2]

[2] The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to elect Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) does not apply to MS4* permittees subject to the Municipal Regional Stormwater NPDES Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) or the East Contra Costa Municipal Storm Water Permit issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) because those permits already require control requirements substantially equivalent to Track 2. The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to submit an implementation plan

* See Appendix I for definition of terms.

(1) Within eighteen (18) months of the effective date of these Trash Provisions*, for each permittee, each permitting authority* shall either:

A. Modify, re-issue, or adopt the applicable MS4* permit to add requirements to implement these Trash Provisions*. The implementing permit shall require written notice from each MS4* permittee stating whether it has elected to comply under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) and such notice shall be submitted to the permitting authority* no later than three (3) months from the effective date of the implementing permit, or for MS4s* designated after the effective date of these Trash Provisions*, three (3) months from the effective date of that designation. The implementing permit shall also require that within eighteen (18) months of the effective date of the implementing permit or new designation, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority*. The implementation plan shall describe: (i) the combination of controls selected by the MS4* permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.

B. Issue an order pursuant to Water Code section 13267 or 13383 requiring the MS4* permittee to submit, within three (3) months from receipt of the order, written notice to the permitting authority* stating whether such MS4* permittee will comply with the prohibition of discharge under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2). For MS4s* designated after the effective date of these Trash Provisions*, the order pursuant to Water Code section 13267 or 13383 shall be issued at the time of designation. Within eighteen (18) months of the receipt of the Water Code section 13267 or 13383 order, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority* that describes: (i) the combination of controls selected by the MS4* permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.

(2) For MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track1), the implementing permit shall state that full compliance shall occur within

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does not apply to the above permittees if the pertinent permitting authority* determines that such permittee has already submitted an implementation plan prior to the effective date of the Trash Provisions* that is equivalent to the implementation plan required by Chapter III.L.4.a.1. In the aforementioned permits, the pertinent permitting authority* may establish an earlier full compliance deadline than that specified in Chapter III.L.4.a.3.

* See Appendix I for definition of terms.

ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

(3) For MS4* permittees that elect to comply with Chapter III.L.2.a.2 (Track 2), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

(4) The implementing permit shall state that for MS4* permittees designated after the effective date of the implementing permit, full compliance shall occur within ten (10) years of the effective date of the designation. The permit shall also require such designations to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation.

(5) Where a permitting authority* makes a determination pursuant to Chapter III.L.2.d that a specific land use generates a substantial amount of Trash*, that permitting authority* has discretion to determine the time schedule for full compliance. In no case may the final compliance date be later than ten (10) years from the determination.

b. NPDES Permits Regulating the Department.

(1) Within eighteen (18) months of the effective date of these Trash Provisions*, the State Water Board shall issue an order pursuant to Water Code section 13267 or 13383 requiring the Department to submit an implementation plan to the Executive Director of the State Water Board that: (i) describes the specific locations of its significant trash generating areas*, (ii) the combination of controls selected by the Department and the rationale for the selections, and (iii) how it will demonstrate full capture system equivalency*.

(2) The Department must demonstrate full compliance with Chapter III.L.2.b herein within ten (10) years of the effective date of the first implementing NPDES permit, along with achievements of interim milestones such as average load reductions of ten percent (10%) per year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

c. NPDES Permits Regulating the Discharges of Storm Water* Associated with Industrial Activity (Including Construction Activity). Dischargers that are subject

* See Appendix I for definition of terms.

to the provisions of Chapter III.L.2.c herein must demonstrate full compliance in accordance with the deadlines contained in the first implementing NPDES permits. Such deadlines may not exceed the terms of the first implementing permits.

5. Monitoring and Reporting

The permitting authority* must include monitoring and reporting requirements in its implementing permits. The following monitoring and reporting provisions are the minimum requirements that must be included within the implementing permits:

a. MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track 1) shall provide a report to the applicable permitting authority* demonstrating installation, operation, maintenance, and the Geographic Information System- (GIS-) mapped location and drainage area served by its full capture systems* on an annual basis.

b. MS4* permittees that elect to comply with Chapter III.L.2.b.2 (Track 2) shall develop and implement monitoring plans that demonstrate the effectiveness of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* and compliance with full capture system equivalency*. Monitoring reports shall be provided to the applicable permitting authority* on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the MS4* permittee. In developing the monitoring reports the MS4* permittee should consider the following questions:

(1) What type of and how many treatment controls*, institutional controls*, and/or multi-benefit projects* have been used and in what locations?

(2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?

(3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects* employed by the MS4* permittee?

(4) Has the amount of Trash* discharged from the MS4* decreased from the previous year? If so, by how much? If not, explain why.

(5) Has the amount of Trash* in the MS4's* receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.

c. The Department, as subject to the provisions of Chapter III.L.2.b, shall develop and implement monitoring plans that demonstrate the effectiveness of the controls and compliance with full capture system equivalency*. Monitoring reports shall be provided to the State Water Board on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full

* See Appendix I for definition of terms.

capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the Department. In developing the monitoring report, the Department should consider the following questions:

(1) What type of and how many treatment controls* institutional controls*, and/or multi-benefit projects* have been used and in what locations?

(2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?

(3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects* employed by the Department?

(4) Has the amount of Trash* discharged from the Department's MS4* decreased from the previous year? If so, by how much? If not, explain why.

(5) Has the amount of Trash* in the receiving waters decreased from the previous year? If so, by how much? If not, explain why.

d. Dischargers that are subject to the provisions of Chapter III.L.2.c herein shall be required to report the measures used to comply with Chapter III.L.2.c.

M. Implementation Provisions for Desalination Facilities*

1. Applicability and General Provisions

a. Chapter III.M applies to desalination facilities* using seawater.* Chapter III.M.2 does not apply to desalination facilities* operated by a federal agency. Chapter III.M.2, M.3, and M.4 do not apply to portable desalination facilities* that withdraw less than 0.10 million gallons per day (MGD) of seawater* and are operated by a governmental agency. These standards do not alter or limit in any way the authority of any public agency to implement its statutory obligations. The Executive Director of the State Water Board may temporarily waive the application of chapter III.M to desalination facilities* that are operating to serve as a critical short-term water supply during a state of emergency as declared by the Governor.

b. Definitions of New, Expanded, and Existing Facilities:

(1) For purposes of chapter III.M, "existing facilities" means desalination facilities* that have been issued an NPDES permit and all building permits and other governmental approvals necessary to commence construction for which the owner or operator has relied in good faith on those previously-issued permits and approvals and commenced construction of the facility beyond site grading prior to January 28, 2016.

* See Appendix I for definition of terms.

(2) For purposes of chapter III.M, "expanded facilities" means existing facilities for which, after January 28, 2016, the owner or operator does either of the following in a manner that could increase intake or mortality of all forms of marine life * beyond that which was originally approved in any NPDES permit or Water Code section 13142.5, subdivision (b) (hereafter Water Code section 13142.5(b)) determination: 1) increases the amount of seawater* used either exclusively by the facility or used by the facility in conjunction with other facilities or uses, or 2) changes the design or operation of the facility. To the extent that the desalination facility* is co-located with another facility that withdraws water for a different purpose and that other facility reduces the volume of water withdrawn to a level less than the desalination facility's* volume of water withdrawn, the desalination facility* is considered to be an expanded facility.

(3) For purposes of chapter III.M, "new facilities" means desalination facilities* that are not existing facilities or expanded facilities.

c. Chapter III.M.2 (Water Code §13142.5(b) Determinations for New and Expanded Facilities: Site, Design, Technology, and Mitigation Measures) applies to new and expanded desalination facilities* withdrawing seawater.*

d. Chapter III.M.3 (Receiving Water Limitation for Salinity*) applies to all desalination facilities* that discharge into ocean waters* and wastewater facilities that receive brine* from seawater* desalination facilities* and discharge into ocean waters.*

e. Chapter III.M.4 (Monitoring and Reporting Programs) applies to all desalination facilities* that discharge into ocean waters.* Chapter III.M.4 shall not apply to a wastewater facility that receives brine* from a seawater* desalination facility* and discharges a positively buoyant commingled effluent through an existing wastewater outfall that is covered under an existing NPDES permit, as long as the owner or operator monitors for compliance with the receiving water limitation set forth in chapter III.M.3. For the purposes of chapter III.M.4, a positively buoyant commingled effluent shall mean that the commingled plume rises when it enters the receiving water body due to salinity* levels in the commingled discharge being lower than the natural background salinity.*

f. References to the regional water board include the regional water board acting under delegated authority. For provisions that require consultation between regional water board and State Water Board staff, the regional water board shall notify and consult with the State Water Board staff prior to making a final determination on the item requiring consultation.

g. All desalination facilities must comply with all other applicable sections of the Ocean Plan.

2. Water Code section 13142.5(b) Determinations for New and Expanded Facilities: Site, Design, Technology, and Mitigation Measures Feasibility Considerations

* See Appendix I for definition of terms.

a. General Considerations

(1) The owner or operator shall submit a request for a Water Code section 13142.5(b) determination to the appropriate regional water board as early as practicable. This request shall include sufficient information for the regional water board to conduct the analyses described below. The regional water board in consultation with the State Water Board staff may require an owner or operator to provide additional studies or information if needed, including any information necessary to identify and assess other potential sources of mortality to all forms of marine life. All studies and models are subject to the approval of the regional water board in consultation with State Water Board staff. The regional water board may require an owner or operator to hire a neutral third party entity to review studies and models and make recommendations to the regional water board.

(2) The regional water board shall conduct a Water Code section 13142.5(b) analysis of all new and expanded desalination facilities.* A Water Code section 13142.5(b) analysis may include future expansions at the facility. The regional water board shall first analyze separately as independent considerations a range of feasible* alternatives for the best available site, the best available design, the best available technology, and the best available mitigation measures to minimize intake and mortality of all forms of marine life.* Then, the regional water board shall consider all four factors collectively and determine the best combination of feasible* alternatives to minimize intake and mortality of all forms of marine life.* The best combination of alternatives may not always include the best alternative under each individual factor because some alternatives may be mutually exclusive, redundant, or not feasible* in combination.

(3) The regional water board's Water Code section 13142.5(b) analysis for expanded facilities may be limited to those expansions or other changes that result in the increased intake or mortality of all forms of marine life,* unless the regional water board determines that additional measures that minimize intake and mortality of all forms of marine life* are feasible* for the existing portions of the facility.

(4) In conducting the Water Code section 13142.5(b) determination, the regional water boards shall consult with other state agencies involved in the permitting of that facility, including, but not limited to: California Coastal Commission, California State Lands Commission, and California Department of Fish and Wildlife. The regional water board shall consider project-specific decisions made by other state agencies; however, the regional water board is not limited to project-specific requirements set forth by other agencies and may include additional requirements in a Water Code section 13142.5(b) determination.

* See Appendix I for definition of terms.

(5) A regional water board may expressly condition a Water Code section 13142.5(b) determination based on the expectation of the occurrence of a future event. Such future events may include, but are not limited to, the permanent shutdown of a co-located power plant with intake structures shared with the desalination facility,* or a reduction in the volume of wastewater available for the dilution of brine.* The regional water board must make a new Water Code section 13142.5(b) determination if the foreseeable future event occurs.

(a) The owner or operator shall provide notice to the regional water board as soon as it becomes aware that the expected future event will occur, and shall submit a new request for a Water Code section 13142.5(b) determination to the regional water board at least one year prior to the event occurring. If the owner or operator does not become aware that the event will occur at least one year prior to the event occurring, the owner or operator shall submit the request as soon as possible.

(b) The regional water board may allow up to five years from the date of the event for the owner or operator to make modifications to the facility required by a new Water Code section 13142.5(b) determination, provided that the regional water board finds that 1) any water supply interruption resulting from the facility modifications requires additional time for water users to obtain a temporary replacement supply, or 2) such a compliance period is otherwise in the public interest and reasonably required for modification of the facility to comply with the determination.

(c) If the regional water board makes a Water Code section 13142.5(b) determination for a desalination facility* that will be co-located with a power plant, the regional water board shall condition its determination on the power plant remaining in compliance with the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling.

b. Site is the general onshore and offshore location of a new or expanded facility. There may be multiple potential facility design configurations within any given site. The regional water board shall require that the owner or operator evaluate a reasonable range of nearby sites, including sites that would likely support subsurface intakes. For each potential site, in order to determine whether a proposed facility site is the best available site feasible* to minimize intake and mortality of all forms of marine life,* the regional water board shall require the owner or operator to:

(1) Consider whether subsurface intakes* are feasible.*

(2) Consider whether the identified need for desalinated* water is consistent with an applicable adopted urban water management plan

* See Appendix I for definition of terms.

prepared in accordance with Water Code section 10631, or if no urban water management plan is available, other water planning documents such as a county general plan or integrated regional water management plan.

(3) Analyze the feasibility of placing intake, discharge, and other facility infrastructure in a location that avoid impacts to sensitive habitats* and sensitive species.

(4) Analyze the direct and indirect effects on all forms of marine life* resulting from facility construction and operation, individually and in combination with potential anthropogenic effects on all forms of marine life* resulting from other past, present, and reasonably foreseeable future activities within the area affected by the facility.

(5) Analyze oceanographic geologic, hydrogeologic, and seafloor topographic conditions at the site, so that the siting of a facility, including the intakes and discharges, minimizes the intake and mortality of all forms of marine life.*

(6) Analyze the presence of existing discharge infrastructure, and the availability of wastewater to dilute the facility's brine* discharge.

(7) Ensure that the intake and discharge structures are not located within a MPA or SWQPA* with the exception of intake structures that do not have marine life mortality associated with the construction, operation, and maintenance of the intake structures (e.g. slant wells). Discharges shall be sited at a sufficient distance from a MPA or SWQPA* so that the salinity* within the boundaries of a MPA or SWQPA* does not exceed natural background salinity.* To the extent feasible,* surface intakes shall be sited so as to maximize the distance from a MPA or SWQPA.*

c. Design is the size, layout, form, and function of a facility, including the intake capacity and the configuration and type of infrastructure, including intake and outfall structures. The regional water board shall require that the owner or operator perform the following in determining whether a proposed facility design is the best available design feasible* to minimize intake and mortality of all forms of marine life:*

(1) For each potential site, analyze the potential design configurations of the intake, discharge, and other facility infrastructure to avoid impacts to sensitive habitats* and sensitive species.

(2) If the regional water board determines that subsurface intakes* are not feasible* and surface water intakes are proposed instead, analyze potential designs for those intakes in order to minimize the intake and mortality of all forms of marine life.*

* See Appendix I for definition of terms.

(3) Design the outfall so that the brine mixing zone* does not encompass or otherwise adversely affect existing sensitive habitat.*

(4) Design the outfall so that discharges do not result in dense, negatively-buoyant plumes that result in adverse effects due to elevated salinity* or hypoxic conditions occurring outside the brine mixing zone.* An owner or operator must demonstrate that the outfall meets this requirement through plume modeling and/or field studies. Modeling and field studies shall be approved by the regional water board in consultation with State Water Board staff.

(5) Design outfall structures to minimize the suspension of benthic sediments.

d. Technology is the type of equipment, materials,* and methods that are used to construct and operate the design components of the desalination facility.* The regional water board shall apply the following considerations in determining whether a proposed technology is the best available technology feasible* to minimize intake and mortality of all forms of marine life:*

(1) Considerations for Intake Technology:

(a) Subject to chapter M.2.a.(2), the regional water board in consultation with State Water Board staff shall require subsurface intakes* unless it determines that subsurface intakes* are not feasible* based upon a comparative analysis of the factors listed below for surface and subsurface intakes.* A design capacity in excess of the need for desalinated* water as identified in chapter III.M.2.b.(2) shall not be used by itself to declare subsurface intakes* as not feasible.*

i. The regional water board shall consider the following factors in determining feasibility of subsurface intakes:* geotechnical data, hydrogeology, benthic topography, oceanographic conditions, presence of sensitive habitats,* presence of sensitive species, energy use for the entire facility; design constraints (engineering, constructability), and project life cycle cost. Project life cycle cost shall be determined by evaluating the total cost of planning, design, land acquisition, construction, operations, maintenance, mitigation, equipment replacement and disposal over the lifetime of the facility, in addition to the cost of decommissioning the facility. Subsurface intakes* shall not be determined to be economically infeasible solely because subsurface intakes* may be more expensive than surface intakes. Subsurface intakes* may be determined to be economically infeasible if the additional costs or lost profitability associated with subsurface intakes,* as compared to surface intakes, would render the desalination facility* not economically viable. In

* See Appendix I for definition of terms.

addition, the regional water board may evaluate other site- and facility-specific factors.

ii. If the regional water board determines that subsurface intakes* are not feasible* for the proposed intake design capacity, it shall determine whether subsurface intakes* are feasible* for a reasonable range of alternative intake design capacities. The regional water board may find that a combination of subsurface* and surface intakes is the best feasible* alternative to minimize intake and mortality of marine life and meet the identified need for desalinated water as described in chapter III.M.2.b.(2).

(b) Installation and maintenance of a subsurface intake* shall avoid, to the maximum extent feasible,* the disturbance of sensitive habitats* and sensitive species.

(c) If subsurface intakes* are not feasible,* the regional water board may approve a surface water intake, subject to the following conditions:

i. The regional water board shall require that surface water intakes be screened. Screens must be functional while the facility is withdrawing seawater.*

ii. In order to reduce entrainment, all surface water intakes must be screened with a 1.0 mm (0.04 in) or smaller slot size screen when the desalination facility* is withdrawing seawater.*

iii. An owner or operator may use an alternative method of preventing entrainment so long as the alternative method results in intake and mortality of eggs, larvae, and juvenile organisms that is less than or equivalent to a 1.0 mm (0.04 in) slot size screen. The owner or operator must demonstrate the effectiveness of the alternative method to the regional water board. The owner or operator must conduct a study to demonstrate the effectiveness of the alternative method, and use an Empirical Transport Model* (ETM)/ Area of Production Forgone* (APF) approach* to estimate entrainment. The study period shall be at least 12 consecutive months. Sampling for environmental studies shall be designed to account for variation in oceanographic or hydrologic conditions and larval abundance and diversity such that abundance estimates are reasonably accurate. Samples must be collected using a mesh size no larger than 335 microns and individuals collected shall be identified to the lowest taxonomical level practicable. The ETM/APF analysis* shall evaluate entrainment for a broad range of species, species morphologies, and sizes under the environmental and operational conditions that are representative of the entrained species and the conditions at

* See Appendix I for definition of terms.

the full-scale desalination facility.* At their discretion, the regional water boards may permit the use of existing entrainment data to meet this requirement.

iv. In order to minimize impingement, through-screen velocity at the surface water intake shall not exceed 0.15 meters per second (0.5 feet per second).

(2) Considerations for Brine* Discharge Technology:

(a) The preferred technology for minimizing intake and mortality of all forms of marine life* resulting from brine* discharge is to commingle brine* with wastewater (e.g., agricultural, municipal, industrial, power plant cooling water, etc.) that would otherwise be discharged to the ocean. The wastewater must provide adequate dilution to ensure salinity* of the commingled discharge meets the receiving water limitation for salinity* in chapter III.M.3. Nothing in this section shall preclude future recycling of the wastewater.

(b) Multiport diffusers* are the next best method for disposing of brine* when the brine* cannot be diluted by wastewater and when there are no live organisms in the discharge. Multiport diffusers* shall be engineered to maximize dilution, minimize the size of the brine mixing zone,* minimize the suspension of benthic sediments, and minimize mortality of all forms of marine life.*

(c) Brine* discharge technologies other than wastewater dilution and multiport diffusers,* may be used if an owner or operator can demonstrate to the regional water board that the technology provides a comparable level of intake and mortality of all forms of marine life* as wastewater dilution if wastewater is available, or multiport diffusers* if wastewater is unavailable. The owner or operator must evaluate all of the individual and cumulative effects of the proposed alternative discharge method on the intake and mortality of all forms of marine life,* including (where applicable); intake-related entrainment, osmotic stress, turbulence that occurs during water conveyance and mixing, and shearing stress at the point of discharge. When determining the intake and mortality associated with a brine* discharge technology or combination of technologies, the regional water board shall require the owner or operator to use empirical studies or modeling to:

i. Estimate intake entrainment impacts using an ETM/APF approach.*

ii. Estimate degradation of all forms of marine life* from elevated salinity* within the brine mixing zone,* including osmotic stresses, the size of impacted area, and the duration that all forms of marine life* are exposed to the

* See Appendix I for definition of terms.

toxic conditions. Considerations shall be given to the most sensitive species, and community structure and function.

iii. Estimate the intake and mortality of all forms of marine life* that occurs as a result of water conveyance, in-plant turbulence or mixing, and waste* discharge.

iv. Within 18 months of beginning operation, submit to the regional water board an empirical study that evaluates intake and mortality of all forms of marine life* associated with the alternative brine* discharge technology. The study must evaluate impacts caused by any augmented intake volume, intake and pump technology, water conveyance, waste brine* mixing, and effluent discharge. Unless demonstrated otherwise, organisms entrained by the alternative brine* discharge technology are assumed to have a mortality rate of 100 percent. The study period shall be at least 12 consecutive months. If the regional water board requires a study period longer than 12 months, the final report must be submitted to the regional water board within 6 months of the completion of the empirical study.

v. If the empirical study shows that the alternative brine* discharge technology results in more intake and mortality of all forms of marine life* than a facility using wastewater dilution or multiport diffusers,* then the facility must either: (1) cease using the alternative brine* discharge technology and install and use wastewater dilution or multiport diffusers* to discharge brine* waste, or (2) re-design the alternative brine* discharge technology system to minimize intake and mortality of all forms of marine life* to a level that is comparable with wastewater dilution if wastewater is available, or multiport diffusers* if wastewater is unavailable,* subject to regional water board approval.

(d) Flow augmentation* as an alternative brine* discharge technology is prohibited with the following exceptions:

i. At facilities that use subsurface intakes* to supply augmented flow water for dilution. Facilities that use subsurface intakes* to supply augmented flow water for dilution are exempt from the requirements of chapter III.M.2.d.(2)(c) if the facility meets the receiving water limitation for salinity* in chapter III.M.3.

ii. At a facility that has received a conditional Water Code section 13142.5(b) determination and is over 80 percent constructed by January 28, 2016. If the owner or operator of the facility proposes to use flow augmentation* as an

* See Appendix I for definition of terms.

alternative brine* discharge technology, the facility must: use low turbulence intakes (e.g., screw centrifugal pumps or axial flow pumps) and conveyance pipes; convey and mix dilution water in a manner that limits thermal stress, osmotic stress, turbulent shear stress, and other factors that could cause intake and mortality of all forms of marine life*; comply with chapter III.M.2.d.(1); and not discharge through multiport diffusers.*

e. Mitigation for the purposes of this section is the replacement of all forms of marine life* or habitat that is lost due to the construction and operation of a desalination facility* after minimizing intake and mortality of all forms of marine life* through best available site, design, and technology. The regional water board shall ensure an owner or operator fully mitigates for the operational lifetime of the facility and uses the best available mitigation measures feasible* to minimize intake and mortality of all forms of marine life.* The owner or operator may choose whether to satisfy a facility's mitigation measures pursuant to chapter III.M.2.e.(3) or, if available, M.2.e.(4), or a combination of the two.

(1) *Marine Life Mortality Report.* The owner or operator of a facility shall submit a report to the regional water board estimating the marine life mortality resulting from construction and operation of the facility after implementation of the facility's required site, design, and technology measures.

(a) For operational mortality related to intakes, the report shall include a detailed entrainment study. The entrainment study period shall be at least 12 consecutive months and sampling shall be designed to account for variation in oceanographic or hydrologic conditions and larval abundance and diversity such that abundance estimates are reasonably accurate. At their discretion, the regional water boards may permit the use of existing entrainment data from the facility to meet this requirement. Samples must be collected using a mesh size no larger than 335 microns and individuals collected shall be identified to the lowest taxonomical level practicable. The ETM/APF analysis* shall be representative of the entrained species collected using the 335 micron net. The APF* shall be calculated using a one-sided, upper 95 percent confidence bound for the 95th percentile of the APF distribution. An owner or operator with subsurface intakes* is not required to do an ETM/APF analysis* for their intakes and is not required to mitigate for intake-related operational mortality. The regional water board may apply a one percent reduction to the APF* acreage calculated in the Marine Life Mortality Report to account for the reduction in entrainment of all forms of marine life* when using a 1.0 mm slot size screen.

* See Appendix I for definition of terms.

(b) For operational mortality related to discharges, the report shall estimate the area in which salinity* exceeds 2.0 parts per thousand above natural background salinity* or a facility-specific alternative receiving water limitation (see chapter III.M.3). The area in excess of the receiving water limitation for salinity* shall be determined by modeling and confirmed with monitoring. The report shall use any acceptable approach approved by the regional water board for evaluating mortality that occurs due to shearing stress resulting from the facility's discharge, including any incremental increase in mortality resulting from a commingled discharge.

(c) For construction-related mortality, the report shall use any acceptable approach approved by the regional water board for evaluating the mortality that occurs within the area disturbed by the facility's construction. The regional water board may determine that the construction-related disturbance does not require mitigation because the disturbance is temporary and the habitat is naturally restored.

(d) Upon approval of the report by the regional water board in consultation with State Water Board staff, the calculated marine life mortality shall form the basis for the mitigation provided pursuant to this section.

(2) The owner or operator shall mitigate for the mortality of all forms of marine life* determined in the report above by choosing to either complete a mitigation project as described in chapter III.M.2.e.(3) or, if an appropriate fee-based mitigation program is available, provide funding for the program as described in chapter III.M.2.e.(4). The mitigation project or the use of a fee-based mitigation program and the amount of the fee that the owner or operator must pay is subject to regional water board approval.

(3) *Mitigation Option 1: Complete a Mitigation Project.* The mitigation project must satisfy the following provisions:

(a) The owner or operator shall submit a Mitigation Plan. Mitigation Plans shall include: project objectives, site selection, site protection instrument (the legal arrangement or instrument that will be used to ensure the long-term protection of the compensatory mitigation project site), baseline site conditions, a mitigation work plan, a maintenance plan, a long-term management plan, an adaptive management plan, performance standards and success criteria, monitoring requirements, and financial assurances.

(b) The mitigation project must meet the following requirements:

i. Mitigation shall be accomplished through expansion, restoration or creation of one or more of the following:

* See Appendix I for definition of terms.

kelp beds,* estuaries,* coastal wetlands, natural reefs, MPAs, or other projects approved by the regional water board that will mitigate for intake and mortality of all forms of marine life* associated with the facility.

ii. The owner or operator shall demonstrate that the project fully mitigates for intake-related marine life mortality by including expansion, restoration, or creation of habitat based on the APF* acreage calculated in the Marine Life Mortality Report above. The owner or operator using surface water intakes shall do modeling to evaluate the areal extent of the mitigation project's production area to confirm that it overlaps the facility's source water body.* Impacts on the mitigation project due to entrainment by the facility must be offset by adding compensatory acreage to the mitigation project.

iii. The owner or operator shall demonstrate that the project also fully mitigates for the discharge-related marine life mortality projected in the Marine Life Mortality Report above.

iv. The owner or operator shall demonstrate that the project also fully mitigates for the construction-related marine life mortality identified in the Marine Life Mortality Report above.

v. The regional water board may permit out-of-kind mitigation* for mitigation of open water or soft-bottom species. In-kind mitigation* shall be done for all other species whenever feasible.*

vi. For out-of-kind mitigation,* an owner or operator shall evaluate the biological productivity of the impacted open water or soft-bottom habitat calculated in the Marine Life Mortality Report and the proposed mitigation habitat. If the mitigation habitat is a more biologically productive habitat (e.g. wetlands, estuaries,* rocky reefs, kelp beds,* eelgrass beds,* surfgrass beds*), the regional water boards may apply a mitigation ratio based on the relative biological productivity of the impacted open water or soft-bottom habitat and the mitigation habitat. The mitigation ratio shall not be less than one acre of mitigation habitat for every ten acres of impacted open water or soft-bottom habitat.

vii. For in-kind mitigation,* the mitigation ratio shall not be less than one acre of mitigation habitat for every one acre of impacted habitat.

* See Appendix I for definition of terms.

viii. For both in-kind* and out-of-kind mitigation,* the regional water boards may increase the required mitigation ratio for any species and impacted natural habitat calculated in the Marine Life Mortality Report when appropriate to account for imprecisions associated with mitigation including, but not limited to, the likelihood of success, temporal delays in productivity, and the difficulty of restoring or establishing the desired productivity functions.

ix. The rationale for the mitigation ratios must be documented in the administrative record for the permit action.

(c) The Mitigation Plan is subject to approval by the regional water board in consultation with State Water Board staff and with other agencies having authority to condition approval of the project and require mitigation.

(4) *Mitigation Option 2: Fee-based Mitigation Program*. If the regional water board determines that an appropriate fee-based mitigation program has been established by a public agency, and that payment of a fee to the mitigation program will result in the creation and ongoing implementation of a mitigation project that meets the requirements of chapter M.2.e.(3), the owner or operator may pay a fee to the mitigation program in lieu of completing a mitigation project.

(a) The agency that manages the fee-based mitigation program must have legal and budgetary authority to accept and spend mitigation funds, a history of successful mitigation projects documented by having set and met performance standards for past projects, and stable financial backing in order to manage mitigation sites for the operational life of the facility.

(b) The amount of the fee shall be based on the cost of the mitigation project, or if the project is designed to mitigate cumulative impacts from multiple desalination facilities or other development projects, the amount of the fee shall be based on the desalination facility's* fair share of the cost of the mitigation project.

(c) The manager of the fee-based mitigation program must consult with the California Department of Fish and Wildlife, Ocean Protection Council, Coastal Commission, State Lands Commission, and State and regional water boards to develop mitigation projects that will best compensate for intake and mortality of all forms of marine life* caused by the desalination facility.* Mitigation projects that increase or enhance the viability and sustainability of all forms of marine life* in Marine Protected Areas are preferred, if feasible.*

* See Appendix I for definition of terms.

(5) California Department of Fish and Wildlife, the regional water board, and State Water Board may perform audits or site inspections of any mitigation project.

(6) An owner or operator, or a manager of a fee-based mitigation program, must submit a mitigation project performance report to the regional water board 180 days prior to the expiration date of their NPDES permit.

(7) For conditionally permitted facilities or expanded facilities, the regional water boards may:

(a) Account for previously-approved mitigation projects associated with a facility when making a new Water Code section 13142.5(b) determination.

(b) Require additional mitigation when making a new Water Code section 13142.5(b) determination for any additional mortality of all forms of marine life resulting from the occurrence of the conditional event or the expansion of the facility. The additional mitigation must be to compensate for any additional construction, discharge, or other increases in intake or impacts or an increase in intake and mortality of all forms of marine life.*

3. Receiving Water Limitation for Salinity*

a. Chapter III.M.3 is applicable to all desalination facilities discharging brine* into ocean waters,* including facilities that commingle brine* and wastewater.

b. The receiving water limitation for salinity* shall be established as described below:

(1) Discharges shall not exceed a daily maximum of 2.0 parts per thousand (ppt) above natural background salinity* measured no further than 100 meters (328 ft) horizontally from each discharge point. There is no vertical limit to this zone.

(2) In determining an effluent limit necessary to meet this receiving water limitation, permit writers shall use the formula in chapter III.C.4 that has been modified for brine* discharges as follows:

Equation 1: Ce= Co + Dm(2.0 ppt)
Ce= (2.0 ppt + Cs) + Dm(2.0 ppt)

Where:

Ce= the effluent concentration limit, ppt
Co= the salinity* concentration to be met at the completion of initial* dilution= 2.0 ppt + Cs
Cs= the natural background salinity,* ppt
Dm= minimum probable initial dilution* expressed as parts

* See Appendix I for definition of terms.

seawater* per part brine* discharge

(a) The fixed distance referenced in the initial dilution* definition shall be no more than 100 meters (328 feet).

(b) In addition, the owner or operator shall develop a dilution factor (Dm) based on the distance of 100 meters (328 feet) or initial dilution,* whichever is smaller. The dilution factor (Dm) shall be developed within the brine mixing zone* using applicable water quality models that have been approved by the regional water boards in consultation with State Water Board staff.

(c) The value 2.0 ppt in Equation 1 is the maximum incremental increase above natural background salinity* (Cs) allowed at the edge of the brine mixing zone.* A regional water board may substitute an alternative numeric value for 2.0 ppt in Equation 1 based upon the results of a facility-specific alternative salinity* receiving water limitation study, as described in chapter III.M.3.c below.

c. An owner or operator may submit a proposal to the regional water board for approval of an alternative (other than 2 ppt) salinity* receiving water limitation to be met no further than 100 meters horizontally from the discharge. There is no vertical limit to this zone.

(1) To determine whether a proposed facility-specific alternative receiving water limitation is adequately protective of beneficial uses, an owner or operator shall:

(a) Establish baseline biological conditions at the discharge location and at reference locations over a 12-month period prior to commencing brine* discharge. The biologic surveys must characterize the ecologic composition of habitat and marine life using measures established by the regional water board. At their discretion, the regional water boards may permit the use of existing data to meet this requirement.

(b) Conduct at least the following chronic toxicity* Whole Effluent Toxicity (WET) tests: germination and growth for giant kelp (*Macrocystis pyrifera)*; development for red abalone (*Haliotis refescens)*; development and fertilization for purple urchin (*Strongleocentrotus purpuratus)*; development and fertilization for sand dollar (*Dendraster excentricus)*; larval growth rate for topsmelt (*Atherniops affinis)*. WET tests shall be performed by an Environmental Laboratory Accreditation Program (ELAP) certified laboratory.

* See Appendix I for definition of terms.

(c) The regional water board in consultation with State Water Board staff may require an owner or operator to do additional toxicity studies if needed.

(2) The regional water board in consultation with the State Water Board staff may require an owner or operator to provide additional studies or information in order to approve a facility-specific alternative receiving water limitation for salinity.*

(3) The facility-specific alternative receiving water limitation shall be based on the lowest observed effect concentration (LOEC)* for the most sensitive species and toxicity endpoint as determined in the chronic toxicity* studies. The regional water board in consultation with State Water Board staff has discretion to approve the proposed facility-specific alternative receiving water limitation for salinity.*

(4) The regional water board shall review a facility's monitoring data, the studies as required in chapter III.M.4 below, or any other information that the regional water board deems to be relevant to periodically assess whether the facility-specific alternative receiving water limitation for salinity* is adequately protective of beneficial uses. The regional water board may eliminate or revise a facility-specific alternative receiving water limitation for salinity* based on its assessment of the data.

d. The owner or operator of a facility that has received a conditional Water Code section 13142.5(b) determination and is over 80 percent constructed by January 28, 2016 that proposes flow augmentation* using a surface water intake may submit a proposal to the regional water board in consultation with the State Water Board staff for approval of an alternative brine mixing zone* not to exceed 200 meters laterally from the discharge point and throughout the water column. The owner or operator of such a facility must demonstrate, in accordance with chapter III.M.2.d.(2)(c), that the combination of the alternative brine mixing zone* and flow augmentation* using a surface water intake provide a comparable level of intake and mortality of all forms of marine life* as the combination of the standard brine mixing zone* and wastewater dilution if wastewater is available, or multiport diffusers* if wastewater is unavailable. In addition to the analysis of the effects required by chapter III.M.2.d.(2)(c), the owner or operator must also evaluate the individual and cumulative effects of the alternative brine mixing zone* on the intake and mortality of all forms of marine life.* In no case may the discharge result in hypoxic conditions outside of the alternative brine mixing zone.* If an alternative brine mixing zone* is approved, the alternative distance and the areal extent of the alternative brine mixing zone* shall be used in lieu of the standard brine mixing zone* for all purposes, including establishing an effluent limitation and a receiving water limitation for salinity, in chapter III.M.

e. Existing facilities that do not meet the receiving water limitation at the edge of the brine mixing zone* and throughout the water column by January 28, 2016 must either: 1) establish a facility-specific alternative receiving water limitation

* See Appendix I for definition of terms.

for salinity* as described in chapter III.M.3.c; or, 2) upgrade the facility's brine* discharge method in order to meet the receiving watr limitation in chapter III.M.3.b in accordance with the State Water Board's Compliance Schedule Policy, as set forth in chapter III.M.3.f below. An owner or operator that chooses to upgrade the facility's method of brine* discharge:

(1) Must demonstrate to the regional water board that the brine* discharge does not negatively impact sensitive habitats,* sensitive species, MPAs, or SWQPAs.*

(2) Is subject to the Considerations for Brine* Discharge Technology described in chapter III.M.2.d.(2).

f. The regional water board may grant compliance schedules for the requirements for brine* waste discharges for desalination facilities.* All compliance schedules shall be in accordance with the State Water Board's Compliance Schedule Policy, except that the salinity* receiving water limitation set forth in chapters III.M.3.b and III.M.3.c shall be considered to be a "new water quality objective" as used in the Compliance Schedule Policy.

g. The regional water board in consultation with the State Water Board staff may require an owner or operator to provide additional studies or information if needed. All studies and models are subject to the approval of the regional water board in consultation with State Water Board staff. The regional water board may require an owner or operator to hire a neutral third party entity to review studies and models and make recommendations to the regional water board.

4. Monitoring and Reporting Programs

a. The owner or operator of a desalination facility* must submit a Monitoring and Reporting Plan to the regional water board for approval. The Monitoring and Reporting Plan shall include monitoring of effluent and receiving water characteristics and impacts to all forms of marine life.* The Monitoring and Reporting Plan shall, at a minimum, include monitoring for benthic community health, aquatic life toxicity, hypoxia, and receiving water characteristics consistent with Appendix III of this Plan and for compliance with the receiving water limitation in chapter III.M.3. Receiving water monitoring for salinity* shall be conducted at times when the monitoring locations are most likely affected by the discharge. For new or expanded facilities the following additional requirements apply:

(1) An owner or operator must perform facility-specific monitoring to demonstrate compliance with the receiving water limitation for salinity,* and evaluate the potential effects of the discharge within the water column, bottom sediments, and the benthic communities. Facility-specific monitoring is required until the regional water board determines that a regional monitoring program is adequate to ensure compliance with the receiving water limitation. The monitoring and

* See Appendix I for definition of terms.

reporting plan shall be reviewed, and revised if necessary, upon NPDES permit renewal.

(2) Baseline biological conditions shall be established at the discharge location and at a reference location prior to commencement of construction. The owner or operator is required to conduct biological surveys (e.g., Before-After Control-Impact study), that will evaluate the differences between biological communities at a reference site and at the discharge location before and after the discharge commences. The regional water board will use the data and results from the surveys and any other applicable data for evaluating and renewing the requirements set forth in a facility's NPDES permit.

* See Appendix I for definition of terms.

APPENDIX I
DEFINITION OF TERMS

ACUTE TOXICITY

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC 50\%}}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

ALL FORMS OF MARINE LIFE includes all life stages of all marine species.

AREA PRODUCTION FOREGONE (APF), also known as habitat production foregone, is an estimate of the area that is required to produce (replace) the same amount of larvae or propagules* that are removed via entrainment at a desalination facilities* intakes. APF is calculated by multiplying the proportional mortality* by the source water body,* which are both determined using an empirical transport model.*

AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that maintenance of natural water quality is assured. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.* ASBS are also referred to as State Water Quality Protection Areas* – Areas of Special Biological Significance (SWQPA-ASBS).

BRINE is the byproduct of desalinated* water having a salinity* concentration greater than a desalination facility's* intake source water.

* See Appendix I for definition of terms.

BRINE MIXING ZONE is the area where salinity* may exceed 2.0 parts per thousand above natural background salinity,* or the concentration of salinity* approved as part of an alternative receiving water limitation. The standard brine mixing zone shall not exceed 100 meters (328 feet) laterally from the points of discharge and throughout the water column. An alternative brine mixing zone, if approved as described in chapter III.M.3.d, shall not exceed 200 meters (656 feet) laterally from the points of discharge and throughout the water column. The brine mixing zone is an allocated impact zone where there may be toxic effects on marine life due to elevated salinity.

CHLORDANE shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

CHRONIC TOXICITY: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water* that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Appendix III, Table III-1.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

DEGRADE: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant* differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

DESALINATION FACILITY is an industrial facility that processes water to remove salts and other components from the source water to produce water that is less saline than the source water.

DICHLOROBENZENES shall mean the sum of 1,2- and 1,3-dichlorobenzene.

DOWNSTREAM OCEAN WATERS shall mean waters downstream with respect to ocean currents.

DREDGED MATERIAL: Any material* excavated or dredged from the navigable waters of the United States, including material* otherwise referred to as "spoil".

EELGRASS BEDS are aggregations of the aquatic plant species of the genus *Zostera*.

* See Appendix I for definition of terms.

EMPIRICAL TRANSPORT MODEL (ETM) is a methodology for determining the spatial area known as the source water body* that contains the source water population, which are the organisms that are at risk of entrainment as determined by factors that may include but are not limited to biological, hydrodynamic, and oceanographic data. ETM can also be used to estimate proportional mortality,* P_m.

ENCLOSED BAYS are indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

ENDOSULFAN shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

ESTUARIES AND COASTAL LAGOONS are waters at the mouths of streams that serve as mixing zones for fresh and ocean* waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant* mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

ETM/APF APPROACH or ANALYSIS. For guidance on how to perform an ETM/APF analysis please see Appendix E of the Staff Report for Amendment to the Water Quality Control Plan For Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, And The Incorporation Of Other Non-substantive Changes.

FEASIBLE for the purposes of chapter III.M, shall mean capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

FLOW AUGMENTATION is a type of in-plant dilution and occurs when a desalination facility* withdraws additional source water for the specific purpose of diluting brine* prior to discharge.

FULL CAPTURE SYSTEM is a treatment control*, or series of treatment controls*, including but not limited to, a multi-benefit project* or a low-impact development control* that traps all particles that are 5 mm or greater, and has a design treatment capacity that is either: a) of not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.

[Rational equation is used to compute the peak flow rate: $Q = C \bullet I \bullet A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall

* See Appendix I for definition of terms.

intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = subdrainage area (acres).]

Prior to installation, full capture systems* must be certified by the Executive Director, or designee, of the State Water Board. Uncertified full capture systems* will not satisfy the requirements of these Trash Provisions*. To request certification, a permittee shall submit a certification request letter that includes all relevant supporting documentation to the State Water Board's Executive Director. The Executive Director, or designee, shall issue a written determination approving or denying the certification of the proposed full capture system* or conditions of approval, including a schedule to review and reconsider the certification. Full capture systems* certified by the Los Angeles Regional Water Board prior to the effective date of these Trash Provisions* and full capture systems* listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) will satisfy the requirements of these Trash Provisions*, unless the Executive Director, or designee, of the State Water Board determines otherwise.

FULL CAPTURE SYSTEM EQUIVALENCY is the Trash* load that would be reduced if full capture systems* were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (priority land uses*, significant trash generating areas*, facilities or sites regulated by NPDES permits for discharges of storm water* associated with industrial activity, or specific land uses or areas that generate substantial amounts of Trash*, as applicable). The full capture system equivalency* is a Trash* load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of permitting authority*. Examples of such approaches include, but are not limited to, the following:

(1) Trash Capture Rate Approach. Directly measure or otherwise determine the amount of Trash* captured by full capture systems* for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific trash capture rates. Apply each specific Trash* capture rate across all similar types of land uses, facilities, or areas to determine full capture system equivalency*. Trash* capture rates may be determined either through a pilot study or literature review. Full capture systems* selected to evaluate Trash* capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, full capture system equivalency* is the sum of the products of each type of land use, facility, or area multiplied by Trash* capture rates for that type of land use, facility, or area.

(2) Reference Approach. Determine the amount of Trash* in a reference receiving water in a reference watershed where full capture systems* have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of trash* and land uses (including priority land uses* and all other land uses), facilities, or areas as the permittee's watershed. With this approach, full capture system equivalency* would be demonstrated when the amount of Trash* in the receiving water is equivalent to the amount of Trash* in the reference receiving water.

* See Appendix I for definition of terms.

GRAYWATER is drainage from galley, dishwasher, shower, laundry, bath, and lavatory wash basin sinks, and water fountains, but does not include drainage from toilets, urinals, hospitals, or cargo spaces.

HALOMETHANES shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

INDICATOR BACTERIA includes total coliform bacteria, fecal coliform bacteria (or *E. coli*), and/or Enterococcus bacteria.

IN-KIND MITIGATION is when the habitat or species lost is the same as what is replaced through mitigation.

INSTITUTIONAL CONTROLS are non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk Trash* bins, collection of the Trash*, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

INITIAL DILUTION is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant* mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

KELP BEDS, are aggregations of marine algae of the order Laminariales, including species in the genera *Macrocystis, Nereocystis, and Pelagophycus*. Kelp beds include the total foliage canopy throughout the water column.

LARGE PASSENGER VESSELS are vessels of 300 gross registered tons or greater engaged in carrying passengers for hire. The following vessels are not large passenger vessels:
(1) Vessels without berths or overnight accommodations for passengers;
(2) Noncommercial vessels, warships, vessels operated by nonprofit entities as determined by the Internal Revenue Service, and vessels operated by the state, the United States, or a foreign government;
(3) Oceangoing vessels,* as defined below (e.g. those used to transport cargo).

* See Appendix I for definition of terms.

LOW-IMPACT DEVELOPMENT CONTROLS are treatment controls* that employ natural and constructed features that reduce the rate of storm water* runoff, filter out pollutants, facilitate storm water* storage onsite, infiltrate storm water* into the ground to replenish groundwater supplies, or improve the quality of receiving groundwater and surface water. (See Water Code § 10564.)

LOEC is the lowest observed effect concentration or the lowest concentration of effluent that causes observable adverse effects in exposed test organisms.

MARICULTURE is the culture of algae, plants, and animals in marine waters independent of any pollution source.

MARINE MANAGED AREAS are named, discrete geographic marine or estuarine areas along the California coast designated by law or administrative action, and intended to protect, conserve, or otherwise manage a variety of resources and their uses. According to the California Public Resources Code (§§ 36600 et seq.) there are six classifications of marine managed areas, including State Marine Reserves, State Marine Parks and State Marine Conservation Areas, State Marine Cultural Preservation Areas, State Marine Recreational Management Areas, and State Water Quality Protection Areas.*

MARKET SQUID NURSURIES are comprised of numerous egg capsules, each containing approximately 200 developing embryos, attached in clusters or mops to sandy substrate with moderate water flow. Market squid (*Doryteuthis opalescens*) nurseries occur at a wide range of depths; however, mop densities are greatest in shallow, nearshore waters between ten and 100 meters (328 feet) deep.

MATERIAL: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of this Ocean Plan relating to waste disposal, dredging and the disposal of dredged material* and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.* For the purposes of chapter III.M.2.d, materials relates to the common usage in (a).

METHOD DETECTION LIMIT (MDL) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in 40 CFR PART 136 Appendix B.

MINIMUM LEVEL (ML) is the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

MULTI-BENEFIT PROJECT is a treatment control* project designed to achieve any of the benefits set forth in section 10562, subdivision (d) of the Water Code. Examples include projects designed to: infiltrate, recharge or store storm water* for beneficial reuse; develop or enhance habitat and open space through storm water* and non-storm water management; and/or reduce storm water* and non-storm water runoff volume.

* See Appendix I for definition of terms.

MULTIPORT DIFFUSERS are linear structures consisting of spaced ports or nozzles that are installed on submerged marine outfalls. For the purposes of chapter III.M, multiport diffusers discharge brine* waste into an ambient receiving water body and enable rapid mixing, dispersal, and dilution of brine* within a relatively small area.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(8).

NATURAL BACKGROUND SALINITY is the salinity* at a location that results from naturally occurring processes and is without apparent human influence. For purposes of determining natural background salinity, the regional water board may approve the use of:

(1) the mean monthly natural background salinity. Mean monthly natural background salinity shall be determined by averaging 20 years of historical salinity* data in the proximity of the proposed discharge location and at the depth of the proposed discharge, when feasible.* For historical data not recorded in parts per thousand, the regional water boards may accept converted data at their discretion. When historical data are not available, natural background salinity shall be determined by measuring salinity* at depth of proposed discharge for three years, on a weekly basis prior to a desalination facility* discharging brine,* and the mean monthly natural salinity* shall be used to determine natural background salinity; or

(2) the actual salinity at a reference location, or reference locations, that is representative of natural background salinity at the discharge location. The reference locations shall be without apparent human influence, including wastewater outfalls and brine discharges.

Either method to establish natural background salinity may be used for the purpose of determining compliance with the receiving water limitation or an effluent limitation for salinity. If a reference location(s) is used for compliance monitoring, the permit should specify that historical data shall be used if reference location data becomes unavailable. An owner or operator shall submit to the regional water board all necessary information to establish natural background salinity.

NATURAL LIGHT: Reduction of natural light may be determined by the Regional Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Board.

NO DISCHARGE ZONE (NDZ) is an area in which both treated and untreated sewage discharges from vessels are prohibited. Within NDZ boundaries, vessel operators are required to retain their sewage discharges onboard for disposal at sea (beyond three miles from shore) or onshore at a pump-out facility.

NON-STORM WATER DISCHARGE is any runoff that is not the result of a precipitation event. This is often referred to as “dry weather flow.”

OCEAN WATERS are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays,* estuaries, and coastal lagoons.* If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

* See Appendix I for definition of terms.

OCEANGOING VESSELS (i.e., oceangoing ships) means commercial vessels of 300 gross registered tons or more calling on California ports or places, excluding active military vessels.

OILY BILGE WATER includes bilge water that contains used lubrication oils, oil sludge and slops, fuel and oil sludge, used oil, used fuel and fuel filters, and oily waste.

OUT-OF-KIND MITIGATION is when the habitat or species lost is different than what is replaced through mitigation.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

PERMITTING AUTHORITY means the State Water Board or Regional Water Board, whichever issues the permit.

PREPRODUCTION PLASTIC has the same meaning set forth in section 13367(a) of the Water Code.

PRIORITY LAND USES are those developed sites, facilities, or land uses (i.e., not simply zoned land uses) within the MS4* permittee's jurisdiction from which discharges of Trash* are regulated by this Ocean Plan as follows:

(1) **High-density residential:** all land uses with at least ten (10) developed dwelling units/acre.
(2) **Industrial**: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
(3) **Commercial**: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)
(4) **Mixed urban**: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
(5) **Public transportation stations**: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Equivalent alternate land uses: An MS4* permittee with regulatory authority over priority land uses* may issue a request to the applicable permitting authority* that the MS4* permittee be allowed to substitute one or more land uses identified above with alternates land use within the MS4* permittee's jurisdiction that generates rates of Trash* that are equivalent to or greater than the priority land use(s)* being substituted. The land use area

* See Appendix I for definition of terms.

requested to substitute for a priority land use* need not be an acre-for-acre substitution but may involve one or more priority land uses*, or a fraction of a priority land use*, or both, provided the total trash* generated in the equivalent alternative land use is equivalent to or greater than the total Trash* generated from the priority land use(s)* for which substitution is requested. Comparative Trash* generation rates shall be established through the reporting of quantification measures such as street sweeping and catch basin cleanup records; mapping; visual trash presence surveys, such as the "Keep America Beautiful Visible Litter Survey"; or other information as required by the permitting authority*.

PROPAGULES are structures that are capable of propagating an organism to the next stage in its life cycle via dispersal. Dispersal is the movement of individuals from their birth site to their reproductive grounds.

PROPORTIONAL MORTALITY, P_m, is percentage of larval organisms or propagules* in the source water body* that is expected to be entrained at a desalination facility's* intake. It is assumed that all entrained larvae or propagules* die as a result of entrainment.

RECEIVING WATER, for permitted storm water discharges and nonpoint sources, should be measured at the point of discharge(s), in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

SALINITY is a measure of the dissolved salts in a volume of water. For the purposes of this Plan, salinity shall be measured using a standard method approved by the regional water board (e.g. Standard Method 2520 B, EPA Method 120.1, EPA Method 160.1) and reported in parts per thousand (ppt). For historical salinity data not recorded in parts per thousand, the regional water boards may accept converted data at their discretion.

SEAWATER is salt water that is in or from the ocean. For the purposes chapter III.M, seawater includes tidally influenced waters in coastal estuaries and coastal lagoons* and underground salt water beneath the seafloor, beach, or other contiguous land with hydrologic connectivity to the ocean.

SENSITIVE HABITATS, for the purposes of this Plan, are kelp beds,* rocky substrate, surfgrass beds,* eelgrass beds,* oyster beds, spawning grounds for state or federally managed species, market squid nurseries,* or other habitats in need of special protection as determined by the Water Boards.

SHELLFISH are organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams and oysters).

SIGNIFICANT difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

SIGNIFICANT TRASH GENERATING AREAS means all locations or facilities within the Department's jurisdiction where Trash* accumulates in substantial amounts, such as:

(1) Highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under priority land uses* herein).
(2) Rest areas and park-and-rides.

* See Appendix I for definition of terms.

(3) State highways in commercial and industrial land uses (as such land uses are defined under priority land uses* herein).
(4) Mainline highway segments to be identified by the Department through pilot studies and/or surveys.

SOURCE WATER BODY is the spatial area that contains the organisms that are at risk of entrainment at a desalination facility* as determined by factors that may include, but are not limited to, biological, hydrodynamic, and oceanographic data.

STATE WATER QUALITY PROTECTION AREAS (SWQPAs) are nonterrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All Areas of Special Biological Significance (ASBS)* that were previously designated by the State Water Board in Resolutions 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by this Plan.

STATE WATER QUALITY PROTECTION AREAS – GENERAL PROTECTION (SWQPA-GP) designated by the State Water Board to protect marine species and biological communities from an undesirable alteration in natural water quality within State Marine Parks and State Marine Conservation Areas.

STORM WATER has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(13) (Nov. 16, 1990).

SUBSURFACE INTAKE, for the purposes of chapter III.M, is an intake withdrawing seawater* from the area beneath the ocean floor or beneath the surface of the earth inland from the ocean.

SURFGRASS BEDS are aggregations of marine flowering plants of the genus *Phyllospadix*.

TCDD EQUIVALENTS shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

* See Appendix I for definition of terms.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

TRASH means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

TRASH PROVISIONS are the water quality objective for Trash*, as well as the prohibition of discharge set forth in Chapter III.I and implementation requirements set forth in Chapter III.L herein.

TREATMENT CONTROLS are structural best management practices to either (a) remove pollutants and/or solids from storm water* runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse storm water* runoff, wastewater, or effluent. Treatment controls include full capture systems* and low-impact development controls*.

WASTE: As used in this Plan, waste includes a discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

WATER RECLAMATION: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

* See Appendix I for definition of terms.

APPENDIX II
MINIMUM* LEVELS

The Minimum* Levels identified in this appendix represent the lowest concentration of a pollutant that can be quantitatively measured in a sample given the current state of performance in analytical chemistry methods in California. These Minimum* Levels were derived from data provided by state-certified analytical laboratories in 1997 and 1998 for pollutants regulated by the California Ocean Plan and shall be used until new values are adopted by the State Water Board. There are four major chemical groupings: volatile chemicals, semi-volatile chemicals, inorganics, pesticides & PCBs.* "No Data" is indicated by "--".

TABLE II-1
MINIMUM* LEVELS – VOLATILE CHEMICALS

		Minimum* Level (µg/L)	
Volatile Chemicals	**CAS Number**	**GC Method [a]**	**GCMS Method [b]**
Acrolein	107028	2.	5
Acrylonitrile	107131	2.	2
Benzene	71432	0.5	2
Bromoform	75252	0.5	2
Carbon Tetrachloride	56235	0.5	2
Chlorobenzene	108907	0.5	2
Chlorodibromomethane	124481	0.5	2
Chloroform	67663	0.5	2
1,2-Dichlorobenzene (volatile)	95501	0.5	2
1,3-Dichlorobenzene (volatile)	541731	0.5	2
1,4-Dichlorobenzene (volatile)	106467	0.5	2
Dichlorobromomethane	75274	0.5	2
1,1-Dichloroethane	75343	0.5	1
1,2-Dichloroethane	107062	0.5	2
1,1-Dichloroethylene	75354	0.5	2
Dichloromethane	75092	0.5	2
1,3-Dichloropropene (volatile)	542756	0.5	2
Ethyl benzene	100414	0.5	2
Methyl Bromide	74839	1.	2
Methyl Chloride	74873	0.5	2
1,1,2,2-Tetrachloroethane	79345	0.5	2
Tetrachloroethylene	127184	0.5	2
Toluene	108883	0.5	2
1,1,1-Trichloroethane	71556	0.5	2
1,1,2-Trichloroethane	79005	0.5	2
Trichloroethylene	79016	0.5	2
Vinyl Chloride	75014	0.5	2

Table II-1 Notes

a) GC Method = Gas Chromatography
b) GCMS Method = Gas Chromatography / Mass Spectrometry
* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

TABLE II-2
MINIMUM* LEVELS – SEMI VOLATILE CHEMICALS

Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L) GC Method [a, *]	GCMS Method [b, *]	HPLC Method [c,*]	COLOR Method [d]
Acenapthylene	208968	--	10	0.2	--
Anthracene	120127	--	10	2	--
Benzidine	92875	--	5	--	--
Benzo(a)anthracene	56553	--	10	2	--
Benzo(a)pyrene	50328	--	10	2	--
Benzo(b)fluoranthene	205992	--	10	10	--
Benzo(g,h,i)perylene	191242	--	5	0.1	--
Benzo(k)floranthene	207089	--	10	2	--
Bis 2-(1-Chloroethoxy) methane	111911	--	5	--	--
Bis(2-Chloroethyl)ether	111444	10	1	--	--
Bis(2-Chloroisopropyl)ether	39638329	10	2	--	--
Bis(2-Ethylhexyl) phthalate	117817	10	5	--	--
2-Chlorophenol	95578	2	5	--	--
Chrysene	218019	--	10	5	--
Di-n-butyl phthalate	84742	--	10	--	--
Dibenzo(a,h)anthracene	53703	--	10	0.1	--
1,2-Dichlorobenzene (semivolatile)	95504	2	2	--	--
1,3-Dichlorobenzene (semivolatile)	541731	2	1	--	--
1,4-Dichlorobenzene (semivolatile)	106467	2	1	--	--
3,3-Dichlorobenzidine	91941	--	5	--	--
2,4-Dichlorophenol	120832	1	5	--	--
1,3-Dichloropropene	542756	--	5	--	
Diethyl phthalate	84662	10	2	--	--
Dimethyl phthalate	131113	10	2	--	--
2,4-Dimethylphenol	105679	1	2	--	--
2,4-Dinitrophenol	51285	5	5	--	--
2,4-Dinitrotoluene	121142	10	5	--	--
1,2-Diphenylhydrazine	122667	--	1	--	--
Fluoranthene	206440	10	1	0.05	--
Fluorene	86737	--	10	0.1	--
Hexachlorobenzene	118741	5	1	--	--
Hexachlorobutadiene	87683	5	1	--	--
Hexachlorocyclopentadiene	77474	5	5	--	--

Table II-2 continued on next page…

* See Appendix I for definition of terms.

Table II-2 (Continued)
Minimum* Levels – Semi Volatile Chemicals

Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L) GC Method [a, *]	GCMS Method [b, *]	HPLC Method [c,*]	COLOR Method [d]
Hexachloroethane	67721	5	1	--	--
Indeno(1,2,3-cd)pyrene	193395	--	10	0.05	--
Isophorone	78591	10	1	--	--
2-methyl-4,6-dinitrophenol	534521	10	5	--	--
3-methyl-4-chlorophenol	59507	5	1	--	--
N-nitrosodi-n-propylamine	621647	10	5	--	--
N-nitrosodimethylamine	62759	10	5	--	--
N-nitrosodiphenylamine	86306	10	1	--	--
Nitrobenzene	98953	10	1	--	--
2-Nitrophenol	88755	--	10	--	--
4-Nitrophenol	100027	5	10	--	--
Pentachlorophenol	87865	1	5	--	--
Phenanthrene	85018	--	5	0.05	--
Phenol	108952	1	1	--	50
Pyrene	129000	--	10	0.05	--
2,4,6-Trichlorophenol	88062	10	10	--	--

Table II-2 Notes:

a) GC Method = Gas Chromatography
b) GCMS Method = Gas Chromatography / Mass Spectrometry
c) HPLC Method = High Pressure Liquid Chromatography
d) COLOR Method = Colorimetric

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML* by 1000 (see chapter III, “Use of Minimum* Levels”).

* See Appendix I for definition of terms.

TABLE II-3
MINIMUM* LEVELS - INORGANICS

Inorganic Substances	CAS Number	Minimum* Level (µg/L) COLOR Method[a]	DCP Method[b]	FAA Method[c]	GFAA Method[d]	HYDRIDE Method[e]	ICP Method[f]	ICPMS Method[g]	SPGFAA Method[h]	CVAA Method[i]
Antimony	7440360	--	1000.	10.	5.	0.5	50.	0.5	5.	--
Arsenic	7440382	20.	1000.	--	2.	1.	10.	2.	2.	--
Beryllium	7440417	--	1000.	20.	0.5	--	2.	0.5	1.	--
Cadmium	7440439	--	1000.	10.	0.5	--	10.	0.2	0.5	--
Chromium (total)	--	--	1000.	50.	2.	--	10.	0.5	1.	--
Chromium (VI)	18540299	10.	--	5.	--	--	--	--	--	--
Copper	7440508	--	1000.	20.	5.	--	10.	0.5	2.	--
Cyanide	57125	5.	--	--	--	--	--	--	--	--
Lead	7439921	--	10000.	20.	5.	--	5.	0.5	2.	--
Mercury	7439976	--	--	--	--	--	--	0.5	--	0.2
Nickel	7440020	--	1000.	50.	5.	--	20.	1.	5.	--
Selenium	7782492	--	1000.	--	5.	1.	10.	2.	5.	--
Silver	7440224	--	1000.	10.	1.	--	10.	0.2	2.	--
Thallium	7440280	--	1000.	10.	2.	--	10.	1.	5.	--
Zinc	7440666	--	1000.	20.	--	--	20.	1.	10.	--

Table II-3 Notes

a) COLOR Method = Colorimetric
b) DCP Method = Direct Current Plasma
c) FAA Method = Flame Atomic Absorption
d) GFAA Method = Graphite Furnace Atomic Absorption
e) HYDRIDE Method = Gaseous Hydride Atomic Absorption
f) ICP Method = Inductively Coupled Plasma
g) ICPMS Method = Inductively Coupled Plasma / Mass Spectrometry
h) SPGFAA Method = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., US EPA 200.9)
i) CVAA Method = Cold Vapor Atomic Absorption

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML* (see chapter III, "Use of Minimum* Levels").

* See Appendix I for definition of terms.

TABLE II-4
MINIMUM* LEVELS – PESTICIDES AND PCBs*

Pesticides – PCBs	CAS Number	Minimum* Level (µg/L) GC Method[a,*]
Aldrin	309002	0.005
Chlordane*	57749	0.1
4,4'-DDD	72548	0.05
4,4'-DDE	72559	0.05
4,4'-DDT	50293	0.01
Dieldrin	60571	0.01
a-Endosulfan	959988	0.02
b-Endosulfan	33213659	0.01
Endosulfan Sulfate	1031078	0.05
Endrin	72208	0.01
Heptachlor	76448	0.01
Heptachlor Epoxide	1024573	0.01
a-Hexachlorocyclohexane	319846	0.01
b-Hexachlorocyclohexane	319857	0.005
d-Hexachlorocyclohexane	319868	0.005
g-Hexachlorocyclohexane (Lindane)	58899	0.02
PCB 1016	--	0.5
PCB 1221	--	0.5
PCB 1232	--	0.5
PCB 1242	--	0.5
PCB 1248	--	0.5
PCB 1254	--	0.5
PCB 1260	--	0.5
Toxaphene	8001352	0.5

Table II-4 Notes

a) GC Method = Gas Chromatography

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML* by 100 (see chapter III, “Use of Minimum* Levels”).

* See Appendix I for definition of terms.

APPENDIX III
STANDARD MONITORING PROCEDURES

1. INTRODUCTION

The purpose of this appendix is to provide guidance to the Regional Water Boards on implementing the Ocean Plan and to ensure the reporting of useful information. Monitoring should be question driven rather than just gathering data and should be focused on assuring compliance with narrative and numeric water quality standards, the status and attainment of beneficial uses, and identifying sources of pollution.

It is not feasible to prescribe requirements in the Ocean Plan that encompass all circumstances and conditions that could be encountered by all dischargers, nor is it desirable to limit the flexibility of the Regional Water Boards in the monitoring of ocean* waters. This appendix should therefore be considered the basic framework for the design of an ocean discharger monitoring program. The Regional Water Boards are responsible for issuing monitoring and reporting programs (MRPs) that will implement this monitoring guidance. Regional Water Boards can deviate from the procedures required in the appendix only with the approval of the State Water Resources Control Board.

This monitoring guidance utilizes a model monitoring framework. The model monitoring framework has three components that comprise a range of spatial and temporal scales: (1) core monitoring, (2) regional monitoring, and (3) special studies.

1) Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water* quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.

2) Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. It is recommended that the Regional Water Boards require participation by the discharger in an approved regional monitoring program, if available, for the receiving water.* In the event that a regional monitoring effort takes place during a permit cycle in which the MRP does not specifically address regional monitoring, a Regional Water Board may allow relief from aspects of core monitoring components in order to encourage participation.

3) Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance. Regional Water Boards may require special studies as appropriate. Special studies are not addressed further in this guidance because they are beyond its scope.

The Ocean Plan does not address all site-specific monitoring issues and allows the Regional Water Boards to select alternative protocols with the approval of the State Water Board. If no direction is given in this appendix for a specific provision of the Ocean Plan, it is within the

* See Appendix I for definition of terms.

discretion of the Regional Water Boards to establish the monitoring requirements for that provision.

2. QUALITY ASSURANCE

All receiving* and ambient water monitoring conducted in compliance with MRPs must be comparable with the Quality Assurance requirements of the Surface Water Ambient Monitoring Program (SWAMP).

SWAMP comparable means all sample collection and analyses shall meet or exceed the measurement quality objectives (MQOs) – including all sample types, frequencies, control limits and holding time requirements – as specified in the SWAMP Quality Assurance Project Plan (QAPrP)

The SWAMP QAPrP is located
at: http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa.

For those measurements that do not have SWAMP MQOs available, then MQOs shall be at the discretion of the Regional Water Board. Refer to the USEPA guidance document (EPA QA/G-4) for selecting data quality objectives, located at http://www.epa.gov/quality/qs-docs/g4-final.pdf.

Water Quality data must be reported according to the California Environmental Data Exchange Network (CEDEN) "Data Template" format for all constituents that are monitored in receiving and ambient water. CEDEN Data Template are available at: http://ceden.org.

3. TYPE OF WASTE DISCHARGE SOURCES

Discharges to ocean waters* are highly diverse and variable, exhibiting a wide range of constituents, effluent quality and quantity, location and frequency of discharge. Different types of discharges will require different approaches. This Appendix provides specific direction for three broad types of discharges: (1) Point Sources, (2) Storm Water Point Sources and (3) Non-point Sources.

3.1. Point Sources

Industrial, municipal, marine laboratory and other traditional point sources of pollution that discharge wastewater directly to surface waters and are required to obtain NPDES permits.

3.2. Storm Water Point Sources

Storm Water Point Sources, hereafter referred to as Storm Water Sources, are those NPDES permitted discharges regulated by Construction or Industrial Storm Water General Permits or municipal separate storm sewer system (MS4s) Permits. MS4 Permits are further divided into Phase I and II Permits. A Phase I MS4 Permit is issued by a Regional Water Board for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 or more people) municipalities. A Phase II MS4 General Permit is issued by the State Water Resources Control Board for the discharge of storm water for smaller municipalities, and includes nontraditional Small MS4s, which are governmental facilities such as military bases, public campuses, prison and hospital complexes.

* See Appendix I for definition of terms.

3.3. Non-point Sources

A Non-point Source is any source of pollutants that is not a Point Source described in section 3.1 or a Storm Water Source as described in section 3.2. Land use categories contributing to non-point sources include but are not limited to:

a. Agriculture
b. Grazing
c. Forestry/timber harvest
d. Urban not covered under an NPDES permit
e. Marinas and mooring fields
f. Golf Courses not covered under an NPDES Permit

Only agricultural and golf course related non-point source discharge monitoring is addressed in this Appendix, but Regional Water Boards may issue MRPs for other non-point sources at their discretion. Agriculture includes irrigated lands. Irrigated lands are where water is applied for the purpose of producing crops, including, but not limited to, row and field crop, orchards, vineyard, rice production, nurseries, irrigated pastures, and managed wetlands.

4. INDICATOR BACTERIA*

4.1. Point Sources

Primary questions to be addressed:

1. Does the effluent comply with the water quality standards in the receiving water*?
2. Does the sewage effluent reach water contact zones or commercial shellfish* beds?

To answer these questions, core monitoring shall be conducted in receiving water* on the shoreline for the indicator bacteria* at a minimum weekly for any point sources discharging treated sewage effluent:

a. within one nautical mile of shore, or
b. within one nautical mile of a commercial shellfish* bed, or
c. if the discharge is in excess of 10 million gallons per day (MGD).

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.*

4.2. Storm Water

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?

* See Appendix I for definition of terms.

2. Is the condition of the receiving water* protective of contact recreation and shellfish* harvesting beneficial uses?
3. Are the indicator bacteria* levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria* to the receiving water* from storm water runoff?

To answer these questions, core monitoring for indicator bacteria* shall be required periodically for storm water discharges representative of the area of concern. At a minimum, for municipal storm water discharges, all receiving water* at outfalls greater than 36 inches in diameter or width must be monitored (ankle depth, point zero) at the following frequencies:

a. During wet weather with a minimum of three storms per year, and
b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach, at least weekly. (An AB 411 Beach is defined as a beach visited by more than 50,000 people annually and located on an area adjacent to a storm drain that flows in the summer. (Health & Saf. Code § 115880.)).

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled indicator bacteria.*

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the permittee participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.*

4.3. Non-point Sources

Primary questions to be addressed:

1. Does the receiving water* comply with water quality standards?
2. Do agricultural and golf course non-point source discharges reach water contact or shellfish* harvesting zones?
3. Are the indicator bacteria* levels in receiving water* getting better or worse?
4. What is the relative contribution of indicator bacteria* to the receiving water* from agricultural and golf course non-point sources?

To answer these questions, core monitoring of representative agricultural irrigation tail water and storm water runoff, at a minimum, will be conducted in receiving water* (ankle depth, point zero) for indicator bacteria*:

a. During wet weather, at a minimum of two storm events per year, and
b. When non-storm water discharges* occur (flowing during dry weather), and if located at an AB 411 beach or within one nautical mile of shellfish* bed, at least weekly.

Alternatively, these requirements may be met through participation in a regional monitoring program to assess the status of marine contact recreation water quality. If the discharger

* See Appendix I for definition of terms.

participates in a regional monitoring program, in conjunction with local health organization(s), core monitoring may be suspended for that period at the discretion of the Regional Water Board. Regional monitoring should be used to answer the above questions, and may be used to answer additional questions. These additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* indicator bacteria* problems, or the sources of indicator bacteria.*

5. CHEMICAL CONSTITUENTS

5.1. Point Sources

Primary questions addressed:

1. Does the effluent meet permit effluent limits thereby ensuring that water quality standards are achieved in the receiving water*?
2. What is the mass of the constituents that are discharged annually?
3. Is the effluent concentration or mass changing over time?

Consistent with Appendix VI, the core monitoring for the substances in Table 1 and Table 2 shall be required periodically. For discharges less than 10 MGD, the monitoring frequency shall be at least one complete scan of the Table 1 substances annually. Discharges greater than 10 MGD shall be required to monitor at least semiannually.

5.2. Storm Water

Primary questions addressed:

1. Does the receiving water* meet the water quality standards?
2. Are the conditions in receiving water* getting better or worse?
3. What is the relative runoff contribution to pollution in the receiving water*?

For Phase I and Phase II MS4 dischargers, core receiving water* monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width once per year. If a discharger has less than five outfalls exceeding 36 inches in diameter or width, they shall conduct monitoring at a minimum of only once per outfall during a five year period. Monitoring shall be for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, Table 1 metals, PAHs,* and pesticides determined by the Regional Water Boards. Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

For industrial storm water discharges, runoff monitoring must be conducted at all outfalls at least two storm events per year. In addition, at least one representative receiving water* sample must be collected per industrial storm water permittee during two storm events per year. Monitoring shall be conducted for total suspended solids, oil & grease, total organic carbon, pH, temperature, biochemical oxygen demand, turbidity, and Table 1 metals and PAHs.*

The requirements for individual core monitoring for Table 1 metals, PAHs* and pesticides may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional program for monitoring runoff and/or receiving water* to answer the above questions as

* See Appendix I for definition of terms.

well as additional questions. Additional questions may include, but are not limited to, questions regarding the extent and magnitude of current or potential receiving water* problems from storm water runoff, or sources of any runoff pollutants.

5.3. Non-point Sources

The primary questions are:

1. Does the agricultural or golf course runoff meet water quality standards in the receiving water*?
2. Are nutrients present that would contribute to objectionable aquatic algal blooms or degrade* indigenous biota?
3. Are the conditions in receiving water* getting better or worse?
4. What is the relative agricultural runoff or golf course contribution to pollution in the receiving water*?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water* at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff in each watershed will be monitored for Ocean Plan Table 1 metals, ammonia as N, nitrate as N, phosphate as P, and pesticides determined by the Regional Board:

a. During wet weather, at a minimum of two storm events per year, and
b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

This requirement may be satisfied by core monitoring individually, or through participation in a regional program for monitoring runoff and receiving water* at the discretion of the Regional Water Board to answer the above questions as well as additional questions. Additional questions may include, but are not limited to, questions regarding the sources of agricultural pollutants.

6. SEDIMENT MONITORING

All Sources:

1. Is the dissolved sulfide concentration of waters in sediments significantly* increased above that present under natural conditions?
2. Is the concentration of substances set forth in Table 1, for protection of marine aquatic life, in marine sediments at levels which would degrade* the benthic community?
3. Is the concentration of organic pollutants in marine sediments at levels that would degrade* the benthic community?

6.1. Point Sources

For discharges greater than 10 MGD, acid volatile sulfides, OP Pesticides, Table 1 metals, ammonia N, PAHs,* and chlorinated hydrocarbons will be measured in sediments annually in a core monitoring program approved by the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board. If sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board at its discretion may reduce the frequency of monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program.

* See Appendix I for definition of terms.

6.2. Storm Water

For Phase I MS4 permittees, discharges greater than 72 inches in diameter or width discharging to low energy coastal environments with the likelihood of sediment deposition, acid volatile sulfides, OP Pesticides, Ocean Plan Table 1 metals, ammonia N, PAHs,* and chlorinated hydrocarbons will be measured in sediments once per permit cycle.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Water Board. Sediment sample locations will be determined by the Regional Water Board.

7. AQUATIC LIFE TOXICITY

Toxicity tests are another method used to assess risk to aquatic life. These tests assess the overall toxicity of the effluent, including the toxicity of unmeasured constituents and/or synergistic effects of multiple constituents.

7.1. Point Sources

1. Does the effluent meet permit effluent limits for toxicity thereby ensuring that water quality standards are achieved in the receiving water*?
2. If not:
   a. Are unmeasured pollutants causing risk to aquatic life?
   b. Are pollutants in combinations causing risk to aquatic life?

Core monitoring for Table 1 effluent toxicity shall be required periodically. For discharges less than 0.1 MGD the monitoring frequency for acute and/or chronic toxicity* shall be twice per permit cycle. For discharges between 0.1 and 10 MGD, the monitoring frequency for acute and/or chronic toxicity* of the effluent should be at least annually. For discharges greater than 10 MGD, the monitoring frequency for acute and/or chronic toxicity* of the effluent should be at least semiannually.

For discharges greater than 10 MGD in a low energy coastal environment with the likelihood of sediment deposition, Core monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius, Leptocheirus plumulosus, Rhepoxynius abronius*).

If an exceedance is detected, six additional toxicity tests are required within a 12-week period. If an additional exceedance is detected within the 12-week period, a toxicity reduction evaluation (TRE) is required, consistent with chapter III.C.10 that requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1.

7.2. Storm Water

1. Does the runoff meet objectives for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity

* See Appendix I for definition of terms.

3. What is the relative runoff contribution to the receiving water* toxicity?
4. What are the causes of the toxicity* and the sources of the constituents responsible?

For Phase I MS4, Phase II MS4, and industrial storm water discharges, core toxicity monitoring will be required at a minimum for 10 percent of all outfalls greater than 36 inches in diameter or width at a minimum of once per year. Receiving water* monitoring shall be for Table 1 critical life stage chronic toxicity* for a minimum of one invertebrate species.

For storm water discharges greater than 72 inches in diameter or width in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring for acute sediment toxicity is required and will utilize alternative amphipod species (*Eohaustorius estuarius, Leptocheirus plumulosus, Rhepoxynius abronius*).

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled toxicity.

If an exceedence is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedance is detected at that time, a TRE is required, consistent with chapter III.C.10 that requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core toxicity monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

7.3. Non-point Sources

1. Does the agricultural and golf course runoff meet water quality standards for toxicity in the receiving water*?
2. Are the conditions in receiving water* getting better or worse with regard to toxicity?
3. What is the relative agricultural and golf course runoff contribution to receiving water* toxicity?
4. What are the causes of the toxicity, and the sources of the constituents responsible?

To answer these questions, a statistically representative sample (determined by the Regional Water Board) of receiving water* at the sites of agricultural irrigation tail water and storm water runoff, and golf course runoff, in each watershed will be monitored:

a. During wet weather, at a minimum of two storm events per year, and
b. During dry weather, when flowing, at a frequency determined by the Regional Boards.

Core receiving water* monitoring shall include Table 1 critical life stage chronic toxicity* for a minimum of one invertebrate species.

For runoff in a low energy coastal environment with the likelihood of sediment deposition, core sediment monitoring shall include acute sediment toxicity utilizing alternative amphipod species (*Eohaustorius estuarius, Leptocheirus plumulosus, Rhepoxynius abronius*) at a minimum once per year.

* See Appendix I for definition of terms.

If an exceedence is detected, an additional toxicity test is required during the subsequent storm event. If an additional exceedance is detected, a TRE is required, consistent with chapter III.C.10 that requires a TRE if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1. A sufficient volume must be collected to conduct a TIE, if necessary, as a part of a TRE.

The requirement for core monitoring may be waived at the discretion of the Regional Water Board, if the permittee participates in a regional monitoring program to answer the above questions, as well as any other additional questions that may be developed by the regional monitoring program.

8. BENTHIC COMMUNITY HEALTH

8.1. Point Sources

1. Are benthic communities degraded* as a result of the discharge?

To answer this question, benthic community monitoring shall be conducted
   a. for all discharges greater than 10 MGD, or
   b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or
   c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area* or a State Marine Reserve.

The minimum frequency shall be once per permit cycle, except for discharges greater than 100 MGD the minimum frequency shall be at least twice per permit cycle.

This requirement may be satisfied by core monitoring individually or through participation in a regional monitoring program at the discretion of the Regional Board.

9. BIOACCUMULATION

9.1. Point Sources

1. Does the concentration of pollutants in fish, shellfish,* or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade* marine communities?

To answer these questions, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle for:

   a. discharges greater than 10 MGD, or
   b. those discharges greater than 0.1 MGD and one nautical mile or less from shore, or
   c. discharges greater than 0.1 MGD and one nautical mile or less from a State Water Quality Protection Area* or a State Marine Reserve, Park or Conservation Area.

Constituents to be monitored must include pesticides (at the discretion of the Regional Board), Table 1 metals, and PAHs.* Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Resident mussels are preferred over transplanted mussels. Sand crabs

* See Appendix I for definition of terms.

and/or fish may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

9.2. Storm Water

1. Does the concentration of pollutants in fish, shellfish,* or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?
2. Does the concentration of pollutants in marine life bioaccumulate to levels that degrade* marine communities?

For Phase I MS4 dischargers, bioaccumulation monitoring shall be conducted, at a minimum, once per permit cycle. Constituents to be monitored must include OP Pesticides, Ocean Plan Table 1 metals, Table 1 PAHs,* Table 1 chlorinated hydrocarbons, and pyrethroids. Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Sand crabs, fish, and/or Solid Phase Microextraction may be added or substituted for mussels at the discretion of the Regional Water Board.

This requirement may be satisfied individually as core monitoring or through participation in a regional monitoring program at the discretion of the Regional Water Board.

10. RECEIVING WATER* CHARACTERISTICS

All Sources:

1. Is natural light* significantly* reduced at any point outside the zone of initial dilution* as the result of the discharge of waste*?
2. Does the discharge of waste* cause a discoloration of the ocean surface?
3. Does the discharge of oxygen demanding waste* cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding* waste* materials*?
4. Does the discharge of waste* cause the pH to change at any time more than 0.2 units from that which occurs naturally?
5. Does the discharge of waste* cause the salinity* to become elevated in the receiving water*?
6. Do nutrients cause objectionable aquatic growth or degrade* indigenous biota?

10.1. Point Sources

For discharges greater than 10 MGD, turbidity (alternatively light transmissivity or surface water transparency), color [Chlorophyll-A and/or color dissolved organic matter (CDOM)], dissolved oxygen and pH shall be measured in the receiving water* seasonally, at a minimum, in a core monitoring program approved by the Regional Water Board. If sufficient data exists from previous water column monitoring for these parameters, the Regional Water Board, at its discretion, may reduce the frequency of water column monitoring, or may allow this requirement to be satisfied through participation in a regional monitoring program. Use of regional ocean observing programs, such as the Southern California Coastal Ocean Observing System

* See Appendix I for definition of terms.

(SCCOOS) and the Central and Northern California Ocean Observing System (CeNCCOOS) is encouraged.

Salinity* must also be monitored by all point sources discharging brine* as part of their core monitoring program. Seawater desalination facilities* discharging brine* into ocean waters* and wastewater facilities that receive brine from seawater desalination facilities and discharge into ocean waters shall monitor salinity as described in chapter III.M.4.

10.2. Storm Water

At a minimum, 10 percent of Phase I MS4 discharges greater than 36 inches, receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, and ammonia shall be measured annually in a core monitoring program approved by the Regional Water Board.

Regional Water Boards may waive monitoring once structural best management practices have been installed, evaluated and determined to have successfully controlled pollutants. The Regional Water Board, at its discretion, may also allow this requirement to be satisfied through participation in a regional monitoring program.

10.3. Non-point Sources

Representative agricultural and golf course discharges shall be measured, at a minimum twice annually (during two storm season and irrigation season) for receiving water* turbidity, color, dissolved oxygen, pH, nitrate, phosphate, ammonia in a core monitoring program approved by the Regional Water Board. The Regional Water Board, at its discretion, may allow this requirement to be satisfied through participation in a regional monitoring program.

11. ANALYTICAL REQUIREMENTS

Procedures, calibration techniques, and instrument/reagent specifications shall conform to the requirements of 40 CFR PART 136. Compliance monitoring shall be determined using an US EPA approved protocol as provided in 40 CFR PART 136. All methods shall be specified in the monitoring requirement section of waste* discharge requirements.

Where methods are not available in 40 CFR PART 136, the Regional Water Boards shall specify suitable analytical methods in waste* discharge requirements. Acceptance of data should be predicated on demonstrated laboratory performance.

Laboratories analyzing monitoring data shall be certified by the California Department of Public Health, in accordance with the provisions of Water Code section 13176, and must include quality assurance quality control data with their reports.

Sample dilutions for total and fecal coliform bacterial analyses shall range from 2 to 16,000. Sample dilutions for enterococcus bacterial analyses shall range from 1 to 10,000 per 100 mL. Each test method number or name (e.g., EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure) used for each analysis shall be specified and reported with the results.

* See Appendix I for definition of terms.

Test methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR PART 136, unless alternate methods have been approved in advance by U.S. EPA pursuant to 40 CFR PART 136.

Test methods used for enterococcus shall be those presented in U.S. EPA publication EPA 600/4-85/076, Test Methods for *Escherichia coli* and *Enterococci* in Water by Membrane Filter Procedure or any improved method determined by the Regional Board to be appropriate. The Regional Water Board may allow analysis for *Escherichia coli* (*E. coli)* by approved test methods to be substituted for fecal coliforms if sufficient information exists to support comparability with approved methods and substitute the existing methods.

The State or Regional Water Board may, subject to U.S. EPA approval, specify test methods which are more sensitive than those specified in 40 CFR PART 136. Because storm water and non-point sources are not assigned a dilution factor, sufficient sampling and analysis shall be required to determine compliance with Table 1 Water Quality Objectives. Total chlorine residual is likely to be a method detection limit effluent limitation in many cases. The limit of detection of total chlorine residual in standard test methods is less than or equal to 20 µg/L.

Toxicity monitoring requirements in permits prepared by the Regional Water Boards shall use marine test species instead of freshwater species when measuring compliance. The Regional Water Board shall require the use of critical life stage toxicity tests specified in this Appendix to measure TUc. For Point Sources, a minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring can be reduced to the most sensitive species.

Dilution and control water should be obtained from an unaffected area of the receiving waters.* The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Use of critical life stage bioassay testing shall be included in waste* discharge requirements as a monitoring requirement for all Point Source discharges greater than 100 MGD

Procedures and methods used to determine compliance with benthic monitoring should use the following federal guidelines when applicable: Macroinvertebrate Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters (1990) -- EPA/600/4-90/030 (PB91-171363). This manual describes guidelines and standardized procedures for the use of macroinvertebrates in evaluating the biological integrity of surface waters.

Procedures used to determine compliance with bioaccumulation monitoring should use the U.S. EPA. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories (November 2000, EPA 823-B-00-007), NOAA Technical Memorandum NOS ORCA 130, Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project (1998 update), and/or State Mussel Watch Program, 1987-1993 Data Report, State Water Resources Control Board 94-1WQ.

* See Appendix I for definition of terms.

TABLE III-1
APPROVED TESTS – CHRONIC TOXICITY* (TUc)

Species	Effect	Tier	Reference
giant kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	1,3
red abalone, *Haliotis rufescens*	Abnormal shell development	1	1,3
oyster, *Crassostrea gigas*; mussels, *Mytilus spp.*	Abnormal shell development; percent survival	1	1,3
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	Percent normal development	1	1,3
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	Percent fertilization	1	1,3
shrimp, *Holmesimysis costata*	Percent survival; growth	1	1,3
shrimp, *Mysidopsis bahia*	Percent survival; growth; fecundity	2	2,4
topsmelt, *Atherinops affinis*	Larval growth rate; percent survival	1	1,3
Silversides, *Menidia beryllina*	Larval growth rate; percent survival	2	2,4

Table III-1 Notes

The first tier test methods are the preferred toxicity tests for compliance monitoring. A Regional Water Board can approve the use of a second tier test method for waste* discharges if first tier organisms are not available.

* See Appendix I for definition of terms.

Protocol References

1. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to west coast marine and estuarine organisms. U.S. EPA Report No. EPA/600/R-95/136.

2. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term methods for estimating the chronic toxicity of effluents and receiving water to marine and estuarine organisms. U.S. EPA Report No. EPA-600-4-91-003.

3. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

4. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler (eds). 1988. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

* See Appendix I for definition of terms.

APPENDIX IV
PROCEDURES FOR THE NOMINATION AND DESIGNATION OF STATE WATER QUALITY PROTECTION AREAS.*

1. Any person may nominate areas of ocean* waters for designation as SWQPA-ASBS or SWQPA-GP by the State Water Board. Nominations shall be made to the appropriate Regional Water Board and shall include:

   (a) Information such as maps, reports, data, statements, and photographs to show that:

      (1) Candidate areas are located in ocean* waters as defined in the "Ocean Plan".

      (2) Candidate areas are intrinsically valuable or have recognized value to man for scientific study, commercial use, recreational use, or esthetic reasons.

      (3) Candidate areas need protection beyond that offered by waste* discharge restrictions or other administrative and statutory mechanisms.

   (b) Data and information to indicate whether the proposed designation may have a significant* effect on the environment.

      (1) If the data or information indicate that the proposed designation will have a significant* effect on the environment, the nominee must submit sufficient information and data to identify feasible changes in the designation that will mitigate or avoid the significant* environmental effects.

2. The State Water Board or a Regional Water Board may also nominate areas for designation as SWQPA-ASBS or SWQPA-GP on their own motion.

3. A Regional Water Board may decide to (a) consider individual SWQPA-ASBS or SWQPA-GP nominations upon receipt, (b) consider several nominations in a consolidated proceeding, or (c) consider nominations in the triennial review of its water quality control plan (basin plan). A nomination that meets the requirements of 1. above may be considered at any time but not later than the next scheduled triennial review of the appropriate basin plan or Ocean Plan.

4. After determining that a nomination meets the requirements of paragraph 1. above, the Executive Officer of the affected Regional Water Board shall prepare a Draft Nomination Report containing the following:

   (a) The area or areas nominated for designation as SWQPA-ASBS or SWQPA-GP.

   (b) A description of each area including a map delineating the boundaries of each proposed area.

   (c) A recommendation for action on the nomination(s) and the rationale for the recommendation. If the Draft Nomination Report recommends approval of the proposed designation, the Draft Nomination Report shall comply with the CEQA documentation requirements for a water quality control plan amendment in section 3777, title 23, California Code of Regulations.

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* See Appendix I for definition of terms.

5. The Executive Officer shall, at a minimum, seek informal comment on the Draft Nomination Report from the State Water Board, Department of Fish and Game, other interested state and federal agencies, conservation groups, affected waste dischargers, and other interested parties. Upon incorporation of responses from the consulted agencies, the Draft Nomination Report shall become the Final Nomination Report.

6. (a) If the Final Nomination Report recommends approval of the proposed designation, the Executive Officer shall ensure that processing of the nomination complies with the CEQA consultation requirements in section 3778, Title 23, California Code of Regulations and proceed to step 7 below.

   (b) If the Final Nomination Report recommends against approval of the proposed designation, the Executive Officer shall notify interested parties of the decision. No further action need be taken. The nominating party may seek reconsideration of the decision by the Regional Water Board itself.

7. The Regional Water Board shall conduct a public hearing to receive testimony on the proposed designation. Notice of the hearing shall be published three times in a newspaper of general circulation in the vicinity of the proposed area or areas and shall be distributed to all known interested parties 45 days in advance of the hearing. The notice shall describe the location, boundaries, and extent of the area or areas under consideration, as well as proposed restrictions on waste* discharges within the area.

8. The Regional Water Board shall respond to comments as required in section 3779, Title 23, California Code of Regulations, and 40 C.F.R. Part 25 (July 1, 1999).

9. The Regional Water Board shall consider the nomination after completing the required public review processes required by CEQA.

   (a) If the Regional Water Board supports the recommendation for designation, the board shall forward to the State Water Board its recommendation for approving designation of the proposed area or areas and the supporting rationale. The Regional Water Board submittal shall include a copy of the staff report, hearing transcript, comments, and responses to comments.

   (b) If the Regional Water Board does not support the recommendation for designation, the Executive Officer shall notify interested parties of the decision, and no further action need be taken.

10. After considering the Regional Water Board recommendation and hearing record, the State Water Board may approve or deny the recommendation, refer the matter to the Regional Water Board for appropriate action, or conduct further hearing itself. If the State Water Board acts to approve a recommended designation, the State Water Board shall amend Appendix V, Table V-1, of this Plan. The amendment will go into effect after approval by the Office of Administrative Law and US EPA. In addition, after the effective date of a designation, the affected Regional Water Board shall revise its water quality control plan in the next triennial review to include the designation.

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* See Appendix I for definition of terms.

12. The State Water Board Executive Director shall advise other agencies to whom the list of designated areas is to be provided that the basis for an SWQPA-ASBS or SWQPA-GP designation is limited to protection of marine life from waste* discharges.

* See Appendix I for definition of terms.

APPENDIX V
STATE WATER QUALITY PROTECTION AREAS*
AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE*

TABLE V-1
STATE WATER QUALITY PROTECTION AREAS*
AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE*
(DESIGNATED OR APPROVED BY THE STATE WATER RESOURCES CONTROL BOARD)

No.	ASBS Name	Date Designated	State Water Board Resolution No.	Region No.
1.	Jughandle Cove	March 21, 1974,	74-28	1
2.	Del Mar Landing	March 21, 1974,	74-28	1
3.	Gerstle Cove	March 21, 1974,	74-28	1
4.	Bodega	March 21, 1974,	74-28	1
5.	Saunders Reef	March 21, 1974,	74-28	1
6.	Trinidad Head	March 21, 1974,	74-28	1
7.	King Range	March 21, 1974,	74-28	1
8.	Redwoods National Park	March 21, 1974,	74-28	1
9.	James V. Fitzgerald	March 21, 1974,	74-28	2
10.	Farallon Islands	March 21, 1974,	74-28	2
11.	Duxbury Reef	March 21, 1974,	74-28	2
12.	Point Reyes Headlands	March 21, 1974,	74-28	2
13.	Double Point	March 21, 1974,	74-28	2
14.	Bird Rock	March 21, 1974,	74-28	2
15.	Año Nuevo	March 21, 1974,	74-28	3
16.	Point Lobos	March 21, 1974,	74-28	3
17.	San Miguel, Santa Rosa, and Santa Cruz Islands	March 21, 1974,	74-28	3
18.	Julia Pfeiffer Burns	March 21, 1974,	74-28	3
19.	Pacific Grove	March 21, 1974,	74-28	3
20.	Salmon Creek Coast	March 21, 1974,	74-28	3
21.	San Nicolas Island and Begg Rock	March 21, 1974,	74-28	4
22.	Santa Barbara and Anacapa Islands	March 21, 1974,	74-28	4
23.	San Clemente Island	March 21, 1974,	74-28	4

Table V-1 Continued on next page…

* See Appendix I for definition of terms.

Table V-1 (Continued)

Areas of Special Biological Significance*
(Designated or Approved by the State Water Resources Control Board)

No.	ASBS Name	Date Designated	State Water Board Resolution No.	Region No.
24.	Laguna Point to Latigo Point	March 21, 1974,	74-28	4
25.	Northwest Santa Catalina Island	March 21, 1974,	74-28	4
26.	Western Santa Catalina Island	March 21, 1974,	74-28	4
27.	Farnsworth Bank	March 21, 1974,	74-28	4
28.	Southeast Santa Catalina	March 21, 1974,	74-28	4
29.	La Jolla	March 21, 1974,	74-28	9
30.	Heisler Park	March 21, 1974,	74-28	9
31.	San Diego-Scripps	March 21, 1974,	74-28	9
32.	Robert E. Badham	April 18, 1974	74-32	8
33.	Irvine Coast	April 18, 1974	74-32	8,9
34.	Carmel Bay	June 19, 1975	75-61	3

* See Appendix I for definition of terms.

APPENDIX VI

REASONABLE POTENTIAL ANALYSIS PROCEDURE FOR DETERMINING WHICH TABLE 1 OBJECTIVES REQUIRE EFFLUENT LIMITATIONS

In determining the need for an effluent limitation, the Regional Water Board shall use all representative information to characterize the pollutant discharge using a scientifically defensible statistical method that accounts for the averaging period of the water quality objective, accounts for and captures the long-term variability of the pollutant in the effluent, accounts for limitations associated with sparse data sets, accounts for uncertainty associated with censored data sets, and (unless otherwise demonstrated) assumes a lognormal distribution of the facility-specific effluent data.

The purpose of the following procedure (see also Figure VI-1) is to provide direction to the Regional Water Boards for determining if a pollutant discharge causes, has the reasonable potential to cause, or contributes to an excursion above Table 1 water quality objectives in accordance with 40 CFR 122.44 (d)(1)(iii). The Regional Water Board may use an alternative approach for assessing reasonable potential such as an appropriate stochastic dilution model that incorporates both ambient and effluent variability. The permit fact sheet or statement of basis will document the justification or basis for the conclusions of the reasonable potential assessment. This appendix does not apply to permits or any portion of a permit where the discharge is regulated through best management practices (BMP) unless such discharge is also subject to numeric effluent limitations.

Step 1: Identify C_o, the applicable water quality objective from Table 1 for the pollutant.

Step 2: Does information about the receiving water* body or the discharge support a reasonable potential assessment (RPA) without characterizing facility-specific effluent monitoring data? If yes, go to *Step 13* to conduct an RPA based on best professional judgment (BPJ). Otherwise, proceed to *Step 3*.

Step 3: Is facility-specific effluent monitoring data available? If yes, proceed to *Step 4.* Otherwise, go to *Step 13.*

Step 4: Adjust all effluent monitoring data C_e, including censored (ND or DNQ) values to the concentration *X* expected after complete mixing. For Table 1 pollutants use $X = (C_e + D_m C_s) / (D_m + 1)$; for acute toxicity* use $X = C_e / (0.1 D_m + 1)$; where D_m is the minimum probable initial dilution* expressed as parts seawater* per part wastewater and C_s is the background seawater* concentration from Table 3. For ND values, C_e is replaced with "<MDL*;" for DNQ values C_e is replaced with "<ML.*" Go to *Step 5*.

Step 5: Count the total number of samples *n*, the number of censored (ND or DNQ) values, *c* and the number of detected values, *d, such that n = c + d*.

Is any *detected* pollutant concentration after complete mixing greater than C_o? If yes, the discharge causes an excursion of C_o; go to *Endpoint 1*. Otherwise, proceed to *Step 6*.

Step 6: Does the effluent monitoring data contain three or more detected observations ($d \geq 3$)? If yes, proceed to *Step 7* to conduct a parametric RPA. Otherwise, go to *Step11* to conduct a nonparametric RPA.

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* See Appendix I for definition of terms.

Step 7: Conduct a parametric RPA. Assume data are lognormally distributed, unless otherwise demonstrated. Does the data consist entirely of detected values ($c/n = 0$)? If yes,

- calculate summary statistics M_L and S_L, the mean and standard deviation of the natural logarithm transformed effluent data expected after complete mixing, ln(X),
- go to *Step 9*.

Otherwise, proceed to *Step 8*.

Step 8: Is the data censored by 80% or less ($c/n \leq 0.8$)? If yes,

- calculate summary statistics M_L and S_L using the censored data analysis method of Helsel and Cohn (1988),
- go to *Step 9*.

Otherwise, go to Step 11.

Step 9: Calculate the UCB i.e., the one-sided, upper 95 percent confidence bound for the 95th percentile of the effluent distribution after complete mixing. For lognormal distributions, use $UCBL_{(.95,.95)} = \exp(M_L + S_L\, g'_{(.95,.95,n)})$, where g' is a normal tolerance factor obtained from the table below (Table VI-1). Proceed to *Step 10*.

Step 10: Is the UCB greater than C_o? If yes, the discharge has a reasonable potential to cause an excursion of C_o; go to *Endpoint 1*. Otherwise, the discharge has no reasonable potential to cause an excursion of C_o; go to *Endpoint 2*.

Step 11: Conduct a non-parametric RPA. Compare each data value X to C_o. Reduce the sample size n by 1 for each tie (i.e., inconclusive censored value result) present. An adjusted ND value having $C_o <$ MDL* is a tie. An adjusted DNQ value having $C_o <$ ML* is also a tie.

Step 12: Is the adjusted $n > 15$? If yes, the discharge has no reasonable potential to cause an excursion of C_o; go to *Endpoint 2*. Otherwise, go to *Endpoint 3*.

Step 13: Conduct an RPA based on BPJ. Review all available information to determine if a water quality-based effluent limitation is required, notwithstanding the above analysis in *Steps 1* through *12*, to protect beneficial uses. Information that may be used includes: the facility type, the discharge type, solids loading analysis, lack of dilution, history of compliance problems, potential toxic impact of discharge, fish tissue residue data, water quality and beneficial uses of the receiving water,* CWA 303(d) listing for the pollutant, the presence of endangered or threatened species or critical habitat, and other information.

Is data or other information unavailable or insufficient to determine if a water quality-based effluent limitation is required? If yes, go to *Endpoint 3.* Otherwise, go to either *Endpoint 1* or *Endpoint 2* based on BPJ.

Endpoint 1: An effluent limitation must be developed for the pollutant. Effluent monitoring for the pollutant, consistent with the monitoring frequency in Appendix III, is required.

Endpoint 2: An effluent limitation is not required for the pollutant. Appendix III effluent monitoring is not required for the pollutant; the Regional Board, however, may require occasional monitoring for the pollutant or for whole effluent toxicity as appropriate.

* See Appendix I for definition of terms.

Endpoint 3: The RPA is inconclusive. Monitoring for the pollutant or whole effluent toxicity testing, consistent with the monitoring frequency in Appendix III, is required. An existing effluent limitation for the pollutant shall remain in the permit, otherwise the permit shall include a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if the monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a Table 1 water quality objective.

Appendix VI References:

Helsel D. R. and T. A. Cohn. 1988. Estimation of descriptive statistics for multiply censored water quality data. Water Resources Research, Vol 24(12):1977-2004.

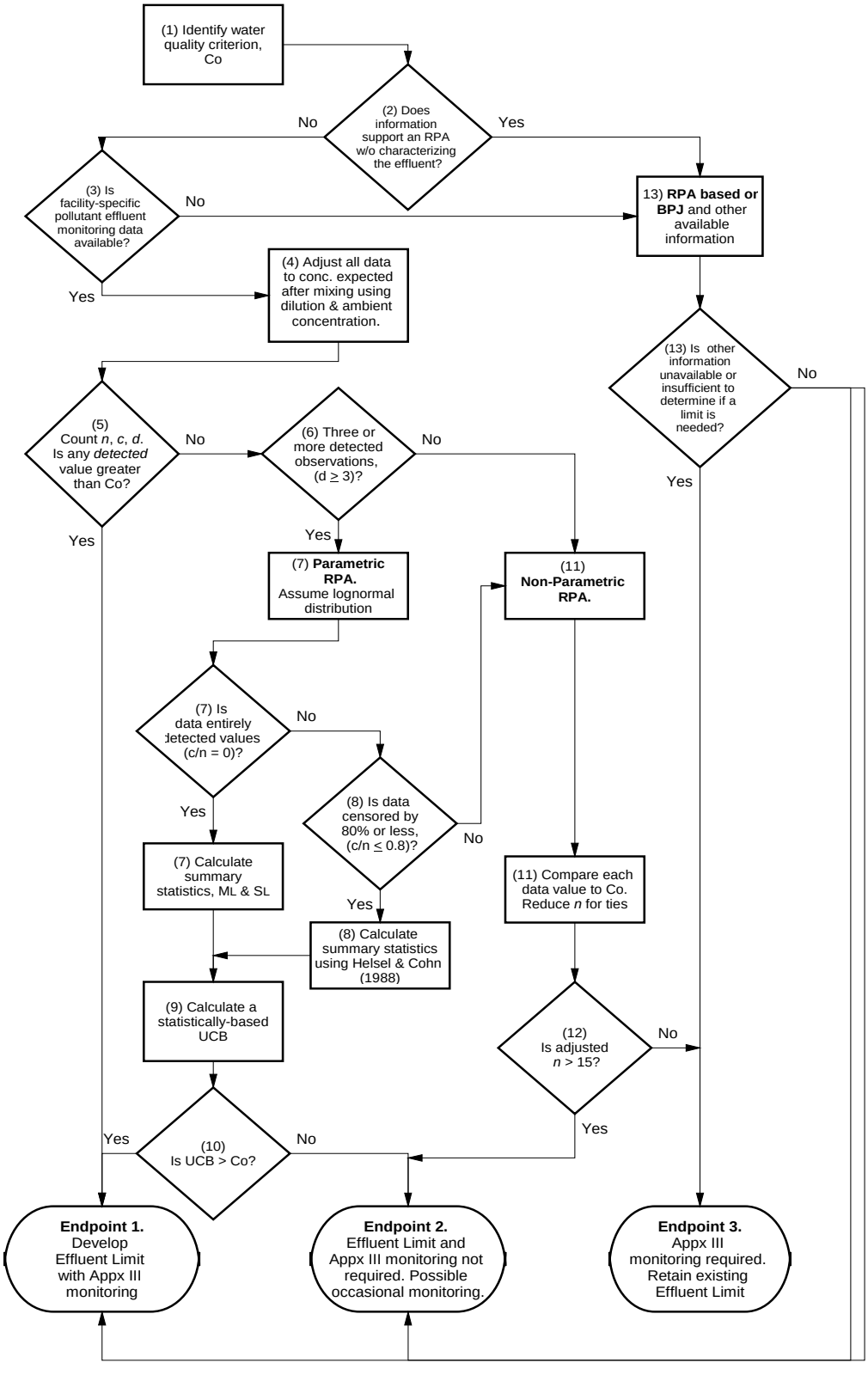
Hahn J. H. and W. Q. Meeker. 1991. Statistical Intervals, A guide for practitioners. J. Wiley & Sons, NY.

TABLE VI-1: Tolerance factors $g'_{(.95,.95,n)}$ for calculating normal distribution one-sided upper 95 percent tolerance bounds for the 95th percentile (Hahn & Meeker 1991)

n	$g'_{(.95,.95,n)}$	*n*	$g'_{(.95,.95,n)}$
2	26.260	21	2.371
3	7.656	22	2.349
4	5.144	23	2.328
5	4.203	24	2.309
6	3.708	25	2.292
7	3.399	26	2.275
8	3.187	27	2.260
9	3.031	28	2.246
10	2.911	29	2.232
11	2.815	30	2.220
12	2.736	35	2.167
13	2.671	40	2.125
14	2.614	50	2.065
15	2.566	60	2.022
16	2.524	120	1.899
17	2.486	240	1.819
18	2.453	480	1.766
19	2.423	∞	1.645
20	2.396		

* See Appendix I for definition of terms.

Figure VI-1. Reasonable potential analysis flow chart



* See Appendix I for definition of terms.

APPENDIX VII

EXCEPTIONS TO THE CALIFORNIA OCEAN PLAN

TABLE VII-1
EXCEPTIONS TO THE OCEAN PLAN

(GRANTED BY THE STATE WATER RESOURCES CONTROL BOARD)

Year	Resolution	Applicable Provision	Discharger
1977	77-11	Discharge Prohibition, ASBS #23	US Navy San Clemente Island
1979	79-16	Discharge Prohibition for wet weather discharges from combined storm and wastewater collection system.	The City and County of San Francisco
1983	83-78	Discharge Prohibition, ASBS #7	Humboldt County Resort Improvement District No.1
1984	84-78	Discharge Prohibition, ASBS #34	Carmel Sanitary District
1988	88-80	Total Chlorine Residual Limitation	Haynes Power Plant Harbor Power Plant Scattergood Power Plant Alamitos Power Plant El Segundo Power Plant Long Beach Power Plant Mandalay Power Plant Ormond Beach Power Plant Redondo Power Plant
1990	90-105	Discharge Prohibition, ASBS #21	US Navy San Nicolas Island
2004	2004-0052	Discharge Prohibition, ASBS #31	UC Scripps Institution of Oceanography
2006	2006-0013	Discharge Prohibition, ASBS #25	USC Wrigley Marine Science Center
2007	2007-0058	Discharge Prohibition, ASBS #4	UC Davis Bodega Marine Laboratory
2011	2011-0049	Discharge Prohibition, ASBS #6	HSU Telonicher Marine lab
2011	2011-0050	Discharge Prohibition, ASBS #19	Monterey Bay Aquarium
2011	2011-0051	Discharge Prohibition, ASBS #19	Stanford Hopkins Marine Station
2012	2012-0012, as amended on June 19 2012; in 2012-0031	ASBS Discharge Prohibition, General Exception for Storm Water and Nonpoint Sources	27 applicants for the General Exception

* See Appendix I for definition of terms.

APPENDIX VIII
MAPS OF THE OCEAN, COAST, AND ISLANDS

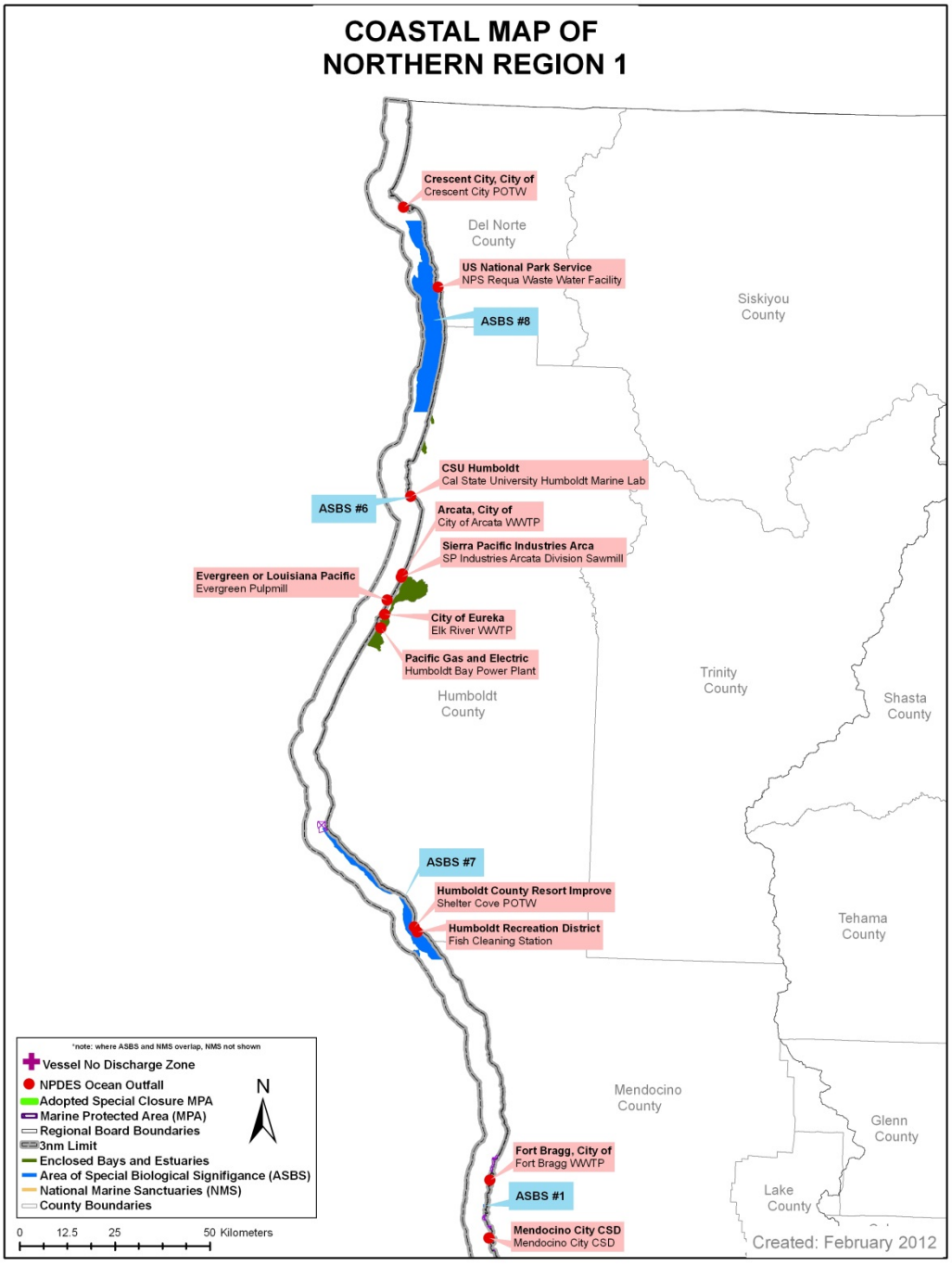


Figure VIII-1. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in northern Region 1.

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* See Appendix I for definition of terms.

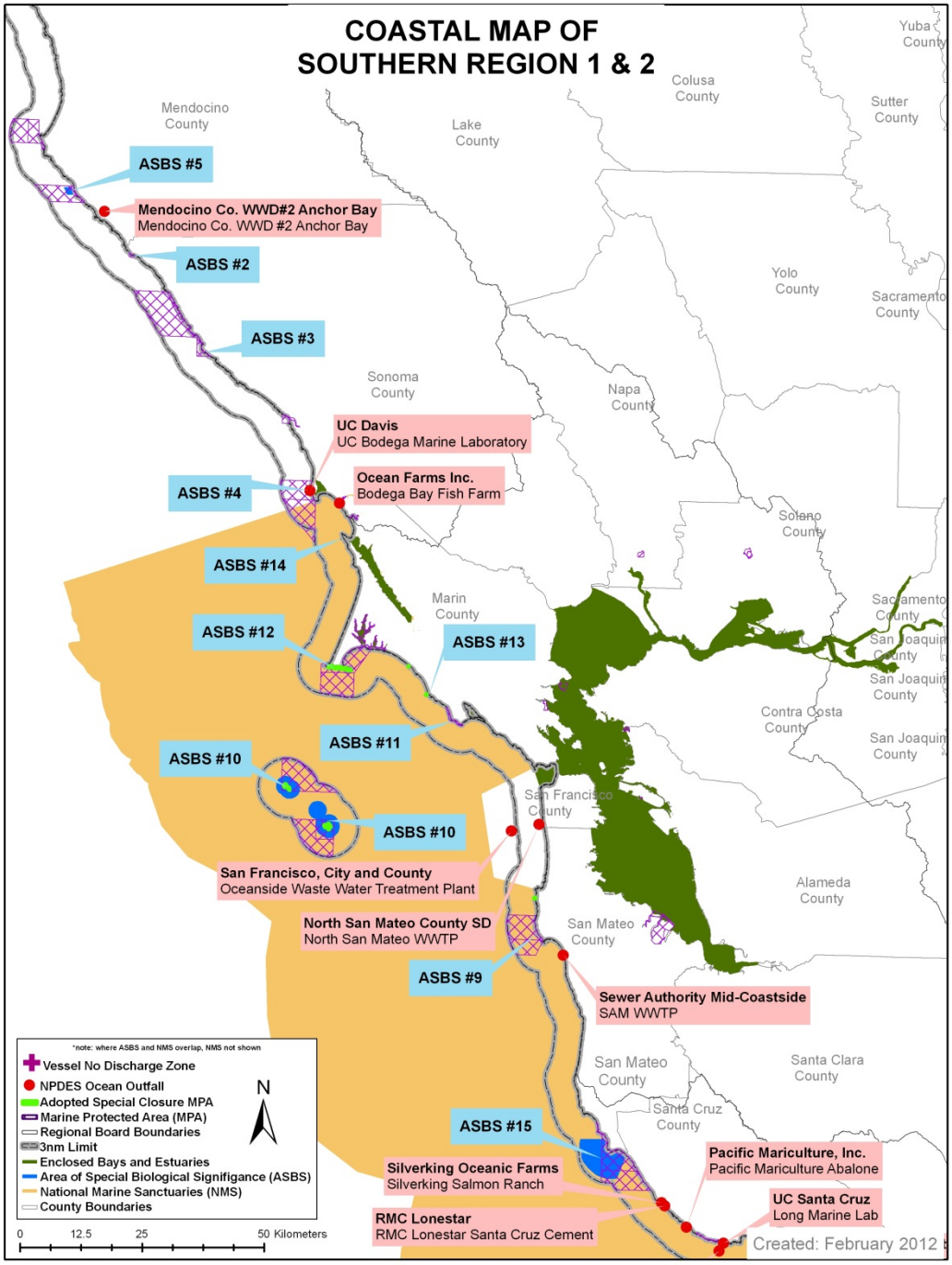

Figure VIII-2. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Region 1 and Region 2.

* See Appendix I for definition of terms.

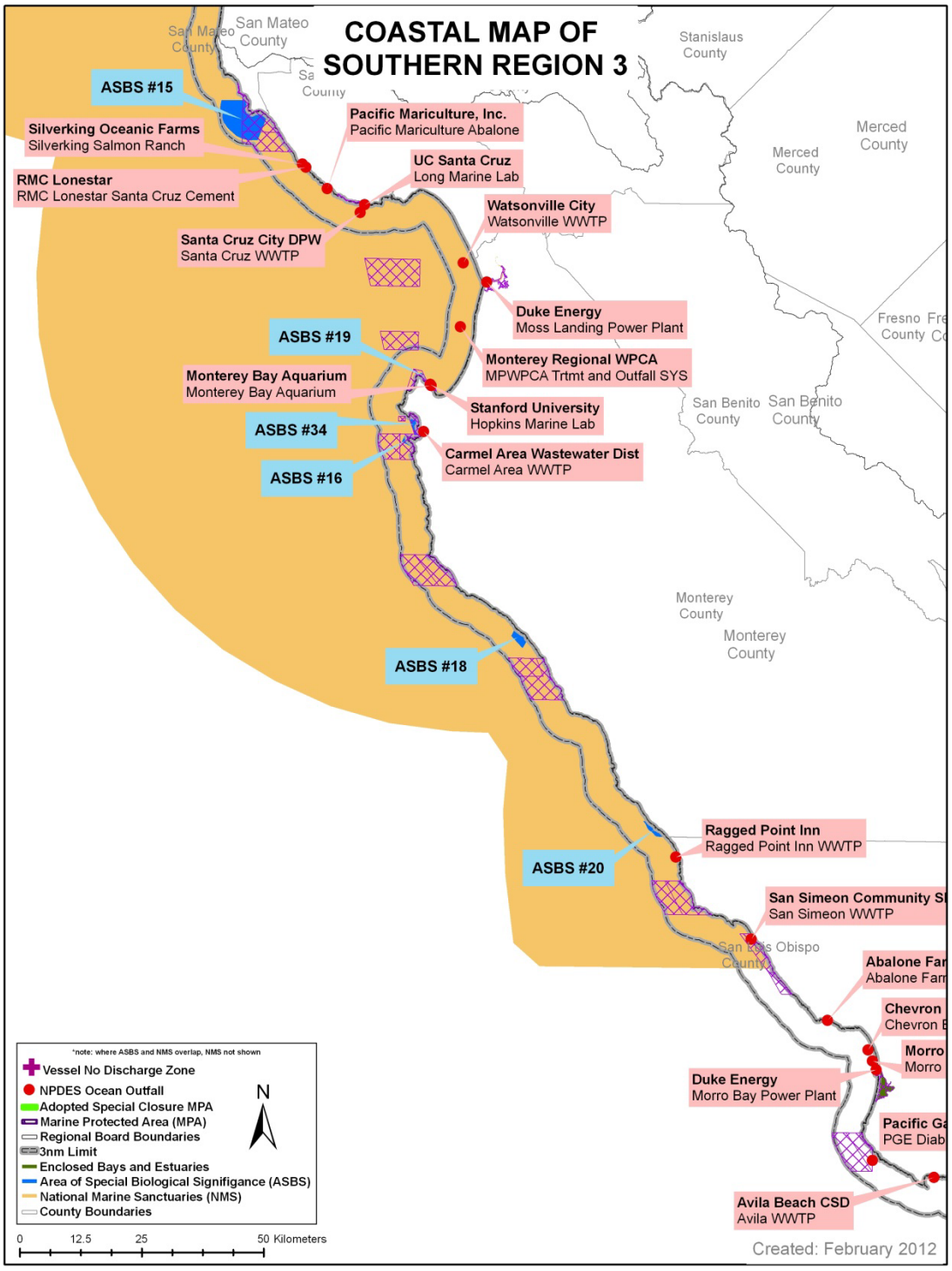

Figure VIII-3. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in northern Region 3.

* See Appendix I for definition of terms.

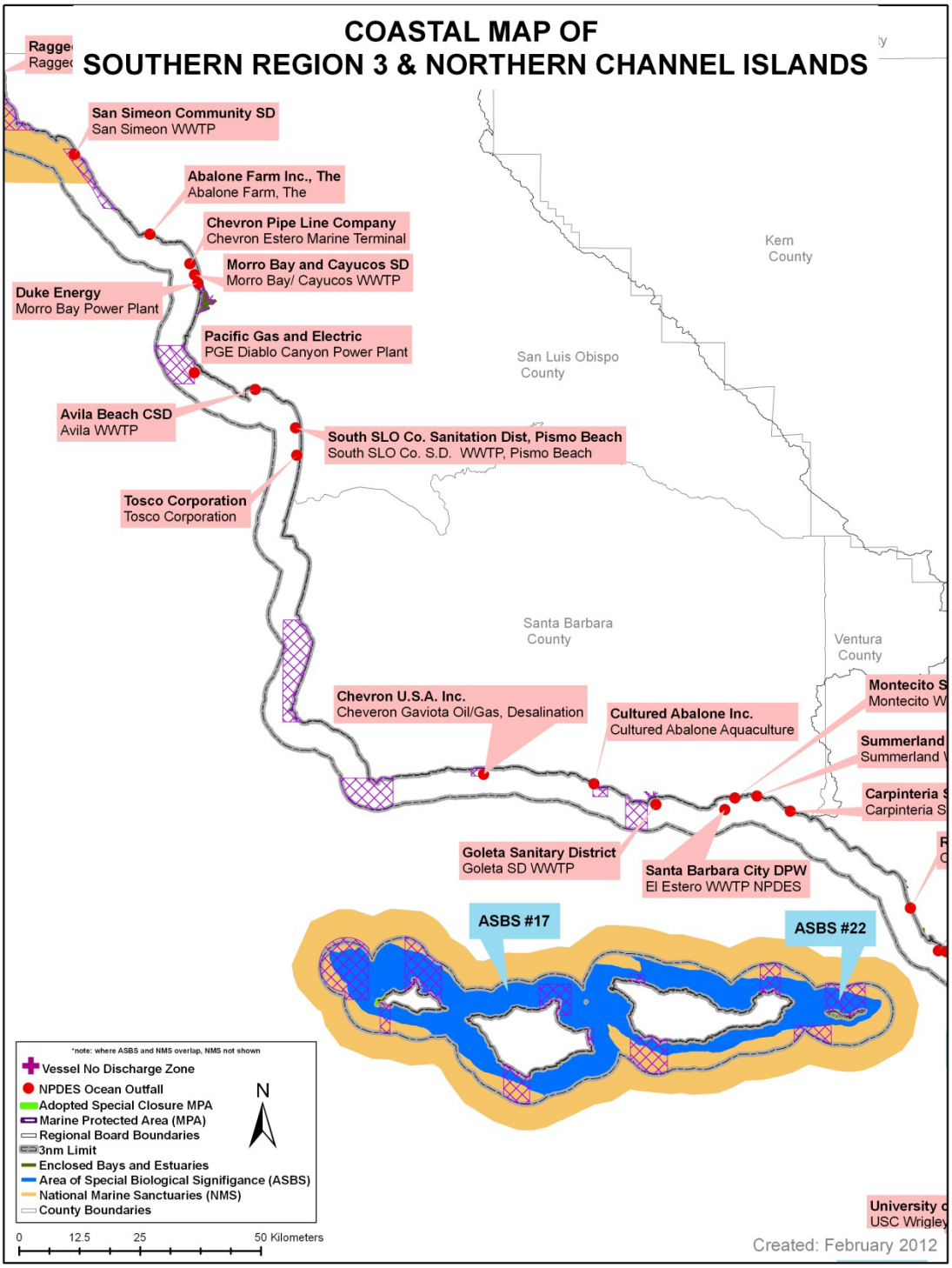

Figure VIII-4. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Region 3 and northern Channel Islands.

* See Appendix I for definition of terms.

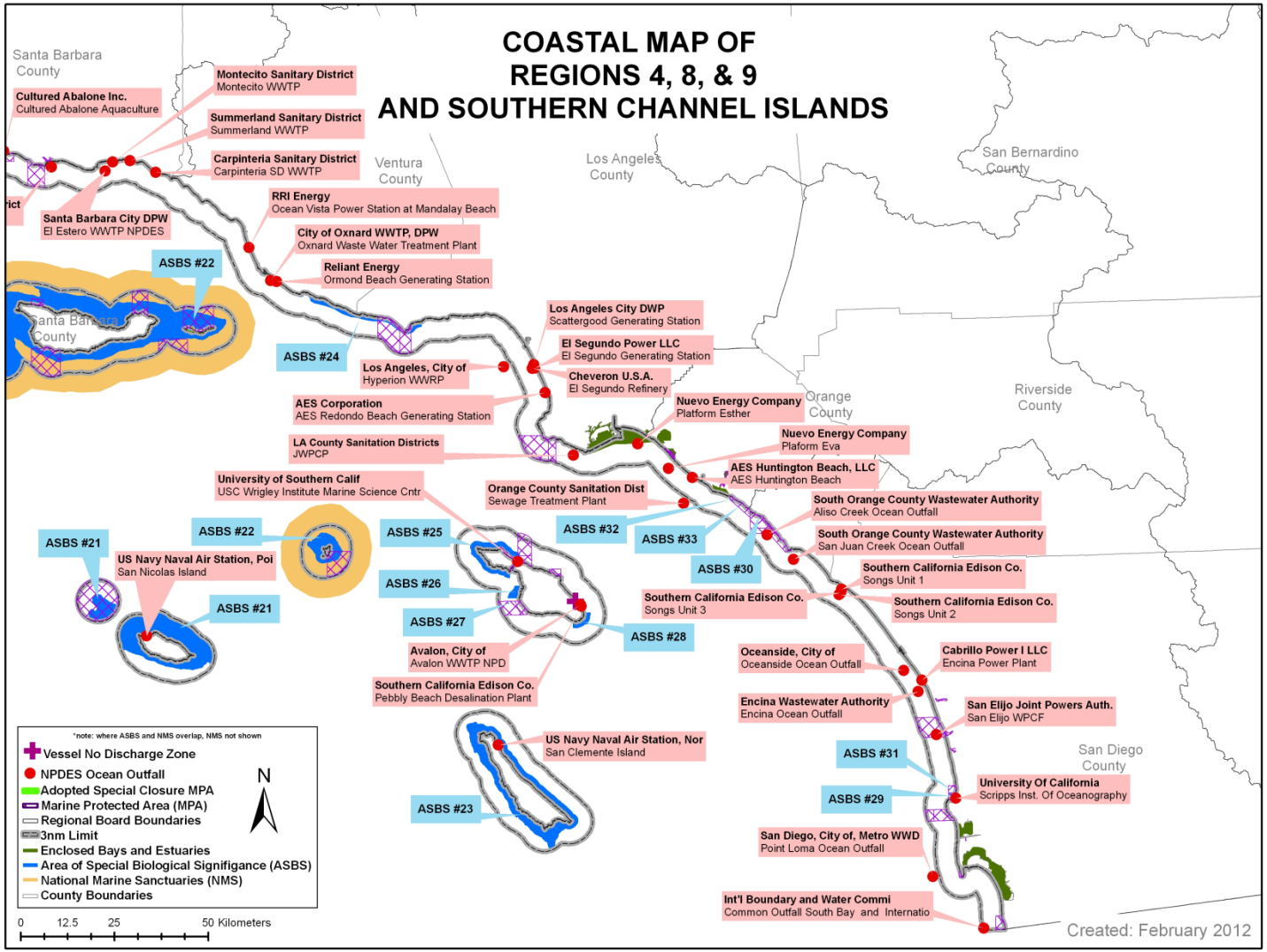

Figure VIII-5. ASBS Boundaries, MPA Boundaries, Wastewater Outfall Points, Marine Sanctuary Boundaries, and Enclosed Bays in southern Channel Islands and Regions 4, 8 and 9.

* See Appendix I for definition of terms.

ATTACHMENT F-2

Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options

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Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options

Preface

The State Water Resources Control Board and the Regional Water Quality Control Boards (Water Boards) are committed to protecting and restoring the waters of California to ensure that all applicable beneficial uses are fully attained. Where waters are not meeting their beneficial uses from anthropogenic sources of pollutants, the Water Boards will use the Total Maximum Daily Load (TMDL) program to craft an implementation plan to ensure that the waters meet all applicable standards as soon as is practicable. The TMDL program remains a high priority program of the Water Boards.

This Policy is intended to ensure that the impaired waters of the state are addressed in a timely and meaningful fashion. In those cases where immediate restoration activities are available, the policy encourages those actions to take place immediately rather than waiting for a regulatory action by the Water Boards. In this respect, the Water Boards are committed to work with all interested parties to develop appropriate plans to restore water bodies to water quality standards. The Water Boards will continue to pursue information from all interested persons in developing such plans and will encourage early restoration activities prior to completion of a TMDL, where such activities will result in improved water quality.

While the Policy allows a TMDL to be established through alternative regulatory actions, it is anticipated that the majority of TMDLs will be established through an implementation plan adopted as a Basin Plan amendment. This is due to the complexity of the problems needing correction for most of the impaired waters. Where alternative regulatory methods are used to establish TMDLs, however, those TMDLs will be incorporated into the Water Quality Management Plan after they are approved. Using existing regulatory programs to ensure waters are restored, where such mechanism exists, will promote a cost effective and timely response that has proven elusive when relying exclusively on basin planning to establish TMDLs.

The Water Boards are committed to use all means to ensure that the waters of the State are protected for the use and enjoyment of the people of the State and that the waters attain the highest water quality that is reasonable, considering all demands being made and to be made of the waters. The Water Boards will continue to use the best information and science available to the program in developing restoration plans for the waters of the State.

I. Addressing Impaired Waters

Section 303(d) of the Clean Water Act (CWA) contains backstop provisions designed to ensure that all state water quality standards are met. The water quality of many waters of the state is currently unacceptable. The Total Maximum Daily Load (TMDL) program was created by the State Board to implement the requirements of these backstop provisions, consistent with state and federal law, for the purpose of ensuring that water quality standards are attained. The TMDL program is the primary program responsible for achieving clean water where traditional controls on point sources have proven inadequate to do so. The program thus is charged with creating plans that consider all sources and causes of impairment, and allocating responsibility for corrective measures, regardless of sources or cause, that will attain water quality standards.

The State Water Resources Control Board (State Board) and Regional Water Quality Control Boards (Regional Boards) are delegated the responsibility for implementing California's Porter Cologne Water Quality Control Act and the federal Clean Water Act (CWA). Pursuant to relevant provisions of both of those acts the State and Regional Boards establish water quality standards, including designated (beneficial) uses and criteria or objectives to protect those uses. Section 303(d) of the CWA (33 USC § 1313(d)) requires the states to identify certain waters within their borders that are not attaining water quality standards and to establish the total maximum daily load (TMDL) for certain pollutants impairing those waters. According to USEPA, a TMDL is a numerical calculation of the amount of a pollutant that a water body can assimilate and still meet standards. A TMDL includes one or more numerical targets that represent attainment of the applicable standards, considering seasonal variations and a margin of safety, in addition to the allocation of the target or load among the various sources of the pollutant. These include waste load allocations (WLAs) for point sources, and load allocations (LAs) for nonpoint sources and natural background. TMDLs established for impaired waters must be submitted to the US Environmental Protection Agency (USEPA) for approval.

CWA section 303(e) requires the states to implement their approved TMDLs through their Continuing Planning Process. The USEPA's regulations do not provide for USEPA approval of TMDL implementation plans (however the regulations do require NPDES permits to be consistent with the assumptions and requirements of TMDLs and available WLAs). TMDL implementation is therefore largely a function of California law, including but not limited to CWC Section 13242, which requires a program of implementation to achieve water quality objectives.

Regional Boards have wide latitude, numerous options, and some legal constraints that apply when determining how to address impaired waters. Irrespective of whether CWA section 303(d) requires a TMDL, the process for addressing waters that do not meet applicable standards must be accomplished through existing regulatory tools and mechanisms. This policy is intended to outline those tools and mechanisms, and explain how the federal requirement to establish TMDLsfits within those confines. This policy also establishes a certification[1] process whereby the Regional Boards can formally recognize regulatory or nonregulatory actions of other entities as appropriate implementation programs when the Regional Boards determine those actions will result in attainment of standards. In addition, implementation activities taken to achieve LAs must be consistent with the SWRCB Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Implementation Policy).

This policy is not intended and shall not be construed as limiting the authority of the State Board or the Regional Boards in any manner. A flowchart is included as attachment A, which tracks this discussion.

The following principles apply to the process of resolving impairments in surface waters not attaining standards in California:

[1] The term "certification" has been used in many contexts related to point and nonpoint source pollution control. Its use here is expressly intended to not embody any of those definitions. Unless otherwise indicated, the term "certification", as used in this policy, is limited to describing a process by which the Regional Boards can formally recognize an acceptable alternative implementation program for a TMDL. The term "Certification" is further defined in the glossary.

A. If the water body is neither impaired nor threatened, the appropriate regulatory response is to delist the water body.

The first step in addressing a listing is to identify the scope of the problem. In some cases, this analysis will lead to a conclusion that standards are in fact being attained and the water is not threatened, either because the assumptions underlying the listing were incorrect, or because the impairment has been corrected. In such circumstances, it is appropriate to delist the water body in accordance with the "Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List.".

B. If the failure to attain standards is due to the fact that the applicable standards are not appropriate to natural conditions, an appropriate regulatory response is to correct the standards.

If the water body is impaired, the cause of the impairment must be ascertained. There are five common reasons (see below[2]) that standards are being exceeded. In most cases, a pollution reduction strategy of some sort will be warranted. However, in some instances part or the entire cause of the impairment will be due to problems with the standards themselves. While in most cases the existing standards are appropriate and amenable to TMDL development, periodically investigation during the development of a TMDL or its implementation plan may reveal that the standards may be inappropriate or imprecise, thus rendering water quality attainment impossible unless standards are modified. In such cases, staff will undertake a limited review of the standards. The purpose of standards review during the TMDL process is not to reassess the Water Boards' previous policy determinations that underlie the Beneficial Use Designations or Water Quality Objectives, but rather to ensure that the standards are amenable to an appropriate implementation plan. Modification of standards should not be viewed as "an easy fix" to avoid a TMDL, and review of the appropriateness of the standards will not be considered in every case. Reviewing the appropriateness of the policies underlying standards is complex and involves processes that generally are beyond the scope of TMDL process. Review of standards' underlying policies generally occurs in the triennial review process. Unlike the triennial review process, the TMDL process is not designed to evaluate standards' appropriateness, but to create a strategy to attain those standards that have already been established. If staff determines that the policies underlying the existing standards should be revisited, in lieu of crafting an implementation plan under this policy, the impaired water shall be referred to the Water Quality Standards staff for consideration of an appropriate standards action, through the appropriate processes. Irrespective, it is always necessary to review the standards applicable to the listed waterbody in order to determine the appropriate target or targets. Three typical examples of where standards may need modification are where:

1. **Natural conditions alone are incompatible with the Standards**: This occurs either when natural background levels of a pollutant exceed water quality objectives, or natural background conditions are incompatible with the beneficial uses assigned in the basin plan, or natural background conditions are degrading the water body.

2. **Standards are too broad or too vague**: For example, a water body may extend beyond an area where associated beneficial uses are appropriate, such as the geographic boundaries of an estuarine environment.

[2] This is not intended to be an exclusive list of causes.

3. **Incompatible Uses Exist**: This may occur when two or more uses are incompatible with each other. For instance, wildlife waste may generate pathogen levels that render the water unsuitable for human recreation.

In each of the above situations, revision of the standards themselves may be the best (or only) way to address the impairment. Revision of the standards can include removing uses, establishing subcategories of uses, establishing seasonal uses (all of which may require a Use Attainability Analysis (UAA), establishing a Site-Specific Objective (SSO), or other modification of the water quality standard. When a standards action is deemed appropriate, the State and Regional Board shall follow all applicable requirements, including but not limited to those set forth in part 131 of Title 40 of the Code of Federal Regulations and Article 3 of Division 7, Chapter 4 of the California Water Code.

Additionally, an anti-degradation finding may authorize the lowering of water quality to some degree, which may address the impairment. The anti-degradation policies established in federal regulations and state policy both authorize the lowering of water quality in certain circumstances, where doing so would not impair beneficial uses. If an anti-degradation finding is appropriate, the requirements of 40 CFR § 131.12 and Resolution #68-16 shall be adhered to.

C. The State Board and Regional Boards are responsible for the quality of all waters of the state, irrespective of the cause of the impairment. In addition, a TMDL must be calculated for impairments caused by certain EPA designated pollutants.

The two other common causes or categories of impairment are related to anthropogenic factors. They include waters impaired by pollution and waters impaired by certain EPA designated pollutants. The Porter-Cologne Water Quality Control Act charges the State Board and Regional Boards with the responsibility of protecting the beneficial uses and quality of all waters of the state, irrespective of the cause of the impairment. Thus, if possible, the impairment should be corrected in either event. Presently, the EPA has designated all pollutants as suitable for TMDL calculation under proper technical conditions.

1. **Pollutants**: The term "pollutant" is defined in section 502(6) of the Clean Water Act. Section 303(d) of the Clean Water Act requires TMDLs be established for each impairing "pollutant" that is suitable for TMDL calculation. EPA has determined that under proper technical conditions, all pollutants are suitable for TMDL calculation. Thus, before undertaking an action to correct an impairment, the Loading Capacity of the pollutant must be calculated for impaired waters, and thus the load reductions necessary (considering seasonal variations and a margin of safety) to attain standards. Corrective action will implement the assumptions and requirements of the Loading Capacity using any combination of existing regulatory tools.

2. **Pollution**: The term "pollution" is defined in section 502(19) of the Clean Water Act and section 13050(l) of the California Water Code. When non-pollutant pollution is the cause of the impairment, the Regional Boards may skip the step of calculating the Loading Capacity and proceed immediately to designing corrective action using existing regulatory tools.

D. Whether or not a TMDL calculation is required as described above, impaired waters will be corrected (and implementation plans crafted) using existing regulatory tools

All violations of standards should be redressed, and the Boards may use any combination of existing regulatory tools to do so. Existing regulatory tools include[3] individual or general waste discharge requirements (be they under Chapter 4 or under Chapter 5.5 (NPDES permits) of the Porter-Cologne Water Quality Control Act), individual or general waivers of waste discharge requirements, enforcement actions, interagency agreements, regulations, basin plan amendments, and other policies for water quality control. Basin plan amendments can include adopting new or revised implementation measures, adopting prohibitions, or where appropriate, modifying standards. The priority ranking assigned to an impaired water will help the Regional Boards determine which impairments will be addressed in what order, according to available resources. The following sections describe the different forms in which an implementation plan may be adopted. The requirement to establish the TMDL or Loading Capacity for the pollutant does not change this analysis.

1. If the solution to an impairment will require multiple actions of the regional board that affect multiple persons, the solution must be implemented through a basin plan amendment or other regulation.

The requirement to use a basin plan amendment or other regulation to tie together numerous actions by the Regional Board stems from the California Administrative Procedures Act (APA). Consistent with the APA, any policy, plan, or guideline must be adopted as a regulation in the proper manner before it may be applied. The term "underground regulation" has been used to describe regulations that have not been properly adopted. The APA requirements ensure that persons subject to regulations have the opportunity to participate in the process during which the assumptions underlying an implementation plan are derived. If there were no such process, every regulated person would be subject to subsequent requirements based upon assumptions determined in a previous proceeding to which they were not a party. Accordingly, when an implementation plan would require multiple actions of the Regional Board, the plan itself must be adopted as a separate action to enable interested persons to comment upon the assumptions of the plan, before they are imposed, one by one, on members of the public at large. The Regional Boards generally use the basin planning process to adopt such plans.

2. If the solution to an impairment can be implemented with a single vote of the regional board, it may be implemented by that vote.

When an implementation plan can be adopted in a single regulatory action, such as a permit, a waiver, or an enforcement order, there is no legal requirement to first adopt the plan through a basin plan amendment. The plan may be adopted directly in that single regulatory action. The permittee (or other regulated party), and any other interested persons may challenge all assumptions underlying the implementation plan during that permitting (or other regulatory) action. In such circumstances, a basin plan amendment may be redundant. There may nonetheless be case-specific reasons why a Regional Board may choose to adopt an implementation plan by a basin plan amendment even if it could be implemented by a single vote

[3] This section is not intended to articulate an exhaustive list of tools available to the State Board or Regional Boards to address violations of standards. It is only intended to provide an example of possibilities.

of the Regional Board. There is no error in doing so should the Regional Board, for whatever reason, deem it desirable.

3. **If a solution to an impairment is being implemented by a regulatory action of another state, regional, local, or federal agency, and the Regional Board finds that the solution will actually correct the impairment, the Regional Board may certify that the regulatory action will correct the impairment and if applicable, implement the assumptions of the TMDL, in lieu of adopting a redundant program.**

The Regional Boards and State Board have the ultimate responsibility over water quality protection for all waters in the State. That responsibility does not imply that the State Board or a Regional Board must adopt redundant regulations when they determine that another regulatory body is adequately addressing a water quality problem. Like most state agencies, the State and Regional Boards generally have inadequate resources to timely address each and every water quality problem, and they must therefore, prioritize use of their resources to where they will do the most good. The fact, however, that another regulatory body is addressing a water quality problem is not alone a sufficient basis for a Regional Board to forego remedial action. The Regional Boards may neither delegate nor abdicate their responsibility over the waters of the State. Furthermore, they may not indefinitely defer taking necessary action if another agency is not properly addressing a problem. However, where another agency is constructively involved in efforts to address an impairment, the SWRCB and RWQCB should seek to take those efforts into account and, where appropriate, take advantage of these third-party efforts. Not only does this avoid unnecessary duplication of effort, it can leverage the SWRCB's and RWQCBs' limited staffing and financial resources.

Only when the Regional Board independently determines that a program being implemented by another regulatory entity will be adequate to correct the impairment, may the Regional Board rely upon that program. If a Regional Board makes such findings, and the findings are supported by substantial evidence in the administrative record, the Regional Board may certify that such program will implement the assumptions and requirements of the TMDL. Nothing in this policy should be construed as implying that State may avoid its responsibilities under Water Code sections 13263, 13269, 13377, or any other section of the Porter Cologne Act. In other words, this certification procedure shall not be deemed to allow the Regional Board to rely upon an alternative program where the Regional Board has a legal responsibility to implement its own requirements (such as issuing or waiving WDRs, or imposing certain effluent limitations in permits where such effluent limitations are required by law). The Regional Boards must perform their statutorily mandated responsibilities irrespective of whether another body is also regulating an activity.

Finally, if water quality problems persist, the Regional Board may not indefinitely defer enforcement action to other agencies. The RWQCB can ask the agency to enforce its own requirements, and if they fail to do so in a manner consistent with the assumptions and requirements of the TMDL, the Regional Board must exercise its independent authority.

4. If a solution to an impairment is being implemented by a non-regulatory action of another entity, and the regional board finds that the solution will actually correct the impairment, the regional board may certify that the non-regulatory action will correct the impairment and if applicable, implement the assumptions of the TMDL, in lieu of adopting a redundant program.

Similar to subsection c., above, the Regional Boards may rely upon actions by non-regulatory entities, if the Regional Board makes findings, supported by substantial evidence in the record, that a program being implemented by a non-regulatory entity will be adequate to correct the impairment. The fact that the Regional Boards have limited resources to accomplish their water quality mission can and should be used as a basis to encourage interested persons to undertake to abate impairments in the time before the Regional Boards may otherwise be able to address them. For instance, several RWQCBs have had experience working with industry groups, both formally and informally, to develop education and self-regulation within a particular industry. Other organizations have become active in NPS pollution prevention and land restoration efforts through CWA §319(h) grants, State bond grants, or the State Revolving Fund loan program. Many of the partnerships formed to take advantage of these financial resources have developed into self-sustaining third-party organizations. Some are affiliated with RCDs or have developed as part of the Coordinated Resource Management Planning (CRMP) approach; others are watershed groups or have developed their own organizational structure based on other geographic or industry-specific factors. In some situations the organizations accomplish their goals through a mix of public and private partnership efforts. The RWQCB staff has worked with these groups at various levels. The RWQCBs have broad flexibility and discretion in fashioning TMDL implementation programs, and are encouraged to be as innovative and creative as possible, and, as appropriate, to build upon Third-Party Programs

II. Process for adopting TMDLs

Section 1. Definitions:

a) Certification. As used in this policy, the term "certification" shall refer to a formal attestation by a Regional Board that a specific program of implementation, proposed by another regulatory or non-regulatory entity, will be consistent with the assumptions and requirements of a Regional Board-established TMDL that is set at a level that will ensure attainment of water quality standards, considering seasonal variations and a margin of safety. The term "certify" or "certifies" shall refer to the act of issuing the certification. A certification under this policy shall not be deemed to confer any other form of certificate or create any other form of certification, including but not limited to those described in sections 1288 or 1341 of Title 33 of the United States Code.

b) Loading capacity (LC). The greatest amount of loading that a water can receive without violating water quality standards.

c) Load allocation (LA). The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished. (40 CFR 130.2(g))

d) Waste Load allocation (WLA). The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation (40 CFR 130.2(h)).

e) Margin of Safety (MOS). The required component of the TMDL that accounts for the uncertainty about the relationship between the pollutant loads and the quality of the receiving waterbody (CWA section 303(d)(1)(C)). The MOS is normally incorporated into the conservative assumptions used to develop TMDLs (generally within the calculations or models) and approved by EPA either individually or in state/EPA agreements. This may be referred to as an "implicit" MOS. If the MOS needs to be larger than that which is allowed through the conservative assumptions, additional MOS can be added as a separate component of the TMDL (in this case, quantitatively, a TMDL = LC = WLA + LA + MOS). When the MOS is expressed as a specific reservation or assignment of part of the LC, it may be referred to as an "explicit" MOS.

f) Total Maximum Daily Load (TMDL). The sum of the individual wasteload allocations (WLAs) for point sources, load allocations (LAs) for nonpoint sources and natural background, and a margin of safety (MOS). TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measures that relate to a state's water quality standard.

Section 2. TMDLs are adopted with programs that implement correction of the impairment. TMDLs may be adopted in any of the following ways:

a) The TMDL may be adopted with and reflected in assumptions underlying a basin plan amendment, or another regulation or policy for water quality control that is designed to guide the Regional Board in correcting the impairment

b) The TMDL may be adopted with and reflected in assumptions underlying a permitting action, enforcement action, or another single regulatory action that is designed by itself to correct the impairment

c) The TMDL may be adopted with and reflected in a resolution or order that certifies either that:

i) A regulatory program has been adopted and is being implemented by another state, regional, local, or federal agency, and the program will correct the impairment; or

ii) A non-regulatory program is being implemented by another entity, and the program will correct the impairment.

d) Subsection c), above, shall not be construed as authorizing the Regional Board to delegate its authority over water quality control to another regulatory or non-regulatory entity. In all cases the Regional Board must determine the LC of the water body, and thus the load reductions necessary (considering seasonal variations and a margin of safety) to attain standards. The Regional Board must exercise its independent discretion to determine whether or not such alternative program is consistent with the LC. As such, any resolution under subsection c), above, must include specific findings, supported by substantial evidence in the record, that demonstrate each of the following about the regulatory or non-regulatory program:

i) The program is consistent with the assumptions and requirements of the TMDL;

ii) Sufficient mechanisms exist to provide reasonable assurances that the program will address the impairment in a reasonable period of time;

iii) Sufficient mechanisms to enforce the program exist or the regional board otherwise has sufficient confidence that the program will be implemented, such that further regulatory action in the form of a TMDL implementation plan by the Regional Board is unnecessary and would be redundant.

The above findings will require a fact-specific inquiry, dependent upon the type of impairment at issue, the identity, authority, and interests of those proposing the alternative program, and a variety of other factors. A lower confidence that the program will remain in place and will succeed can be mitigated by findings that sufficient fallback provisions exist to ensure that the impairment will be addressed in a reasonable period of time if the program is unsuccessful. Such fallback provisions could include instructions that staff commence a regulatory program under section 2.a) or 2.b) above at a time-certain if the impairment has not then been addressed.

e) Any certification under subdivision c) above, may only be issued and remains valid if:

i) A monitoring plan that addresses the impaired water has been adopted or approved by the Regional Board, and it is adhered to;

ii) The program contains conditions that require trackable progress, and such progress is tracked. A timeline must identify the point or points at which regulatory intervention and reversion to Regional Board direct oversight will be triggered if the pace of work lags or fails;

iii) The certification contains a provision setting forth that the it must be revoked by the Regional Board based upon its findings that the program has not been adequately implemented, is not achieving its goals, or is no longer adequate to restore water quality;

iv) For alternative programs intended to control non-point source contributions to an impairment, such programs comport with the requirements of the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, including, but not limited to, the Key Elements of an NPS Pollution Control Implementation Program.

Any interested party may file a petition with the State Board pursuant to Water Code section 13320 to review a Regional Board's failure to adequately ensure that the certification remains valid.

f) A Regional Board may delegate the authority to make certifications under section 2.c) to its Executive Officer for non-controversial TMDLs.

g) A certification under section 2.c), above, shall be valid only for the purpose of implementing TMDLs required by section 303(d) of the Clean Water Act. Such a certification shall not be deemed to constitute a "certification" as used in any other section of the Clean Water Act or as used in any other statute.

h) A certification under section 2 c), above, shall include a date upon which the certification will expire, if not reissued. On of before the expiration date, the Regional Board shall review the actions taken to address the impaired waters, and may renew the certification if significant progress has been made to correct the impairment, or the Regional Board may direct staff to develop another regulatory solution to the impairment.

i) When TMDLs are adopted under sections 2.b) or 2.c), above, the TMDLs must be referenced in the relevant Basin Plans before or during the next triennial review. (40 CFR 130.6(c).)

Section 3. State Board Review. The manner of review by the State Board shall depend upon and be consistent with the manner in which the TMDL has been adopted by the Regional Board.

a) Basin Plan amendments are subject to State Board approval pursuant to Water Code section 13245.

b) Permits and orders are subject to State Board review pursuant to Water Code section 13320.

c) Interested persons may file a petition for State Board reconsideration of any resolution or order issuing or denying a certification under section 2.c) above, in the manner described in Division 3, Chapter 28, Article 6, of Title 23 of the California Code of Regulations, however, any such petition shall be filed not later than 30 days after the date of the certification resolution or order by the Regional Board.

Section 4. Transmittal to USEPA and Request for Approval. The TMDL shall be transmitted to USEPA for approval as follows:

a) By the Division of Water Quality, for TMDLs adopted pursuant to Section 2.a).

i) The Division of Water Quality shall not transmit the TMDL for approval until the Office of Administrative Law has concluded any applicable review of the regulations implementing the TMDL.

b) By the Regional Board's Executive Officer, for TMDLs adopted pursuant to Section 2.b) or 2.c).

i) The Division of Water Quality shall prepare a standard transmittal form for use by the Regional Boards.

ii) The Regional Board shall not transmit the TMDL for approval until either the time to file a petition for review with the State Board has lapsed, or the State Board has dismissed any petitions challenging, or has otherwise approved, the certification or order. The Regional Board may transmit the TMDL for approval if a petition is pending and either no request for a stay has been filed, or the State Board has denied the request for a stay.

iii) A copy of each transmittal by a Regional Board shall be sent to the Division of Water Quality.

Section 5. Delisting.

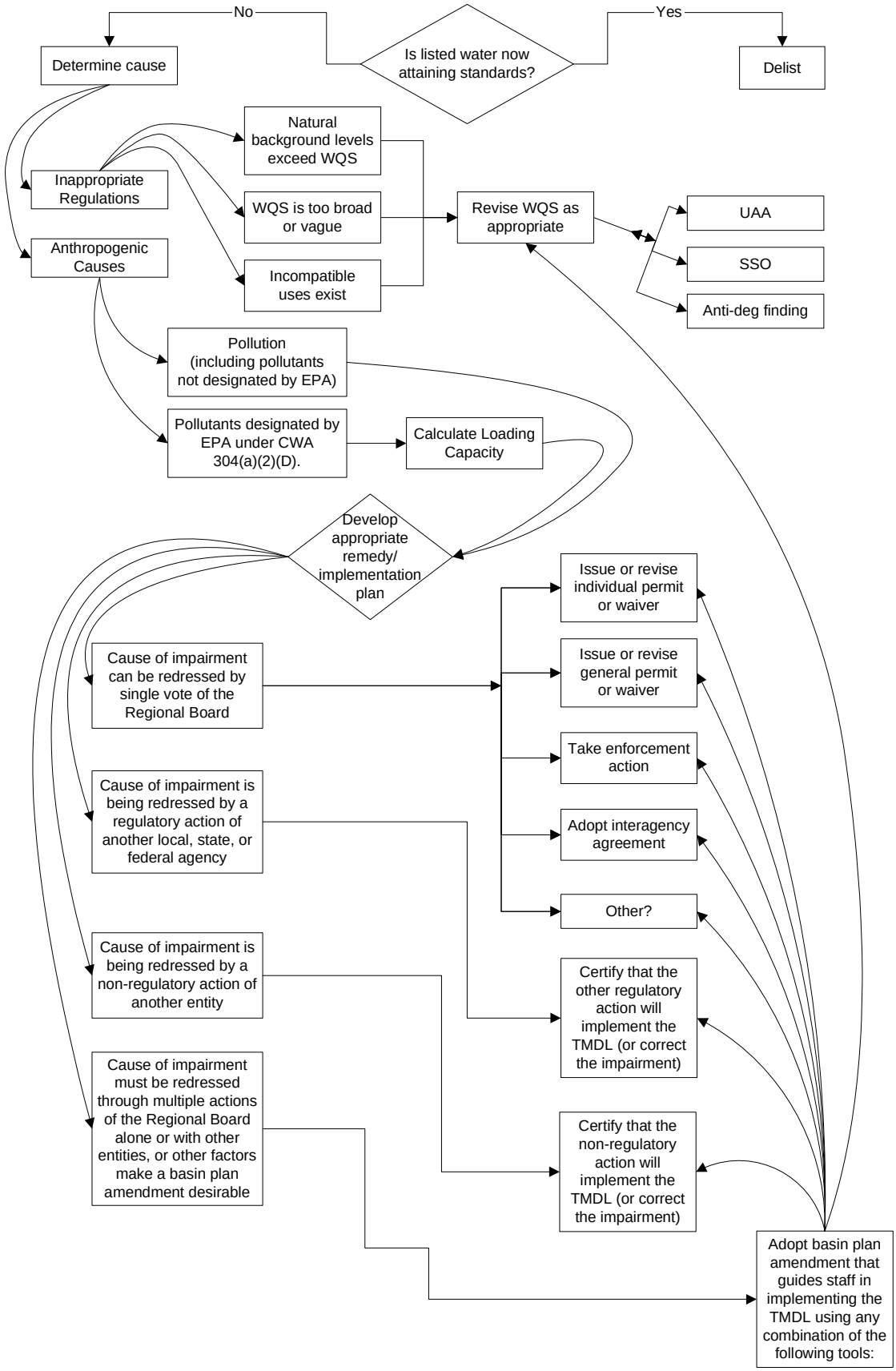
a) When a Regional Board determines that a water body is in fact attaining standards and is not threatened, the Regional Board may on its own motion entertain a resolution recommending the water body be delisted, in lieu of waiting until the next listing cycle. Given the process established by the 303(d) list policy to list and delist waters at regular intervals, failure to take action under this subsection in lieu of waiting until the next 303(d) listing cycle, shall not be deemed inappropriate or improper.

b) No water body shall be deemed delisted pursuant to section 5.a), above, until the State Board has approved the recommendation, and the decision has been transmitted to, and thereafter approved by, USEPA.

Section 6. Existing Authority Preserved.

a) Nothing in this policy shall affect the responsibility of the State Board or any Regional Board to implement the provisions of an applicable Basin Plan or other policy for water quality control, and to ensure that all water quality standards are attained, whether or not a TMDL has yet been established for a given water body. Nor shall any provision of this policy be construed as limiting the authority of the State Board or any Regional Board with respect to any of its existing regulatory tools or processes." Furthermore, where multiple actions of a Regional Board are simply using existing regulatory or enforcement authorities to IMPLEMENT one or more existing regulatory standards, and/or prohibitions, no underground regulation problem is presented and no rulemaking is required because the regulatory standard, and/or prohibition has already been adopted through the proper rulemaking or legislative process.

Attachment A: Impaired Waters Regulatory Decision Tree



Note: After implementation of the chosen regulatory tool(s) the practitioner would start at the beginning of the decision tree to evaluate the effectiveness of the implementation program and, as appropriate, choose an alternative regulatory option to address the water body impairment

ATTACHMENT F-3

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES

ORDER
NPDES NO. CAS000001

This Order was adopted by the State Water Resources Control Board on:	**April 1, 2014**
This Order shall become effective on:	**July 1, 2015**
This Order shall expire on:	**June 30, 2020**

IT IS HEREBY ORDERED that as of July 1, 2015 this Order supersedes Order 97-03-DWQ except for Order 97-03-DWQ's requirement to submit annual reports by July 1, 2015 and except for enforcement purposes. As of July 1, 2015, a Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

CERTIFICATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order, including its fact sheet, attachments, and appendices is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on April 1, 2014.

AYE:	Chair Felicia Marcus Vice Chair Frances Spivy-Weber Board Member Tam M. Doduc Board Member Steven Moore
NAY:	None
ABSENT:	Board Member Dorene D'Adamo
ABSTAIN:	None

Jeanine Townsend
Clerk to the Board

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I. FINDINGS

A. General Findings

The State Water Resources Control Board (State Water Board) finds that:

1. The Federal Clean Water Act (Clean Water Act) prohibits certain discharges of storm water containing pollutants except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. (33 U.S.C. §§ 1311, 1342 (also referred to as Clean Water Act §§ 301, 402).) The United States Environmental Protection Agency (U.S. EPA) promulgates federal regulations to implement the Clean Water Act's mandate to control pollutants in storm water discharges. (40 C.F.R. § 122, et seq.) The NPDES permit must require implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges (NSWDs). The NPDES permit must also include additional requirements necessary to implement applicable water quality objectives or water quality standards (water quality standards, collectively).

2. On November 16, 1990, U.S. EPA promulgated Phase I storm water regulations in compliance with section 402(p) of the Clean Water Act. (55 Fed. Reg. 47990, codified at 40 C.F.R. § 122.26.) These regulations require operators of facilities subject to storm water permitting (Dischargers), that discharge storm water associated with industrial activity (industrial storm water discharges), to obtain an NPDES permit. Section 402(p)(3)(A) of the Clean Water Act also requires that permits for discharges associated with industrial activity include requirements necessary to meet water quality standards.

3. Phase II storm water regulations[1] require permitting for storm water discharges from facilities owned and operated by a municipality with a population of less than 100,000. The previous exemption from the Phase I permitting requirements under section 1068 of the Intermodal Surface Transportation Efficiency Act of 1991 was eliminated.

4. This Order (General Permit) is an NPDES General Permit issued in compliance with section 402 of the Clean Water Act and shall take effect on July 1, 2015, provided that the Regional Administrator of U.S. EPA has no objection. If the U.S. EPA Regional Administrator has an objection, this General Permit will not become effective until the objection is withdrawn.

5. This action to adopt an NPDES General Permit is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000, et seq.) in accordance with section 13389 of the Water Code. (See *County of*

[1] U.S. EPA. Final NPDES Phase II Rule. <http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm>. [as of February 4, 2014]

Los Angeles v. California State Water Resources Control Bd. (2006) 143 Cal.App.4th 985.)

6. State Water Board Order 97-03-DWQ is rescinded as of the effective date of this General Permit (July 1, 2015) except for Order 97-03-DWQ's requirement that annual reports be submitted by July1, 2015 and except for enforcement purposes.

7. Effective July 1, 2015, the State Water Board and the Regional Water Quality Control Boards (Regional Water Boards) (Water Boards, collectively) will enforce the provisions herein.

8. This General Permit authorizes discharges of industrial storm water to waters of the United States, so long as those discharges comply with all requirements, provisions, limitations, and prohibitions in this General Permit.

9. Industrial activities covered under this General Permit are described in Attachment A.

10. The Fact Sheet for this Order is incorporated as findings of this General Permit.

11. Acronyms are defined in Attachment B and terms used in this General Permit are defined in Attachment C.

12. This General Permit regulates industrial storm water discharges and authorized NSWDs from specific categories of industrial facilities identified in Attachment A hereto, and industrial storm water discharges and authorized NSWDs from facilities designated by the Regional Water Boards to obtain coverage under this General Permit. This General Permit does not apply to industrial storm water discharges and NSWDs that are regulated by other individual or general NPDES permits

13. This General Permit does not preempt or supersede the authority of municipal agencies to prohibit, restrict, or control industrial storm water discharges and authorized NSWDs that may discharge to storm water conveyance systems or other watercourses within their jurisdictions as allowed by state and federal law.

14. All terms defined in the Clean Water Act, U.S. EPA regulations, and the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000, et seq.) will have the same definition in this General Permit unless otherwise stated.

15. Pursuant to 40 Code of Federal Regulations section 131.12 and State Water Board Resolution 68-16, which incorporates the requirements of 40 Code of Federal Regulations section 131.12 where applicable, the State Water Board finds that discharges in compliance with this General Permit will not result in the lowering of water quality to a level that does not achieve water quality objectives and protect beneficial uses. Any degradation of water quality from existing high quality water to a level that achieves water quality objectives and

protects beneficial uses is appropriate to support economic development. This General Permit's requirements constitute best practicable treatment or control for discharges of industrial storm water and authorized non-storm water discharges, and are therefore consistent with those provisions.

16. Compliance with any specific limits or requirements contained in this General Permit does not constitute compliance with any other applicable permits.

17. This General Permit requires that the Discharger certify and submit all Permit Registration Documents (PRDs) for Notice of Intent (NOI) and No Exposure Certification (NEC) coverage via the State Water Board's Storm Water Multiple Application and Report Tracking System (SMARTS) website. (See Attachment D for an example of the information required to be submitted in the PRDs via SMARTS.) All other documents required by this General Permit to be electronically certified and submitted via SMARTS can be submitted by the Discharger or by a designated Duly Authorized Representative on behalf of the Discharger. Electronic reporting is required to reduce the state's reliance on paper, to improve efficiency, and to make such General Permit documents more easily accessible to the public and the Water Boards.

18. All information provided to the Water Boards shall comply with the Homeland Security Act and all other federal law that concerns security in the United States, as applicable.

B. Industrial Activities Not Covered Under this General Permit

19. Discharges of storm water from areas on tribal lands are not covered under this General Permit. Storm water discharges from industrial facilities on tribal lands are regulated by a separate NPDES permit issued by U.S. EPA.

20. Discharges of storm water regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board are not covered under this General Permit, including the State Water Board NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.

21. Storm water discharges to combined sewer systems are not covered under this General Permit. These discharges must be covered by an individual permit. (40 C.F.R. § 122.26(a)(7).)

22. Conveyances that discharge storm water runoff combined with municipal sewage are not covered under this General Permit.

23. Discharges of storm water identified in Clean Water Act section 402(l) (33 U.S.C. § 1342(l)) are not covered under this General Permit.

24. Facilities otherwise subject to this General Permit but for which a valid Notice of Non-Applicability (NONA) has been certified and submitted via SMARTS, by the Entity are not covered under this General Permit. Entities (See Section XX.C.1 of this General Permit) who are claiming "No Discharge"

through the NONA shall meet the eligibility requirements and provide a No Discharge Technical Report in accordance with Section XX.C.

25. This General Permit does not authorize discharges of dredged or fill material regulated by the US Army Corps of Engineers under section 404 of the Clean Water Act and does not constitute a water quality certification under section 401 of the Clean Water Act.

C. Discharge Prohibitions

26. Pursuant to section 13243 of the Water Code, the State Water Board may specify certain conditions or areas where the discharge of waste, or certain types of waste, is prohibited.

27. With the exception of certain authorized NSWDs as defined in Section IV, this General Permit prohibits NSWDs. The State Water Board recognizes that certain NSWDs should be authorized because they are not generated by industrial activity, are not significant sources of pollutants when managed appropriately, and are generally unavoidable because they are related to safety or would occur regardless of industrial activity. Prohibited NSWDs may be authorized under other individual or general NPDES permits, or waste discharge requirements issued by the Water Boards.

28. Prohibited NSWDs are referred to as unauthorized NSWDs in this General Permit. Unauthorized NSWDs shall be either eliminated or permitted by a separate NPDES permit. Unauthorized NSWDs may contribute significant pollutant loads to receiving waters. Measures to control sources of unauthorized NSWDs such as spills, leakage, and dumping, must be addressed through the implementation of Best Management Practices (BMPs).

29. This General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the Water Boards.

30. Direct discharges of waste, including industrial storm water discharges, to Areas of Special Biological Significance (ASBS) are prohibited unless the Discharger has applied for and the State Water Board has granted an exception to the State Water Board's 2009 Water Quality Control Plan for Ocean Waters of California as amended by State Water Board Resolution 2012-0056 (California Ocean Plan)[2] allowing the discharge.

[2] State Water Resources Control Board. Ocean Standards Web Page. <http://www.waterboards.ca.gov/water_issues/programs/ocean/>. [as of February 4, 2014].
State Water Resources Control Board. Water Quality Control Plan for Ocean Waters of California 2009. <http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/2009_cop_adoptedeffective_usepa.pdf>. [as of February 4, 2014].
State Water Resources Control Board. Resolution 2012-0056. <http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0056.pdf>. [as of February 4, 2014].

D. Effluent Limitations

31. Section 301(b) of the Clean Water Act and 40 Code of Federal Regulations section require NPDES permits to include technology-based requirements at a minimum, and any more stringent effluent limitations necessary for receiving waters to meet applicable water quality standards. Clean Water Act section 402(p)(3)(A) requires that discharges of storm water runoff from industrial facilities comply with Clean Water Act section 301.

32. This General Permit requires control of pollutant discharges using BAT and BCT to reduce and prevent discharges of pollutants, and any more stringent effluent limitations necessary for receiving waters to meet applicable water quality standards.

33. It is not feasible for the State Water Board to establish numeric technology based effluent limitations for discharges authorized by this General Permit at this time. The rationale for this determination is discussed in detail in the Fact Sheet of this General Permit. Therefore, this General Permit requires Dischargers to implement minimum BMPs and applicable advanced BMPs as defined in Section X.H (collectively, BMPs) to comply with the requirements of this General Permit. This approach is consistent with U.S. EPA's 2008 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2008 MSGP).

34. 40 Code of Federal Regulations section 122.44(d) requires that NPDES permits include Water Quality Based Effluent Limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality standards for receiving waters.

35. Where numeric water quality criteria have not been established, 40 Code of Federal Regulations section 122.44(d)(1)(vi) provides that WQBELs may be established using U.S. EPA criteria guidance under section 304(a) of the Clean Water Act, a proposed state criteria or policy interpreting narrative criteria supplemented with other relevant information, and/or an indicator parameter.

36. This General Permit requires Dischargers to implement BMPs when necessary, in order to support attainment of water quality standards. The use of BMPs to control or abate the discharge of pollutants is authorized by 40 Code of Federal Regulations section 122.44(k)(3) because numeric effluent limitations are infeasible and implementation of BMPs is reasonably necessary to achieve effluent limitations and water quality standards, and to carry out the purposes and intent of the Clean Water Act. (40 C.F.R. § 122.44(k)(4).)

E. Receiving Water Limitations

37. This General Permit requires compliance with receiving water limitations based on water quality standards. The primary receiving water limitation requires that industrial storm water discharges and authorized NSWDs not

cause or contribute to an exceedance of applicable water quality standards. Water quality standards apply to the quality of the receiving water, not the quality of the industrial storm water discharge. Therefore, compliance with the receiving water limitations generally cannot be determined solely by the effluent water quality characteristics. If any Discharger's storm water discharge causes or contributes to an exceedance of a water quality standard, that Discharger must implement additional BMPs or other control measures in order to attain compliance with the receiving water limitation. Compliance with water quality standards may, in some cases, require Dischargers to implement controls that are more protective than controls implemented solely to comply with the technology-based requirements in this General Permit.

F. Total Maximum Daily Loads (TMDLs)

38. TMDLs relate to the maximum amount of a pollutant that a water body can receive and still attain water quality standards. A TMDL is defined as the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations) and non-point sources (load allocations), plus the contribution from background sources. (40 C.F.R. § 130.2(i).) Discharges addressed by this General Permit are considered to be point source discharges, and therefore must comply with effluent limitations that are "consistent with the assumptions and requirements of any available waste load allocation for the discharge prepared by the state and approved by U.S. EPA pursuant to 40 Code of Federal Regulations section 130.7. (40 C.F.R. § 122.44 (d)(1)(vii).) In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. Many TMDLs contained in water quality control plans include implementation requirements in addition to waste load allocations. Attachment E of this General Permit lists the watersheds with U.S. EPA-approved and U.S. EPA-established TMDLs that include requirements, including waste load allocations, for Dischargers covered by this General Permit.

39. The State Water Board recognizes that it is appropriate to develop TMDL-specific permit requirements derived from each TMDL's waste load allocation and implementation requirements, in order to provide clarity to Dischargers regarding their responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to public noticing requirements and a corresponding public comment period. Due to the number and variety of Dischargers subject to a wide range of TMDLs, development of TMDL-specific permit requirements for each TMDL listed in Attachment E will severely delay the reissuance of this General Permit. Because most of the TMDLs were established by the Regional Water Boards, and because some of the waste load allocations and/or implementation requirements may be shared by multiple Dischargers, the development of TMDL-specific permit requirements is best coordinated at the Regional Water Board level.

40. State and Regional Water Board staff will develop proposed TMDL-specific permit requirements (including monitoring and reporting requirements) for each of the TMDLs listed in Attachment E. After conducting a 30-day public comment period, the Regional Water Boards will submit to the State Water Board proposed TMDL-specific permit requirements for adoption by the State Water Board into this General Permit by July 1, 2016. The Regional Water Boards may also include proposed TMDL-specific monitoring requirements for inclusion in this General Permit, or may issue Regional Water Board orders pursuant to Water Code section 13383 requiring TMDL-specific monitoring. The proposed TMDL-specific permit requirements shall have no force or effect until adopted, with or without modification, by the State Water Board. Consistent with the 2008 MSGP, Dischargers are not required to take any additional actions to comply with the TMDLs listed in Attachment E until the State Water Board reopens this General Permit and includes TMDL-specific permit requirements, unless notified otherwise by a Regional Water Board.

41. The Regional Water Boards shall submit to the State Water Board the following information for each of the TMDLs listed in Attachment E:

    a. Proposed TMDL-specific permit, monitoring and reporting requirements applicable to industrial storm water discharges and NSWDs authorized under this General Permit, including compliance schedules and deliverables consistent with the TMDLs. TMDL-specific permit requirements are not limited by the BAT/BCT technology-based standards;

    b. An explanation of how the proposed TMDL-specific permit requirements, compliance schedules, and deliverables are consistent with the assumptions and requirements of any applicable waste load allocation and implement each TMDL; and,

    c. Where a BMP-based approach is proposed, an explanation of how the proposed BMPs will be sufficient to implement applicable waste load allocations.

42. Upon receipt of the information described in Finding 40, and no later than July 1, 2016, the State Water Board will issue a public notice and conduct a public comment period for the reopening of this General Permit to amend Attachment E, the Fact Sheet, and other provisions as necessary for incorporation of TMDL-specific permit requirements into this General Permit. Attachment E may also be subsequently reopened during the term of this General Permit to incorporate additional TMDL-specific permit requirements.

G. Discharges Subject to the California Ocean Plan

43. On October 16, 2012 the State Water Board amended the California Ocean Plan. The amended California Ocean Plan requires industrial storm water dischargers with outfalls discharging to ocean waters to comply with the

California Ocean Plan's model monitoring provisions. These provisions require Dischargers to: (a) monitor runoff for specific parameters at all outfalls from two storm events per year, and collect at least one representative receiving water sample per year, (b) conduct specified toxicity monitoring at certain types of outfalls at a minimum of once per year, and (c) conduct marine sediment monitoring for toxicity under specific circumstances. The California Ocean Plan provides conditions under which some of the above monitoring provisions may be waived by the Water Boards.

44. This General Permit requires Dischargers with outfalls discharging to ocean waters that are subject to the model monitoring provisions of the California Ocean Plan to develop and implement a monitoring plan in compliance with those provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers that have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by July 1, 2015 (the effective date of this General Permit), or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.

45. The California Ocean Plan prohibits the direct discharge of waste to ASBS. ASBS are defined in California Ocean Plan as "those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable."

46. The California Ocean Plan authorizes the State Water Board to grant an exception to Ocean Plan provisions where the board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.

47. On March 20, 2012, the State Water Board adopted Resolution 2012-0012 which contains exceptions to the California Ocean Plan for specific discharges of storm water and non-point sources. This resolution also contains the special protections that are to be implemented for those discharges to ASBS.

48. This General Permit requires Dischargers who have been granted an exception to the Ocean Plan authorizing the discharges to ASBS by the State Water Board to comply with the requirements contained in Section VIII.B of this General Permit.

H. Training

49. To improve compliance and maintain consistent implementation of this General Permit, Dischargers are required to designate a Qualified Industrial Storm Water Practitioner (QISP) for each facility the Discharger operates that has entered Level 1 status in the Exceedance Response Action (ERA) process as described in Section XII of this General Permit. A QISP may be assigned to more than one facility. In order to qualify as a QISP, a State

Water Board-sponsored or approved training course must be completed. A competency exam may be required by the State Water Board to demonstrate sufficient knowledge of the QISP course material.

50. A QISP must assist the Discharger in completing the Level 1 status and Level 2 status ERA requirements as specified in Section XII of this General Permit. A QISP is also responsible for assisting New Dischargers that will be discharging to an impaired water body with a 303(d) listed impairment, demonstrate eligibility for coverage through preparing the data and/or information required in Section VII.B.

51. A Compliance Group Leader, as defined in Section XIV of this General Order must complete a State Water Board sponsored or approved training program for Compliance Group Leaders.

52. All engineering work subject to the Professional Engineers Act (Bus. & Prof. Code § 6700, et seq.) and required by this General Permit shall be performed by a California licensed professional engineer.

53. California licensed professional civil, industrial, chemical, and mechanical engineers and geologists have licenses that have professional overlap with the topics of this General Permit. The California Department of Consumer Affairs, Board for Professional Engineers, Land Surveyors and Geologists (CBPELSG) provides the licensure and regulation of professional civil, industrial, chemical, and mechanical engineers and professional geologists in California. The State Water Board is developing a specialized self-guided State Water Board-sponsored registration and training program specifically for these CPBELSG licensed engineers and geologists in good standing with CBPELSG.

I. Storm Water Pollution Prevention Plan (SWPPP) Requirements

54. This General Permit requires the development of a site-specific SWPPP in accordance with Section X of this General Permit. The SWPPP must include the information needed to demonstrate compliance with the requirements of this General Permit. The SWPPP must be submitted electronically via SMARTS, and a copy be kept at the facility. SWPPP revisions shall be completed in accordance with Section X.B of this General Permit

J. Sampling, Visual Observations, Reporting and Record Keeping

55. This General Permit complies with 40 Code of Federal Regulations section 122.44(i), which establishes monitoring requirements that must be included in storm water permits. Under this General Permit, Dischargers are required to: (a) conduct an Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation) to identify areas of the facility contributing pollutants to industrial storm water discharges, (b) evaluate whether measures to reduce or prevent industrial pollutant loads identified in the Discharger's SWPPP are adequate and properly implemented in accordance with the terms of this

General Permit, and (c) determine whether additional control measures are needed.

56. This General Permit contains monitoring requirements that are necessary to determine whether pollutants are being discharged, and whether response actions are necessary. Data and information resulting from the monitoring will assist in Dischargers' evaluations of BMP effectiveness and compliance with this General Permit. Visual observations are one form of monitoring. This General Permit requires Dischargers to perform a variety of visual observations designed to identify pollutants in industrial storm water discharges and their sources. To comply with this General Permit Dischargers shall: (1) electronically self-report any violations via SMARTS, (2) comply with the Level 1 status and Level 2 status ERA requirements, when applicable, and (3) adequately address and respond to any Regional Water Board comments on the Discharger's compliance reports.

57. Dischargers that meet the requirements of the No Exposure Certification (NEC) Conditional Exclusion set forth in Section XVII of this General Permit are exempt from the SWPPP requirements, sampling requirements, and visual observation requirements in this General Permit.

K. Facilities Subject to Federal Storm Water Effluent Limitation Guidelines (ELGs)

58. U.S. EPA regulations at 40 Code of Federal Regulations Chapter I Subchapter N (Subchapter N) establish technology-based Effluent Limitation Guidelines and New Source Performance Standards (ELGs) for industrial storm water discharges from facilities in specific industrial categories. For these facilities, compliance with the BAT/BCT and ELG requirements constitutes compliance with technology-based requirements of this General Permit.

59. 40 Code of Federal Regulations section 122.44(i)(3) and (4) require storm water permits to require at least one Annual Evaluation and any monitoring requirements for applicable ELGs in Subchapter N. This General Permit requires Dischargers to comply with all applicable ELG requirements found in Subchapter N.

L. Sampling and Analysis Reduction

60. This General Permit reduces the number of qualifying sampling events required to be sampled each year when the Discharger demonstrates: (1) consistent compliance with this General Permit,(2) consistent effluent water quality sampling, and (3) analysis results that do not exceed numerical action levels.

M. Role of Numeric Action Levels (NALs) and Exceedance Response Actions (ERAs)

61. This General Permit incorporates a multiple objective performance measurement system that includes NALs, new comprehensive training requirements, Level 1 ERA Reports, Level 2 ERA Technical Reports, and Level 2 ERA Action Plans. Two objectives of the performance measurement system are to inform Dischargers, the public and the Water Boards on: (1) the overall pollutant control performance at any given facility, and (2) the overall performance of the industrial statewide storm water program. Additionally, the State Water Board expects that this information and assessment process will provide information necessary to determine the feasibility of numeric effluent limitations for industrial dischargers in the next reissuance of this General Permit, consistent with the State Water Board Storm Water Panel of Experts' June 2006 Recommendations.[3]

62. This General Permit contains annual and instantaneous maximum NALs. The annual NALs are established as the 2008 MSGP benchmark values, and are applicable for all parameters listed in Table 2. The instantaneous maximum NALs are calculated from a Water Board dataset, and are only applicable for Total Suspended Solids (TSS), Oil and Grease (O&G), and pH. An NAL exceedance is determined as follows:

    a. For annual NALs, an exceedance occurs when the average of all analytical results from all samples taken at a facility during a reporting year for a given parameter exceeds an annual NAL value listed in Table 2 of this General Permit; or,

    b. For the instantaneous maximum NALs, an exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the instantaneous maximum NAL value (for Total Suspended Solids, and Oil and Grease), or are outside of the instantaneous maximum NAL range (for pH) listed in Table 2 of this General Permit. For the purposes of this General Permit, the reporting year is July 1 through June 30.

63. The NALs are not intended to serve as technology-based or water quality-based numeric effluent limitations. The NALs are not derived directly from either BAT/BCT requirements or receiving water objectives. NAL exceedances defined in this General Permit are not, in and of themselves, violations of this General Permit. A Discharger that does not fully comply with the Level 1 status and/or Level 2 status ERA requirements, when required by the terms of this General Permit, is in violation of this General Permit.

64. ERAs are designed to assist Dischargers in complying with this General Permit. Dischargers subject to ERAs must evaluate the effectiveness of their

[3] State Water Board Storm Water Panel of Experts, The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 19, 2006) <http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/numeric/swpanel_final_report.pdf> [as of February 4, 2014].

BMPs being implemented to ensure they are adequate to achieve compliance with this General Permit.

65. U.S. EPA regulations at Subchapter N establish ELGs for storm water discharges from facilities in 11 industrial categories. Dischargers subject to these ELGs are required to comply with the applicable requirements.

66. Exceedances of the NALs that are attributable solely to pollutants originating from non-industrial pollutant sources (such as run-on from adjacent facilities, non-industrial portions of the Discharger's property, or aerial deposition) are not a violation of this General Permit because the NALs are designed to provide feedback on industrial sources of pollutants. Dischargers may submit a Non-Industrial Source Pollutant Demonstration as part of their Level 2 ERA Technical Report to demonstrate that the presence of a pollutant causing an NAL exceedance is attributable solely to pollutants originating from non-industrial pollutant sources.

67. A Discharger who has designed, installed, and implemented BMPs to reduce or prevent pollutants in industrial storm water discharges in compliance with this General Permit may submit an Industrial Activity BMPs Demonstration, as part of their Level 2 ERA Technical Report.

68. This General Permit establishes design storm standards for all treatment control BMPs. These design standards are directly based on the standards in State Water Board Order 2000-0011 regarding Standard Urban Storm Water Mitigation Plans (SUSMPs). These design standards are generally expected to be consistent with BAT/BCT, to be protective of water quality, and to be effective for most pollutants. The standards are intended to eliminate the need for most Dischargers to further treat/control industrial storm water discharges that are unlikely to contain pollutant loadings that exceed the NALs set forth in this General Permit.

N. Compliance Groups

69. Compliance Groups are groups of Dischargers (Compliance Group Participants) that share common types of pollutant sources and industrial activity characteristics. Compliance Groups provide an opportunity for the Compliance Group Participants to combine resources and develop consolidated Level 1 ERA Reports for Level 1 NAL exceedances and appropriate BMPs for implementation in response to Level 2 status ERA requirements that are representative of the entire Compliance Group. Compliance Groups also provide the Water Boards and the public with valuable information as to how industrial storm water discharges are affected by non-industrial background pollutant sources (including natural background) and geographic locations. When developing the next reissuance of this General Permit, the State Water Board expects to have a better understanding of the feasibility and benefits of sector-specific and watershed-based permitting alternatives, which may include technology- or water quality-based numeric effluent limitations. The effluent data, BMP performance data

and other information provided from Compliance Groups' consolidated reporting will further assist the State Water Board in addressing sector-specific and watershed-based permitting alternatives.

O. Conditional Exclusion – No Exposure Certification (NEC)

70. Pursuant to U.S. EPA Phase II regulations, all Dischargers subject to this General Permit may qualify for a conditional exclusion from specific requirements if they submit a NEC demonstrating that their facilities have no exposure of industrial activities and materials to storm water discharges.

71. This General Permit requires Dischargers who seek the NEC conditional exclusion to obtain coverage in accordance with Section XVII of this General Permit. Dischargers that meet the requirements of the NEC are exempt from the SWPPP, sampling requirements, and monitoring requirements in this General Permit.

72. Dischargers seeking NEC coverage are required to certify and submit the applicable permit registration documents. Annual inspections, re-certifications, and fees are required in subsequent years. Light industry facility Dischargers excluded from coverage under the previous permit (Order 97-03-DWQ) must obtain the appropriate coverage under this General Permit. Failure to comply with the Conditional Exclusion conditions listed in this General Permit may lead to enforcement for discharging without a permit pursuant to sections 13385 or 13399.25, et seq., of the Water Code. A Discharger with NEC coverage that anticipates a change (or changes) in circumstances that would lead to exposure should register for permit coverage prior to the anticipated changes.

P. Special Requirements for Facilities Handling Plastic Materials

73. Section 13367 of the Water Code requires facilities handling preproduction plastic to implement specific BMPs aimed at minimizing discharges of such materials. The definition of Plastic Materials for the purposes of this General Permit includes the following types of sources of Plastic Materials: virgin and recycled plastic resin pellets, powders, flakes, powdered additives, regrind, dust, and other types of preproduction plastics with the potential to discharge or migrate off-site.

Q. Regional Water Board Authorities

74. Regional Water Boards are primarily responsible for enforcement of this General Permit. This General Permit recognizes that Regional Water Boards have the authority to protect the beneficial uses of receiving waters and prevent degradation of water quality in their region. As such, Regional Water Boards may modify monitoring requirements and review, comment, approve or disapprove certain Discharger submittals required under this General Permit.

IT IS HEREBY ORDERED that all Dischargers subject to this General Permit shall comply with the following conditions and requirements.

II. RECEIVING GENERAL PERMIT COVERAGE

A. Certification

1. For Storm Water Multiple Application and Report Tracking System (SMARTS) electronic account management and security reasons, as well as enforceability of this General Permit, the Discharger's Legally Responsible Person (LRP) of an industrial facility seeking coverage under this General Permit shall certify and submit all Permit Registration Documents (PRDs) for Notice of Intent (NOI) or No Exposure Certification (NEC) coverage. All other documents shall be certified and submitted via SMARTS by the Discharger's (LRP) or by their Duly Authorized Representative in accordance with the Electronic Signature and Certification Requirements in Section XXI.K. All documents required by this General Permit that are certified and submitted via SMARTS shall be in accordance with Section XXI.K.

2. Hereinafter references to certifications and submittals by the Discharger refer to the Discharger's LRP and their Duly Authorized Representative.

B. Coverages

This General Permit includes requirements for two (2) types of permit coverage, NOI coverage and NEC coverage. State Water Board Order 97-03-DWQ (previous permit) remains in effect until July 1, 2015. When PRDs are certified and submitted and the annual fee is received, the State Water Board will assign the Discharger a Waste Discharger Identification (WDID) number.

1. General Permit Coverage (NOI Coverage)

   a. Dischargers that discharge storm water associated with industrial activity to waters of the United States are required to meet all applicable requirements of this General Permit.

   b. The Discharger shall register for coverage under this General Permit by certifying and submitting PRDs via SMARTS (http://smarts.waterboards.ca.gov), which consist of:

      i. A completed NOI and signed certification statement;

      ii. A copy of a current Site Map from the Storm Water Pollution Prevention Plan (SWPPP) in Section X.E;

      iii. A SWPPP (see Section X); and,

c. The Discharger shall pay the appropriate Annual Fee in accordance with California Code of Regulations, title 23, section 2200 et seq.[4]

2. General Permit Coverage (NEC Coverage)

a. Dischargers that certify their facility has no exposure of industrial activities or materials to storm water in accordance with Section XVII qualify for NEC coverage and are not required to comply with the SWPPP or monitoring requirements of this General Permit.

b. Dischargers who qualify for NEC coverage shall conduct one Annual Facility Comprehensive Compliance Evaluation (Annual Evaluation) as described in Section XV, pay an annual fee, and certify annually that their facilities continue to meet the NEC requirements.

c. The Discharger shall submit the following PRDs on or before October 1, 2015 for NEC coverage via SMARTS:

i. A completed NEC Form (Section XVII.F.1) and signed certification statement (Section XVII.H);

ii. A completed NEC Checklist (Section XVII.F.2); and

iii. A current Site Map consistent with requirements in Section X.E.;

d. The Discharger shall pay the appropriate annual fee in accordance with California Code of Regulations, title 23, section 2200 et seq.[5]

3. General PRD Requirements

a. Site Maps

Dischargers registering for NOI or NEC coverage shall prepare a site map(s) as part of their PRDs in accordance with Section X.E. A separate copy of the site map(s) is required to be in the SWPPP. If there is a significant change in the facility layout (e.g., new building, change in storage locations, boundary change, etc.) a revision to the site map is required and shall be certified and submitted via SMARTS.

b. A Discharger shall submit a single set of PRDs for coverage under this General Permit for multiple industrial activities occurring at the same facility.

c. Any information provided to the Water Boards by the Discharger shall comply with the Homeland Security Act and other federal law that

[4] Annual fees must be mailed or sent electronically using the State Water Boards' Electronic Funds Transfer (EFT) system in SMARTS.
[5] See footnote 4.

addresses security in the United States; any information that does not comply should not be submitted in the PRDs. The Discharger must provide justification to the Regional Water Board regarding redacted information within any submittal.

d. Dischargers may redact trade secrets from information that is submitted via SMARTS. Dischargers who certify and submit redacted information via SMARTS must include a general description of the redacted information and the basis for the redaction in the version that is submitted via SMARTS. Dischargers must submit complete and un-redacted versions of the information that are clearly labeled "CONFIDENTIAL" to the Regional Water Board within 30 days of the submittal of the redacted information. All information labeled "CONFIDENTIAL" will be maintained by the Water Boards in a separate, confidential file.

4. Schedule for Submitting PRDs - Existing Dischargers Under the Previous Permit.

a. Existing Dischargers[6] with coverage under the previous permit shall continue coverage under the previous permit until July 1, 2015. All waste discharge requirements and conditions of the previous permit are in effect until July 1, 2015.

b. Existing Dischargers with coverage under the previous permit shall register for NOI coverage by July 1, 2015 or for NEC coverage by October 1, 2015. Existing Dischargers previously listed in Category 10 (Light Industry) of the previous permit, and continue to have no exposure to industrial activities and materials, have until October 1, 2015 to register for NEC coverage.

c. Existing Dischargers with coverage under the previous permit, that do not register for NOI coverage by July 1, 2015, may have their permit coverage administratively terminated as soon as July 1, 2015.

d. Existing Dischargers with coverage under the previous permit that are eligible for NEC coverage but do not register for NEC coverage by October 1, 2015 may have their permit coverage administratively terminated as soon as October 1, 2015.

e. Existing Dischargers shall continue to comply with the SWPPP requirements in State Water Board Order 97-03-DWQ up to, but no later than, June 30, 2015.

[6] Existing Dischargers are Dischargers with an active Notice of Intent (permit coverage) under the previous permit (97-03-DWQ) prior to the effective date of this General Permit.

f. Existing Dischargers shall implement an updated SWPPP in accordance with Section X by July 1, 2015.

g. Existing Dischargers that submit a Notice of Termination (NOT) under the previous permit prior to July 1, 2015 and that receive NOT approval from the Regional Water Board are not subject to this General Permit unless they subsequently submitted new PRDs.

5. Schedule for Submitting PRDs - New Dischargers Obtaining Coverage On or After July 1, 2015

   New Dischargers registering for NOI coverage on or after July 1, 2015 shall certify and submit PRDs via SMARTS at least seven (7) days prior to commencement of industrial activities or on July 1, 2015, whichever comes later.

   a. New Dischargers registering for NEC coverage shall electronically certify and submit PRDs via SMARTS by October 1, 2015, or at least seven (7) days prior to commencement of industrial activities, whichever is later.

C. Termination and Changes to General Permit Coverage

1. Dischargers with NOI or NEC coverage shall request termination of coverage under this General Permit when either (a) operation of the facility has been transferred to another entity, (b) the facility has ceased operations, completed closure activities, and removed all industrial related pollutants, or (c) the facility's operations have changed and are no longer subject to the General Permit. Dischargers shall certify and submit a Notice of Termination via SMARTS. Until a valid NOT is received, the Discharger remains responsible for compliance with this General Permit and payment of accrued annual fees.

2. Whenever there is a change to the facility location, the Discharger shall certify and submit new PRDs via SMARTS. When ownership changes, the prior Discharger (seller) must inform the new Discharger (buyer) of the General Permit applications and regulatory coverage requirements. The new Discharger must certify and submit new PRDs via SMARTS to obtain coverage under this General Permit.

3. Dischargers with NOI coverage where the facility qualifies for NEC coverage in accordance with Section XVII of this General Permit, may register for NEC coverage via SMARTS. Such Dischargers are not required to submit an NOT to cancel NOI coverage.

4. Dischargers with NEC coverage, where changes in the facility and/or facility operations occur, which result in NOI coverage instead of NEC coverage, shall register for NOI coverage via SMARTS. Such Dischargers are not required to submit an NOT to cancel NEC coverage.

5. Dischargers shall provide additional information supporting an NOT, or revise their PRDs via SMARTS, upon request by the Regional Water Board.

6. Dischargers that are denied approval of a submitted NOT or registration for NEC coverage by the Regional Water Board, shall continue compliance with this General Permit under their existing NOI coverage.

7. New Dischargers (Dischargers with no previous NOI or NEC coverage) shall register for NOI coverage if the Regional Water Board denies NEC coverage.

D. Preparation Requirements

1. The following documents shall be certified and submitted by the Discharger via SMARTS:

   a. Annual Reports (Section XVI) and SWPPPs (Section X);

   b. NOTs;

   c. Sampling Frequency Reduction Certification (Section XI.C.7);

   d. Level 1 ERA Reports (Section XII.C) prepared by a QISP;

   e. Level 2 ERA Technical Reports and Level 2 ERA Action Plans (Sections XII.D.1-2) prepared by a QISP; and,

   f. SWPPPs for inactive mining operations as described in Section XIII, signed (wet signature and license number) by a California licensed professional engineer.

2. The following documents shall be signed (wet signature and license number) by a California licensed professional engineer:

   a. Calculations for Dischargers subject to Subchapter N in accordance with Section XI.D;

   b. Notice of Non-Applicability (NONA) Technical Reports described in Section XX.C for facilities that are engineered and constructed to have contained the maximum historic precipitation event (or series of events) using the precipitation data collected from the National Oceanic and Atmospheric Agency's website;

   c. NONA Technical Reports described in Section XX.C for facilities located in basins or other physical locations that are not tributaries or hydrologically connected to waters of the United States; and,

   d. SWPPPs for inactive mines described in Section XIII.

III. DISCHARGE PROHIBITIONS

A. All discharges of storm water to waters of the United States are prohibited except as specifically authorized by this General Permit or another NPDES permit.

B. Except for non-storm water discharges (NSWDs) authorized in Section IV, discharges of liquids or materials other than storm water, either directly or indirectly to waters of the United States, are prohibited unless authorized by another NPDES permit. Unauthorized NSWDs must be either eliminated or authorized by a separate NPDES permit.

C. Industrial storm water discharges and authorized NSWDs that contain pollutants that cause or threaten to cause pollution, contamination, or nuisance as defined in section 13050 of the Water Code, are prohibited.

D. Discharges that violate any discharge prohibitions contained in applicable Regional Water Board Water Quality Control Plans (Basin Plans), or statewide water quality control plans and policies are prohibited.

E. Discharges to ASBS are prohibited in accordance with the California Ocean Plan, unless granted an exception by the State Water Board and in compliance with the Special Protections contained in Resolution 2012-0012.

F. Industrial storm water discharges and NSWDs authorized by this General Permit that contain hazardous substances equal to or in excess of a reportable quantity listed in 40 Code of Federal Regulations sections 110.6, 117.21, or 302.6 are prohibited.

IV. AUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

A. The following NSWDs are authorized provided they meet the conditions of Section IV.B:

1. Fire-hydrant and fire prevention or response system flushing;

2. Potable water sources including potable water related to the operation, maintenance, or testing of potable water systems;

3. Drinking fountain water and atmospheric condensate including refrigeration, air conditioning, and compressor condensate;

4. Irrigation drainage and landscape watering provided all pesticides, herbicides and fertilizers have been applied in accordance with the manufacturer's label;

5. Uncontaminated natural springs, groundwater, foundation drainage, footing drainage;

6. Seawater infiltration where the seawater is discharged back into the source: and,

7. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains).

B. The NSWDs identified in Section IV.A are authorized by this General Permit if the following conditions are met:

1. The authorized NSWDs are not in violation of any Regional Water Board Water Quality Control Plans (Basin Plans) or other requirements, or statewide water quality control plans or policies requirement;

2. The authorized NSWDs are not in violation of any municipal agency ordinance or requirements;

3. BMPs are included in the SWPPP and implemented to:

   a. Reduce or prevent the contact of authorized NSWDs with materials or equipment that are potential sources of pollutants;

   b. Reduce, to the extent practicable, the flow or volume of authorized NSWDs;

   c. Ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of a water quality standards; and,

   d. Reduce or prevent discharges of pollutants in authorized NSWDs in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

4. The Discharger conducts monthly visual observations (Section XI.A.1) of NSWDs and sources to ensure adequate BMP implementation and effectiveness; and,

5. The Discharger reports and describes all authorized NSWDs in the Annual Report.

C. Firefighting related discharges are not subject to this General Permit and are not subject to the conditions of Section IV.B. These discharges, however, may be subject to Regional Water Board enforcement actions under other sections of the Water Code. Firefighting related discharges that are contained and are later discharged may be subject to municipal agency ordinances and/or Regional Water Board requirements.

V. EFFLUENT LIMITATIONS

A. Dischargers shall implement BMPs that comply with the BAT/BCT requirements of this General Permit to reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

B. Industrial storm water discharges from facilities subject to storm water ELGs in Subchapter N shall not exceed those storm water ELGs. The ELGs for industrial storm water discharges subject to Subchapter N are in Attachment F of this General Permit.

C. Dischargers located within a watershed for which a Total Maximum Daily Load (TMDL) has been approved by U.S. EPA, shall comply with any applicable TMDL-specific permit requirements that have been incorporated into this General Permit in accordance with Section VII.A. Attachment E contains a reference list of potential TMDLs that may apply to Dischargers subject to this General Permit.

VI. RECEIVING WATER LIMITATIONS

A. Dischargers shall ensure that industrial storm water discharges and authorized NSWDs do not cause or contribute to an exceedance of any applicable water quality standards in any affected receiving water.

B. Dischargers shall ensure that industrial storm water discharges and authorized NSWDs do not adversely affect human health or the environment.

C. Dischargers shall ensure that industrial storm water discharges and authorized NSWDs do not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

VII. TOTAL MAXIMUM DAILY LOADS (TMDLs)

A. Implementation

1. The State Water Board shall reopen and amend this General Permit, including Attachment E, the Fact Sheet and other applicable Permit provisions as necessary, in order to incorporate TMDL-specific permit requirements, as described in Findings 38 through 42. Once this General Permit is amended, Dischargers shall comply with the incorporated TMDL-specific permit requirements in accordance with any specified compliance schedule(s). TMDL-specific compliance dates that exceed the term of this General Permit may be included for reference, and are enforceable in the event that this General Permit is administratively extended or reissued.

2. The State Water Board may, at its discretion, reopen this General Permit to add TMDL-specific permit requirements to Attachment E, or to incorporate new TMDLs adopted during the term of this General Permit that include requirements applicable to Dischargers covered by this General Permit.

B. New Dischargers applying for NOI coverage under this General Permit that will be discharging to a water body with a 303(d) listed impairment are ineligible for coverage unless the Discharger submits data and/or information, prepared by a QISP, demonstrating that:

1. The Discharger has eliminated all exposure to storm water of the pollutant(s) for which the water body is impaired, has documented the procedures taken to prevent exposure onsite, and has retained such documentation with the SWPPP at the facility;

2. The pollutant for which the water body is impaired is not present at the Discharger's facility, and the Discharger has retained documentation of this finding with the SWPPP at the facility; or,

3. The discharge of any listed pollutant will not cause or contribute to an exceedance of a water quality standard. This is demonstrated if: (1) the discharge complies with water quality standard at the point of discharge, or (2) if there are sufficient remaining waste load allocations in an approved TMDL and the discharge is controlled at least as stringently as similar discharges subject to that TMDL.

VIII. DISCHARGES SUBJECT TO THE CALIFORNIA OCEAN PLAN

A. Discharges to Ocean Waters

1. Dischargers with outfalls discharging to ocean waters that are subject to the model monitoring provisions of the California Ocean Plan shall develop and implement a monitoring plan in compliance with those provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by July 1, 2015, or seven (7) days prior to commencing of operations, whichever is later, are ineligible to obtain coverage under this General Permit.

2. Dischargers are ineligible for the methods and exceptions provided in Section XI.C of this General permit for any of the outfalls discharging to ocean waters subject to the model monitoring provisions of the California Ocean Plan.

B. Discharge Granted an Exceptions for Areas of Special Biological Significance (ASBS)

Dischargers who were granted an exception to the California Ocean Plan prohibition against direct discharges of waste to an ASBS pursuant to Resolution 2012-0012[7] amended by Resolution 2012-0031[8] shall comply with the conditions and requirements set forth in Attachment G of this General Permit. Any Discharger that applies for and is granted an exception to the California Ocean Plan prohibition after July 1, 2013 shall comply with the conditions and requirements set forth in the granted exception.

IX. TRAINING QUALIFICATIONS

A. General

1. A Qualified Industrial Storm Water Practitioner (QISP) is a person (either the Discharger or a person designated by the Discharger) who has completed a State Water Board-sponsored or approved QISP training course[9], and has registered as a QISP via SMARTS. Upon completed registration the State Water Board will issue a QISP identification number.

2. The Executive Director of the State Water Board or an Executive Officer of a Regional Water Board may rescind any QISP's registration if it is found that the QISP has repeatedly demonstrated an inadequate level of performance in completing the QISP requirements in this General Permit. An individual whose QISP registration has been rescinded may request that the State Water Board review the rescission. Any request for review must be received by the State Water Board no later than 30 days of the date that the individual received written notice of the rescission.

3. Dischargers with Level 1 status shall:

   a. Designate a person to be the facility's QISP and ensure that this person has attended and satisfactorily completed the State Water Board-sponsored or approved QISP training course.

   b. Ensure that the facility's designated QISP provides sufficient training to the appropriate team members assigned to perform activities required by this General Permit.

[7] State Water Resources Control Board. Resolution 2012-0012. <http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0012.pdf>. [as of February 4, 2014].
[8] State Water Resources Control Board. Resolution 2012-0031. <http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0031.pdf>. [as of February 4, 2014].
[9] A specialized self-guided State Water Board-sponsored registration and training program will be available as an option for CPBELSG licensed professional civil, mechanical, industrial, and chemical engineers and professional geologists by the effective date of this General Permit.

X. Storm Water Pollution Prevention Plan (SWPPP)

A. SWPPP Elements

Dischargers shall develop and implement a site-specific SWPPP for each industrial facility covered by this General Permit that shall contain the following elements, as described further in this Section[10]:

1. Facility Name and Contact Information;
2. Site Map;
3. List of Industrial Materials;
4. Description of Potential Pollution Sources;
5. Assessment of Potential Pollutant Sources;
6. Minimum BMPs;
7. Advanced BMPs, if applicable;
8. Monitoring Implementation Plan;
9. Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation); and,
10. Date that SWPPP was Initially Prepared and the Date of Each SWPPP Amendment, if Applicable.

B. SWPPP Implementation and Revisions

All Dischargers are required to implement their SWPPP by July 1, 2015 or upon commencement of industrial activity. The Discharger shall:

1. Revise their on-site SWPPP whenever necessary;
2. Certify and submit via SMARTS their SWPPP within 30 days whenever the SWPPP contains significant revision(s); and,
3. With the exception of significant revisions, the Discharger is not required to certify and submit via SMARTS their SWPPP revisions more than once every three (3) months in the reporting year.

[10] Appendix 1 (SWPPP Checklist) of this General Permit is provided to assist the Discharger in including information required in the SWPPP. This checklist is not required to be used.

C. SWPPP Performance Standards

1. The Discharger shall ensure a SWPPP is prepared to:

   a. Identify and evaluate all sources of pollutants that may affect the quality of industrial storm water discharges and authorized NSWDs;

   b. Identify and describe the minimum BMPs (Section X.H.1) and any advanced BMPs (Section X.H.2) implemented to reduce or prevent pollutants in industrial storm water discharges and authorized NSWDs. BMPs shall be selected to achieve compliance with this General Permit; and,

   c. Identify and describe conditions or circumstances which may require future revisions to be made to the SWPPP.

2. The Discharger shall prepare a SWPPP in accordance with all applicable SWPPP requirements of this Section. A copy of the SWPPP shall be maintained at the facility.

D. Planning and Organization

1. Pollution Prevention Team

   Each facility must have a Pollution Prevention Team established and responsible for assisting with the implementation of the requirements in this General Permit. The Discharger shall include in the SWPPP detailed information about its Pollution Prevention Team including:

   a. The positions within the facility organization (collectively, team members) who assist in implementing the SWPPP and conducting all monitoring requirements in this General Permit;

   b. The responsibilities, duties, and activities of each of the team members; and,

   c. The procedures to identify alternate team members to implement the SWPPP and conduct required monitoring when the regularly assigned team members are temporarily unavailable (due to vacation, illness, out of town business, or other absences).

2. Other Requirements and Existing Facility Plans

   a. The Discharger shall ensure its SWPPP is developed, implemented, and revised as necessary to be consistent with any applicable municipal, state, and federal requirements that pertain to the requirements in this General Permit.

   b. The Discharger may include in their SWPPP the specific elements of existing plans, procedures, or regulatory compliance documents that

contain storm water-related BMPs or otherwise relate to the requirements of this General Permit.

c. The Discharger shall properly reference the original sources for any elements of existing plans, procedures, or regulatory compliance documents included as part of their SWPPP and shall maintain a copy of the documents at the facility as part of the SWPPP.

d. The Discharger shall document in their SWPPP the facility's scheduled operating hours as defined in Attachment C. Scheduled facility operating hours that would be considered irregular (temporary, intermittent, seasonal, weather dependent, etc.) shall also be documented in the SWPPP.

E. Site Map

1. The Discharger shall prepare a site map that includes notes, legends, a north arrow, and other data as appropriate to ensure the map is clear, legible and understandable.

2. The Discharger may provide the required information on multiple site maps.

3. The Discharger shall include the following information on the site map:

   a. The facility boundary, storm water drainage areas within the facility boundary, and portions of any drainage area impacted by discharges from surrounding areas. Include the flow direction of each drainage area, on-facility surface water bodies, areas of soil erosion, and location(s) of nearby water bodies (such as rivers, lakes, wetlands, etc.) or municipal storm drain inlets that may receive the facility's industrial storm water discharges and authorized NSWDs;

   b. Locations of storm water collection and conveyance systems, associated discharge locations, and direction of flow. Include any sample locations if different than the identified discharge locations;

   c. Locations and descriptions of structural control measures[11] that affect industrial storm water discharges, authorized NSWDs, and/or run-on;

   d. Identification of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures;

[11] Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

e. Locations where materials are directly exposed to precipitation and the locations where identified significant spills or leaks (Section X.G.1.d) have occurred; and

f. Areas of industrial activity subject to this General Permit. Identify all industrial storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and material reuse areas, and other areas of industrial activity that may have potential pollutant sources.

F. List of Industrial Materials

The Discharger shall ensure the SWPPP includes a list of industrial materials handled at the facility, and the locations where each material is stored, received, shipped, and handled, as well as the typical quantities and handling frequency.

G. Potential Pollutant Sources

1. Description of Potential Pollutant Sources

   a. Industrial Processes

      The Discharger shall ensure the SWPPP describes each industrial process including: manufacturing, cleaning, maintenance, recycling, disposal, and any other activities related to the process. The type, characteristics, and approximate quantity of industrial materials used in or resulting from the process shall be included. Areas protected by containment structures and the corresponding containment capacity shall be identified and described.

   b. Material Handling and Storage Areas

      The Discharger shall ensure the SWPPP describes each material handling and storage area, including: the type, characteristics, and quantity of industrial materials handled or stored; the shipping, receiving, and loading procedures; the spill or leak prevention and response procedures; and the areas protected by containment structures and the corresponding containment capacity.

   c. Dust and Particulate Generating Activities

      The Discharger shall ensure the SWPPP describes all industrial activities that generate a significant amount of dust or particulate that may be deposited within the facility boundaries. The SWPPP shall describe such industrial activities, including the discharge locations, the source type, and the characteristics of the dust or particulate pollutant.

d. Significant Spills and Leaks

The Discharger shall:

i. Evaluate the facility for areas where spills and leaks can likely occur;

ii. Ensure the SWPPP includes:

a) A list of any industrial materials that have spilled or leaked in significant quantities and have discharged from the facility's storm water conveyance system within the previous five-year period;

b) A list of any toxic chemicals identified in 40 Code of Federal Regulations section 302 that have been discharged from the facilities' storm water conveyance system as reported on U.S. EPA Form R, as well as oil and hazardous substances in excess of reportable quantities (40 C.F.R. §§ 110, 117, and 302) that have discharged from the facility's storm water conveyance system within the previous five-year period;

c) A list of any industrial materials that have spilled or leaked in significant quantities and had the potential to be discharged from the facility's storm water conveyance system within the previous five-year period; and,

iii. Ensure that for each discharge or potential discharge listed above the SWPPP includes the location, characteristics, and approximate quantity of the materials spilled or leaked; approximate quantity of the materials discharged from the facility's storm water conveyance system; the cleanup or remedial actions that have occurred or are planned; the approximate remaining quantity of materials that have the potential to be discharged; and the preventive measures taken to ensure spills or leaks of the material do not reoccur.

e. NSWDs

The Discharger shall:

i. Ensure the SWPPP includes an evaluation of the facility that identifies all NSWDs, sources, and drainage areas;

ii. Ensure the SWPPP includes an evaluation of all drains (inlets and outlets) that identifies connections to the storm water conveyance system;

iii. Ensure the SWPPP includes a description of how all unauthorized NSWDs have been eliminated; and,

iv. Ensure all NSWDs are described in the SWPPP. This description shall include the source, quantity, frequency, and characteristics of the NSWDs, associated drainage area, and whether it is an authorized or unauthorized NSWD in accordance with Section IV.

f. Erodible Surfaces

The Discharger shall ensure the SWPPP includes a description of the facility locations where soil erosion may be caused by industrial activity, contact with storm water, authorized and unauthorized NSWDs, or run-on from areas surrounding the facility.

2. Assessment of Potential Pollutant Sources

a. The Discharger shall ensure that the SWPPP includes a narrative assessment of all areas of industrial activity with potential industrial pollutant sources. At a minimum, the assessment shall include:

i. The areas of the facility with likely sources of pollutants in industrial storm water discharges and authorized NSWDs;

ii. The pollutants likely to be present in industrial storm water discharges and authorized NSWDs;

iii. The approximate quantity, physical characteristics (e.g., liquid, powder, solid, etc.), and locations of each industrial material handled, produced, stored, recycled, or disposed;

iv. The degree to which the pollutants associated with those materials may be exposed to, and mobilized by contact with, storm water;

v. The direct and indirect pathways by which pollutants may be exposed to storm water or authorized NSWDs;

vi. All sampling, visual observation, and inspection records;

vii. The effectiveness of existing BMPs to reduce or prevent pollutants in industrial storm water discharges and authorized NSWDs;

viii. The estimated effectiveness of implementing, to the extent feasible, minimum BMPs to reduce or prevent pollutants in industrial storm water discharges and authorized NSWDs; and,

ix. The identification of the industrial pollutants related to the receiving waters with 303(d) listed impairments identified in Appendix 3 or approved TMDLs that may be causing or contributing to an exceedance of a water quality standard in the receiving waters.

b. Based upon the assessment above, Dischargers shall identify in the SWPPP any areas of the facility where the minimum BMPs described in

subsection H.1 below will not adequately reduce or prevent pollutants in storm water discharges in compliance with Section V.A. Dischargers shall identify any advanced BMPs, as described in subsection H.2 below, for those areas.

c. Based upon the assessment above, Dischargers shall identify any drainage areas with no exposure to industrial activities and materials in accordance with the definitions in Section XVII.

d. Based upon the assessment above, Dischargers shall identify any additional parameters, beyond the required parameters in Section XI.B.6 that indicate the presence of pollutants in industrial storm water discharges.

H. Best Management Practices (BMPs)

1. Minimum BMPs

The Discharger shall, to the extent feasible, implement and maintain all of the following minimum BMPs to reduce or prevent pollutants in industrial storm water discharges.[12]

a. Good Housekeeping

The Discharger shall:

i. Observe all outdoor areas associated with industrial activity; including storm water discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by off-facility materials or storm water run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly;

ii. Minimize or prevent material tracking;

iii. Minimize dust generated from industrial materials or activities;

iv. Ensure that all facility areas impacted by rinse/wash waters are cleaned as soon as possible;

v. Cover all stored industrial materials that can be readily mobilized by contact with storm water;

[12] For the purposes of this General Permit, the requirement to implement BMPs "to the extent feasible" requires Dischargers to select, design, install and implement BMPs that reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

vi. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water;

vii. Prevent disposal of any rinse/wash waters or industrial materials into the storm water conveyance system;

viii. Minimize storm water discharges from non-industrial areas (e.g., storm water flows from employee parking area) that contact industrial areas of the facility; and,

ix. Minimize authorized NSWDs from non-industrial areas (e.g., potable water, fire hydrant testing, etc.) that contact industrial areas of the facility.

b. Preventive Maintenance

The Discharger shall:

i. Identify all equipment and systems used outdoors that may spill or leak pollutants;

ii. Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks;

iii. Establish an appropriate schedule for maintenance of identified equipment and systems; and,

iv. Establish procedures for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills or leaks.

c. Spill and Leak Prevention and Response

The Discharger shall:

i. Establish procedures and/or controls to minimize spills and leaks;

ii. Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the storm water conveyance system. Spilled or leaked industrial materials shall be cleaned promptly and disposed of properly;

iii. Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and,

iv. Identify and train appropriate spill and leak response personnel.

d. Material Handling and Waste Management

The Discharger shall:

i. Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with storm water during a storm event;

ii. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water;

iii. Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;

iv. Divert run-on and storm water generated from within the facility away from all stockpiled materials;

v. Clean all spills of industrial materials or wastes that occur during handling in accordance with the spill response procedures (Section X.H.1.c); and,

vi. Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.

e. Erosion and Sediment Controls

For each erodible surface facility location identified in the SWPPP (Section X.G.1.f), the Discharger shall:

i. Implement effective wind erosion controls;

ii. Provide effective stabilization for inactive areas, finished slopes, and other erodible areas prior to a forecasted storm event;

iii. Maintain effective perimeter controls and stabilize all site entrances and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site;

iv. Divert run-on and storm water generated from within the facility away from all erodible materials; and,

v. If sediment basins are implemented, ensure compliance with the design storm standards in Section X.H.6.

f. Employee Training Program

The Discharger shall:

i. Ensure that all team members implementing the various compliance activities of this General Permit are properly trained to implement the requirements of this General Permit, including but not limited to: BMP implementation, BMP effectiveness evaluations, visual observations,

and monitoring activities. If a Discharger enters Level 1 status, appropriate team members shall be trained by a QISP;

ii. Prepare or acquire appropriate training manuals or training materials;

iii. Identify which personnel need to be trained, their responsibilities, and the type of training they shall receive;

iv. Provide a training schedule; and,

v. Maintain documentation of all completed training classes and the personnel that received training in the SWPPP.

g. Quality Assurance and Record Keeping

The Discharger shall:

i. Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP, including the Monitoring Implementation Plan;

ii. Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP; and

iii. Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five (5) years (Section XXI.J.4).

2. Advanced BMPs

a. In addition to the minimum BMPs described in Section X.H.1, the Discharger shall, to the extent feasible, implement and maintain any advanced BMPs identified in Section X.G.2.b, necessary to reduce or prevent discharges of pollutants in its storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

b. Advanced BMPs may include one or more of the following BMPs:

i. Exposure Minimization BMPs

These include storm resistant shelters (either permanent or temporary) that prevent the contact of storm water with the identified industrial materials or area(s) of industrial activity.

ii. Storm Water Containment and Discharge Reduction BMPs

These include BMPs that divert, infiltrate, reuse, contain, retain, or reduce the volume of storm water runoff. Dischargers are

encouraged to utilize BMPs that infiltrate or reuse storm water where feasible.

iii. Treatment Control BMPs

This is the implementation of one or more mechanical, chemical, biologic, or any other treatment technology that will meet the treatment design standard.

iv. Other Advanced BMPs

Any additional BMPs not described in subsections b.i through iii above that are necessary to meet the effluent limitations of this General Permit.

3. Temporary Suspension of Industrial Activities

For facilities that plan to temporarily suspend industrial activities for ten (10) or more consecutive calendar days during a reporting year, the Discharger may also suspend monitoring if it is infeasible to conduct monitoring while industrial activities are suspended (e.g., the facility is not staffed, or the facility is remote or inaccessible) and the facility has been stabilized. The Discharger shall include in the SWPPP the BMPs necessary to achieve compliance with this General Permit during the temporary suspension of the industrial activity. Once all necessary BMPs have been implemented to stabilize the facility, the Discharger is not required to:

a. Perform monthly visual observations (Section XI.A.1.a.); or,

b. Perform sampling and analysis (Section XI.B.) if it is infeasible to do so (e.g. facility is remotely located).

The Discharger shall upload via SMARTS (7) seven calendar days prior to the planned temporary suspension of industrial activities:

a. SWPPP revisions specifically addressing the facility stabilization BMPs;

b. The justification for why monitoring is infeasible at the facility during the period of temporary suspension of industrial activities;

c. The date the facility is fully stabilized for temporary suspension of industrial activities; and,

d. The projected date that industrial activities will resume at the facility.

Upon resumption of industrial activities at the facility, the Discharger shall, via SMARTS, confirm and/or update the date the facility's industrial activities have resumed. At this time, the Discharger is required to resume all compliance activities under this General Permit.

The Regional Water Boards may review the submitted information pertaining to the temporary suspension of industrial activities. Upon review, the Regional Water Board may request revisions or reject the Discharger's request to temporarily suspend monitoring.

4. BMP Descriptions

   a. The Discharger shall ensure that the SWPPP identifies each BMP being implemented at the facility, including:

      i. The pollutant(s) that the BMP is designed to reduce or prevent in industrial storm water discharges;

      ii. The frequency, time(s) of day, or conditions when the BMP is scheduled for implementation;

      iii. The locations within each area of industrial activity or industrial pollutant source where the BMP shall be implemented;

      iv. The individual and/or position responsible for implementing the BMP;

      v. The procedures, including maintenance procedures, and/or instructions to implement the BMP effectively;

      vi. The equipment and tools necessary to implement the BMP effectively; and,

      vii. The BMPs that may require more frequent visual observations beyond the monthly visual observations as described in Section XI.A.1.

   b. The Discharger shall ensure that the SWPPP identifies and justifies each minimum BMP or applicable advanced BMP not being implemented at the facility because they do not reflect best industry practice considering technological availability and economic practicability and achievability.

   c. The Discharger shall identify any BMPs described in subsection a above that are implemented in lieu of any of the minimum or applicable advanced BMPs.

5. BMP Summary Table

   The Discharger shall prepare a table summarizing each identified area of industrial activity, the associated industrial pollutant sources, the industrial pollutants, and the BMPs being implemented.

6. Design Storm Standards for Treatment Control BMPs

All new treatment control BMPs employed by the Discharger to comply with Section X.H.2 Advanced BMPs and new sediment basins installed after the effective date of this order shall be designed to comply with design storm standards in this Section, except as provided in an Industrial Activity BMP Demonstration (Section XII.D.2.a). A Factor of Safety shall be incorporated into the design of all treatment control BMPs to ensure that storm water is sufficiently treated throughout the life of the treatment control BMPs. The design storm standards for treatment control BMPs are as follows:

a. Volume-based BMPs: The Discharger, at a minimum, shall calculate[13] the volume to be treated using one of the following methods:

   i. The volume of runoff produced from an 85th percentile 24-hour storm event, as determined from local, historical rainfall records;

   ii. The volume of runoff produced by the 85th percentile 24-hour storm event, determined as the maximized capture runoff volume for the facility, from the formula recommended in the Water Environment Federation's Manual of Practice;[14] or,

   iii. The volume of annual runoff required to achieve 80% or more treatment, determined in accordance with the methodology set forth in the latest edition of California Stormwater Best Management Practices Handbook[15], using local, historical rainfall records.

b. Flow-based BMPs: The Discharger shall calculate the flow needed to be treated using one of the following methods:

   i. The maximum flow rate of runoff produced from a rainfall intensity of at least 0.2 inches per hour for each hour of a storm event;

   ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from local historical rainfall records, multiplied by a factor of two; or,

   iii. The maximum flow rate of runoff, as determined using local historical rainfall records, that achieves approximately the same reduction in total pollutant loads as would be achieved by treatment of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

[13] All hydrologic calculations shall be certified by a California licensed professional engineer in accordance with the Professional Engineers Act (Bus. & Prof. Code § 6700, et seq).

[14] Water Environment Federation (WEF). Manual of Practice No. 23/ ASCE Manual of Practice No. 87, cited in chapter 5 (1998 Edition) and Cited in Chapter 3 (2012 Edition) .

[15] California Stormwater Quality Association. Stormwater Best Management Practice New Development and Redevelopment Handbook. < http://www.casqa.org/ >. [as of July 3, 2013].

I. MONITORING IMPLEMENTATION PLAN

The Discharger shall prepare a Monitoring Implementation Plan in accordance with the requirements of this General Permit. The Monitoring Implementation Plan shall be included in the SWPPP and shall include the following items:

1. An identification of team members assigned to conduct the monitoring requirements;

2. A description of the following in accordance with Attachment H:

   a. Discharge locations;

   b. Visual observation procedures; and,

   c. Visual observation response procedures related to monthly visual observations and sampling event visual observations.

3. Justifications for any of the following that are applicable to the facility:

   a. Alternative discharge locations in accordance with Section XI.C.3;

   b. Representative Sampling Reduction in accordance with Section XI.C.4; or,

   c. Qualified Combined Samples in accordance with Section XI.C.5.

4. Procedures for field instrument calibration instructions, including calibration intervals specified by the manufacturer; and,

5. An example Chain of Custody form used when handling and shipping water quality samples to the lab.

XI. MONITORING

A. Visual Observations

1. Monthly Visual Observations

   a. At least once per calendar month, the Discharger shall visually observe each drainage area for the following:

      i. The presence or indications of prior, current, or potential unauthorized NSWDs and their sources;

      ii. Authorized NSWDs, sources, and associated BMPs to ensure compliance with Section IV.B.3; and,

iii. Outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential source of industrial pollutants.

b. The monthly visual observations shall be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.

c. The Discharger shall provide an explanation in the Annual Report for uncompleted monthly visual observations.

2. Sampling Event Visual Observations

Sampling event visual observations shall be conducted at the same time sampling occurs at a discharge location. At each discharge location where a sample is obtained, the Discharger shall observe the discharge of storm water associated with industrial activity.

a. The Discharger shall ensure that visual observations of storm water discharged from containment sources (e.g. secondary containment or storage ponds) are conducted at the time that the discharge is sampled.

b. Any Discharger employing volume-based or flow-based treatment BMPs shall sample any bypass that occurs while the visual observations and sampling of storm water discharges are conducted.

c. The Discharger shall visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and source(s) of any discharged pollutants.

d. In the event that a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.

e. The Discharger shall provide an explanation in the Annual Report for uncompleted sampling event visual observations.

3. Visual Observation Records

The Discharger shall maintain records of all visual observations. Records shall include the date, approximate time, locations observed, presence and probable source of any observed pollutants, name of person(s) that conducted the observations, and any response actions and/or additional SWPPP revisions necessary in response to the visual observations.

4. The Discharger shall revise BMPs as necessary when the visual observations indicate pollutant sources have not been adequately addressed in the SWPPP.

B. Sampling and Analysis

1. A Qualifying Storm Event (QSE) is a precipitation event that:

   a. Produces a discharge for at least one drainage area; and,

   b. Is preceded by 48 hours with no discharge from any drainage area.

2. The Discharger shall collect and analyze storm water samples from two (2) QSEs within the first half of each reporting year (July 1 to December 31), and two (2) QSEs within the second half of each reporting year (January 1 to June 30).

3. Compliance Group Participants are only required to collect and analyze storm water samples from one (1) QSE within the first half of each reporting year (July 1 to December 31) and one (1) QSE within the second half of the reporting year (January 1 to June 30).

4. Except as provided in Section XI.C.4 (Representative Sampling Reduction), samples shall be collected from each drainage area at all discharge locations. The samples must be:

   a. Representative of storm water associated with industrial activities and any commingled authorized NSWDs; or,

   b. Associated with the discharge of contained storm water.

5. Samples from each discharge location shall be collected within four (4) hours of:

   a. The start of the discharge; or,

   b. The start of facility operations if the QSE occurs within the previous 12-hour period (e.g., for storms with discharges that begin during the night for facilities with day-time operating hours). Sample collection is required during scheduled facility operating hours and when sampling conditions are safe in accordance with Section XI.C.6.a.ii.

6. The Discharger shall analyze all collected samples for the following parameters:

   a. Total suspended solids (TSS) and oil and grease (O&G);

   b. pH (see Section XI.C.2);

c. Additional parameters identified by the Discharger on a facility-specific basis that serve as indicators of the presence of all industrial pollutants identified in the pollutant source assessment (Section X.G.2). These additional parameters may be modified (added or removed) in accordance with any updated SWPPP pollutant source assessment;

d. Additional applicable parameters listed in Table 1 below. These parameters are dependent on the facility Standard Industrial Classification (SIC) code(s);

e. Additional applicable industrial parameters related to receiving waters with 303(d) listed impairments or approved TMDLs based on the assessment in Section X.G.2.a.ix. Test methods with lower detection limits may be necessary when discharging to receiving waters with 303(d) listed impairments or TMDLs;

f. Additional parameters required by the Regional Water Board. The Discharger shall contact its Regional Water Board to determine appropriate analytical test methods for parameters not listed in Table 2 below. These analytical test methods will be added to SMARTS; and

g. For discharges subject to Subchapter N, additional parameters specifically required by Subchapter N. If the discharge is subject to ELGs, the Dischargers shall contact the Regional Water Board to determine appropriate analytical methods for parameters not listed in Table 2 below.

7. The Discharger shall select corresponding NALs, analytical test methods,, and reporting units from the list provided in Table 2 below. SMARTS will be updated over time to add additional acceptable analytical test methods. Dischargers may propose an analytical test method for any parameter or pollutant that does not have an analytical test method specified in Table 2 or in SMARTS. Dischargers may also propose analytical test methods with substantially similar or more stringent method detection limits than existing approved analytical test methods. Upon approval, the analytical test method will be added to SMARTS.

8. The Discharger shall ensure that the collection, preservation and handling of all storm water samples are in accordance with Attachment H, Storm Water Sample Collection and Handling Instructions.

9. Samples from different discharge locations shall not be combined or composited except as allowed in Section XI.C.5 (Qualified Combined Samples).

10. The Discharger shall ensure that all laboratory analyses are conducted according to test procedures under 40 Code of Federal Regulations part 136, including the observation of holding times, unless other test procedures have been specified in this General Permit or by the Regional Water Board.

11. Sampling Analysis Reporting

a. The Discharger shall submit all sampling and analytical results for all individual or Qualified Combined Samples via SMARTS within 30 days of obtaining all results for each sampling event.

b. The Discharger shall provide the method detection limit when an analytical result from samples taken is reported by the laboratory as a "non-detect" or less than the method detection limit. A value of zero shall not be reported.

c. The Discharger shall provide the analytical result from samples taken that is reported by the laboratory as below the minimum level (often referred to as the reporting limit) but above the method detection limit.

Reported analytical results will be averaged automatically by SMARTS. For any calculations required by this General Permit, SMARTS will assign a value of zero (0) for all results less than the minimum level as reported by the laboratory.

TABLE 1: Additional Analytical Parameters

SIC code	SIC code Description	Parameters*
102X	Copper Ores	COD; N+N
12XX	Coal Mines	Al; Fe
144X	Sand and Gravel	N+N
207X	Fats and Oils	BOD; COD; N+N
2421	Sawmills & Planning Mills	COD; Zn
2426	Hardwood Dimension	COD
2429	Special Product Sawmills	COD
243X	Millwork, Veneer, Plywood	COD
244X	Wood Containers	COD
245X	Wood Buildings & Mobile Homes	COD
2491	Wood Preserving	As; Cu
2493	Reconstituted Wood Products	COD
263X	Paperboard Mills	COD
281X	Industrial Inorganic Chemicals	Al; Fe; N+N
282X	Plastic Materials, Synthetics	Zn
284X	Soaps, Detergents, Cosmetics	N+N; Zn
287X	Fertilizers, Pesticides, etc.	Fe; N+N; Pb; Zn; P
301X	Tires, Inner Tubes	Zn
302X	Rubber and Plastic Footwear	Zn
305X	Rubber & Plastic Sealers & Hoses	Zn
306X	Misc. Fabricated Rubber Products	Zn
325X	Structural Clay Products	Al
326X	Pottery & Related Products	Al
3297	Non-Clay Refractories	Al
327X	Concrete, Gypsum, Plaster Products (Except 3274)	Fe
3295	Minerals & Earths	Fe
331X	Steel Works, Blast Furnaces, Rolling and Finishing Mills	Al; Zn
332X	Iron and Steel Foundries	Al; Cu; Fe; Zn
335X	Metal Rolling, Drawing, Extruding	Cu; Zn

336X	Nonferrous Foundries (Castings)	Cu; Zn
34XX	Fabricated Metal Products (Except 3479)	Zn; N+N; Fe; Al
3479	Coating and Engraving	Zn; N+N
4953	Hazardous Waste Facilities	NH3; Mg; COD; As; Cn; Pb; HG; Se; Ag
44XX	Water Transportation	Al; Fe; Pb; Zn
45XX	Air Transportation Facilities[16]	BOD; COD; NH3
4911	Steam Electric Power Generating Facilities	Fe
4953	Landfills and Land Application Facilities	Fe
5015	Dismantling or Wrecking Yards	Fe; Pb; Al
5093	Scrap and Waste Materials (not including source-separated recycling)	Fe; Pb; Al; Zn; COD

***Table 1 Parameter Reference**	
Ag – Silver	**Mg** – Magnesium
Al – Aluminum	**N+N** - Nitrate & Nitrite Nitrogen
As – Arsenic	**NH** – Ammonia
BOD – Biochemical Oxygen Demand	**Ni** – Nickel
Cd - Cadmium	**P** – Phosphorus
Cn – Cyanide	**Se** – Selenium
COD – Chemical Oxygen Demand	**TSS** – Total Suspended Solids
Cu – Copper	**Zn** – Zinc
Fe – Iron	**Pb** – Lead
Hg – Mercury	

[16] Only airports (SIC 4512-4581) where a single Discharger, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, are required to monitor these parameters for those outfalls that collect runoff from areas where deicing activities occur.

TABLE 2: Parameter NAL Values, Test Methods, and Reporting Units

PARAMETER	TEST METHOD	REPORTING UNITS	ANNUAL NAL	INSTANTANEOUS MAXIMUM NAL
pH*	See Section XI.C.2	pH units	N/A	Less than 6.0 Greater than 9.0
Suspended Solids (TSS)*, Total	SM 2540-D	mg/L	100	400
Oil & Grease (O&G)*, Total	EPA 1664A	mg/L	15	25
Zinc, Total (H)	EPA 200.8	mg/L	0.26**	
Copper, Total (H)	EPA 200.8	mg/L	0.0332**	
Cyanide, Total	SM 4500–CN C, D, or E	mg/L	0.022	
Lead, Total (H)	EPA 200.8	mg/L	0.262**	
Chemical Oxygen Demand (COD)	SM 5220C	mg/L	120	
Aluminum, Total	EPA 200.8	mg/L	0.75	
Iron, Total	EPA 200.7	mg/L	1.0	
Nitrate + Nitrite Nitrogen	SM 4500-NO3- E	mg/L as N	0.68	
Total Phosphorus	SM 4500-P B+E	mg/L as P	2.0	
Ammonia (as N)	SM 4500-NH3 B+ C or E	mg/L	2.14	
Magnesium, total	EPA 200.7	mg/L	0.064	
Arsenic, Total (c)	EPA 200.8	mg/L	0.15	
Cadmium, Total (H)	EPA 200.8	mg/L	0.0053**	
Nickel, Total (H)	EPA 200.8	mg/l	1.02**	
Mercury, Total	EPA 245.1	mg/L	0.0014	
Selenium, Total	EPA 200.8	mg/L	0.005	
Silver, Total (H)	EPA 200.8	mg/L	0.0183**	
Biochemical Oxygen Demand (BOD)	SM 5210B	mg/L	30	

SM – Standard Methods for the Examination of Water and Wastewater, 18th edition
EPA – U.S. EPA test methods
(H) – Hardness dependent
* Minimum parameters required by this General Permit
**The NAL is the highest value used by U.S. EPA based on their hardness table in the 2008 MSGP.

C. Methods and Exceptions

1. The Discharger shall comply with the monitoring methods in this General Permit and Attachment H.

2. pH Methods

   a. Dischargers that are not subject to Subchapter N ELGs mandating pH analysis related to acidic or alkaline sources and have never entered Level 1 status for pH, are eligible to screen for pH using wide range litmus pH paper or other equivalent pH test kits. The pH screen shall be performed as soon as practicable, but no later than 15 minutes after the sample is collected.

   b. Dischargers subject to Subchapter N ELGs shall either analyze samples for pH using methods in accordance with 40 Code of Federal Regulations 136 for testing storm water or use a calibrated portable instrument for pH.

   c. Dischargers that enter Level 1 status (see Section XII.C) for pH shall, in the subsequent reporting years, analyze for pH using methods in accordance with 40 Code of Federal Regulations 136 or use a calibrated portable instrument for pH.

   d. Dischargers using a calibrated portable instrument for pH shall ensure that all field measurements are conducted in accordance with the accompanying manufacturer's instructions.

3. Alternative Discharge Locations

   a. The Discharger is required to identify, when practicable, alternative discharge locations for any discharge locations identified in accordance with Section XI.B.4 if the facility's discharge locations are:

      i. Affected by storm water run-on from surrounding areas that cannot be controlled; and/or,

      ii. Difficult to observe or sample (e.g. submerged discharge outlets, dangerous discharge location accessibility).

   b. The Discharger shall submit and certify via SMARTS any alternative discharge location or revisions to the alternative discharge locations in the Monitoring Implementation Plan.

4. Representative Sampling Reduction

   a. The Discharger may reduce the number of locations to be sampled in each drainage area (e.g., roofs with multiple downspouts, loading/unloading areas with multiple storm drains) if the industrial

activities, BMPs, and physical characteristics (grade, surface materials, etc.) of the drainage area for each location to be sampled are substantially similar to one another. To qualify for the Representative Sampling Reduction, the Discharger shall provide a Representative Sampling Reduction justification in the Monitoring Implementation Plan section of the SWPPP.

b. The Representative Sampling Reduction justification shall include:

   i. Identification and description of each drainage area and corresponding discharge location(s);

   ii. A description of the industrial activities that occur throughout the drainage area;

   iii. A description of the BMPs implemented in the drainage area;

   iv. A description of the physical characteristics of the drainage area;

   v. A rationale that demonstrates that the industrial activities and physical characteristics of the drainage area(s) are substantially similar; and,

   vi. An identification of the discharge location(s) selected for representative sampling, and rationale demonstrating that the selected location(s) to be sampled are representative of the discharge from the entire drainage area.

c. A Discharger that satisfies the conditions of subsection 4.b.i through v above shall submit and certify via SMARTS the revisions to the Monitoring Implementation Plan that includes the Representative Sampling Reduction justification.

d. Upon submittal of the Representative Sampling Reduction justification, the Discharger may reduce the number of locations to be sampled in accordance with the Representative Sampling Reduction justification. The Regional Water Board may reject the Representative Sampling Reduction justification and/or request additional supporting documentation. In such instances, the Discharger is ineligible for the Representative Sampling Reduction until the Regional Water Board approves the Representative Sampling Reduction justification.

5. Qualified Combined Samples

   a. The Discharger may authorize an analytical laboratory to combine samples of equal volume from as many as four (4) discharge locations if the industrial activities, BMPs, and physical characteristics (grade, surface materials, etc.) within each of the drainage areas are substantially similar to one another.

b. The Qualified Combined Samples justification shall include:

i. Identification and description of each drainage area and corresponding discharge locations;

ii. A description of the BMPs implemented in the drainage area;

iii. A description of the industrial activities that occur throughout the drainage area;

iv. A description of the physical characteristics of the drainage area; and,

v. A rationale that demonstrates that the industrial activities and physical characteristics of the drainage area(s) are substantially similar.

c. A Discharger that satisfies the conditions of subsection 5.b.i through iv above shall submit and certify via SMARTS the revisions to the Monitoring Implementation Plan that includes the Qualified Combined Samples justification.

d. Upon submittal of the Qualified Combined Samples justification revisions in the Monitoring Implementation Plan, the Discharger may authorize the lab to combine samples of equal volume from as many as four (4) drainage areas. The Regional Water Board may reject the Qualified Combined Samples justification and/or request additional supporting documentation. In such instances, the Discharger is ineligible for the Qualified Combined Samples justification until the Regional Water Board approves the Qualified Combined Samples justification.

e. Regional Water Board approval is necessary to combine samples from more than four (4) discharge locations.

6. Sample Collection and Visual Observation Exceptions

a. Sample collection and visual observations are not required under the following conditions:

i. During dangerous weather conditions such as flooding or electrical storms; or,

ii. Outside of scheduled facility operating hours. The Discharger is not precluded from collecting samples or conducting visual observations outside of scheduled facility operating hours.

b. In the event that samples are not collected, or visual observations are not conducted in accordance with Section XI.B.5 due to these exceptions, an explanation shall be included in the Annual Report.

c. Sample collection is not required for drainage areas with no exposure to industrial activities and materials in accordance with the definitions in Section XVII.

7. Sampling Frequency Reduction Certification
   a. Dischargers are eligible to reduce the number of QSEs sampled each reporting year in accordance with the following requirements:

      i. Results from four (4) consecutive QSEs that were sampled (QSEs may be from different reporting years) did not exceed any NALs as defined in Section XII.A; and

      ii. The Discharger is in full compliance with the requirements of this General Permit and has updated, certified and submitted via SMARTS all documents, data, and reports required by this General Permit during the time period in which samples were collected.

   b. The Regional Water Board may notify a Discharger that it may not reduce the number of QSEs sampled each reporting year if the Discharger is subject to an enforcement action.

   c. An eligible Discharger shall certify via SMARTS that it meets the conditions in subsection 7.a above.

   d. Upon Sampling Frequency Reduction certification, the Discharger shall collect and analyze samples from one (1) QSE within the first half of each reporting year (July 1 to December 31), and one (1) QSE within the second half of each reporting year (January 1 to June 30). All other monitoring, sampling, and reporting requirements remain in effect.

   e. Dischargers who participate in a Compliance Group and certify a Sampling Frequency Reduction are only required to collect and analyze storm water samples from one (1) QSE within each reporting year.

   f. A Discharger may reduce sampling per the Sampling Frequency Reduction certification unless notified by the Regional Water Board that: (1) the Sampling Frequency Reduction certification has been rejected or (2) additional supporting documentation must be submitted. In such instances, a Discharger is ineligible for the Sampling Frequency Reduction until the Regional Water Board provides Sampling Frequency Reduction certification approval. Revised Sampling Frequency Reduction certifications shall be certified and submitted via SMARTS by the Discharger.

   g. A Discharger loses its Sampling Frequency Reduction certification if an NAL exceedance occurs (Section XII.A).

D. Facilities Subject to Federal Storm Water Effluent Limitation Guidelines (ELGs)

1. In addition to the other requirements in this General Permit, Dischargers with facilities subject to storm water ELGs in Subchapter N shall:

   a. Collect and analyze samples from QSEs for each regulated pollutant specified in the appropriate category in Subchapter N as specified in Section XI.B;

   b. For Dischargers with facilities subject to 40 Code of Federal Regulations parts 419[17] and 443[18], estimate or calculate the volume of industrial storm water discharges from each drainage area subject to the ELGs and the mass of each regulated pollutant as defined in parts 419 and 443; and,

   c. Ensure that the volume/mass estimates or calculations required in subsection b are completed by a California licensed professional engineer.

2. Dischargers subject to Subchapter N shall submit the information in Section XI.D.1.a through c in their Annual Report.

3. Dischargers with facilities subject to storm water ELGs in Subchapter N are ineligible for the Representative Sampling Reduction in Section XI.C.4.

XII. EXCEEDANCE RESPONSE ACTIONS (ERAs)

A. NALs and NAL Exceedances

The Discharger shall perform sampling, analysis and reporting in accordance with the requirements of this General Permit and shall compare the results to the two types of NAL values in Table 2 to determine whether either type of NAL has been exceeded for each applicable parameter. The two types of potential NAL exceedances are as follows:

1. Annual NAL exceedance: The Discharger shall determine the average concentration for each parameter using the results of all the sampling and analytical results for the entire facility for the reporting year (i.e., all "effluent" data). The Discharger shall compare the average concentration for each parameter to the corresponding annual NAL values in Table 2. For Dischargers using composite sampling or flow-weighted measurements in accordance with standard practices, the average concentrations shall be calculated in accordance with the U.S. EPA's NPDES Storm Water

[17] Part 419 - Petroleum refining point source category
[18] Part 443 - Effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources for the paving and roofing materials (tars and asphalt) point source category

Sampling Guidance Document.[19] An annual NAL exceedance occurs when the average of all the analytical results for a parameter from samples taken within a reporting year exceeds the annual NAL value for that parameter listed in Table 2; and,

2. Instantaneous maximum NAL exceedance: The Discharger shall compare all sampling and analytical results from each distinct sample (individual or combined as authorized by XI.C.5) to the corresponding instantaneous maximum NAL values in Table 2. An instantaneous maximum NAL exceedance occurs when two (2) or more analytical results from samples taken for any single parameter within a reporting year exceed the instantaneous maximum NAL value (for TSS and O&G) or are outside of the instantaneous maximum NAL range for pH.

B. Baseline Status

At the beginning of a Discharger's NOI Coverage, all Dischargers have Baseline status for all parameters.

C. Level 1 Status

A Discharger's Baseline status for any given parameter shall change to Level 1 status if sampling results indicate an NAL exceedance for that same parameter. Level 1 status will commence on July 1 following the reporting year during which the exceedance(s) occurred.[20]

1. Level 1 ERA Evaluation

    a. By October 1 following commencement of Level 1 status for any parameter with sampling results indicating an NAL exceedance, the Discharger shall:

    b. Complete an evaluation, with the assistance of a QISP, of the industrial pollutant sources at the facility that are or may be related to the NAL exceedance(s); and,

    c. Identify in the evaluation the corresponding BMPs in the SWPPP and any additional BMPs and SWPPP revisions necessary to prevent future NAL exceedances and to comply with the requirements of this General Permit. Although the evaluation may focus on the drainage areas where the NAL exceedance(s) occurred, all drainage areas shall be evaluated.

2. Level 1 ERA Report

[19] U.S. EPA. NPDES Storm Water Sampling Guidance Document. <http://www.epa.gov/npdes/pubs/owm0093.pdf >. [as of February 4, 2014]

[20] For all sampling results reported before June 30th of the preceding reporting year. If sample results indicating an NAL exceedance are submitted after June 30th, the Discharger will change status once those results have been reported.

a. Based upon the above evaluation, the Discharger shall, as soon as practicable but no later than January 1 following commencement of Level 1 status :

i. Revise the SWPPP as necessary and implement any additional BMPs identified in the evaluation;

ii. Certify and submit via SMARTS a Level 1 ERA Report prepared by a QISP that includes the following:

1) A summary of the Level 1 ERA Evaluation required in subsection C.1 above; and,

2) A detailed description of the SWPPP revisions and any additional BMPs for each parameter that exceeded an NAL.

iii. Certify and submit via SMARTS the QISP's identification number, name, and contact information (telephone number, e-mail address).

b. A Discharger's Level 1 status for a parameter will return to Baseline status once a Level 1 ERA report has been completed, all identified additional BMPs have been implemented, and results from four (4) consecutive QSEs that were sampled subsequent to BMP implementation indicate no additional NAL exceedances for that parameter.

3. NAL Exceedances Prior to Implementation of Level 1 Status BMPs.

Prior to the implementation of an additional BMP identified in the Level 1 ERA Evaluation or October 1, whichever comes first, sampling results for any parameter(s) being addressed by that additional BMP will not be included in the calculations of annual average or instantaneous NAL exceedances in SMARTS.

D. Level 2 Status

A Discharger's Level 1 status for any given parameter shall change to Level 2 status if sampling results indicate an NAL exceedance for that same parameter while the Discharger is in Level 1. Level 2 status will commence on July 1 following the reporting year during which the NAL exceedance(s) occurred.[21]

1. Level 2 ERA Action Plan

[21] For all sampling results reported before June 30th of the preceding reporting year. If sample results indicating an NAL exceedance are submitted after June 30th, the Discharger will change status upon the date those results have been reported into SMARTS.

a. Dischargers with Level 2 status shall certify and submit via SMARTS a Level 2 ERA Action Plan prepared by a QISP that addresses each new Level 2 NAL exceedance by January 1 following the reporting year during which the NAL exceedance(s) occurred. For each new Level 2 NAL exceedance, the Level 2 Action Plan will identify which of the demonstrations in subsection D.2.a through c the Discharger has selected to perform. A new Level 2 NAL exceedance is any Level 2 NAL exceedance for 1) a new parameter in any drainage area, or 2) the same parameter that is being addressed in an existing Level 2 ERA Action Plan in a different drainage area.

b. The Discharger shall certify and submit via SMARTS the QISP's identification number, name, and contact information (telephone number, e-mail address) if this information has changed since previous certifications.

c. The Level 2 ERA Action Plan shall at a minimum address the drainage areas with corresponding Level 2 NAL exceedances.

d. All elements of the Level 2 ERA Action Plan shall be implemented as soon as practicable and completed no later than 1 year after submitting the Level 2 ERA Action Plan.

e. The Level 2 ERA Action Plan shall include a schedule and a detailed description of the tasks required to complete the Discharger's selected demonstration(s) as described below in Section D.2.a through c.

2. Level 2 ERA Technical Report

On January 1 of the reporting year following the submittal of the Level 2 ERA Action Plan, a Discharger with Level 2 status shall certify and submit a Level 2 ERA Technical Report prepared by a QISP that includes one or more of the following demonstrations:

a. Industrial Activity BMPs Demonstration

This shall include the following requirements, as applicable:

i. Shall include a description of the industrial pollutant sources and corresponding industrial pollutants that are or may be related to the NAL exceedance(s);

ii. Shall include an evaluation of all pollutant sources associated with industrial activity that are or may be related to the NAL exceedance(s);

iii. Where all of the Discharger's implemented BMPs, including additional BMPs identified in the Level 2 ERA Action Plan, achieve

compliance with the effluent limitations of this General Permit and are expected to eliminate future NAL exceedance(s), the Discharger shall provide a description and analysis of all implemented BMPs;

iv. In cases where all of the Discharger's implemented BMPs, including additional BMPs identified in the Level 2 ERA Action Plan, achieve compliance with the effluent limitations of this General Permit but are not expected to eliminate future NAL exceedance(s), the Discharger shall provide, in addition to a description and analysis of all implemented BMPs:

1) An evaluation of any additional BMPs that would reduce or prevent NAL exceedances;

2) Estimated costs of the additional BMPs evaluated; and,

3) An analysis describing the basis for the selection of BMPs implemented in lieu of the additional BMPs evaluated but not implemented.

v. The description and analysis of BMPs required in subsection a.iii above shall specifically address the drainage areas where the NAL exceedance(s) responsible for the Discharger's Level 2 status occurred, although any additional Level 2 ERA Action Plan BMPs may be implemented for all drainage areas; and,

vi. If an alternative design storm standard for treatment control BMPs (in lieu of the design storm standard for treatment control BMPs in Section X.H.6 in this General Permit) will achieve compliance with the effluent limitations of this General Permit, the Discharger shall provide an analysis describing the basis for the selection of the alternative design storm standard.

b. Non-Industrial Pollutant Source Demonstration

This shall include:

i. A statement that the Discharger has determined that the exceedance of the NAL is attributable solely to the presence of non-industrial pollutant sources. (The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance.) The sources shall be identified as either run-on from adjacent properties, aerial deposition from man-made sources, or as generated by on-site non-industrial sources;

ii. A statement that the Discharger has identified and evaluated all potential pollutant sources that may have commingled with storm water associated with the Discharger's industrial activity and may be contributing to the NAL exceedance;

iii. A description of any on-site industrial pollutant sources and corresponding industrial pollutants that are contributing to the NAL exceedance;

iv. An assessment of the relative contributions of the pollutant from (1) storm water run-on to the facility from adjacent properties or non-industrial portions of the Discharger's property or from aerial deposition and (2) the storm water associated with the Discharger's industrial activity;

v. A summary of all existing BMPs for that parameter; and,

vi. An evaluation of all on-site/off-site analytical monitoring data demonstrating that the NAL exceedances are caused by pollutants in storm water run-on to the facility from adjacent properties or non-industrial portions of the Discharger's property or from aerial deposition.

c. Natural Background Pollutant Source Demonstration

This shall include:

i. A statement that the Discharger has determined that the NAL exceedance is attributable solely to the presence of the pollutant in the natural background that has not been disturbed by industrial activities. (The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance);

ii. A summary of all data previously collected by the Discharger, or other identified data collectors, that describes the levels of natural background pollutants in the storm water discharge;

iii. A summary of any research and published literature that relates the pollutants evaluated at the facility as part of the Natural Background Source Demonstration;

iv. Map showing the reference site location in relation to facility along with available land cover information;

v. Reference site and test site elevation;

vi. Available geology and soil information for reference and test sites;

vii. Photographs showing site vegetation;

viii. Site reconnaissance survey data regarding presence of roads, outfalls, or other human-made structures; and,

ix. Records from relevant state or federal agencies indicating no known mining, forestry, or other human activities upstream of the proposed reference site.

3. Level 2 ERA Technical Report Submittal

a. The Discharger shall certify and submit via SMARTS the Level 2 ERA Technical Report described in Section D.2 above.

b. The State Water Board and Regional Boards (Water Boards) may review the submitted Level 2 ERA Technical Reports. Upon review of a Level 2 ERA Technical Report, the Water Boards may reject the Level 2 ERA Technical Report and direct the Discharger to take further action(s) to comply with this General Permit.

c. Dischargers with Level 2 status who have submitted the Level 2 ERA Technical Report are only required to annually update the Level 2 ERA Technical Report based upon additional NAL exceedances of the same parameter and same drainage area (if the original Level 2 ERA Technical Report contained an Industrial Activity BMP Demonstration and the implemented BMPs were expected to eliminate future NAL exceedances in accordance with Section XII.D.2.a.ii), facility operational changes, pollutant source(s) changes, and/or information that becomes available via compliance activities (monthly visual observations, sampling results, annual evaluation, etc.). The Level 2 ERA Technical Report shall be prepared by a QISP and be certified and submitted via SMARTS by the Discharger with each Annual Report. If there are no changes prompting an update of the Level 2 ERA Technical Report, as specified above, the Discharger will provide this certification in the Annual Report that there have been no changes warranting re-submittal of the Level 2 ERA Technical Report.

d. Dischargers are not precluded from submitting a Level 2 ERA Action Plan or ERA Technical Report prior to entering Level 2 status if information is available to adequately prepare the report and perform the demonstrations described above. A Discharger who chooses to submit a Level 2 ERA Action Plan or ERA Technical Report prior to entering Level 2 status will automatically be placed in Level 2 in accordance to the Level 2 ERA schedule.

4. Eligibility for Returning to Baseline Status

a. Dischargers with Level 2 status who submit an Industrial Activity BMPs Demonstration in accordance with subsection 2.a.i through iii above and have implemented BMPs to prevent future NAL exceedance(s) for the Level 2 parameter(s) shall return to baseline status for that parameter, if results from four (4) subsequent consecutive QSEs sampled indicate no additional NAL exceedance(s) for that parameter(s). If future NAL exceedances occur for the same parameter(s), the Discharger's Baseline status will return to Level 2 status on July 1 in the subsequent reporting year during which the NAL exceedance(s) occurred. These Dischargers shall update the Level 2 ERA Technical Report as required above in Section D.3.c.

b. Dischargers are ineligible to return to baseline status if they submit any of the following:

   i. A industrial activity BMP demonstration in accordance with subsection 2.a.iv above;

   ii. An non-industrial pollutant source demonstration; or,

   iii. A natural background pollutant source demonstration.

5. Level 2 ERA Implementation Extension

   a. Dischargers that need additional time to submit the Level 2 ERA Technical Report shall be automatically granted a single time extension for up to six (6) months upon submitting the following items into SMARTS, as applicable:

      i. Reasons for the time extension;

      ii. A revised Level 2 ERA Action Plan including a schedule and a detailed description of the necessary tasks still to be performed to complete the Level 2 ERA Technical Report; and

      iii. A description of any additional temporary BMPs that will be implemented while permanent BMPs are being constructed.

   b. The Regional Water Boards will review Level 2 ERA Implementation Extensions for completeness and adequacy. Requests for extensions that total more than six (6) months are not granted unless approved in writing by the Water Boards. The Water Boards may (1) reject or revise the time allowed to complete Level 2 ERA Implementation Extensions, (2) identify additional tasks necessary to complete the Level 2 ERA Technical Report, and/or (3) require the Discharger to implement additional temporary BMPs.

XIII. INACTIVE MINING OPERATION CERTIFICATION

A. Inactive mining operations are defined in Part 3 of Attachment A of this General Permit. The Discharger may, in lieu of complying with the General Permit requirements described in subsection B below, certify and submit via SMARTS that their inactive mining operation meets the following conditions:

1. The Discharger has determined and justified in the SWPPP that it is impracticable to implement the monitoring requirements in this General Permit for the inactive mining operation;

2. A SWPPP has been signed (wet signature and license number) by a California licensed professional engineer and is being implemented in accordance with the requirements of this General Permit; and,

3. The facility is in compliance with this General Permit, except as provided in subsection B below.

B. The Discharger who has certified and submitted that they meet the conditions in subsection A above, are not subject to the following General Permit requirements:

1. Monitoring Implementation Plan in Section X.I;

2. Monitoring Requirements in Section XI;

3. Exceedance Response Actions (ERAs) in Section XII; and,

4. Annual Report Requirements in Section XVI.

C. Inactive Mining Operation Certification Submittal Schedule

1. The Discharger shall certify and submit via SMARTS NOI coverage PRDs listed in Section II.B.1 and meet the conditions in subsection A above.

2. The Discharger shall annually inspect the inactive mining site and certify via SMARTS no later than July 15th of each reporting year, that their inactive mining operation continues to meet the conditions in subsection A above.

3. The Discharger shall have a California licensed professional engineer review and update the SWPPP if there are changes to their inactive mining operation or additional BMPs are needed to comply with this General Permit. Any significant updates to the SWPPP shall be signed (wet signature and license number) by a California license professional engineer.

4. The Discharger shall certify and submit via SMARTS any significantly revised SWPPP within 30 days of the revision(s).

XIV. COMPLIANCE GROUPS AND COMPLIANCE GROUP LEADERS

A. Compliance Group Qualification Requirements

1. Any group of Dischargers of the same industry type or any QISP representing Dischargers of the same industry type may form a Compliance Group. A Compliance Group shall consist of Dischargers that operate facilities with similar types of industrial activities, pollutant sources, and pollutant characteristics (e.g., scrap metals recyclers would join a different group than paper recyclers, truck vehicle maintenance facilities would join a different group than airplane vehicle maintenance facilities, etc.). A Discharger participating in a Compliance Group is termed a Compliance Group Participant. Participation in a Compliance Group is not required. Compliance Groups may be formed at any time.

2. Each Compliance Group shall have a Compliance Group Leader.

3. To establish a Compliance Group, the Compliance Group Leader shall register as a Compliance Group Leader via SMARTS. The registration shall include documentation demonstrating compliance with the Compliance Group qualification requirements above and a list of the Compliance Group Participants.

4. Each Compliance Group Participant shall register as a member of an established Compliance Group via SMARTS.

5. The Executive Director of the State Water Board may review Compliance Group registrations and/or activities for compliance with the requirements of this General Permit. The Executive Director may reject the Compliance Group, the Compliance Group Leader, or individual Compliance Group Participants within the Compliance Group.

B. Compliance Group Leader Responsibilities

1. A Compliance Group Leader must complete a State Water Board sponsored or approved training program for Compliance Group Leaders.

2. The Compliance Group Leader shall assist Compliance Group Participants with all compliance activities required by this General Permit.

3. A Compliance Group Leader shall prepare a Consolidated Level 1 ERA Report for all Compliance Group Participants with Level 1 status for the same parameter. Compliance Group Participants who certify and submit these Consolidated Level 1 ERA Reports are subject to the same provisions as individual Dischargers with Level 1 status, as described in Section XII.C. A Consolidated Level 1 ERA Report is equivalent to a Level 1 ERA Report.

4. The Compliance Group Leader shall update the Consolidated Level 1 ERA Report as needed to address additional Compliance Group Participants with ERA Level 1 status.

5. A Compliance Group Leader shall prepare a Level 2 ERA Action Plan specific to each Compliance Group Participant with Level 2 status. Compliance Group Participants who certify and submit these Level 2 ERA Action Plans are subject to the same provisions as individual Dischargers with Level 2 status, as described in Section XII.D.

6. A Compliance Group Leader shall prepare a Level 2 ERA Technical Report specific to each Compliance Group Participant with Level 2 status. Compliance Group Participants who certify and submit these Level 2 ERA Technical Reports are subject to the same provisions as individual Dischargers with Level 2 status, as described in Section XII.D.

7. The Compliance Group Leader shall inspect all the facilities of the Compliance Group Participants that have entered Level 2 status prior to preparing the individual Level 2 ERA Technical Report.

8. The Compliance Group Leader shall revise the Consolidated Level 1 ERA Report, individual Level 2 ERA Action Plans, or individual Level 2 Technical Reports in accordance with any comments received from the Water Boards.

9. The Compliance Group Leader shall inspect all the facilities of the Compliance Group Participants at a minimum of once per reporting year (July 1 to June 30).

C. Compliance Group Participant Responsibilities

1. Each Compliance Group Participant is responsible for permit compliance for the Compliance Group Participant's facility and for ensuring that the Compliance Group Leader's activities related to the Compliance Group Participant's facility comply with this General Permit.

2. Compliance Group Participants with Level 1 status shall certify and submit via SMARTS the Consolidated Level 1 ERA Report. The Compliance Group Participants shall certify that they have reviewed the Consolidated Level 1 ERA Report and have implemented any required additional BMPs. Alternatively, the Compliance Group Participant may submit an individual Level 1 ERA Report in accordance with the provisions in Section XII.C.2.

3. Compliance Group Participants with Level 2 status shall certify and submit via SMARTS their individual Level 2 ERA Action Plan and Technical Report prepared by their Compliance Group Leader. Each Compliance Group Participant shall certify that they have reviewed the Level 2 ERA Action Plan and Technical Report and will implement any required additional BMPs.

4. Compliance Group Participants can at any time discontinue their participation in their associated Compliance Group via SMARTS. Upon discontinuation, the former Compliance Group Participant is immediately subject to the sampling and analysis requirements described in Section XI.B.2.

XV. ANNUAL COMPREHENSIVE FACILITY COMPLIANCE EVALUATION (ANNUAL EVALUATION)

The Discharger shall conduct one Annual Evaluation for each reporting year (July 1 to June 30). If the Discharger conducts an Annual Evaluation fewer than eight (8) months, or more than sixteen (16) months, after it conducts the previous Annual Evaluation, it shall document the justification for doing so. The Discharger shall revise the SWPPP, as appropriate, and implement the revisions within 90 days of the Annual Evaluation. At a minimum, Annual Evaluations shall consist of:

A. A review of all sampling, visual observation, and inspection records conducted during the previous reporting year;

B. An inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the storm water conveyance system;

C. An inspection of all drainage areas previously identified as having no exposure to industrial activities and materials in accordance with the definitions in Section XVII;

D. An inspection of equipment needed to implement the BMPs;

E. An inspection of any BMPs;

F. A review and effectiveness assessment of all BMPs for each area of industrial activity and associated potential pollutant sources to determine if the BMPs are properly designed, implemented, and are effective in reducing and preventing pollutants in industrial storm water discharges and authorized NSWDs; and,

G. An assessment of any other factors needed to comply with the requirements in Section XVI.B.

XVI. ANNUAL REPORT

A. The Discharger shall certify and submit via SMARTS an Annual Report no later than July 15th following each reporting year using the standardized format and checklists in SMARTS.

B. The Discharger shall include in the Annual Report:

1. A Compliance Checklist that indicates whether a Discharger complies with, and has addressed all applicable requirements of this General Permit;

2. An explanation for any non-compliance of requirements within the reporting year, as indicated in the Compliance Checklist;

3. An identification, including page numbers and/or sections, of all revisions made to the SWPPP within the reporting year; and,

4. The date(s) of the Annual Evaluation.

XVII. CONDITIONAL EXCLUSION - NO EXPOSURE CERTIFICATION (NEC)

A. Discharges composed entirely of storm water that has not been exposed to industrial activity are not industrial storm water discharges. Dischargers are conditionally excluded from complying with the SWPPP and monitoring requirements of this General Permit if all of the following conditions are met:

1. There is no exposure of Industrial Materials and Activities to rain, snow, snowmelt, and/or runoff;

2. All unauthorized NSWDs have been eliminated and all authorized NSWDs meet the conditions of Section IV;

3. The Discharger has certified and submitted via SMARTS PRDs for NEC coverage pursuant to the instructions in Section II.B.2; and,

4. The Discharger has satisfied all other requirements of this Section.

B. NEC Specific Definitions

1. No Exposure - all Industrial Materials and Activities are protected by a Storm-Resistant Shelter to prevent all exposure to rain, snow, snowmelt, and/or runoff.

2. Industrial Materials and Activities - includes, but is not limited to, industrial material handling activities or equipment, machinery, raw materials, intermediate products, by-products, final products, and waste products.

3. Material Handling Activities - includes the storage, loading and unloading, transportation, or conveyance of any industrial raw material, intermediate product, final product, or waste product.

4. Sealed - banded or otherwise secured, and without operational taps or valves.

5. Storm-Resistant Shelters - includes completely roofed and walled buildings or structures. Also includes structures with only a top cover supported by permanent supports but with no side coverings, provided material within the structure is not subject to wind dispersion (sawdust, powders, etc.), or track-out, and there is no storm water discharged from within the structure that comes into contact with any materials.

C. NEC Qualifications

To qualify for an NEC, a Discharger shall:

1. Except as provided in subsection D below, provide a Storm-Resistant Shelter to protect Industrial Materials and Activities from exposure to rain, snow, snowmelt, run-on, and runoff;

2. Inspect and evaluate the facility annually to determine that storm water exposed to industrial materials or equipment has not and will not be discharged to waters of the United States. Evaluation records shall be maintained for five (5) years in accordance with Section XXI.J.4;

3. Register for NEC coverage by certifying that there are no discharges of storm water contaminated by exposure to Industrial Materials and Activities from areas of the facility subject to this General Permit, and certify that all unauthorized NSWDs have been eliminated and all authorized NSWDs meet the conditions of Section IV (Authorized NSWDs). NEC coverage and annual renewal requires payment of an annual fee in accordance with California Code of Regulations, title 23, section 2200 et seq.; and,

4. Submit PRDs for NEC coverage shall be prepared and submitted in accordance with the:

   a. Certification requirements in Section XXI.K; and,

   b. Submittal schedule in accordance with Section II.B.2.

D. NEC Industrial Materials and Activities - Storm-Resistant Shelter Not Required

To qualify for NEC coverage, a Storm-Resistant Shelter is not required for the following:

1. Drums, barrels, tanks, and similar containers that are tightly Sealed, provided those containers are not deteriorated, do not contain residual industrial materials on the outside surfaces, and do not leak;

2. Adequately maintained vehicles used in material handling;

3. Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt);

4. Any Industrial Materials and Activities that are protected by a temporary shelter for a period of no more than ninety (90) days due to facility construction or remodeling; and,

5. Any Industrial Materials and Activities that are protected within a secondary containment structure that will not discharge storm water to waters of the United States.

E. NEC Limitations

1. NEC coverage is available on a facility-wide basis only, not for individual outfalls. If a facility has industrial storm water discharges from one or more drainage areas that require NOI coverage, Dischargers shall register for NOI coverage for the entire facility through SMARTS in accordance with Section II.B.2. Any drainage areas on that facility that would otherwise qualify for NEC coverage may be specially addressed in the facility SWPPP by including an NEC Checklist and a certification statement demonstrating that those drainage areas of the facility have been evaluated; and that none of the Industrial Materials or Activities listed in subsection C above are, or will be in the foreseeable future, exposed to precipitation.

2. If circumstances change and Industrial Materials and Activities become exposed to rain, snow, snowmelt, and/or runoff, the conditions for this exclusion shall no longer apply. In such cases, the Discharger may be subject to enforcement for discharging without a permit. A Discharger with NEC coverage that anticipates changes in circumstances should register for NOI coverage at least seven (7) days before anticipated exposure.

3. The Regional Water Board may deny NEC coverage and require NOI coverage upon determining that:

   a. Storm water is exposed to Industrial Materials and Activities; and/or

   b. The discharge has a reasonable potential to cause or contribute to an exceedance of an applicable water quality standards.

F. NEC Permit Registration Documents Required for Initial NEC Coverage

A Discharger shall submit via SMARTS the following PRDs for NEC coverage to document the applicability of the conditional exclusion:

1. The NEC form, which includes:

   a. The legal name, postal address, telephone number, and e-mail address of the Discharger;

   b. The facility business name and physical mailing address, the county name, and a description of the facility location if the facility does not have a physical mailing address; and,

   c. Certification by the Discharger that all PRDs submitted are correct and true and the conditions of no exposure have been met.

2. An NEC Checklist prepared by the Discharger demonstrating that the facility has been evaluated; and that none of the following industrial materials or activities are, or will be in the foreseeable future, exposed to precipitation:

a. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed;

b. Materials or residuals on the ground or in storm water inlets from spills/leaks;

c. Materials or products from past industrial activity;

d. Material handling equipment (except adequately maintained vehicles);

e. Materials or products during loading/unloading or transporting activities;

f. Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);

g. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

h. Materials or products handled/stored on roads or railways owned or maintained by the Discharger;

i. Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);

j. Application or disposal of processed wastewater (unless already covered by an NPDES permit); and,

k. Particulate matter or visible deposits of residuals from roof stacks/vents evident in the storm water outflow.

3. Site Map (see Section X.E).

G. Requirements for Annual NEC Coverage Recertification

By October 1 of each reporting year beginning in 2015, any Discharger who has previously registered for NEC coverage shall either submit and certify an NEC demonstrating that the facility has been evaluated, and that none of the Industrial Materials or Activities listed above are, or will be in the foreseeable future, exposed to precipitation, or apply for NOI coverage.

H. NEC Certification Statement

All NEC certifications and re-certifications shall include the following certification statement:

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of 'no exposure' and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities

or materials from the industrial facility identified in this document (except as allowed in subsection C above). I understand that I am obligated to submit a no exposure certification form annually to the State Water Board and, if requested, to the operator of the local Municipal Separate Storm Sewer System (MS4) into which this facility discharges (where applicable). I understand that I must allow the Water Board staff, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

XVIII. SPECIAL REQUIREMENTS - PLASTIC MATERIALS

A. Facilities covered under this General Permit that handle Plastic Materials are required to implement BMPs to eliminate discharges of plastic in storm water in addition to the other requirements of this General Permit that are applicable to all other Industrial Materials and Activities. Plastic Materials are virgin and recycled plastic resin pellets, powders, flakes, powdered additives, regrind, dust, and other similar types of preproduction plastics with the potential to discharge or migrate off-site. Any Dischargers' facility handling Plastic Materials will be referred to as Plastics Facilities in this General Permit. Any Plastics Facility covered under this General Permit that manufactures, transports, stores, or consumes these materials shall submit information to the State Water Board in their PRDs, including the type and form of plastics, and which BMPs are implemented at the facility to prevent illicit discharges. Pursuant to Water Code section 13367, Plastics Facilities are subject to mandatory, minimum BMPs.

1. At a minimum, Plastics Facilities shall implement and include in the SWPPP:

   a. Containment systems at each on-site storm drain discharge location down gradient of areas containing plastic material. The containment system shall be designed to trap all particles retained by a 1mm mesh screen, with a treatment capacity of no less than the peak flow rate from a one-year, one-hour storm.

   b. When a containment system is infeasible, or poses the potential to cause an illicit discharge, the facility may propose a technically feasible

alternative BMP or suite of BMPs. The alternative BMPs shall be designed to achieve the same or better performance standard as a 1mm mesh screen with a treatment capacity of the peak flow rate from a one-year, one-hour storm. Alternative BMPs shall be submitted to the Regional Water Board for approval.

c. Plastics Facilities shall use durable sealed containers designed not to rupture under typical loading and unloading activities at all points of plastic transfer and storage.

d. Plastics Facilities shall use capture devices as a form of secondary containment during transfers, loading, or unloading Plastic Materials. Examples of capture devices for secondary containment include, but are not limited to catch pans, tarps, berms or any other device that collects errant material.

e. Plastics Facilities shall have a vacuum or vacuum-type system for quick cleanup of fugitive plastic material available for employees.

f. Pursuant to Water Code section 13367(e)(1), Plastics Facilities that handle Plastic Materials smaller than 1mm in size shall develop a containment system designed to trap the smallest plastic material handled at the facility with a treatment capacity of at least the peak flow rate from a one-year, one-hour storm, or develop a feasible alternative BMP or suite of BMPs that are designed to achieve a similar or better performance standard that shall be submitted to the Regional Water Board for approval.

2. Plastics Facilities are exempt from the Water Code requirement to install a containment system under section 13367 of the Water Code if they meet one of the following requirements that are determined to be equal to, or exceed the performance requirements of a containment system:

   a. The Discharger has certified and submitted via SMARTS a valid No Exposure Certification (NEC) in accordance with Section XVII; or

   b. Plastics Facilities are exempt from installing a containment system, if the following suite of eight (8) BMPs is implemented. This combination of BMPs is considered to reduce or prevent the discharge of plastics at a performance level equivalent to or better than the 1mm mesh and flow standard in Water Code section 13367(e)(1).

      i. Plastics Facilities shall annually train employees handling Plastic Materials. Training shall include environmental hazards of plastic discharges, employee responsibility for corrective actions to prevent errant Plastic Materials, and standard procedures for containing, cleaning, and disposing of errant Plastic Materials.

ii. Plastics Facilities shall immediately fix any Plastic Materials containers that are punctured or leaking and shall clean up any errant material in a timely manner.

iii. Plastics Facilities shall manage outdoor waste disposal of Plastic Materials in a manner that prevents the materials from leaking from waste disposal containers or during waste hauling.

iv. Plastics Facilities that operate outdoor conveyance systems for Plastic Materials shall maintain the system in good operating condition. The system shall be sealed or filtered in such a way as to prevent the escape of materials when in operation. When not in operation, all connection points shall be sealed, capped, or filtered so as to not allow material to escape. Employees operating the conveyance system shall be trained how to operate in a manner that prevents the loss of materials such as secondary containment, immediate spill response, and checks to ensure the system is empty during connection changes.

v. Plastics Facilities that maintain outdoor storage of Plastic Materials shall do so in a durable, permanent structure that prevents exposure to weather that could cause the material to migrate or discharge in storm water.

vi. Plastics Facilities shall maintain a schedule for regular housekeeping and routine inspection for errant Plastic Materials. The Plastics Facility shall ensure that their employees follow the schedule.

vii. PRDs shall include the housekeeping and routine inspection schedule, spill response and prevention procedures, and employee training materials regarding plastic material handling.

viii. Plastics Facilities shall correct any deficiencies in the employment of the above BMPs that result in errant Plastic Materials that may discharge or migrate off-site in a timely manner. Any Plastic Materials that are discharged or that migrate off-site constitute an illicit discharge in violation of this General Permit.

XIX. REGIONAL WATER BOARD AUTHORITIES

A. The Regional Water Boards may review a Discharger's PRDs for NOI or NEC coverage and administratively reject General Permit coverage if the PRDs are deemed incomplete. The Regional Water Boards may take actions that include rescinding General Permit coverage, requiring a Discharger to revise and re-submit their PRDs (certified and submitted by the Discharger) within a specified time period, requiring the Discharger to apply for different General Permit coverage or a different individual or general permit, or taking no action.

B. The Regional Water Boards have the authority to enforce the provisions and requirements of this General Permit. This includes, but is not limited to,

reviewing SWPPPs, Monitoring Implementation Plans, ERA Reports, and Annual Reports, conducting compliance inspections, and taking enforcement actions.

C. As appropriate, the Regional Water Boards may issue NPDES storm water general or individual permits to a Discharger, categories of Dischargers, or Dischargers within a watershed or geographic area. Upon issuance of such NPDES permits, this General Permit shall no longer regulate the affected Discharger(s).

D. The Regional Water Boards may require a Discharger to revise its SWPPP, ERA Reports, or monitoring programs to achieve compliance with this General Permit. In this case, the Discharger shall implement these revisions in accordance with a schedule provided by the Regional Water Board.

E. The Regional Water Boards may approve requests from a Discharger to include co-located, but discontiguous, industrial activities within the same facility under a single NOI or NEC coverage.

F. Consistent with 40 Code of Federal Regulations section 122.26(a)(9)(i)(D), the Regional Water Boards may require any discharge that is not regulated by this General Permit, that is determined to contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States, to be covered under this General Permit as appropriate. Upon designation, the Discharger responsible for the discharge shall obtain coverage under this General Permit.

G. The Regional Water Boards may review a Discharger's Inactive Mining Operation Certification and reject it at any time if the Regional Water Board determines that access to the facility for monitoring purposes is practicable or that the facility is not in compliance with the applicable requirements of this General Permit.

H. All Regional Water Board actions that modify a Discharger's obligations under this General Permit must be in writing and should also be submitted in SMARTS.

XX. SPECIAL CONDITIONS

A. Reopener Clause

This General Permit may be reopened and amended to incorporate TMDL-related provisions. This General Permit may also be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, water quality control plans or water quality control policies, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations sections 122.62, 122.63, 122.64, and 124.5.

B. Water Quality Based Corrective Actions

1. Upon determination by the Discharger or written notification by the Regional Water Board that industrial storm water discharges and/or authorized NSWDs contain pollutants that are in violation of Receiving Water Limitations (Section VI), the Discharger shall:

    a. Conduct a facility evaluation to identify pollutant source(s) within the facility that are associated with industrial activity and whether the BMPs described in the SWPPP have been properly implemented;

    b. Assess the facility's SWPPP and its implementation to determine whether additional BMPs or SWPPP implementation measures are necessary to reduce or prevent pollutants in industrial storm water discharges to meet the Receiving Water Limitations (Section VI); and,

    c. Certify and submit via SMARTS documentation based upon the above facility evaluation and assessment that:

        i. Additional BMPs and/or SWPPP implementation measures have been identified and included in the SWPPP to meet the Receiving Water Limitations (Section VI); or

        ii. No additional BMPs or SWPPP implementation measures are required to reduce or prevent pollutants in industrial storm water discharges to meet the Receiving Water Limitations (Section VI).

2. The Regional Water Board may reject the Dischargers water quality based corrective actions and/or request additional supporting documentation.

C. Requirements for Dischargers Claiming "No Discharge" through the Notice of Non-Applicability (NONA)

1. For the purpose of the NONA, the Entity (Entities) is referring to the person(s) defined in section 13399.30 of the Water Code.

2. Entities who are claiming "No Discharge" through the NONA shall meet the following eligibility requirements:

    a. The facility is engineered and constructed to have contained the maximum historic precipitation event (or series of events) using the precipitation data collected from the National Oceanic and Atmospheric Agency's website (or other nearby precipitation data available from other government agencies) so that there will be no discharge of industrial storm water to waters of the United States; or,

    b. The facility is located in basins or other physical locations that are not hydrologically connected to waters of the United States.

3. When claiming the "No Discharge" option, Entities shall submit and certify via SMARTS both the NONA and a No Discharge Technical Report. The No

Discharge Technical Report shall demonstrate the facility meets the eligibility requirements described above.

4. The No Discharge Technical Report shall be signed (wet signature and license number) by a California licensed professional engineer.

XXI. STANDARD CONDITIONS

A. Duty to Comply

Dischargers shall comply with all standard conditions in this General Permit. Permit noncompliance constitutes a violation of the Clean Water Act and the Water Code and is grounds for enforcement action and/or removal from General Permit coverage.

Dischargers shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions.

B. Duty to Reapply

Dischargers that wish to continue an activity regulated under this General Permit after the expiration date of this General Permit shall apply for and obtain authorization from the Water Boards as required by the new general permit once it is issued.

C. General Permit Actions

1. This General Permit may be modified, revoked and reissued, or terminated for cause. Submittal of a request by the Discharger for General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

2. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.

D. Need to Halt or Reduce Activity Not a Defense

In an enforcement action, it shall not be a defense for a Discharger that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

E. Duty to Mitigate

Dischargers shall take all responsible steps to reduce or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Proper Operation and Maintenance

Dischargers shall at all times properly operate and maintain any facilities and systems of treatment and control (and related equipment and apparatuses) which are installed or used by the Discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a Discharger when necessary to achieve compliance with the conditions of this General Permit.

G. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges. It also does not authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of federal, state, or local laws and regulations.

H. Duty to Provide Information

Upon request by the relevant agency, Dischargers shall provide information to determine compliance with this General Permit to the Water Boards, U.S. EPA, or local Municipal Separate Storm Sewer System (MS4) within a reasonable time. Dischargers shall also furnish, upon request by the relevant agency, copies of records that are required to be kept by this General Permit.

I. Inspection and Entry

Dischargers shall allow the Water Boards, U.S. EPA, and local MS4 (including any authorized contractor acting as their representative), to:

1. Enter upon the premises at reasonable times where a regulated industrial activity is being conducted or where records are kept under the conditions of this General Permit;

2. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

3. Inspect the facility at reasonable times; and,

4. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

J. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. If Dischargers monitor any pollutant more frequently than required, the results of such monitoring shall be included in the calculation and reporting of the data submitted.

3. Records of monitoring information shall include:

   a. The date, exact location, and time of sampling or measurement;

   b. The date(s) analyses were performed;

   c. The individual(s) that performed the analyses;

   d. The analytical techniques or methods used; and,

   e. The results of such analyses.

4. Dischargers shall retain, for a period of at least five (5) years, either a paper or electronic copy of all storm water monitoring information, records, data, and reports required by this General Permit. Copies shall be available for review by the Water Board's staff at the facility during scheduled facility operating hours.

5. Upon written request by U.S. EPA or the local MS4, Dischargers shall provide paper or electronic copies of Annual Reports or other requested records to the Water Boards, U.S. EPA, or local MS4 within ten (10) days from receipt of the request.

K. Electronic Signature and Certification Requirements

1. All Permit Registration Documents (PRDs) for NOI and NEC coverage shall be certified and submitted via SMARTS by the Discharger's Legally Responsible Person (LRP). All other documents may be certified and submitted via SMARTS by the LRP or by their designated Duly Authorized Representative.

2. When a new LRP or Duly Authorized Representative is designated, the Discharger shall ensure that the appropriate revisions are made via SMARTS. In unexpected or emergency situations, it may be necessary for the Discharger to directly contact the State Water Board's Storm Water Section to register for SMARTS account access in order to designate a new LRP.

3. Documents certified and submitted via SMARTS by an unauthorized or ineligible LRP or Duly Authorized Representative are invalid.

4. LRP eligibility is as follows:

    a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function; or

        ii. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

    b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;

    c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. This includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).

5. Duly Authorized Representative eligibility is as follows:

    a. The Discharger must authorize via SMARTS any person designated as a Duly Authorized Representative;

    b. The authorization shall specify that a person designated as a Duly Authorized Representative has responsibility for the overall operation of the regulated facility or activity, such as a person that is a manager, operator, superintendent, or another position of equivalent responsibility, or is an individual who has overall responsibility for environmental matters for the company; and,

    c. The authorization must be current (it has been updated to reflect a different individual or position) prior to any report submittals, certifications, or records certified by the Duly Authorized Representative.

L. Certification

Any person signing, certifying, and submitting documents under Section XXI.K above shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

M. Anticipated Noncompliance

Dischargers shall give advance notice to the Regional Water Board and local MS4 of any planned changes in the industrial activity that may result in noncompliance with this General Permit.

N. Penalties for Falsification of Reports

Clean Water Act section 309(c)(4) provides that any person that knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

O. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the initiation of any legal action or relieve the Discharger from any responsibilities, liabilities, or penalties to which the Discharger is or may be subject to under section 311 of the Clean Water Act.

P. Severability

The provisions of this General Permit are severable; if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

Q. Penalties for Violations of Permit Conditions

1. Clean Water Act section 309 provides significant penalties for any person that violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act or any permit condition or limitation implementing any such section in a permit issued under section 402. Any

person that violates any permit condition of this General Permit is subject to a civil penalty not to exceed $37,500[22] per calendar day of such violation, as well as any other appropriate sanction provided by section 309 of the Clean Water Act.

2. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which may be greater than penalties under the Clean Water Act.

R. Transfers

Coverage under this General Permit is non-transferrable. When operation of the facility has been transferred to another entity, or a facility is relocated, new PRDs for NOI and NEC coverage must be certified and submitted via SMARTS prior to the transfer, or at least seven (7) days prior to the first day of operations for a relocated facility.

S. Continuation of Expired General Permit

If this General Permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 Code of Federal Regulations 122.6 and remain in full force and effect.

[22] May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FACT SHEET FOR
STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
NPDES NO. CAS000001

*The factsheet to the IGP was updated in January 2015 to correct typographical errors. The deadline listed in Section I.D.13 (page 8) and Section II.G.1 (page 27) of the factsheet for dischargers with outfalls to ocean waters to develop and implement a monitoring program in compliance with the California Ocean Plan model monitoring provisions was corrected to July 1, 2015, which is the deadline listed in finding 44 in the general order.

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I. BACKGROUND

A. Purpose

The purpose of this Fact Sheet is to explain the legal requirements and technical rationale that serve as the basis for the requirements of this Order 2014-0057-DWQ (General Permit), adopted by the State Water Resources Control Board (State Water Board) on April 1, 2014. This General Permit regulates operators of facilities subject to storm water permitting (Dischargers), that discharge storm water associated with industrial activity (industrial storm water discharges). This General Permit replaces Water Quality Order 97-03-DWQ**.** This Fact Sheet does not contain any independently-enforceable requirements; the General Permit contains all of the actual requirements applicable to Dischargers. In case of any conflict between the Fact Sheet and the General Permit, the terms of the General Permit govern.

B. History

The Federal Clean Water Act (CWA)[1] prohibits discharges from point sources to waters of the United States, unless the discharges are in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. (CWA § 301(a).) In 1987, the CWA was amended to establish a framework for regulating municipal storm water discharges and discharges of storm water associated with industrial activity (industrial storm water discharges) under the NPDES program. (CWA § 402(p).) In 1990, the United States Environmental Protection Agency (U.S. EPA) promulgated regulations, commonly known as Phase I, establishing application requirements for storm water permits for specified categories of industries. (40 C.F.R. § 122.26.) In 1992, U.S. EPA revised the monitoring requirements for industrial storm water discharges. (40 C.F.R. § 122.44(i)(2), (4), (5).) In 1999, U.S. EPA adopted additional storm water regulations, known as Phase II. (64 Fed. Reg. 68722.) The Phase II regulations provide for, among other things, a conditional exclusion from NPDES permitting requirements for industrial activities that have no exposure to storm water.

Industrial storm water discharges are regulated pursuant to CWA section 402(p)(3)(A). This provision requires NPDES permits for industrial storm water discharges to implement CWA section 301, which includes requirements for Dischargers to comply with technology-based effluent limitations, and any more stringent water quality-based limitations necessary to meet water quality standards. Technology-based effluent limitations applicable to industrial activities are based on best conventional pollutant control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. (CWA § 301(b)(1)(A) and (2)(A).) To ensure compliance with water quality standards, NPDES permits may also require a Discharger to implement best management practices (BMPs). 40 Code of Federal Regulations section 122.44(k)(4) requires the use of BMPs to control or abate the discharge of pollutants when numeric effluent limitations (NELs) are infeasible. The State Water Board has concluded that it is infeasible to establish

[1] Federal Water Pollution Control Act of 1970 (also referred to as the Clean Water Act or CWA), 33 U.S.C. § 1201 et seq. All further statutory references herein are to the CWA unless otherwise indicated.

NELs for storm water discharges associated with industrial activity due to insufficient information at the time of adoption of this General Permit.

On April 17, 1997, the State Water Board issued NPDES General Permit for Industrial Storm Water Discharges, Excluding Construction Activities, Water Quality Order 97-03-DWQ (previous permit). This General Permit, Order 2014-0057-DWQ rescinds the previous permit and serves as the statewide general permit for industrial storm water discharges. The State Water Board concludes that significant revisions to the previous permit requirements are necessary for implementation, consistency and objective enforcement. As discussed in this Fact Sheet, this General Permit requires Dischargers to:

- Eliminate unauthorized non-storm water discharges (NSWDs);
- Develop and implement storm water pollution prevention plans (SWPPPs) that include best management practices (BMPs);
- Implement minimum BMPs, and advanced BMPs as necessary, to achieve compliance with the effluent and receiving water limitations of this General Permit;
- Conduct monitoring, including visual observations and analytical storm water monitoring for indicator parameters;
- Compare monitoring results for monitored parameters to applicable numeric action levels (NALs) derived from the U.S. EPA 2008 Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (2008 MSGP) and other industrial storm water discharge monitoring data collected in California;
- Perform the appropriate Exceedance Response Actions (ERAs) when there are exceedances of the NALs; and,
- Certify and submit all permit-related compliance documents via the Storm Water Multiple Application and Report Tracking System (SMARTS). Dischargers shall certify and submit these documents which include, but are not limited to, Permit Registration Documents (PRDs) including Notices of Intent (NOIs), No Exposure Certifications (NECs), and Storm Water Pollution Prevention Plans (SWPPPs), as well as Annual Reports, Notices of Termination (NOTs), Level 1 ERA Reports, and Level 2 ERA Technical Reports.

C. Blue Ribbon Panel of Experts (Panel)

In 2005 and 2006, the State Water Board convened a Blue Ribbon Panel of Experts (Panel) to address the feasibility of NELs in California's storm water permits. Specifically, the Panel was charged with answering the following questions:

> Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits?

How would such limitations or criteria be established, and what information and data would be required? [2]

The Panel was directed to answer these questions for industrial storm water discharge general permits, construction storm water discharge general permits, and area-wide municipal storm water discharge permits. The Panel was also directed to address both technology-based and water quality based limitations and criteria.

In evaluating the establishment of numeric limitations and criteria, the Panel was directed to consider all of the following:

- The ability of the State Water Board to establish appropriate objective limitations or criteria;
- How compliance is to be determined;
- The ability of Dischargers and inspectors to monitor for compliance; and
- The technical and financial ability of Dischargers to comply with the limitations or criteria.

Following an opportunity for public comment, the Panel identified several water quality concerns, public process and program effectiveness issues. A summary of the Panel's recommendations regarding industrial storm water discharges follows:[3]

- Current data are inadequate; accordingly, the State Water Board should improve monitoring requirements to collect useful data for establishing NALs and NELs.
- Required parameters for further monitoring should be consistent with the type of industrial activity (i.e., monitor for heavy metals when there is a reasonable expectation that the industrial activity will contribute to increased heavy metals concentrations in storm water).
- Insofar as possible, the use of California data (or national data applicable to California) is preferred when setting NELs and NALs.
- Industrial facilities that do not discharge to Municipal Separate Storm Sewer Systems (MS4s) should implement BMPs for their non-industrial exposure (e.g., parking lots, roof runoff) similar to BMPs implemented by commercial facilities in MS4 jurisdictions.

[2] State Water Board Storm Water Panel of Experts, The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 19, 2006). <http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/numeric/swpanel_final_report.pdf>. [as of February 4, 2014].

[3] See footnote 2.

- In all cases, Dischargers should implement a suite of minimum BMPs, including, but not limited to, good housekeeping practices, employee training, and preventing exposure of materials to rain.

- Standard Industrial Classification (SIC) code categories are not a satisfactory way of identifying industrial activities at any given site. The State Water Board should develop an improved method of characterizing industrial activities that will improve water quality in storm water.

- Recognizing that implementing the Panel's suggested changes is a large task, the State Water Board should set priorities for implementation of the Panel's suggested approach in order to achieve the greatest reduction of pollutants statewide.

- Recognizing that an increasing number of industries have moved industrial activities indoors to prevent storm water pollution, such facilities should be granted regulatory relief from NALs and/or NELs , but should still be required to comply with any applicable MS4 permit requirements.

- Recognizing the need for improved monitoring and reduction of pollutants in industrial storm water discharges, the State Water Board should consider the total economic impact of its requirements to not economically penalize California industries when compared to industries outside of California.

With regard to the industrial activities component of its charge, the Panel limited its focus to the question of whether sampling data can be used to derive technology-based NELs. The Panel did not address other factors or approaches that may relate to the task of determining technology- and water quality-based NELs consistent with the regulations and law. Examples of these other factors are discussed in more detail in this Fact Sheet. Additionally, in its final report the Panel did not clearly differentiate between the role of numeric and non-numeric effluent limitations, nor did it consider U.S. EPA procedures used to promulgate effluent limitation guidelines (ELGs) in 40 Code of Federal Regulations, Chapter I, Subchapter N (Subchapter N).

D. Summary of Significant Changes in this General Permit

The previous permit issued by the State Water Board on April 17, 1997, had been administratively extended since 2002 until the adoption of this General Permit. Significant revisions to the previous permit were necessary to update permit requirements consistent with recent regulatory changes pertaining to industrial storm water under the CWA. This General Permit differs from the previous permit in the following areas:

1. Minimum Best Management Practices (BMPs)

   This General Permit requires Dischargers to implement a set of minimum BMPs. Implementation of the minimum BMPs, in combination with any advanced BMPs (BMPs, collectively,) necessary to reduce or prevent pollutants in industrial storm water discharges, serve as the basis for compliance with this General Permit's

technology-based effluent limitations and water quality based receiving water limitations. Although there is great variation in industrial activities and pollutant sources between industrial sectors and, in some cases between operations within the same industrial sector, the minimum BMPs specified in this General Permit represent common practices that can be implemented by most facilities.

The previous permit did not require a minimum set of BMPs but rather allowed Dischargers to consider which non-structural BMPs should be implemented and which structural BMPs should be considered for implementation when non-structural BMPs are ineffective.

This General Permit requires Dischargers to implement minimum BMPs (which are mostly non-structural BMPs), and advanced BMPs (which are mostly structural BMPs) when implementation of the minimum BMPs do not meet the requirements of the General Permit. Advanced BMPs consists of treatment control BMPs, exposure reduction BMPs, and storm water containment and discharge reduction BMPs. BMPs that exceed the performance expectation of minimum BMPs are considered advanced BMPs. Dischargers are encouraged to utilize advanced BMPs that infiltrate or reuse storm water where feasible.

The minimum and advanced BMPs required in this General Permit are consistent with U.S. EPA's 2008 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2008 MSGP), guidance developed by the California Stormwater Quality Association, and recommendations by Regional Water Quality Control Board (Regional Water Board) inspectors. Dischargers are required to evaluate BMPs being implemented and determine an appropriate interval for the implementation and inspection of these BMPs.

2. Conditional Exclusion - No Exposure Certification (NEC)

   This General Permit applies U.S. EPA Phase II regulations regarding a conditional exclusion for facilities that have no exposure of industrial activities and materials to storm water. (40 C.F.R. § 122.26(g).) (The previous permit required light industries to obtain coverage only if their activities were exposed to storm water.) This General Permit implements current U.S. EPA rules allowing any type of industry to claim a conditional exclusion. The NEC requires enrollment for coverage prior to conditionally excluding a Discharger from a majority of this General Permit's requirements.

3. Electronic Reporting Requirements

   This General Permit requires Dischargers to submit and certify all reports electronically via SMARTS. The previous permit used a paper reporting process with electronic reporting as an option.

4. Training Expectations and Roles

   This General Permit requires that Dischargers arrange to have appropriately trained personnel implementing this General Permit's requirements at each facility. In

addition, if a Discharger's facility enters Level 1 status, the Level 1 ERA Report must be prepared by a Qualified Industrial Storm Water Practitioner (QISP). All Action Plans and Technical Reports required in Level 2 status must also be prepared by a QISP.

Dischargers may appoint a staff person to complete the QISP training or may contract with an outside QISP. QISP training is tailored to persons with a high degree of technical knowledge and environmental experience. Although QISPs do not need to be California licensed professional engineers, it may be necessary to involve a California licensed professional engineer to perform certain aspects of the Technical Reports.

5. Numeric Action Levels (NALs) and NAL Exceedances

This General Permit contains two types of NAL exceedances. An annual NAL exceedance occurs when the average of all sampling results within a reporting year for a single parameter (except pH) exceeds the applicable annual NAL. The annual NALs are derived from, and function similarly to, the benchmark values provided in the 2008 MSGP. Instantaneous maximum NALs target hot spots or episodic discharges of pollutants. An instantaneous maximum NAL exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the applicable instantaneous maximum NAL value. Instantaneous maximum NALs for Total Suspended Solids (TSS) and Oil and Grease (O&G) are based on previously gathered California industrial storm water discharge monitoring data. The instantaneous maximum NAL for pH is derived from the benchmark value provided in the 2008 MSGP.

6. Exceedance Response Actions (ERA)

This General Permit requires Dischargers to develop and implement ERAs, when an annual NAL or instantaneous maximum NAL exceedance occurs during a reporting year. The first time an annual NAL or instantaneous maximum NAL exceedance occurs for any one parameter, a Discharger's status is changed from Baseline to Level 1 status, and the Discharger is required to evaluate and revise, as necessary, its BMPs (with the assistance of a QISP) and submit a report prepared by a QISP. The second time an annual NAL or instantaneous maximum NAL exceedance occurs for the same parameter in a subsequent reporting year, the Discharger's status is changed from Level 1 to Level 2 status, and Dischargers are required to submit a Level 2 ERA Action Plan and a Level 2 ERA Technical Report. Unless the demonstration is not accepted by the State Water Board or a Regional Water Board, the Discharger is not required to perform additional ERA requirements for the parameter(s) involved if the Discharger demonstrates that:

a. Additional BMPs required to eliminate NAL exceedances are not technologically available or economically practicable and achievable; or,

b. NAL exceedances are solely caused by non-industrial pollutant sources; or,

c. NAL exceedances are solely attributable to pollutants from natural background sources.

Information supporting the above demonstrations must be included in QISP-prepared Level 2 ERA Technical Reports.

7. CWA section 303(d) Impairment

This General Permit requires a Discharger to monitor additional parameters if the discharge(s) from its facility contributes pollutants to receiving waters that are listed as impaired for those pollutants (CWA section 303(d) listings). This General Permit lists the receiving waters that are 303(d) listed as impaired for pollutants that are likely to be associated with industrial storm water in Appendix 3. For example, if a Discharger discharges to a water body that is listed as impaired for copper, and the discharge(s) from its facility has the potential sources of copper, the Discharger must add copper to the list of parameters to monitor in its storm water discharge.

8. Design Storm Standards for Treatment Control BMPs

This General Permit includes design storm standards for Dischargers implementing treatment control BMPs. The design storm standards include both volume- and flow-based criteria. Dischargers are not required to retrofit existing treatment control BMPs unless required to meet the technology-based effluent limitations and receiving water limitations in this General Permit.

9. Qualifying Storm Event (QSE)

This General Permit defines a QSE as a precipitation event that:

a. Produces a discharge for at least one drainage area; and,

b. Is preceded by 48 hours with no discharge from any drainage area.

The definition above differs from the definition in the previous permit, resulting in an increase number of QSEs eligible for sample collection. Therefore, most Dischargers will be able to collect the required number of samples, regardless of their facility location.

10. Sampling Protocols

This General Permit requires Dischargers to collect samples during scheduled facility operating hours from each drainage location within four hours of: (1) the start of the discharge from a QSE occurring during scheduled facility operating hours, or (2) the start of scheduled facility operating hours if the QSE occurred in the previous twelve (12) hours. The benefits of this sampling protocol: (a) allows a more reasonable amount of time to collect samples, (b) increases the likelihood for samples collected at discharge locations to be representative of the drainage area discharge characteristics, (c) increases the number of QSEs eligible for sample collection, and, (d) reduces the likelihood of Dischargers collecting samples with short-term concentration spikes.

The previous permit required that Dischargers collect grab samples during the first hour of discharge that commenced during scheduled facility operating hours. These sample collection requirements were widely considered to be too rigid and out of step with other states' sample collection requirements. Since many storm events begin in the evening or early morning hours, numerous opportunities to collect samples were lost because Dischargers could not obtain samples during the first hour of discharge. Dischargers with facilities that have multiple discharge locations had difficulties collecting samples within such a short timeframe therefore affecting data quality.

11. Sampling Frequency

This General Permit increases the sampling frequency by requiring the Discharger to collect and analyze storm water samples from each discharge location for two (2) QSEs within the first half of each reporting year (July 1 to December 31), and two (2) QSEs within the second half of each reporting year (January 1 to June 30). The increased sampling, compared to the previous permit's two samples during the wet season, is consistent with the 2008 MSGP and other states' permit requirements and will improve compliance determination with this General Permit. The State Water Board expects that the elimination of the wet season sampling requirements will increase the number of possible QSEs eligible for monitoring.

12. Compliance Groups

To allow industrial facilities to efficiently share knowledge, skills and resources towards achieving General Permit compliance, this General Permit allows the formation of Compliance Groups and Compliance Group Leaders. Dischargers participating in a Compliance Group (Compliance Group Participants) are collectively required to sample twice a year. Compliance Group Leaders are required to be approved through the State Water Board-approved training program process, inspect each facility once within each reporting year, and prepare Level 1 and Level 2 ERA reports as necessary. The Compliance Group option is described in more detail in General Permit section XIV and in this Fact Sheet in the Section titled "Compliance Groups."

13. Discharges to Ocean Waters

This General Permit requires Dischargers with ocean-discharging outfalls subject to model monitoring provisions of the California Ocean Plan to develop and implement a monitoring plan in compliance with those provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan model monitoring provisions by July 1, 2015 or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.

II. TECHNICAL RATIONALE FOR REQUIREMENTS IN THIS GENERAL PERMIT

A. Receiving General Permit Coverage

1. This General Permit provides regulatory coverage for new and existing industrial storm water discharges and authorized NSWDs from:

   a. Facilities required by federal regulations to obtain an NPDES permit;

   b. Facilities designated by the Regional Water Boards to obtain an NPDES permit; and,

   c. Facilities directed by the Regional Water Boards to obtain coverage specifically under this General Permit. The Regional Water Board typically directs a Discharger to change General Permit coverage under two circumstances:

      (1) switch from an individual NPDES permit to this General Permit, or

      (2) switch from the NPDES General Permit for Storm Water Discharges Associated with Construction And Land Disturbance Activities, (Order 2009-0009-DWQ, NPDES No CAS000002 (to this General Permit for long-term construction related activities that are similar to industrial activities (e.g. concrete batch plants).

40 Code of Federal Regulations section 122.26(b)(14) defines "storm water discharge associated with industrial activity" and describes the types of facilities subject to permitting (primarily by Standard Industrial Classification (SIC) code). This General Permit provides regulatory coverage for all facilities with industrial activities described in Attachment A where the covered industrial activity is the Discharger's primary industrial activity. In some instances, a Discharger may have more than one primary industrial activity occurring at a facility.

The 1987 SIC manual uses the term "establishment" to determine the primary economic activity of a facility. The manual instructs that where distinct and separate economic activities are performed at a single location, each activity should be treated as a separate establishment (and, therefore, separate primary activity). For example, the United States Navy (primary SIC code 9711) may conduct industrial activities subject to permitting under this General Permit, such as landfill operations (SIC code 4953), ship and boat building and repair (SIC code 3731, and flying field operations (SIC code 4581).

The SIC manual also discusses "auxiliary" functions of establishments. Auxiliary functions provide management or support services to the establishment. Examples of auxiliary functions are warehouses and storage facilities for the establishment's own materials, maintenance and repair shops of the establishment's own machinery, automotive repair shops or storage garages of the establishment's own vehicles, administrative offices, research, development, field engineering support, and testing conducted for the establishment. When auxiliary functions are performed at physically separate facilities from the establishment they serve, they generally are not subject to General Permit coverage. If

auxiliary functions are performed at the same physical location as the establishment, then they are subject to General Permit coverage if they are associated with industrial activities.

This clarification does not change the scope of which facilities are subject to permitting relative to the 1997 IGP. The 1997 IGP Fact Sheet had used the term "auxiliary" to describe a facility's separate primary activities, which has caused confusion.

In 1997, the North American Industrial Classification System (NAICS) was published, replacing the SIC code system. The U.S. EPA has indicated that it intends to incorporate the NAICS codes into the federal storm water regulations but has not done so yet. The State Water Board recognizes that many Dischargers in newer industries were not included in the 1987 SIC code manual and may have difficulty determining their SIC code information. To address this transition, SMARTS has been modified to accept both SIC codes and NAICS codes, and NAICS codes are automatically translated into SIC codes. There may be instances of conflict between SIC and NAICS codes. The use of NAICS codes shall not expand or reduce the types of industries subject to this General Permit as compared to the SIC codes listed in the General Permit. State Water Board staff will work closely with the applicant to resolve these conflicts in SMARTS as they are identified. Dischargers should be aware that the use of an NAICS code which results in failure to submit any of the required PRDs under this General Permit remains a violation of the terms of this General Permit.

The facilities included in category one of Attachment A (facilities subject to Subchapter N) are subject to storm water ELGs that are incorporated into the requirements of this General Permit. Dischargers whose facilities are included in this category must examine the appropriate federal ELGs to determine the applicability of those guidelines. This General Permit contains additional requirements (Section XI.D) that apply only to facilities with storm water ELGs.

2. Types of Discharges Not Covered by this General Permit

   a. Discharges from construction and land disturbance activities that are subject to the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit).

   b. Discharges covered by an individual or general storm water NPDES permit. Some industrial storm water discharges may be regulated by other individual or general NPDES permits issued by the State Water Board or the Regional Water Boards (Water Boards, collectively,). This General Permit shall not regulate these discharges. When the individual or general NPDES permits for such discharges expire, the Water Boards may authorize coverage under this General Permit or another general NPDES permit, or may issue a new individual NPDES permit consistent with the federal and state storm water regulations. Interested parties may request that the State Water Board or appropriate Regional Water Board issue individual or general NPDES permits for specific discharges that, in their view are not properly regulated through this General Permit. General permits may be issued for a particular industrial group or watershed area which

would supersede this General Permit. To date, two Regional Water Board have issued such permits:

i. The Lahontan Regional Water Board has adopted an NPDES permit and general Waste Discharge Requirements to regulate discharges from marinas and maintenance dredging (Regional Water Board Order R6T-2005-0015 - NPDES Permit No. CAG616003) in the Lake Tahoe Hydrologic Unit.

ii. The Santa Ana Regional Water Board adopted the Sector Specific General Permit for Stormwater Runoff Associated with Industrial Activities from Scrap Metal Recycling Facilities within the Santa Ana Region, Order R8-2012-0012, NPDES Permit No. CAG 618001 (Scrap Metal Recycling Permit). The Scrap Metal Recycling Permit is applicable to facilities within the Santa Ana Region that are listed under Standard Industrial Classification (SIC) Code 5093 and engaged in the following types of activities: (1) automotive wrecking for scrap-wholesale (this category does not include facilities engaged in automobile dismantling for the primary purpose of selling second hard parts); (2) iron and steel scrap - wholesale; (3) junk and scrap metal - wholesale; (4) metal waste and scrap - wholesale; and (5) non-ferrous metals scrap - wholesale. Other types of facilities listed under SIC Code 5093 and engaged in waste recycling are not required to get coverage under the Scrap Metal Recycling Permit. A list of covered facilities as of February 8, 2011 was included in Attachment A of the Scrap Metal Recycling Permit.

c. Discharges that the Regional Water Boards determine to be ineligible for coverage under this General Permit. In such cases, a Regional Water Board will require the discharges be covered by another individual or general NPDES permit. The applicability of this General Permit to such discharges is terminated when the discharge is subject to another individual or general NPDES permit.

d. Discharges that do not enter waters of the United States. These include:

i. Discharges to municipal separate sanitary sewer systems;

ii. Discharges to evaporation ponds, discharges to percolation ponds, and/or any other methods used to retain and prevent industrial storm water discharges from entering waters of the United States;

iii. Discharges to combined sewer systems. In California, the only major combined sewer systems are located in San Francisco and downtown Sacramento. Dischargers who believe they discharge into a combined sewer system should contact the local Regional Water Board to verify discharge location; and,

iv. Dischargers Claiming the “No Discharge” Option in the Notice of Non-Applicability (NONA) (Fact Sheet Section II.S).

e. Discharges from mining operations or oil and gas facilities composed entirely of flows that are from conveyances or systems of conveyances used for collecting and conveying precipitation runoff and do not come into contact with any overburden, raw materials, intermediate products, finished products, by-products, or waste products located at the facility. (33 U.S.C. § 1342(l)(2).)

f. Discharges from facilities on Tribal Lands regulated by U.S. EPA.

3. Obtaining General Permit Coverage (Section II of this General Permit)

   The State Water Board has developed the SMARTS online database system to handle registration and reporting under this General Permit. More information regarding SMARTS and access to the database is available online at https://smarts.waterboards.ca.gov. The State Water Board has determined that all documents related to general storm water enrollment and compliance must be certified and submitted via SMARTS by Dischargers.

   This General Permit requires all Dischargers to electronically certify and submit PRDs via SMARTS to obtain: (1) regulatory coverage, or (2) to certify that there are no industrial activities exposed to storm water at the facility and obtain regulatory coverage under the NEC provision of this General Permit. Facilities that were eligible to self-certify no exposure under the previous permit (see category 10 in Attachment 1 of the previous permit) are required to certify and submit via SMARTS PRDs for NOI coverage under this General Permit by July 1, 2015 or for NEC coverage by October 1, 2015. The Water Board is estimating that 10,000 – 30,000 Dischargers may be registering for NOI or NEC coverage under this General Permit. Separate registration deadlines, one for NOI coverage and one for NEC coverage, provides Dischargers better assistance from Storm Water Helpdesk and staff.

   Dischargers shall electronically certify and submit the PRDs via SMARTS for each individual facility. This requirement is intended to establish a clear accounting of the name, address, and contact information for each Discharger, as well as a description of each Discharger's facility.

   The Water Boards recognize that certain information pertaining to an industrial facility may be confidential. Many Stakeholders were asking for clarification on the process the Water Boards would use to manage confidential information or the process Dischargers could use to redact such information. Dischargers may redact trade secrets information from required submittals (Section II.B.3.d). Dischargers are required to include a general description of the redacted information and the basis for the redaction. Dischargers are still required to submit complete and un-redacted versions of the information to the Water Boards within 30 days, however these versions should be clearly labeled "CONFIDENTIAL" so that the confidentiality of these documents is clear to Regional Water Board staff, even when there is a change in staff. This General Permit requires that all information provided to the Water Boards by the Discharger comply with the Homeland Security Act and other federal law that addresses security in the United States.

   All Dischargers who certify and submit PRDs via SMARTS for NOI coverage on or after July 1, 2015 or for NEC coverage on or after October 1, 2015, shall immediately comply with the provisions in this General Permit.

4. General Permit Coverage for Landfills

   This General Permit covers storm water discharges from landfills, land application sites, and open dumps that receive or have received industrial waste from any facility covered by this General Permit. Industrial storm water discharges from these

facilities must be covered by this General Permit unless (1) they are already covered by another NPDES permit, or (2) the Regional Water Board has determined that an NPDES permit is not required because the site has been stabilized or required closure activities have been completed.

In most cases, it is appropriate for new landfill construction or final closure to be covered by the Construction General Permit, rather than this General Permit. Questions have arisen as to what constitutes new landfill construction at an existing landfill versus the normal planned expansion of a landfill. Similarly, questions have arisen about the type of closure activities that may be subject to the Construction General Permit versus the normal closure of "cells" that occurs during continued landfill operations and are not subject to the Construction General Permit. Other questions such as whether temporary or permanent newly graded/paved roads disturbing greater than one acre at a landfill are subject to the Construction General Permit. Landfill Dischargers have asked for clarity regarding these questions. The previous permit required Dischargers to contact the Regional Water Boards to determine permit appropriateness. Site specific circumstances continue to require Dischargers to contact Regional Water Boards for final determinations.

Based upon the State Water Board's storm water program history, there are only a handful of instances where an operating landfill has been simultaneously subject to both the construction and industrial permitting requirements. Typically a landfill is subject to the construction permitting requirements during the time the landfill is initially constructed and prior to operation. A landfill is subject to the industrial permitting requirements during landfill operations, and subject to the construction permitting requirements during final landfill closure activities.

Once a landfill begins operations, continued expansion or closure of incremental landfill cells is authorized under the industrial permitting requirements since these are normal aspects of landfill operations. These expansion/closure activities occur within a limited timeframe (often taking less than 90 days from beginning to end) and are not separately subject to additional local approval (e.g., a new building permit). Any construction or demolition of temporary non-impervious roads directly related to landfill operations are subject to the industrial permitting requirements.

Construction or closure of a separate section of the landfill that is either subject to additional permitting by the local authorities and/or lasts more than 90 days requires coverage under the Construction General Permit. Construction of permanent facility structures such as buildings and impervious parking lots or roads that disturb greater than one acre are also subject to the Construction General Permit. (Permanent facility structures are defined as any structural improvements designed to remain until the landfill is closed.)

Site specific circumstances such as proximity to nearby waterways, extent of activities, pollutants of concern, and other considerations can impact any decision as to whether a particular activity is to be regulated under this General Permit or the Construction General Permit. Regional Water Boards will continue to exercise their discretion as necessary to protect the beneficial uses of the receiving water(s).

5. General Permit Coverage for Small Municipal Separate Storm Sewer Systems (MS4s)

   Section 1068 of the Intermodal Surface Transportation Efficiency Act of 1991 exempted municipal agencies serving populations of less than 100,000 from Phase I permit requirements other than sanitary landfills, power plants, and airports facilities. U.S. EPA's Phase II regulations eliminated the above exemption as of March 10, 2003. All facilities in Attachment A of this General Permit that are operated by a small municipal agency are subject to NPDES storm water permitting requirements and this General Permit.

6. Changes to General Permit Coverage

   Dischargers who no longer operate a facility required to be covered under this General Permit (either NOI or NEC coverage) are required to electronically certify and submit via SMARTS a Notice of Termination (NOT). An NOT is required when there is a change in ownership of the industrial activities subject to permitting or when industrial activities subject to permitting are permanently discontinued by the Discharger at the site. When terminating NOI coverage, Dischargers may only submit an NOT once all exposure of industrial materials and equipment have been eliminated. Dischargers may not submit NOTs for temporary or seasonal facility closures. The General Permit requires Dischargers to implement appropriate BMPs to reduce or prevent pollutants in storm water discharges during the temporary facility closure.

   This General Permit allows Dischargers to change General Permit coverage, as appropriate, from NOI coverage to NEC coverage or from NEC coverage to NOI coverage.

B. Discharge Prohibitions

This General Permit covers industrial storm water discharges and authorized NSWDs from industrial facilities and prohibits any discharge of materials other than storm water and authorized NSWDs (Section III and Section IV of this General Permit). It is a violation of this General Permit to discharge hazardous substances in storm water in excess of the reportable quantities established in 40 Code of Federal Regulations sections 117.3 and 302.4.

The State Water Board is authorized, under Water Code section 13377, to issue NPDES permits which apply and ensure compliance with all applicable provisions of the CWA, and any more stringent limitations necessary to implement water quality control plans, protect beneficial uses, and prevent nuisance.

C. Non-Storm Water Discharges (NSWDs)

Unauthorized NSWDs can be generated from various pollutant sources. Depending upon their quantity and location where generated, unauthorized NSWDs can discharge to the storm drain system during dry weather as well as during a storm event (comingled with storm water discharge). These NSWDs can consist of, but are not limited to; (1) waters generated by the rinsing or washing of vehicles, equipment,

buildings, or pavement, or (2) fluid, particulate or solid materials that have spilled, leaked, or been disposed of improperly.

Some NSWDs are not directly related to industrial activities and normally discharge minimal pollutants when properly managed. Section IV of this General Permit provides a limited list of NSWDs that are authorized if Dischargers implement BMPs to prevent contact with industrial materials prior to discharge. The list in Section IV is similar to the list provided in the 2008 MSGP but does not include pavement and external building surfaces washing without detergents. These two items are not included because the Discharger is responsible to reduce or prevent pollutants in storm water discharges from paved areas and buildings associated with industrial activities. Since industrial materials and non-industrial material likely co-exist, the washing of paved areas and external building surfaces may result in discharges of pollutants associated with industrial activities. In addition, washing activities generally occur during dry-weather periods when receiving water flows are lower than wet-weather periods. Wash waters are likely to discharge in higher concentrations than would occur if these pollutants were naturally discharged during a storm event. The discharge of high concentration wash water during a time of dry-weather flows is inconsistent with the goal of protecting receiving waters. These discharges are, therefore, considered unauthorized NSWDs. Similar to the 2008 MSGP, firefighting related discharges are not subject to this General Permit.

A major required element of the SWPPP is the identification and measures for elimination of unauthorized NSWDs. Unauthorized NSWDs can contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping can often be addressed through BMPs. This General Permit's BMP requirements for NSWDs remain essentially unchanged from the previous permit other than the increased frequency of required visual observations from quarterly to monthly. See Section XI.A.1 of this General Permit.

D. Effluent Limitations

1. Technology-Based and Water Quality-Based Effluent Limitations

   CWA Section 301(b)(1)(C) requires that discharges from existing facilities must, at a minimum, comply with technology-based effluent limitations based on the technological capability of Dischargers to control pollutants in their discharges. Discharges must also comply with any more stringent water quality-based limitations necessary to meet water quality standards in accordance with CWA Section 301(b)(1)(C). Water quality-based limitations are discussed in Section E of this Fact Sheet titled "Receiving Water Limitations." Both technology-based effluent limitations and water quality-based limitations are implemented through NPDES permits. (CWA sections 301(a) and (b).)

2. Types of Technology-Based Effluent Limitations

   All NPDES permits are required to contain technology-based effluent limitations (TBELs). (40 C.F.R. §§122.44(a)(1) and 125.3.) TBELs may consist of effluent limitations guidelines (ELGs) established by U.S. EPA through regulation, or may be developed using best professional judgment on a case-by-case basis.

The CWA sets forth standards for TBELs based on the type of pollutant or the type of facility/source involved. The CWA establishes two levels of pollution control for existing sources. For the first level, existing sources that discharge pollutants directly to receiving waters were initially subject to effluent limitations based on the "best practicable control technology currently available" (BPT). (33 U.S.C. § 1314(b)(1)(B).) BPT applies to all pollutants. For the second level, existing sources that discharge conventional pollutants are subject to effluent limitations based on the "best conventional pollutant control technology" (BCT). (33 U.S.C. §1314(b)(4)(A); see also 40 C.F.R. §401.16 (list of conventional pollutants).) Also for the second level, other existing sources that discharge toxic pollutants or "nonconventional" pollutants ("nonconventional" pollutants are pollutants that are neither "toxic" nor "conventional") are subject to effluent limitations based on "best available technology economically achievable" (BAT). (33 U.S.C. §1311(b)(2)(A); see also 40 C.F.R. §401.15 (list of toxic pollutants).) The factors to be considered in establishing the levels of these control technologies are specified in section 304(b) of the CWA and in U.S. EPA's regulations at 40 C.F.R. §125.3.

When establishing ELGs for an industrial category, U.S. EPA evaluates a wide variety of technical factors to determine BPT, BCT, and BAT. U.S. EPA considers the specific factors of an industry such as pollutant sources, industrial processes, and the size and scale of operations. U.S. EPA evaluates the specific treatment, structural, and operational source control BMPs available to reduce or prevent pollutants in the discharges. The costs of implementing BMPs to address these factors are weighed against their effectiveness and ability to protect water quality. Factors such as industry economic viability, economies of scale, and retrofit costs are also considered.

To date, U.S. EPA has: (1) not promulgated storm water ELGs for most industrial categories, (2) not established NELs within all ELGs that have been promulgated, and (3) exempted certain types of facilities within an industrial category from complying with established ELGs. The feedlot category (40 Code of Federal Regulations part 412) provides an example of several of these points. In that instance, U.S. EPA did not establish numeric effluent limitations but instead: (1) established a narrative effluent limitation requiring retention of all feedlot-related runoff from a 25-year, 24-hour storm, and (2) limited application of the ELG to feedlots with a minimum number of animals. U.S. EPA also recently promulgated ELGs for the "Construction and Development (C&D)" industry, which included, among many other limitations, conditional numeric effluent limitations. Though the NELs in these ELGs were later stayed by U.S. EPA, the ELGs exempted construction sites of less than 30 acres from complying with the established numeric effluent limitations.

40 Code of Federal Regulations, Chapter I, Subchapter N ("Subchapter N"), includes over 40 separate industrial categories where the U.S. EPA has established ELGs for new and existing industrial wastewater discharges to surface waters, discharges to publicly owned treatment works (pre-treatment standards), and storm water discharges to surface waters. Generally, U.S. EPA has focused its efforts on the development of ELGs for larger industries and those industries with the greatest potential to pollute. In total, the 40 categories for which ELGs have been

established (not including construction) represent less than 10 percent of the types of facilities subject to this General Permit. Additionally, most ELGs focus on industrial process wastewater discharges and pre-treatment standards, and only 11 of the 40 categories establish numeric or narrative ELGs for industrial storm water discharges. Those that do include ELGs for industrial storm water discharges generally address storm water discharges that are generated from direct contact with primary pollutant sources at the subject facilities, and not the totality of the industrial storm water discharge from the facility, as the term "storm water discharge associated with industrial activity" for this General Order is defined in the CWA. (40 C.F.R. § 122.26(b)(14).) Where U.S. EPA has not issued effluent limitation guidelines for an industry, the State Water Board is required to establish effluent limitations for NPDES permits on a case-by-case basis based on best professional judgment (BPJ). (33 U.S.C. § 1342(a)(1); 40 C.F.R. § 125.3(c)(2).) In this General Permit, most of the TBELs are based on BPJ decision-making because no ELG applies.

The TBELs in this General Permit represent the BPT (for conventional, toxic, and non-conventional pollutants), BCT (for conventional pollutants), and BAT (for toxic pollutants and non-conventional pollutants) levels of control for the applicable pollutants. If U.S. EPA has not promulgated ELGs for an industry, or if a Discharger is discharging a pollutant not covered by the otherwise applicable ELG, the State Water Board is required to establish effluent limitations in NPDES permit limitations based on best professional judgment. (33 U.S.C. § 1342(a)(1); 40 C.F.R. 125.3(c).) This General Permit includes TBELS established on best professional judgment and limitations based on storm water-specific ELGs listed in Attachment F of this General Permit, where applicable.

3. Authority to Include Non-Numeric Technology-Based Limits in NPDES Permits

TBELs in this General Permit are based on best professional judgment and are non-numeric ("narrative") technology-based effluent limitations expressed as requirements for implementation of effective BMPs. Federal regulations provide that permits must include BMPs to control or abate the discharge of pollutants when where "[n]umeric effluent limitations are infeasible." 40 C.F.R. 122.44(k)(3).

Since 1977, courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., BMPs) designed to reduce the level of effluent discharges to acceptable levels. Natural Res. Def. Council, Inc. v. Costle, 568 F.2d 1369 (D.C.Cir.1977).

U.S. EPA has also interpreted the CWA to allow BMPs to take the place of numeric effluent limitations under certain circumstances. 40 C.F.R. §122.44(k), titled "Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs ...)," provides that permits may include BMPs to control or abate the discharge of pollutants when: (1) "[a]uthorized under section 402(p) of the CWA for the control of stormwater discharges"; or (2) "[n]umeric effluent limitations are infeasible." 40 C.F.R. § 122.44(k).

In 2006, The U.S. Court of Appeals for the Sixth Circuit held that the CWA does not require U.S. EPA to set numeric limits where such limits are infeasible. (Citizens Coal Council v. United States Environmental Protection Agency, 447 F.3d 879, 895-96 (6th Cir. 2006)). The Citizens Coal court cited to the statement in Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486, 502 (2d Cir. 2005) that "site-specific BMPs are effluent limitations under the CWA" in concluding that "the EPA's inclusion of numeric and non-numeric limitations in the guideline for the coal remining subcategory was a reasonable exercise of its authority under the CWA." (447 F.3d at 896.) Additionally, the Citizen's Coal court cited to Natural Res. Def. Council, Inc. v. EPA, 673 F.2d 400, 403 (D.C.Cir.1982) noting that "section 502(11) [of the CWA] defines 'effluent limitation' as 'any restriction' on the amounts of pollutants discharged, not just a numerical restriction." NPDES permit writers have substantial discretion to impose non-quantitative permit requirements pursuant to section 402(a)(1)), especially when the use of numeric limits is infeasible. (NRDC v. EPA, 822 F.2d 104, 122-24 (D.C. Cir. 1987); 40 C.F.R. 122.44(k)(3).)

4. Decision to Include Non-Numeric Technology-Based Effluent Limits in This General Permit

   It is infeasible for the State Water Board to develop numeric effluent limitations using the best professional judgment approach due to lack of sufficient information. Previous versions of this General Permit required Dischargers to sample their industrial storm water discharges and report the results to the Regional Water Boards. Dischargers were not required to submit this data online into a statewide database; as a result, much of this data is not available for analysis. Moreover, much of the data that are available for analysis are not of sufficient quality to make conclusions or perform basic statistical tests.

   The Blue Ribbon Panel of Experts, State Water Board staff, and many stakeholders evaluated the available storm water data set and concluded that the information provides limited value due to the limited pool of industrial facilities submitting data, poor overall data quality, and extreme variance within the dataset, as described below.

   The poor quality of the existing data set is attributable a number of factors. For example, the previous permits have required Dischargers to sample during the first hour of discharge from two storm events a year. This sampling schedule was designed to catch what was considered to represent the higher end of storm water discharge concentrations for most parameters. The results from this type of sampling were thought to be an indicator of whether or not additional BMPs would be necessary. The sampling schedule was not designed, however, to estimate pollutant discharge loading, or to characterize the impact of the discharge on the receiving water. Doing so would normally require the use of more advanced sampling protocols such as flow meters, continuous automatic sampling devices, certified/trained sampling personnel, and other facility-specific considerations.

   Furthermore, there is currently no data which details the relationship between the BMPs implemented at each facility and the facility's sampling results. The SWPPPs required by the previous permits were not submitted to the Water Boards, but were

kept onsite by Dischargers. Due to the limited availability of quality sampling data and "level of effort" information contained in SWPPPs, the State Water Board is unable to exercise best professional judgment to make the connection between effluent quality (sampling results) and the level of effort, costs, and performance of the various technologies that is needed in order to express the TBELs in this General Permit numerically, as NELs.

Some stakeholders have suggested that separating the data sets by industry type would lead to more reliable data with which to develop NELs. Advocates of this approach suggest that the variability of the data may be caused in part by the mixing of data from different industrial categories. The State Water Board believes that the variation is primarily due to storm intensity, duration, time of year, soil saturation or some other factors. It is necessary to collect information related to those factors and BMPs implemented in order to evaluate the variability attributable to those factors. There is currently too large of an information gap to begin the process of developing NELs for all industrial sectors not currently subject to ELGs.

The State Water Board has proposed NELs in past drafts of this General Permit. In comments, many stakeholders have highlighted the difficulty of developing statewide NELs that are applicable to all industry sectors, or even NELs that cover any specific industry sectors. For example, stakeholders have commented that:

a. Background/ambient conditions in some hydrogeologic zones may contribute pollutant loadings that would significantly contribute to, if not exceed, the NEL values;

b. Some advanced treatment technologies have flow/volume limitations as well as economy of scale issues for smaller facilities;

c. Treatment technologies that require that sheet flows be captured and conveyed via discrete channels or basins may not only result in significant retrofit costs, but may conflict with local ordinances that prohibit such practices, as they can cause damage or erosion to down gradient property owners, or cause other environmental problems;

d. There is insufficient regulatory guidance and procedures to allow permit writers to properly specify monitoring frequency and sampling protocols (e.g., instantaneous maximum, 1-day average, 3-day average, etc.), and for Dischargers to obtain representative samples to compare to NELs for the purpose of strict compliance; and,

e. NELs must be developed with consideration of what is economically achievable for each industrial sector. These stakeholders point out that the U.S. EPA goes to great lengths evaluating the various BMP technologies available for a particular pollutant, the costs and efficiency of each BMP, and the applicability of the BMPs to the industry as a whole or to a limited number of industrial sites based upon the size of the facility, the quantity of material, and other considerations.

The State Water Board does not have the information (including monitoring data, industry specific information, BMP performance analyses, water quality information, monitoring guidelines, and information on costs and overall effectiveness of control technologies) necessary to promulgate NELs at the time of adoption of this General Permit. Therefore, it is infeasible to include NELs in this statewide General Permit.

Many of the new requirements in this General Permit have been designed to address the shortcomings of previous permits and the existing storm water data set. Under this General Permit, sampling results must be certified and submitted into SMARTS by Dischargers, along with SWPPPs which outline the technologies and BMPs used to control pollutants at each facility. The ERA process will also collect information on costs and the engineering aspects of the various control technologies employed by each facility. Previous permit versions did not have a mechanism for receiving this site specific information electronically, and only a small percentage of Dischargers submitted their Annual Reports via SMARTS. This General Permit will make this information more accessible, allowing the Water Boards to evaluate the relationship between BMPs and the ability of facilities to meet the NALs set forth in this General Permit. Finally, the new Qualified Industrial Storm Water Practitioner (QISP) training requirements of this General Permit have been designed in part to improve the quality of the data submitted.

5. Narrative Technology-Based Effluent Limitations (TBELs) and Best Management Practices (BMPs)

   The primary TBEL in this General Permit requires Dischargers to "implement BMPs that comply with the BAT/BCT requirements of this General Permit to reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability." (Section V.A of this General Permit). This TBEL is a restatement of the BAT/BCT standard, as articulated by U.S. EPA in the 2008 MSGP and accompanying Fact Sheet. In order to comply with this TBEL, Dischargers must implement BMPs that meet or exceed the BAT/BCT technology-based standard. The requirement to "reduce or prevent" is equivalent to the requirement in the federal regulations that BMPs be used in lieu of NELs to "control or abate" the discharge of pollutants. (40 C.F.R. § 122.44(k).)

   BMPs are defined as the "scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to reduce or prevent the discharge of pollutants… includ[ing] treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage." (40 C.F.R. § 122.2.)

   This General Permit (Sections X.H.1 and X.H.2) requires all Dischargers to implement minimum BMPs, as well as any advanced BMPs that are necessary to adequately reduce or prevent pollutants in discharges consistent with the TBELs. The minimum BMPs specified in this General Permit represent common practices that can be implemented by most facilities. This General Permit generally does not mandate the specific mode of design, installation or implementation for the minimum BMPs at a Discharger's facility. It is up to the Discharger, in the first instance, to

determine what must be done to meet the applicable effluent limits. For example, Section X.H.1.a.vi of this General Permit requires Dischargers to contain all stored non-solid industrial materials that can be transported or dispersed via wind or contact with storm water. How this is achieved will vary by facility: for some facilities, all activities may be moved indoors, while for others this will not be feasible. However, even for the latter, many activities may be moved indoors, others may be contained using tarps or a containment system, while still other activities may be limited to times when exposure to precipitation is not likely. Each of these control measures is acceptable and appropriate depending upon the facility-specific circumstances.

BMPs can be actions (including processes, procedures, schedules of activities, prohibitions on practices and other management practices), or structural or installed devices to reduce or prevent water pollution. (40 C.F.R. § 122.2.) They can be just about anything that is effective at preventing pollutants from entering the environment, and for meeting applicable limits of this General Permit. In this General Permit, Dischargers are required to select, design, install, and implement facility-specific control measures to meet these limits. Many industrial facilities already have such control measures in place for product loss prevention, accident and fire prevention, worker health and safety or to comply with other environmental regulations. Dischargers must tailor the BMPs detailed in this General Permit to their facilities, as well as improve upon them as necessary to meet permit limits. The examples detailed in this Fact Sheet emphasize prevention over treatment. However, sometimes more traditional end-of-pipe treatment may be necessary, particularly where a facility might otherwise cause or contribute to an exceedance of water quality standards.

This General Permit requires Dischargers to implement BMPs "to the extent feasible." Consistent with the control level requirements of the CWA, for the purposes of this General Permit, the requirement to implement BMPs "to the extent feasible" means to reduce and/or prevent discharges of pollutants using BMPs that represent BAT and BPT in light of best industry practice.[4] In other words, Dischargers are required to select, design, install and implement BMPs that reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering their technological availability and economic practicability and achievability.

To determine technological availability and economic practicability and achievability, Dischargers need to consider what control measures are considered "best" for their industry, and then select and design control measures for their site that are viable in terms of cost and technology. The State Water Board believes that for many facilities minimization of pollutants in storm water discharges can be achieved without using highly engineered, complex treatment systems. The BMPs included in

[4] Because toxic and nonconventional pollutants are controlled in the first step by BPT and in the second step by BAT, and the second level of control is "increasingly stringent" (EPA v. National Crushed Stone, 449 U.S. 64, 69 (1980), for simplicity of discussion, the rest of this discussion will focus on BAT. Similarly, because the BAT levels of control in this General Permit are expressed as BMPs and pollution prevention measures, they will also control conventional pollutants. Therefore this discussion will focus on BAT rather than BCT or BPT for conventional pollutants.

this General Permit emphasize effective “low-tech” controls, such as regular cleaning of outdoor areas where industrial activities may take place, proper maintenance of equipment, diversion of storm water around areas where pollutants may be picked up, and effective advanced planning and training (e.g., for spill prevention and response).

E. Receiving Water Limitations and Water Quality Standards

Pursuant to CWA section 301(b)(1)(C) and Water Code section 13377, this General Permit requires compliance with receiving water limitations based on water quality standards. The primary receiving water limitation requires that industrial storm water discharges not cause or contribute to an exceedance of applicable water quality standards. Implementation of the BMPs as required by the technology-based effluent limitation in Section V of this General Permit will typically result in compliance with the receiving water limitations. The discussion of BMPs in this General Permit generally focuses on requiring implementation of BMPs to the extent necessary to achieve compliance with the technology-based effluent limitations, because the technology-based limitations apply similarly to all facilities. In addition, however, this General Permit also makes it clear that, if any individual facility's storm water discharge causes or contributes to an exceedance of a water quality standard, that Discharger must implement additional BMPs or other control measures that are tailored to that facility in order to attain compliance with the receiving water limitation. A Discharger that is notified by a Regional Water Board or who determines the discharge is causing or contributing to an exceedance of a water quality standard must comply with the Water Quality Based Corrective Actions found in Section XX.B of this General Permit.

Water Quality Based Corrective Actions are different from the Level 1 and Level 2 ERAs that result from effluent-based monitoring. It is possible for a Discharger to be engaged in Level 1 or Level 2 ERAs for one or more pollutants and simultaneously be required to perform Water Quality Based Corrective Actions for one or more other pollutants.

Failure to comply with these additional Water Quality Based Corrective Action requirements is a violation of this General Permit. If additional operational source control measures do not adequately reduce the pollutants, Dischargers must implement additional measures such as the construction of treatment systems and/or overhead coverage. Overhead coverage is any structure or temporary shelter that prevents the vertical contact of precipitation with industrial materials or activities. If the Regional Water Board determines that the Discharger’s selected BMPs are inadequate, the Regional Water Board may require implementation of additional BMPs and/or may take enforcement against Dischargers for failure to comply with this General Permit.

F. Total Maximum Daily Loads (TMDLs)

TMDLs are regulatory tools that provide the maximum amount of a pollutant from potential source in the watershed that a water body can receive while attaining water quality standards. A TMDL is defined as the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations) and non-point sources (load allocations), plus the contribution from background sources. (40 C.F.R. § 130.2, subd. (i).) Discharges covered by this General Permit are considered to be point

source discharges, and therefore must comply with effluent limitations that are "consistent with the assumptions and requirements of any available waste load allocation for the discharge prepared by the State and approved by EPA pursuant to 40 Code of Federal Regulations section 130.7." (40 C.F.R. § 122.44, subd. (d)(1)(vii).) In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement relevant water quality control plans. Many TMDLs in existing water quality control plans include both waste load allocations and implementation requirements. Attachment E of this General Permit lists the watersheds with U.S. EPA-approved and U.S. EPA-established TMDLs that include TMDL requirements for Dischargers covered by this General Permit.

NPDES-regulated storm water discharges (which include industrial storm water) must be addressed by waste load allocations in TMDLs. (40 C.F.R. § 130.2(h).) NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the waste load allocations in TMDLs. (40 C.F.R. § 122.44(d)(1)(vii)(B).) To date, the relevant waste load allocations assigned to industrial storm water discharges are not directly translatable to effluent limitations. Many of the TMDLs lack sufficient facility specific information, discharge characterization data, implementation requirements, and compliance monitoring requirements. Accordingly, an analysis of each TMDL applicable to industrial storm water discharges must to be performed to determine if it is appropriate to translate the waste load allocation into a numeric effluent limit, or if the effluent limit is to be expressed narratively using a BMP approach. U.S. EPA recognizes that because storm water discharges are highly variable in frequency and duration and are not easily characterized, it is often not feasible or appropriate to establish numeric limits. Variability and the lack of data available make it difficult to determine with precision or certainty actual and projected loadings for individual Dischargers or groups of Dischargers.

Regardless of whether the effluent limit is to be numeric or narrative, the existing waste load allocations must be carefully analyzed, and in many cases translated, to determine the appropriate effluent limitations. Issues of interpretation exist with all of the waste load allocations applicable to Dischargers, and these issues vary based on the TMDL. Below is an example of one of the simpler issues:

FIGURE 1: Example Waste Load Allocations Proposed Translation: Ballona Creek Estuary – Toxic Pollutants

Metals per Acre Waste Load Allocations for Individual General Construction or Industrial Storm Water Permittees (grams/year/acre)				
Cadmium	Copper	Lead	Silver	Zinc
0.1	3	4	0.1	13
Metals per Acre Waste Load Allocations for Individual General Construction or Industrial Storm Water Permittees (milligrams/year/acre)				
Chlordane	DDTs	Total Polychlorinated biphenyl (PCBs)	Total Polycyclic aromatic hydrocarbons (PAHs)	
0.04	0.14	2	350	

In order for the above waste load allocations to effectively be implemented as effluent limits under the General Permit, the Water Boards must (1) identify which discharges the waste load allocations apply to, (2) identify the acreages of the individual facilities, (3) convert the waste load allocations from grams/year/acre (or milligrams/year/acre) to grams/year (or milligrams/year) based on the acreage at each identified facility, (4) assign the effluent limits to the identified Dischargers, (5) determine appropriate monitoring to assess compliance with the effluent limits, and (6) develop a tracking mechanism for each identified facility and their individual effluent limits. A similar stepwise process is necessary for each TMDL with waste load allocations assigned to industrial storm water discharges. For TMDLs where effluent limits will be expressed as BMPs, analysis must to be performed to determine the appropriate BMPs and the corresponding effectiveness to comply with the assigned waste load allocations.

Some waste load allocations are already expressed as concentration based numbers. It may appear simple to incorporate these values into this General Permit as effluent limits, but the questions still remain regarding how to determine compliance. The monitoring requirements in this General Permit are not designed to measure compliance with a numeric effluent limit or to measure the effect of a discharge on a receiving water body. (See the discussion on monitoring requirements in Fact Sheet Section II.J.) This General Permit requires sampling of four (4) storm events a year, with certain limitations as to when a discharge may be sampled. This method of monitoring may not appropriately serve as TMDL compliance sampling since grab samples are only representative of the particular moment in time when the sample was taken. Since storm water is highly variable, four grab samples per year may not provide sufficient confidence that the effluent limit is being met. An alternative monitoring scheme may be necessary to determine the facility's impact on the receiving water and to determine compliance with any assigned effluent limits. Questions concerning whether sampling results should be grab samples, composite samples, flow-weighted averaged over all drainage areas, etc. cannot be determined for each concentration-based TMDL without a more thorough analysis.

Additionally, monitoring and assessment requirements must be developed for all of the TMDLs to determine compliance with or progress towards meeting TMDL requirements. The proposed monitoring requirements in this General Permit are not designed to assess pollutant loading or determine compliance with TMDL-specific effluent limits.

Due to the large number and variety of discharges subject to a wide range of TMDLs statewide, to prevent a severe delay in the adoption of this General Permit, TMDL-specific permit requirements for the TMDLs listed in Attachment E will be proposed by the Regional Water Boards. Since the waste load allocations and/or implementation requirements apply to multiple discharges in the region(s) the TMDL were developed, the development of TMDL-specific permit requirements is best coordinated at the Regional Water Board level. The development of TMDL-specific permit requirements is subject to notice and a public comment period prior to incorporation into this General Permit.

Regional Water Board staff, with the assistance of State Water Board staff, will develop and submit the proposed TMDL-specific permit requirements for each of the TMDLs listed in Attachment E by July 1, 2016.[5] After conducting a 30-day public comment period, the Regional Water Boards will propose TMDL-specific permit requirements to the State Water Board for adoption into this General Permit. The Regional Water Boards may also include TMDL-specific monitoring requirements for inclusion in this General Permit, or may issue Regional Water Board orders pursuant to Water Code section 13383 requiring TMDL-specific monitoring. The Regional Water Boards or their Executive Officers may complete these tasks, and the proposed TMDL-specific permit requirements shall have no force or effect until adopted, with or without modification, by the State Water Board. Unless directed to do so by the Regional Water Board, Dischargers are not required to take any additional actions to comply with the TMDLs listed in Attachment E until the State Water Board reopens this General Permit and includes TMDL-specific permit requirements. This approach is consistent with the 2008 MSGP. TMDL-specific permit requirements are not limited by the BAT/BCT technology-based standards.

The Regional Water Boards will submit to the State Water Board the following information for each of the TMDLs listed in Attachment E:

- Proposed TMDL-specific permit requirements, including any applicable effluent limitations, implementation timelines, additional monitoring requirements, reporting requirements, an explanation of how an exceedance of an effluent limitation or a violation of the TMDL will be determined, and required deliverables consistent with the TMDL(s);
- An explanation of how the proposed TMDL-specific permit requirements, timelines, and deliverables are consistent with the assumptions and requirements of applicable waste load allocation(s) to implement the TMDL(s);
- Where a BMP-based approach is proposed, an explanation of how the proposed BMPs will be sufficient to implement applicable waste load allocations; and
- Where concentration-based monitoring is required, an explanation of how the required monitoring, reporting and calculation methodology for an exceedance of an effluent limitation or a violation of the TMDL(s) will be sufficient to demonstrate compliance with the TMDL(s).

Upon receipt of the information described above, the State Water Board will conduct a public comment period and reopen this General Permit to populate Attachment E, the Fact Sheet, and other provisions as necessary in order to incorporate these TMDL-specific permit requirements into this General Permit. Attachment E may also be reopened during the term of this General Permit to add additional TMDLs and corresponding implementation requirements.

This General Permit (Section X.G.2.a.ix) requires a Discharger to identify any additional industrial parameters that may be discharged to a waterbody with a 303(d) impairment identified in Appendix 3 as likely to be associated with industrial storm water.

[5] Due to the workload associated with the implementation of this General Permit (e.g., training program development, NEC outreach, electronic enrollment and reporting via SMARTS) it is believed that two years in necessary for Staff to complete a comprehensive analysis and stakeholder process for TMDLS applicable to Dischargers under this General Permit.

Dischargers may need to implement additional monitoring for any applicable parameters (Section XI.B.6.e). Appendix 3 of this General Permit includes the water bodies with 303(d) impairments or TMDLs for pollutants that are likely to be associated with industrial storm water in black font, and those that are not likely to be associated with industrial storm water in red font. This determination is based on the pollutant or pollutants that are causing each impairment, and the State Water Board's general experience regarding the types of pollutants that are typically found in industrial storm water discharges. The list of waterbodies is from the State Water Boards statewide 2010 Integrated CWA Section 303(d) List / Section 305(b) Report.

Some of the water bodies with 303(d) impairments or TMDLs listed in Appendix 3 of this General Permit are not applicable to Dischargers covered under this General Permit. Appendix 3 indicates these water bodies Dischargers are not required to include in their pollutant source assessment (unless directed to do so by the Regional Water Board).

New Dischargers (as defined in Attachment C) applying for NOI coverage under this General Permit that will be discharging to an impaired water body with a 303(d) listed impairment are ineligible for coverage unless the Discharger submits data and/or information, prepared by a QISP, demonstrating that the facility will not cause or contribute to the impairment. Section VII.B of this General Permit describes the three different options New Dischargers have for making this determination. This General Permit requires a QISP to assist the New Discharger with this determination because individuals making this determination will need expertise in industrial storm water pollutant sources, BMPs and a thorough understanding of complying with U.S. EPA's storm water regulations and this General Permit's requirements. Not requiring New Dischargers to have a QISP assist in this demonstration would possibly lead to costly retrofits or closure of a new facility that has not demonstrated that the facility will not cause or contribute to the impairment.

G. Discharges Subject to the California Ocean Plan

1. Discharges to Ocean Waters

   On October 16, 2012 the State Water Board amended the California Ocean Plan (California Ocean Plan) to require industrial storm water Dischargers with outfalls discharging to ocean waters to comply with the California Ocean Plan's model monitoring provisions. The amended California Ocean Plan requires industrial storm water dischargers with outfalls discharging to ocean waters to comply with the California Ocean Plan's model monitoring provisions. These provisions require Dischargers to: (a) monitor runoff for specific parameters at all outfalls from two storm events per year, and collect at least one representative receiving water sample per year, (b) conduct specified toxicity monitoring at certain types of outfalls at a minimum of once per year, and (c) conduct marine sediment monitoring for toxicity under specific circumstances (California Ocean Plan, Appendix III). The California Ocean Plan provides conditions under which some of the above monitoring provisions may be waived by the Water Boards.

   This General Permit requires dischargers with outfalls that discharge to ocean waters to comply with the California Ocean Plan's model monitoring provisions and

any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by July 1, 2015 or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.

2. Areas of Special Biological Significance (ASBS) Exception

   The State Water Board adopted the California Ocean Plan (California Ocean Plan) in 1972, and has subsequently amended the Plan. The California Ocean Plan prohibits the discharge of waste to designated ASBS. ASBS are ocean areas designated by the State Water Board as requiring special protection through the maintenance of natural water quality. The California Ocean Plan states that the State Water Board may grant an exception to California Ocean Plan provisions where the State Water Board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.

   On March 20, 2012, the State Water Board adopted Resolution 2012-0012 (ASBS Exception), which grants an exception to the California Ocean Plan prohibition on discharges to ASBS for a limited number of industrial storm water Discharger applicants. The ASBS Exception contains "Special Protections" to maintain natural water quality and protect the beneficial uses of the ASBS. In order to legally discharge into an ASBS, these Dischargers must comply with the terms of the ASBS Exception and obtain coverage under this General Permit. This General Permit incorporates the terms of the ASBS Exception and includes the applicable monitoring requirements for all Dischargers discharging to an ASBS under the ASBS Exception.

H. Training Qualifications

This General Permit and the previous permit both require Dischargers to ensure that personnel responsible for permit compliance have an acceptable level of knowledge. Stakeholders have observed that the previous permit did not adequately specify how to comply with various elements of the permit, such as selecting discharge locations representative of the facility storm water discharge and evaluating potential pollutant sources, nor did it provide a clearly outlined Discharger training program. Guidance that is available from outside sources can be complicated to understand or costly to obtain, which can result in many Dischargers developing and implementing deficient SWPPPs and conducting inadequate monitoring activities. Some Dischargers under the previous permit had the resources to hire professional environmental staff or environmental consultants to assist in compliance. Even in those cases, however, there was little certainty that Dischargers received training regarding implementation of the various BMPs being implemented and required monitoring activities under the previous permit. Through this General Permit, the State Water Board seeks to improve compliance and monitoring data quality, and expand each Discharger's understanding of this General Permit's requirements.

This General Permit establishes the Qualified Industrial Storm Water Practitioner (QISP) role. A QISP is someone who has completed a State Water Board sponsored or

approved QISP training course and has registered in SMARTS. A QISP is required to implement certain General Permit requirements at the facility once it has entered Level 1 status in the ERA process as described in Section XII of this General Permit. In some instances it may be advisable for a facility employee to take the training, or for a facility to hire a QISP prior to entering Level 1 status as the training will contain information on the new permit requirements and how to perform certain tasks such as selecting discharge locations representative of the facility storm water discharge, evaluating potential pollutant sources, and identifying inadequate SWPPP elements.

Some industry stakeholders have claimed that their staff is already adequately trained. These employees may continue to perform the basic permit functions (e.g. prepare SWPPPs, perform monitoring requirements, and prepare Annual Reports) without receiving any additional training if the facility's sampling and analysis results do not exceed the NALs. This requirement is structured in a manner to reduce the costs of compliance for facilities that may not negatively impact receiving water quality.

California licensed professional civil, industrial, chemical, and mechanical engineers and geologists have licenses that have professional overlap with the topics of this General Permit. The California Department of Consumer Affairs, Board for Professional Engineers, Land Surveyors and Geologists (CBPELSG) provides the licensure and regulation of professional civil, industrial, chemical, and mechanical engineers and professional geologists in California. The State Water Board is developing a specialized self-guided State Water Board-sponsored registration and training program specifically for these CPBELSG licensed engineers and geologists in good standing with CBPELSG. The CBPELSG has staff and resources dedicated to investigate and take appropriate enforcement actions in instances where a licensed professional engineer or geologist is alleged to be noncompliant with CBPELSG's laws and regulations. Actions that result in noncompliance with this General Permit may constitute a potential violation of the CBPELSG requirements and may subject a licensee to investigation by the CBPELSG.

A QISP may represent one or more facilities but must be able to perform the functions required by this General Permit at all times. It is advisable that this individual be limited to a specific geographic region due to the difficulty of performing the needed tasks before, during, and after qualifying storm events may be difficult or impossible if extensive travel is required. Dischargers are required to ensure that the designated QISP has completed the appropriate QISP training course.

This General Permit contains a mechanism that allows for the Water Boards' Executive Director or Executive Officer to rescind the registration of any QISPs who are found to be inadequately performing their duties as a QISP will no longer be able to do so. A QISP may ask the State Water Board to review any decision to revoke his or her QISP registration. Table 1 of this Fact Sheet below describes the different roles that the QISP and California licensed professional engineers have in this General Permit.

TABLE 1: Role-Specific Permit Requirements

Qualifications	Task
QISP	Assist New Dischargers determine coverage eligibility for Discharges to an impaired water body, Level 1 ERA Evaluation and report, Level 2 ERA Action Plan, and Technical Report, and the Level 2 ERA extension
California licensed professional engineer	Inactive Mining Operation Certification, SWPPPs for inactive mining, and annual re-certification of Inactive Mining Operation Certification, NONA Technical Reports, and Subchapter N calculations

I. Storm Water Pollution Prevention Plan (SWPPP)

1. General

This General Permit requires that all Dischargers develop, implement, and retain onsite a site-specific SWPPP. The SWPPP requirements generally follow U.S. EPA's five-phase approach to developing SWPPPs, which has been adapted to reflect the requirements of this General Permit in Figure 2 of this Fact Sheet. This approach provides the flexibility necessary to establish appropriate BMPs for different industrial activities and pollutant sources. This General Permit requires a Discharger to include in its SWPPP (Section X of this General Permit) a site map, authorized NSWDs at the facility, and an identification and assessment of potential pollutants sources resulting from exposure of industrial activities to storm water.

This General Permit requires that Dischargers clearly describe the BMPs that are being implemented in the SWPPP. In addition to providing descriptions, Dischargers must also describe who is responsible for the BMPs, where the BMPs will be installed, how often and when the BMPs will be implemented, and identify any pollutants of concern. Table 2 of this Fact Sheet provides an example of how a Discharger could assess potential pollution sources and provide a corresponding BMPs summary.

This General Permit requires that Dischargers select an appropriate facility inspection frequency beyond the required monthly inspections if necessary, and to determine if SWPPP revisions are necessary to address any physical or operational changes at the facility or make changes to the existing BMPs (Section X.H.4.a.vii and Section XI.A.4 of this General Permit). Facilities that are subject to multi-phased physical expansion or significant seasonal operational changes may require more frequent SWPPP updates and facility inspections. Facilities with very stable operations may require fewer SWPPP updates and facility inspections.

Failure to develop or implement an adequate SWPPP, or update or revise an existing SWPPP as required, is a violation of this General Permit. Failure to maintain the SWPPP on-site and have it available for inspection is also a violation of this General Permit.

Dischargers are also required to submit their SWPPPs and any SWPPP revisions via SMARTS; accordingly, BMP revisions made in response to observed compliance problems will be included in the revised SWPPP electronically submitted via SMARTS. Not all SWPPP revisions are significant and it is up to the Dischargers to distinguish between revisions that are significant and those that are not significant. If no changes are made at all to the SWPPP, the Discharger is not required to resubmit the SWPPP on any specific frequency.

- Significant SWPPP Revisions: Dischargers are required to certify and submit via SMARTS their SWPPP within 30 days of the significant revision(s). While it is not easy to draw a line generally between revisions that are significant and those that are not significant, Dischargers are not required to certify and submit via SMARTS any SWPPP revisions that are comprised of only typographical fixes or minor clarifications.

- All Other SWPPP Revisions: Dischargers are required to submit revisions to the SWPPP that are determined to not be significant every three (3) months in the reporting year.

FIGURE 2: Five Phases for Developing and Implementing an Industrial Storm Water Pollution Prevention Plan (SWPPP)

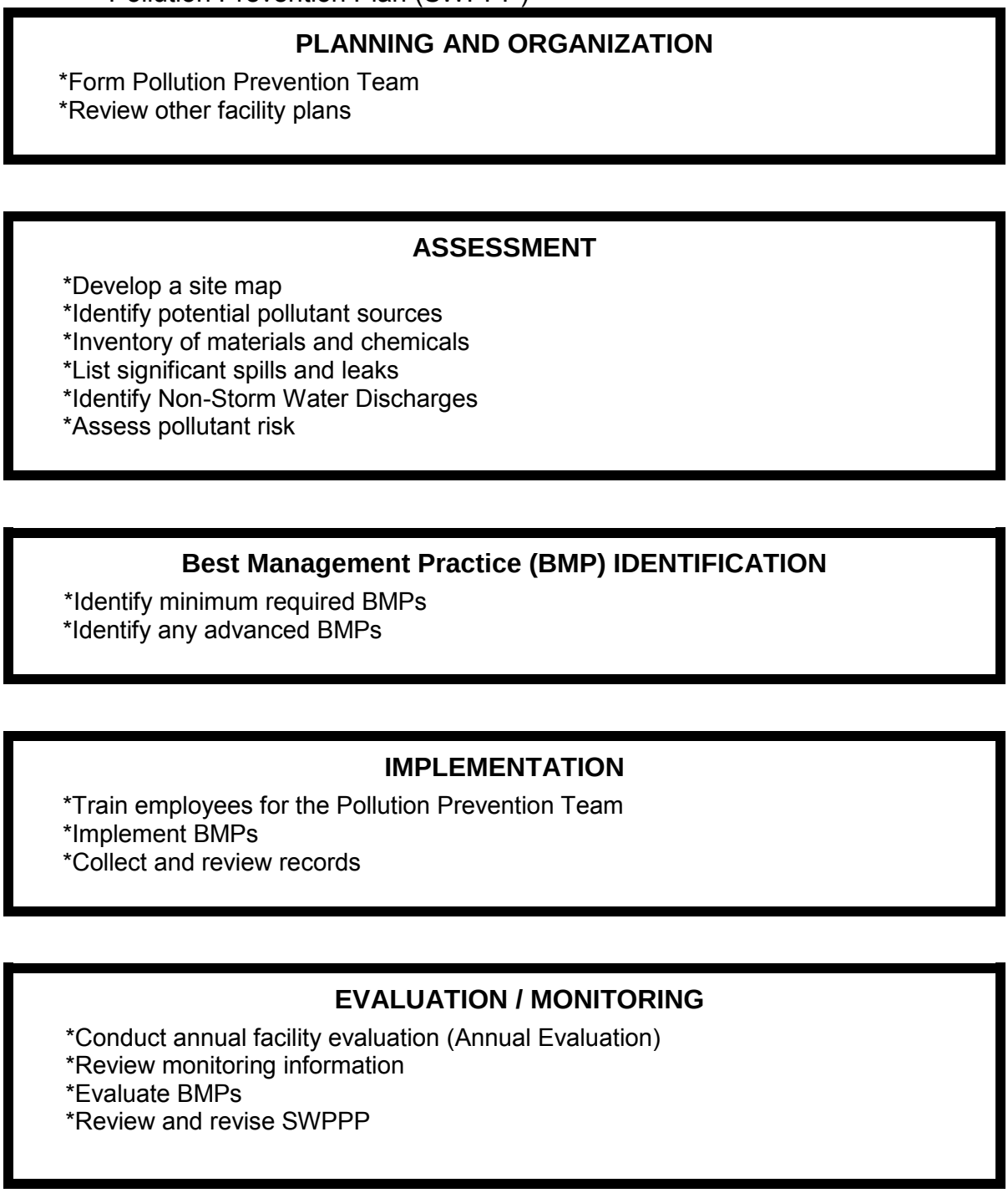

TABLE 2: Example - Assessment of Potential Industrial Pollution Sources and Corresponding BMPs Summary

Area	Activity	Pollutant Source	Industrial Pollutant	BMPs
Vehicle and Equipment Fueling	Fueling	Spills and leaks during delivery	Fuel oil	-Use spill and overflow protection
		Spills caused by topping off fuel tanks	Fuel oil	-Train employees on proper fueling, cleanup, and spill response techniques
		Hosing or washing down fuel area	Fuel oil	-Use dry cleanup methods rather than hosing down area -Implement proper spill prevention control program
		Leaking storage tanks	Fuel oil	-Inspect fueling areas regularly to detect problems
		Rainfall running off fueling area, and rainfall running onto and off fueling area	Fuel oil	-Minimize run-on of storm water into the fueling area, cover fueling area

2. Minimum and Advanced BMPs

Section V of this General Permit requires the Discharger to comply with technology-based effluent limitations (TBELs). In this General Permit, TBELs rely on implementation of BMPs for Dischargers to reduce and prevent pollutants in their discharge. The BMP effluent limitations have been integrated into the Section X.H of this General Permit and are divided into two categories – minimum BMPs which are generally non-structural BMPs that all Dischargers must implement to the extent feasible, and advanced BMPs which are generally structural BMPs that must be implemented if the minimum BMPs are inadequate to achieve compliance with the TBELs. Section X of this General Permit includes both substantive control requirements in the form of the BMPs listed in Section X.H, as well as various reporting and recordkeeping requirements. The requirement to implement BMPs "to the extent feasible" allows Dischargers flexibility when implementing BMPs, by not requiring the implementation of BMPs that are not technologically available and economically practicable and achievable in light of best industry practices.

The 2008 MSGP requires Dischargers to comply with 12 non-numeric technology-based effluent limits in Section 2.1.2 of the permit through the implementation of "control measures." This requirement is an expansion of the general considerations outlined in the MSGP adopted in 2000. The control measures specified by the U.S. EPA in the 2008 MSGP are as follows (in order as listed in the 2008 MSGP):

1. Minimize Exposure
2. Good Housekeeping
3. Maintenance
4. Spill Prevention and Response Procedures
5. Erosion and Sediment Controls
6. Management of Runoff
7. Salt Storage Piles or Piles Containing Salt
8. Sector Specific Non-Numeric Effluent Limits
9. Employee Training
10. Non-Storm Water Discharges (NSWDs)
11. Waste, Garbage and Floatable Debris
12. Dust Generation and Vehicle Tracking of Industrial Materials

This General Permit addresses eleven of the above twelve control measures from the 2008 MSGP Section 2.1.2 Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT). Eleven of the control measures are addressed as minimum BMPs that the State Water Board has determined to be most applicable to California's Dischargers. Two of those eleven control measures (1- Minimize Exposure, 6 – Management of Runoff) are also identified as advanced BMPs (Section X.H.2 of this General Permit). This General Permit is not a sector-specific permit and therefore does not contain limitations to address control measure number 8 (Sector Specific Non-Numeric Effluent Limits).

The non-structural elements of the control measure to minimize exposure are addressed in the minimum BMP Section X.H.1 of this General Permit while structural control elements are addressed in the advanced BMP Section X.H.2 of this General Permit. The on-site diversion elements of the control measure to minimize exposure are addressed as minimum BMPs.

The runoff reduction elements of the control measure to minimize exposure are included as advanced BMPs. Advanced BMPs that are required to be implemented when a Discharger has implemented the minimum BMPs to the extent feasible and they are not adequate to comply with the TBELs. The advanced BMP categories are: (1) exposure minimization BMPs, (2) storm water containment and discharge reduction BMPs, (3) treatment control BMPs, and (4) additional advanced BMPs needed to meet the effluent limitations of this General Permit. Advanced BMPs are generally structural control measures and can include any BMPs that exceed the minimum BMPs. The control measure for Non-Storm Water Discharges (NSWDs) is addressed in both the discharge prohibitions (Section III) and authorized non-storm water discharges (Section IV) of this General Permit and essentially represents a minimum BMP.

This General Permit encourages Dischargers to utilize BMPs that infiltrate or reuse storm water where feasible. The State Water Board expects that these types of BMPs will not be appropriate for all industrial facilities, but recognizes the many possible benefits (e.g. increased aquifer recharge, reduces flooding, improvements to water quality) associated with the infiltration and reuse of storm water. Encouraging the use of storm water infiltration and reuse BMPs is consistent with the statewide approach to managing storm water with lower impact methods.

The BMPs in this General Permit that coincide with the control measures in the 2008 MSGP are as follows (in order as listed in the 2008 MSGP):

a. Minimization of Exposure to Storm Water

Section 2.1.2.1 of the 2008 MSGP requires Dischargers to minimize the exposure of industrial materials and areas of industrial activity to rain, snow, snowmelt, and runoff. The 2008 MSGP mixes both structural and nonstructural BMPs and specifies particular BMPs to consider when minimizing exposure such as grading/berming areas to minimize runoff, locating materials indoors, spill clean up, contain vehicle fluid leaks or drain fluids before storing vehicles on-site, secondary containment of materials, conduct cleaning activities undercover, indoors or in bermed areas, and drain all wash water to a proper collection system.

This General Permit requires the evaluation of BMPs in the potential pollutant source assessment in the SWPPP (Section X.G.2). When the minimum BMPs are not adequate to comply with the TBELs, Dischargers are required to implement advanced BMPs (Section X.H.2.a). These advanced BMPs may include additional exposure minimization BMPs (Section X.H.2.b.1).

b. Good Housekeeping

Section 2.1.2.2 of the 2008 MSGP requires that Dischargers keep all exposed areas that may be a potential source of pollutants clean and orderly. This General Permit (Section X.H.1.a) seeks to define “clean and orderly” by specifying a required set of nine (9) minimum good housekeeping BMPs, which include: observations of outdoor/exposed areas, BMPs for controlling material tracking, BMPs for dust generated from industrial materials or activities, BMPs for rinse/wash water activities, covering stored industrial materials/waste, containing all stored non-solid industrial materials, preventing discharge of rinse/wash waters/industrial materials, prevent non-industrial area discharges from contact with industrial areas of the facility, and prevent authorized NSWDs from non-industrial areas from contact with industrial areas of the facility.

c. Preventative Maintenance

Section 2.1.2.3 of the 2008 MSGP requires that Dischargers regularly inspect, test, maintain, and repair all industrial equipment to prevent leaks, spills and releases of pollutants that may be exposed to storm water discharged to receiving waters. This General Permit (Section X.H.1.b) incorporates this

concept by requiring four (4) nonstructural BMPs which include: identification and inspection of equipment, observations of potential leaks in identified equipment, an equipment maintenance schedule, and equipment maintenance procedures.

d. Spill and Leak Prevention and Response

Section 2.1.2.4 of the 2008 MSGP requires that Dischargers minimize the potential for leaks, spills and other releases that may be exposed to storm water. Dischargers are also required to develop a spill response plan which includes procedures such as labeling of containers that are susceptible to a spill or a leakage, establishing containment measures for such industrial materials, procedures for stopping leaks/spills, and provisions for notification of the appropriate personnel about any occurrence. This General Permit (Section X.H.1.c) requires implementation of four (4) BMPs to address spills. These BMPs include: developing a set of spill response procedures to minimize spills/leaks, develop procedures to minimize the discharge of industrial materials generated through spill/leaks, identifying/describing the equipment needed and where it will be located at the facility, and identify/training appropriate spill response personnel.

e. Erosion and Sediment Controls

Section 2.1.2.5 of the 2008 MSGP requires the use of structural and/or non-structural control measures to stabilize exposed areas and contain runoff. Also required is the use of a flow velocity dissipation device(s) in outfall channels where necessary to reduce erosion and/or settle out pollutants. This General Permit (Section X.H.1.e) requires the implementation of (5) BMPs to prevent erosion and sediment discharges. The erosion and sediment control BMPs include: implementing effective wind erosion controls, providing for effective stabilization of erodible areas prior to a forecasted storm event, site entrance stabilization/prevent material tracking offsite and implement perimeter controls, diversion of run-on and storm water generated from within the facility away from all erodible materials, and ensuring compliance with the design storm standards in Section X.H.6. U.S. EPA has developed online resources for erosion and sediment controls.[6]

f. Management of Runoff

Section 2.1.2.6 of the 2008 MSGP requires the diversion, infiltration, reuse, containment, or otherwise reduction of storm water runoff, to minimize pollutants in discharges. This General Permit (Sections X.H.1.a.viii, X.H.1.d.iv., and

[6] U.S. EPA. 2008 MSGP. <http://cfpub.epa.gov/npdes/stormwater/msgp.cfm> [as of February 4, 2014].
U.S. EPA. National Menu of BMPs. <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>. [as of February 4, 2014].
U.S. EPA. National Management Measures to Control Nonpoint Source Pollution from Urban Areas <http://water.epa.gov/polwaste/nps/urban/index.cfm>. [as of February 4, 2014].

X.H.1.e.iv) requires Dischargers to divert run-on from non-industrial sources and manage storm water generated within the facility away from industrial materials and erodible surfaces. Runoff reduction is required as an advanced BMP when minimum BMPs are not adequate to comply with the TBELs. The 2008 MSGP encouraged Dischargers to consult with EPA's internet-based resources relating to runoff management.[7]

g. Salt Storage Piles or Piles Containing Salt

Section 2.1.2.7 of the 2008 MSGP requires salt storage piles/piles containing salt that may be discharged to be enclosed or covered and to use BMPs when the salt is being used. This General Permit does not have a minimum BMP specifically for salt storage, however it does require all stockpiled/stored industrial materials be managed in a way to reduce or prevent industrial storm water discharges of the stored/stockpiled pollutants. The good housekeeping (Section X.H.1.a) and material handling and waste management (Section X.H.1.d) minimum BMPs in this General Permit require that all materials readily mobilized by storm water be covered, the minimization of handling of industrial materials or wastes that can be readily mobilized by contact with storm water during a storm event, and the diversion of run-on from stock piled materials.

h. Sector Specific Non-Numeric Effluent Limits

Section 2.1.2.8 of the 2008 MSGP requires Dischargers to achieve any additional non-numeric limits stipulated in the relevant sector-specific section(s) of Part 8 of the 2008 MSGP. This General Permit is not a sector-specific permit and does not contain sector-specific non-numeric effluent limitations like the 2008 MSGP. While this General Permit does not specify sector-specific BMPs, Dischargers are required to select and implement BMPs for their specific facility to reduce or prevent industrial storm water discharges of pollutants to comply with the technology-based effluent limitations. In addition, sectors with applicable ELGs must comply with those ELGs.

i. Employee Training Program

Section 2.1.2.9 of the 2008 MSGP requires all employees engaged in industrial activities or the handling of industrial materials that may affect storm water to obtain training covering implementation of this General Permit. This General Permit (Section X.D.1 and X.H.1.f) requires a facility to establish a Pollution Prevention Team (team members, collectively) responsible for implementing permit requirements such as the SWPPP, monitoring requirements, or BMPs.

[7] U.S. EPA. Sector-Specific Industrial Stormwater Fact Sheet Series <www.epa.gov/npdes/stormwater/msgp>. [as of February 4, 2014].
U.S. EPA. National Menu of Stormwater BMPs <www.epa.gov/npdes/stormwater/menuofbmps> [as of February 4, 2014].
U.S. EPA. National Management Measures to Control Nonpoint Source Pollution from Urban Areas (and any similar State or Tribal publications) <www.epa.gov/owow/nps/urbanmm/index.html>. [as of February 4, 2014].

The five (5) minimum training BMPs include: ensuring that all team members are properly trained, preparing the proper training materials and manuals, identifying which individuals needs to be trained, providing a training schedule, and maintaining documentation on the training courses and which individuals received the training.

This General Permit also requires a QISP to be assigned to each facility that reaches Level 1 status. One purpose of a QISP is to have an individual available who can provide compliance assistance with these training requirements. The QISP is responsible for training the appropriate team members. Appropriate team members are any team members involved in implementing this General Permit for drainage areas causing NAL exceedances, and any other team members identified by the QISP that need additional training to implement this General Permit.

j. NSWDs

Section 2.1.2.10 of the 2008 MSGP requires that unauthorized NSWDs are eliminated (Part 1.2.3 of the 2008 MSGP lists the NSWDs authorized by the 2008 MSGP). The good housekeeping minimum BMP (Section X.H.1.a.ix of this General Permit) requires that contact between authorized NSWDs and industrial areas of the facility be minimized. This General Permit (Section IV) also includes separate requirements for authorized NSWDs and (Section III) prohibits unauthorized NSWDs.

k. Material Handling and Waste Management

Section 2.1.2.11 of the 2008 MSGP requires that Dischargers ensure waste, garbage, and floatable debris are not discharged into receiving waters. The 2008 MSGP identifies keeping areas clean and intercepting such materials as ways to minimize such discharges. This General Permit (Section X.H.1.d) requires Dischargers to implement six (6) general BMPs that address material handling and waste management. These BMPs include: preventing or minimizing handling of waste or materials during a storm event that could potentially result in a discharge, containing industrial materials susceptible to being dispersed by the wind, covering industrial waste disposal containers when not in use to contain industrial materials, diversion of run-on and storm water generated from within the facility away from all stock piled materials, cleaning and managing spills of such wastes or materials (in accordance with Section X.H.1.e of this General Permit), and conducting observations of outdoor areas and equipment that may come into contact with such materials or waste and become contaminated.

l. Waste, Garbage and Floatable Debris

Section 2.1.2.11 of the 2008 MSGP requires that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged. Material handling and waste management BMPs are included in Section X.H.1.d of this General Permit. Dischargers are required to: prevent handling of waste materials during a storm event that could result in a discharge, contain waste disposal

containers when not in use, clean and manage spills from waste, and observe outdoor areas and equipment that may come into contact with waste and become contaminated.

m. Dust Generation and Vehicle Tracking of Industrial Materials

Section 2.1.2.12 of the 2008 MSGP requires that generation of dust and off-site tracking of raw, final, or waste materials is minimized. This General Permit does not require minimization of dust generation and vehicle tracking of industrial materials as a minimum BMP directly. Dust generation and vehicle tracking of industrial materials BMPs are included in Section X.H.1.a ("good housekeeping") of this General Permit where Dischargers must prevent dust generation from industrial materials or activities and contain all stored non-solid industrial materials that can be transported or dispersed via wind or come in contact with storm water, and Section X.H.1.d. ("material handling and waste management") of this General Permit, which requires Dischargers to contain non-solid industrial materials or wastes that can be dispersed via wind erosion or come into contact with storm water during handling.

n. Quality Assurance and Record Keeping

Section 2.1.2 of the 2008 MSGP does not directly designate record keeping as a control measure. This General Permit (Section X.H.1.g) includes quality assurance and record keeping as a minimum BMP and requires Dischargers to implement three (3) general BMPs. These BMPs include: developing and implementing procedures to ensure that all elements of the SWPPP are implemented, develop a method of tracking and recording the implementation of all BMPs identified in the SWPPP, and a requirement to keep and maintain those records. This ensures that management procedures are designed and permit requirements are implemented by appropriate staff.

o. Implementation of BMPs in the SWPPP

Like the previous permit, this General Permit does not assign Dischargers a schedule to implement BMPs. Instead, this General Permit requires Dischargers to select the appropriate schedule to implement the minimum BMPs. In addition, this General Permit requires Dischargers to identify, as necessary, any BMPs that should be implemented prior to precipitation events. Although Dischargers are required to maintain internal procedures to ensure the BMPs are implemented according to schedule or prior to precipitation events, Dischargers are only required to certify in the Annual Report whether they complied with the BMP implementation requirements.

Dischargers are required to implement an effective suite of BMPs that meet the technology and water-quality based limitations of this General Permit. Based upon Regional Water Board staff inspections, there is significant variation between Dischargers' interpretations of what BMPs were necessary to comply with the previous permit. This General Permit establishes a new requirement that Dischargers must implement, to the extent feasible, specific minimum BMPs

to reduce or prevent the presence of pollutants in their industrial storm water discharge. In addition, due to the wide variety of facilities conducting numerous and differing industrial activities throughout the state, this General Permit retains the requirement from the previous permit that Dischargers establish and implement additional BMPs beyond the minimum. Implementation of this General Permit's minimum BMPs, together with any necessary advanced BMPs, will result in compliance with the effluent limitations of this General Permit (Section V.A). All Dischargers must evaluate their facilities and determine the best practices within their industry considering technological availability and economic practicability and achievability to implement these minimum BMPs and any advanced BMPs.

The State Water Board has selected minimum BMPs that are generally applicable at all facilities. The minimum BMPs are consistent with the types of BMPs normally found in properly developed SWPPPs and, in most cases, should represent a significant portion of the effort required for a Discharger to achieve compliance. Due to the diverse industries covered by this General Permit, the development of a more comprehensive list of minimum BMPs is not currently feasible. The selection, applicability, and effectiveness of a given BMP is often related to industrial activity type and to facility-specific facts and circumstances. Advanced BMPs must be selected and implemented by Dischargers, based on the type of industry and facility-specific conditions, to the extent necessary to comply with the technology-based effluent limitation requirements of this General Permit.

Failure to implement all of the minimum BMPs to the extent feasible is a violation of this General Permit. (Section X.H.1.) Dischargers must justify any determination that it is infeasible to implement a minimum BMP in the SWPPP (Section X.H.4.b). Failure to implement advanced BMPs necessary to achieve compliance with either the technology or water quality standards requirements in this General Permit is a violation of this General Permit.

p. Temporary Suspension of Industrial Activities

The exception for inactive and unstaffed sites in section 6.2.1.3 of the 2008 MSGP does not require a Discharger with a facility that is inactive and unstaffed with no industrial materials or activities exposed to storm water (in accordance with the substantive requirements in 40 Code of Federal Regulations section 122.26(g)) to complete benchmark monitoring. The Discharger is required to sign and certify a statement in the SWPPP verifying that the site is inactive and unstaffed. If circumstances change and industrial materials or activities become exposed to storm water or the facility becomes active and/or staffed, this exception no longer applies and the Discharger is required to begin complying immediately with the applicable benchmark monitoring requirements under part 6.2 of the 2008 MSGP.

This General Permit allows Dischargers to temporarily suspend monitoring at facilities where industrial activities have been suspended in accordance with Section X.H.3. This is only intended for Dischargers with facilities where it is

infeasible to comply with this General Permit's monitoring while activities are suspended (e.g. remote, unstaffed, or inaccessible facilities during the time of such a suspension). Dischargers are required to update the facility's SWPPP with the BMPs being used to stabilize the site and submit the suspension dates and a justification for the suspension of monitoring via SMARTS.

3. Design Storm Standards for Treatment Control BMPs

It is the State Water Board's intent to minimize the regulatory uncertainty and costs concerning treatment control BMPs in order to encourage the implementation of treatment control BMPs when appropriate. Section X.H.6 of this General Permit specifies a design storm standard for use when treatment controls BMPs are installed. There is both a volume-based and flow-based design storm standard in this General Permit. Both are based on the 85th percentile 24-hour storm event. Without a design storm standard, Dischargers have installed treatment controls using a wide variety of designs that were sometimes either unnecessarily stringent/expensive, or deficient in complying with the requirements of the relevant permit. Some Dischargers have been hesitant to consider treatment options because of the uncertainty concerning acceptable treatment design. The design storm standards are generally expected to:

- Be consistent with the effluent limitations of this General Permit;
- Be protective of water quality;
- Be achievable for most pollutants and their associated treatment technologies; and,
- Reduce the costs associated with treating industrial storm water discharges beyond the levels necessary to achieve compliance with this General Permit.

In lieu of complying with the design storm standards for treatment control BMPs, Dischargers may certify and submit a Level 2 ERA Technical Report, including an Industrial Activity BMPs Demonstration (Section XII.D.2.a of this General Permit). The Level 2 ERA Technical Report requirement is based upon NAL exceedances. Under this option, a Discharger with Level 2 status must either implement BMPs to eliminate future NAL exceedances, or justify what BMPs must be implemented to comply with this General Permit even if the BMPs will not eliminate future exceedances of NALs. Dischargers who implement treatment control BMPs that vary from the design storm standards in Section X.H.6 must include an analysis showing that their treatment control BMPs comply with this General Permit's effluent limitations in the Industrial Activity BMP Demonstration.

This General Permit does not require Dischargers to retrofit existing treatment controls that do not meet the design storm standard, unless the Discharger determines that the existing treatment controls are not adequate to comply with this General Permit. In addition, once TMDL-specific implementation requirements are added to this General Permit, those Dischargers subject to TMDLs may need to add

new or retrofitted treatment control BMPs to meet the TMDL implementation requirements.

To arrive at these design storm standards, the State Water Board has relied heavily on previous Water Board decisions concerning treatment efficacy for municipalities, published documents, stakeholder comments, and reasonableness. In 2000, the State Water Board issued State Water Board Order WQ 2000-11, which upheld Los Angeles Regional Water Board's permit requirements which mandated that all new development and redevelopment exceeding certain size criteria design treatment BMPs based on a specific storm volume: the 85th percentile 24-hour storm event. This design storm standard was based on research demonstrating that the standard represents the maximized treatment volume cut-off at the point of diminishing returns for rainfall/runoff frequency.[8] On the basis of this equation, the maximized runoff volume for 85 percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inch depending on the imperviousness of the watershed area and the mean amount of rainfall. This design storm standard is referred to as the Standard Urban Storm Water Mitigation Plan's volumetric criterion and there are multiple acceptable methods of calculating this volume. For more information, see the California Stormwater Best Management Practices Handbook.[9]

The San Diego Regional Water Board first established both volumetric and flow-based design storm criteria for NPDES MS4 permits. It is generally accepted by civil engineers doing hydrology work to use twice the peak hourly flow of a specific storm event to use as the basis for flow-based design of BMPs. This General Permit therefore establishes the flow-based design storm standard to be twice the peak hourly flow of the 85th percentile 24-hour storm event.

The primary objective of specifying a design storm standard is to properly size BMPs to, at a minimum, effectively treat the first flush of run-off from all storm events. The economic impacts of treating all storm water from a facility versus the minimal environmental benefit of complete treatment justify the design storm approach. It is unrealistic to require each facility to do a cost benefit analysis of their treatment structures. To simplify the requirements for design, the State Water Board reviewed research from the City of Portland[10] and the City of San Jose[11] to determine the volume of each rain event compared to the amount of events that occur for that volume. The results of their findings show an inflection point that is typically found at approximately the 80 to 85 percentile of recorded storm events.

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[8] California Regional Water Quality Control Board Los Angeles Region, Standard Urban Storm Water Mitigation Plans and Numerical Design Standards for Best Management Practices - Staff Report and Record of Decision (Jan. 18, 2000) <http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/stormwater/susmp/susmp_final_staff_report.pdf>. [as of February 4, 2014].

[9] California Stormwater Quality Association, Stormwater Best Management Practice New Development and Redevelopment Handbook (2003) <http://www.casqa.org/>. [as of February 4, 2014].

[10] City of Portland Oregon. Portland Stormwater Management Manual Appendix E.1: Pollution Reduction Methodology E.1-1 (August 1, 2008). <http://www.portlandoregon.gov/bes/article/202909>. [as of February 4, 2014].

[11] California Stormwater Quality Association (CASQA). CASQA BMP Handbook (January 2003) New Development and Redevelopment (Errata 9-04) <http://www.casqa.org/>. [as of February 4, 2014].

Dischargers should be aware of the potential unintended public health concerns associated with treatment control BMPs. Extensive monitoring studies conducted by the California Department of Public Health (CDPH) have documented that mosquitoes opportunistically breed in structural BMPs, particularly those that hold standing water for over 96 hours. BMPs that produce mosquitoes create potential public health concerns and increase the burden on local vector control agencies that are mandated to inspect for and abate mosquitoes and other vectors within their jurisdictional boundaries. These unintended consequences can be lessened when BMPs incorporate design, construction, and maintenance principles developed specifically to minimize standing water available to mosquitoes[12] while having negligible effects on the capacity of the structures to provide water quality improvements. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers.[13]

Dischargers who install any type of volume-based treatment device are encouraged to consider the BMPs in the California Department of Public Health's guidance manual published July 2012, "Best Management Practices for Mosquito Control in California" at http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf.

4. Monitoring Implementation Plan

Dischargers are required to prepare and implement a Monitoring Implementation Plan (Section X.I of this General Permit). The Monitoring Implementation Plan requirements are designed to assist the Discharger in developing a comprehensive plan for the monitoring requirements in this General Permit and to assess their monitoring program. The Monitoring Implementation Plan includes a description of visual observation procedures and locations, as well as sampling procedures, locations, and methods. The Monitoring Implementation Plan shall be included in the SWPPP.

J. Monitoring and Reporting Requirements

1. General Monitoring Provisions

This General Permit requires Dischargers to develop and implement a facility-specific monitoring program. Monitoring is defined as visual observations, sampling and analysis. The monitoring data will be used to determine:

[12] California Department of Public Health. (2012). Best Management Practices for Mosquito Control in California. < http://www.westnile.ca.gov/resources.php>. [as of February 4, 2014]
[13] California Health & Safety Code, Division 3, Section 2060 and following.

a. Whether BMPs addressing pollutants in industrial storm water discharges and authorized NSWDs are effective for compliance with the effluent and receiving water limitations of this General Permit,

b. The presence of pollutants in industrial storm water discharges and authorized NSWDs (and their sources) that may trigger the implementation of additional BMPs and/or SWPPP revisions; and,

c. The effectiveness of BMPs in reducing or preventing pollutants in industrial storm water discharges and authorized NSWDs.

Effluent sampling and analysis information may be useful to Dischargers when evaluating the need for improved BMPs. The monitoring requirements in this General Permit recognize the 2008 MSGP approach to visual observations as an effective monitoring method for evaluating the effectiveness of BMPs at most facilities. Section 6.2 of the 2008 MSGP limits its monitoring sampling requirements to certain industrial categories. Similar to the previous permit, this General Permit requires all Dischargers to sample unless they have obtained NEC coverage or have an inactive mining operation(s) certified as allowed under this General Permit Section XIII.

This General Permit defines a Qualifying Storm Event (QSE) to provide clarity to Dischargers of when sampling is required. The previous permit (Section B.5.a) specified that sampling was required within the first hour of discharge, however, this General Permit requires Dischargers to sample within four hours of the start of Discharge. Many Dischargers were not able to get samples of their discharge locations within one (1) hour under the previous permit so this general permit has expanded the timeframe allowed to provide enough time to sample all discharge locations. The previous permit required three working dry days before sampling and this General Permit defines this period as 48 hours, this timeframe was decreased to provide more opportunities for Dischargers to obtain samples. This General Permit does not specify a volume for sampling due to the complexity of using rain gauges and the limited access of rain gauge station data.

Dischargers are only required to obtain samples required during scheduled facility operating hours and when sampling conditions are safe in accordance with Section XI.C.6.a.ii of this General Permit. If a storm event occurs during unscheduled facility operating hours (e.g. during the weekend or night) and during the 12 hours preceding the scheduled facility operating hours, the Dischargers is still responsible for obtaining samples at discharge locations that are still producing a discharge at the start of facility operations. Under the previous permit, many Dischargers were unable to obtain samples due to rainfall beginning at night.

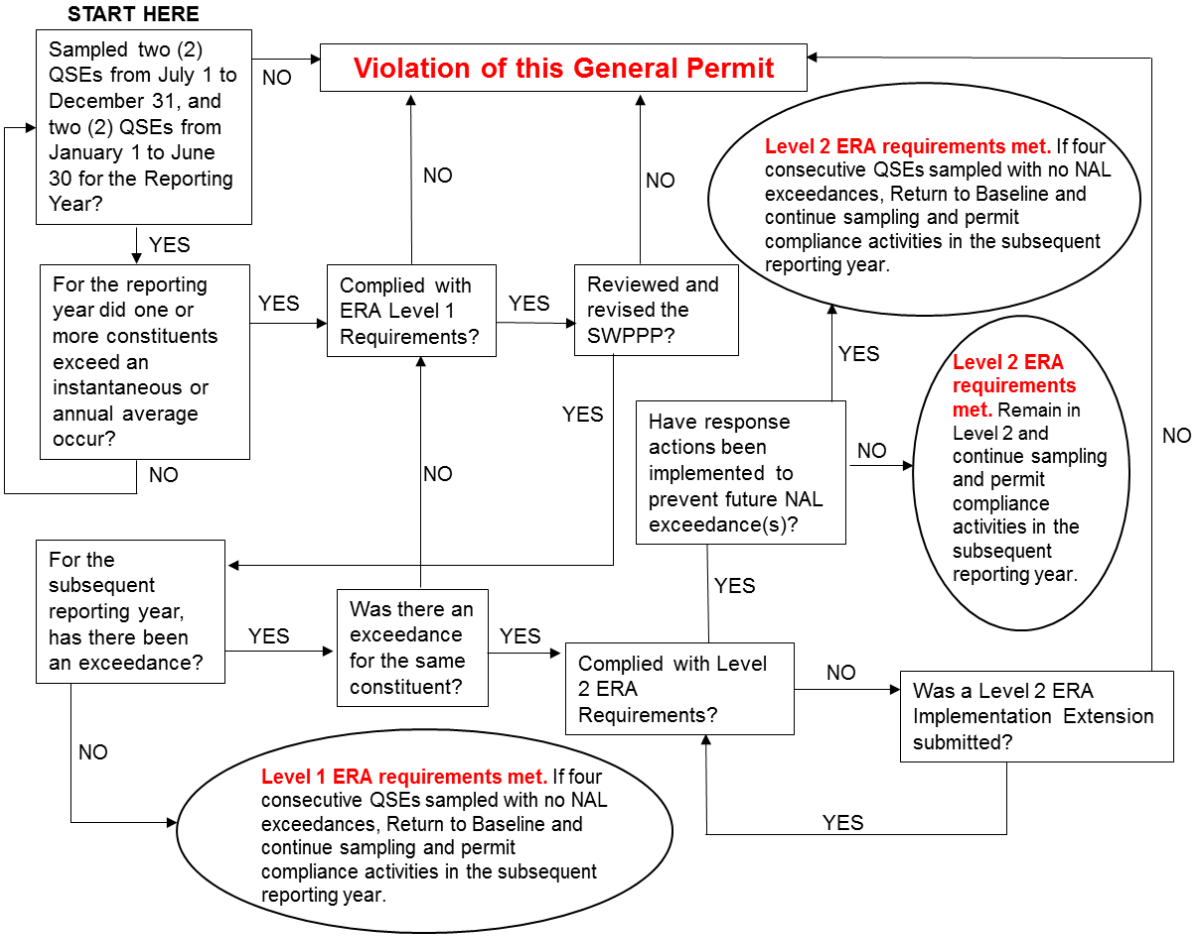
The State Water Board recognizes that it may not be feasible for all facilities to obtain four QSEs in a reporting year because there may not be enough qualifying storm events to do so. Therefore, a Discharger that is unable to collect and analyze storm water samples from two QSEs in each half of a reporting year due to a lack of QSEs is not in violation of Section XI.B.2. Dischargers that miss four QSEs during

a reporting year due to the fact that four QSEs did not occur are not required to make up these sampling events in subsequent reporting years.

The State Water Board recognizes that each facility has unique physical characteristics, industrial activities, and/or variations in BMP implementation and performance which warrants the requirement that each facility demonstrate its compliance. Figure 3 of this Fact Sheet provides a summary of all the monitoring-related requirements of this General Permit. This General Permit's monitoring requirements include sampling and analysis requirements for specific indicator parameters that indicate the presence of pollutants in industrial storm water discharges. The "indicator parameters" are oil and grease (for petroleum hydrocarbons), total suspended solids (for sediment and sediment bound pollutants) and pH (for acidic and alkaline pollutants). Additionally, Dischargers are required to evaluate their facilities and analyze samples for additional facility-specific parameters. These monitoring program requirements are designed to provide useful, cost-effective, timely, and easily obtained information to assist Dischargers as they identify their facility's pollutant sources and implement corrective actions and revise BMPs as necessary (Section XI.A.4 of this General Permit).

This General Permit requires a combination of visual observations and analytical monitoring. Visual observations provide Dischargers with immediate information indicating the presence of many pollutants and their sources. Dischargers must implement timely actions and revise BMPs as necessary (Section XI.A.4) when the visual observations indicate pollutant sources have not been adequately addressed in the SWPPP. Analytical monitoring provides an additional indication of the presence and concentrations of pollutants in storm water discharge. Dischargers are required to evaluate potential pollutant sources and corresponding BMPs and revise the SWPPP appropriately when specific types of NAL exceedances occur as described below.

FIGURE 3: Compliance Determination Flowchart



2. Visual Observations

There are two major changes to the visual observation requirements in this General Permit compared to the previous permit, which include:

a. Monthly Visual Observations

The previous permit required separate quarterly visual observations for unauthorized and authorized non-storm water discharges. It did not require periodic visual observations of the facility to determine whether all potential pollutant sources were being adequately controlled with BMPs. Prior drafts of this General Permit proposed the addition of pre-storm inspections. This was met with great resistance by Dischargers because of the complexity and burden of determining when a QSE would occur. Many of these Dischargers recommended that monthly BMP and non-storm water discharge visual observations should replace the proposed pre-storm inspections. This General Permit merges all visual observations into a single monthly visual observation.

b. Sampling Event Visual Observations

The previous permit required monthly storm water visual observations. This required Dischargers to conduct visual observations for QSEs that were not being sampled since only two QSEs were required to be sampled in the previous permit. As discussed below, the sampling requirement has been increased to four QSEs within each reporting year with two QSEs required in each half of the reporting year. We expect that this will result in more samples being collected and analyzed, since most of California experiences, on average, at least two QSEs per half year. This General Permit streamlines the storm water visual observation requirement by linking the visual observations to the time of sampling.

3. Sampling and Analysis

   a. General

      As part of the process for developing previous drafts of this General Permit, the State Water Board considered comments from numerous stakeholders concerning sampling and analysis. Sampling and analysis issues were the most dominant of all issues raised in the comments.

      The State Water Board received stakeholder comments that fall into three primary categories concerning this General Permit's sampling and analysis approach:

      i. Comments supporting an intensive water quality sampling and analysis approach (with the goal of producing more accurate discharge-characterizing and pollutant concentration data) as the primary method of determining compliance with effluent limitations and receiving water limitations. Since this approach requires large amounts of high quality data to accurately quantify the characteristics of the discharges, it is referred to as the quantitative monitoring approach. Stakeholders supporting the quantitative approach generally also support the use of stringent NELs to evaluate compliance with this General Permit;

      ii. Comments supporting only visual observations as the primary method of determining compliance: These stakeholders generally assert that storm water sampling is an incomplete and not very cost effective means of determining water quality impacts on the receiving waters; and,

      iii. Comments supporting a combination of visual observations and cost-effective water quality sampling and analysis approach (sampling and analysis that would produce data indicating the presence of pollutants) to determine compliance (similar to the previous permit's approach). Since this approach uses more qualitative information to describe the quality and characteristics of the discharges, it is referred to as the qualitative monitoring approach.

      Within each of the three categories, there are various recommendations and rationales as to the exact monitoring frequencies, procedures and methods, required to implement the approach. Stakeholders in favor of the quantitative monitoring approach commented that it is the only reliable and meaningful

method of assuring that: (1) BMPs are effective in reducing or preventing pollutants in storm water discharge in compliance with BAT/BCT, and (2) the discharge is not causing or contributing to an exceedance of a water quality standards. The stakeholders state that visual observations are not effective in measuring pollutant concentrations nor is it effective in determining the presence of colorless and/or odorless pollutants. The stakeholders state that qualitative monitoring (and the use of indicator parameters) will not provide results useful for calculating pollutant loading nor will it accurately characterize the discharge.

Stakeholders in favor of requiring only visual observations state that sampling and analysis is unnecessary because (1) the previous permit did not include NELs so the usefulness of sampling and analysis data is limited, (2) a significant majority of Dischargers should be able to develop appropriate BMPs without sampling and analysis data, (3) most pollutant sources and pollutants can be detected and mitigated through visual observations, (4) the costs associated with quantitative monitoring are excessive and disproportionate to any benefits, (5) U.S. EPA's storm water regulations do not require sampling, (6) The 2008 MSGP relies heavily on visual observations and requires only a limited number of specific industries to conduct sampling and analysis, and (7) the majority of Dischargers are small businesses and do not have sufficient training or understanding to perform accurate sampling and analysis.

Stakeholders in favor of requiring both visual observations and a cost-effective qualitative monitoring program state that (1) both are within the means and understanding of most Dischargers, and (2) monitoring results are useful for evaluating a Discharger's compliance without unnecessarily increasing the burden on the Discharger and without subjecting Dischargers to non-technical enforcement actions.

The State Water Board finds that it is feasible for the majority of Dischargers to develop appropriate BMPs without having to perform large amounts of quantitative monitoring, which can be very costly. In the absence of implementing NELs, the State Water Board has determined that the infeasibility and costs associated with developing quantitative monitoring programs at each of thousands industrial facilities currently permitted would outweigh the limited benefits. The primary difficulty associated with requiring intensive quantitative monitoring lies with the cost and the difficulty of accurately sampling industrial storm water discharges.

Stakeholders that support quantitative monitoring believe the data is necessary to determine pollutant loading, concentration, or contribution to water quality violations. In order to derive data necessary to support those goals, however, the data must be of high quality, meaning it must be accurate, precise and have an intact chain of custody. Many industrial facilities do not have well-defined storm water conveyance systems for sample collection. Storm water frequently discharges from multiple locations through sheet flow into nearby streets and adjoining properties. Sample collection from a portion of the sheet flow is an inexact measurement since not all of the flow is sampled. Requiring every Discharger to construct well-defined storm water conveyances may cost

anywhere from thousands to hundreds of thousands of dollars per facility depending on the size and nature of each industrial facility. At many facilities, the construction of such conveyances may also violate local building codes, create safety hazards, cause flooding, or increase erosion. In addition, eliminating sheet flow at some facilities could result in increased pollutant concentrations.

The State Water Board has considered the complexity and costs associated with quantitative monitoring. Unlike continuous point source discharges (e.g., publicly owned treatment works), storm water discharges are variable in intensity and duration. The concentration of pollutants discharged at any one time is dependent on many complex variables. The largest concentration of pollutants would be expected to discharge earlier in the storm event and taper off as discharges continue. Therefore, effective quantitative monitoring of storm water discharges would require that storm water discharges be collected and sampled until most or all of the pollutants have been discharged. Multiple samples would need to be collected over many hours. To determine the pollutant mass loading, the storm water discharge flow must also be measured each time a sample is collected.

For a quantitative monitoring approach to yield useful pollutant loading information, the installation of automatic sampling devices and flow meters at each discharge location would usually be necessary. In addition, qualified individuals would be needed to conduct the monitoring procedures, and to handle and maintain flow meters and automatic samplers are needed. A significant majority of storm water Dischargers under this General Permit do not possess the skills to manage such an effort. Dischargers will bear the cost of employing and/or training on-site staff to do this work, or the cost of contracting with environmental consultants and acquiring the required flow meters and automatic samplers. The cost to Dischargers to conduct quantitative monitoring varies depending on the number of outfalls, the number of storms, the length of each storm, the amount of staff training, and other variables.

To address these concerns, this General Permit includes a number of new items that bridge the gap between the previous permit's qualitative monitoring and the quantitative approach recommended by many commenters. This General Permit includes a requirement for all Dischargers to designate a QISP when they enter Level 1 status due to NAL exceedances. The QISP is required to be trained to: (1) more accurately identify discharge locations representative of the facility storm water discharge (2) select and implement appropriate sampling procedures (3) evaluate and develop additional BMPs to reduce or prevent pollutants in the industrial storm water discharges.

Dischargers that fail to develop and implement an adequate Monitoring Implementation Plan that includes both visual observations and sampling and analysis, are in violation of this General Permit. Dischargers that fail to comply with Level 1 status and Level 2 status ERA requirements, triggered by NAL exceedances, are in violation of this General Permit.

Water Code section 13383.5 requires that the State Water Board include (1) standardized methods for collection of storm water samples, (2) standardized methods for analysis of storm water samples, (3) a requirement that every sample analysis be completed by a State certified laboratory or in the field in accordance with Quality Assurance and Quality Control (QA/QC) protocols, (4) a standardized reporting format, (5) standardized sampling and analysis programs for QA/QC, and (6) minimum detection limits. The monitoring requirements in this General Permit (Section XI), as supplemented by SMARTS, address these requirements.

Under the previous permit, many Dischargers did not developed adequate sample collection and handling procedures, decreasing the quality of analytical results. In addition, Dischargers often selected inappropriate test methods, method detection limits, or reporting units. This General Permit requires all Dischargers to identify discharge locations that are representative of industrial storm water discharges and develop and implement reasonable sampling procedures to ensure that samples are not mishandled or contaminated.

It is infeasible for the State Water Board to provide a single comprehensive set of sample collection and handling procedures/instructions due to the wide variation in storm water conveyance and collection systems in use at facilities around the state. As an alternative, Attachment H of this General Permit provides minimum storm water sample collection and handling instructions that pertain to all facilities. Dischargers are required to develop facility-specific sample collection and handling procedures based upon these minimum requirements. Table 2 in this General Permit provides the minimum test methods that shall be used for a variety of common pollutants. Dischargers must be aware that use of more sensitive test methods (e.g., U.S. EPA Method 1631 for Mercury) may be necessary if they discharge to an impaired water body or are otherwise required to do so by the Regional Water Board. This General Permit allows Dischargers to propose an analytical test method for any parameter or pollutant that does not have an analytical test method specified in Table 2 or in SMARTS. Dischargers may also propose analytical test methods with substantially similar or more stringent method detection limits than existing approved analytical test methods. Upon approval, SMARTS will be updated over time to add additional acceptable analytical test methods.

The previous permit allowed Dischargers to reduce sampling analysis requirements for substantially similar drainage areas by either (1) combining samples for an unspecified maximum number of substantially similar drainage areas, or (2) sampling a reduced number of substantially similar drainage areas. The State Water Board provided this procedure to reduce analytical costs. The complexity associated with determining substantially similar drainage areas has led Dischargers to produce various, and sometimes questionable, analytical schemes. In addition, the previous permit did not establish a maximum number of samples that could be combined.

To standardize sample collection and analysis as required by Water Code section 13383.5, while continuing to offer a reduced analytic cost option, these

requirements have been revised. Section XI.B.4 of this General Permit requires Dischargers to collect samples from all discharge locations regardless of whether the discharges are substantially similar or not. Dischargers may analyze each sample collected, or may analyze a combined sample consisting of equal volumes, collected from as many as four (4) substantially similar discharge locations. A minimum of one combined sample shall be analyzed for every one (1) to four (4) discharge locations, and the samples shall be combined in the lab in accordance with Section XI.C.5 of this General Permit.

Representative sampling is only allowed for sheet flow discharges or discharges from drainage areas with multiple discharge locations. Dischargers shall select the appropriate location(s) to be sampled and intervals necessary to obtain samples representative of storm water associated with industrial activities generated within the corresponding drainage area. Dischargers are not required to sample discharge locations that have no exposure of industrial activities or materials as defined in Section XVII of this General Permit within the corresponding drainage area. However, Dischargers are required to conduct the monthly visual observations regardless of the selected locations to be sampled.

This General Permit defines a QSE as a precipitation event that produces a discharge from any drainage area that is preceded by 48 consecutive hours without a discharge from any drainage area. The previous permit did not include a QSE definition; instead, it utilized a different approach to defining the storm events that were required to be sampled. Under the previous permit, eligible storm events were storm events that occurred after three consecutive working days of dry weather. The three consecutive working days of dry weather definition in the previous permit led Dischargers to miss many opportunities to sample. Some Dischargers were unable to collect samples from two storm events in certain years under the previous definition. To resolve this difficulty, this General Permit increases the sampling requirements to four (4) QSEs per year, while decreasing the number of days without a discharge, resulting in additional opportunities for Dischargers to sample. Additionally, by eliminating the previous permit's reference to "dry weather," this General Permit allows some precipitation to occur between QSEs so long as there is no discharge from any drainage area. This change will result in more QSE sampling opportunities.

To improve clarity and consistency, the definitions contained in other storm water permits were considered with the goal of developing a standard definition for 'dry weather' for this General Permit. The 2008 MSGP sets a "measurable storm event" as one that produces at least 0.1 inches of precipitation and results in an actual discharge after 72 hours (three days) of dry weather. The State of Washington defines a "qualifying storm event" as a storm with at least 0.1 inches of precipitation preceded by at least 24 hours of no measurable precipitation, mirroring the definition found in the previous MSGP (2000 version). The State of Oregon requires that samples be taken in the first 12 hours of discharge and no less than 14 days apart. Review of other permits concludes that there is not a single commonly used approach to triggering sampling in industrial general permits. Therefore an enforceable sampling trigger is included in this General

permit that requires Dischargers to sample four storm events within each reporting year.

b. Effluent Water Quality Sampling and Analysis Parameters

Dischargers are required to sample and analyze their effluent for certain parameters. "Parameter" is a term used in laboratory analysis circles to represent a distinct, reportable measure of a particular type. For example, ammonia, hexavalent chromium, total nitrogen and chemical oxygen demand are all parameters that a laboratory can analyze storm water effluent for and report a quantity back. A parameter is also an indicator of pollution. In this General Permit, pH, total suspended solids and chemical oxygen demand are examples of indicator parameters. They are not direct measures of a water quality problem or condition of pollution but can be used to indicate a problem or condition of pollution. Indicator parameters can also be used to indicate practices and/or the presence of materials at a facility to bring forth information for compliance evaluation processes, like annual report review and inspection. For example, chemical oxygen demand concentrations can indicate the presence of dissolved organic compounds, like residual food from collected recycling materials.

Minimum parameter-specific monitoring is required for Dischargers, regardless of whether additional facility-specific parameters are selected. This General Permit requires some parameters to be analyzed and reported for the duration of permit coverage to develop comparable sampling data over time and over many storm events and to demonstrate compliance. The Regional Water Boards may use such data to evaluate individual facility compliance and assess the differences between various industries. Accordingly, the parameters selected correspond to a broad range of industrial facilities, are inexpensive to sample and analyze, and have sampling and analysis methods which are easy to understand and implement. Some analytical methods for field measurements of some parameters, such as pH, may be performed using relatively inexpensive field instruments and provides an immediate alert to possible pollutant sources.

The following three selected minimum parameters are considered indicator parameters, regardless of facility type. These parameters typically provide indication and/or the correlation of whether other pollutants are present in storm water discharge. These parameters were selected for the following reasons:

i. pH is a numeric measurement of the hydrogen-ion concentration. Many industrial facilities handle materials that can affect pH. A sample is considered to have a neutral pH if it has a value of 7. At values less than 7, water is considered acidic; above 7 it is considered alkaline or basic. Pure rain water in California typically has a pH value of approximately 7.

ii. Total Suspended Solids (TSS) is an indicator of the un-dissolved solids that are present in storm water discharge. Sources of TSS include sediment from erosion, and dirt from impervious (i.e., paved) areas. Many pollutants adhere to sediment particles; therefore, reducing sediment will reduce the amount of these pollutants in storm water discharge.

iii. Oil and Grease (O&G) is a measure of the amount of O&G present in storm water discharge. At very low concentrations, O&G can cause sheen on the surface of water. O&G can adversely affect aquatic life, create unsightly floating material, and make water undrinkable. Sources of O&G include, but are not limited to, maintenance shops, vehicles, machines and roadways.

The previous permit allowed Dischargers to analyze samples for either O&G or Total Organic Carbon (TOC). This General Permit requires all Dischargers analyze samples for O&G since almost all Dischargers with outdoor activities operate equipment and vehicles can potentially generate insoluble oils and greases. Dischargers with water soluble-based organic oils may be required to also test for TOC. The TOC and O&G tests are not synonymous, duplicative or interchangeable.

This General Permit removes the requirement to analyze for specific conductance as part of the minimum analytic parameters. Specific conductance is not required by U.S. EPA for any industry type. Additionally, stakeholder comments indicate that there are many non-industrial sources that may cause high specific conductance and interfere with the efficacy of the test. For example, salty air deposition that occurs at facilities in coastal areas may raise the specific conductance in water over 500 micro-ohms per centimeter (µhos/cm). Dischargers are not prevented from performing a specific conductance test as a screening tool if it is useful to detect a particular pollutant of concern as required (e.g. salinity).

This General Permit requires Dischargers subject to Subchapter N ELGs for pH to analyze for pH using approved test methods in accordance with 40 Code of Federal Regulations part 136. These federal regulations specify that analysis of pH must take place within 15 minutes of sample collection. All other Dischargers may screen for pH using wide range litmus pH paper or other equivalent pH test kits within 15 minutes of sample collection. If in any reporting year a Discharger has two or more pH results outside of the range of 6.0 – 9.0 pH units, that Discharger is required to comply with the approved test methods in 40 Code of Federal Regulations part 136 in subsequent reporting years.

For almost all Dischargers, obtaining laboratory analysis within 15 minutes is logistically impossible. For many Dischargers, maintaining a calibrated pH meter is difficult, labor intensive, and error prone. Screening for pH will limit the number of additional Dischargers required to comply with 40 Code of Federal Regulations part 136 methods to those that have pH measures outside the range of 6.0-9.0 pH units. The use of wide range litmus pH paper or other equivalent pH test kits is not as accurate as a calibrated pH meter, however litmus paper is allowed in the 2008 MSGP, and when used properly it can provide an accurate screening measure to determine if further more-accurate pH sampling is necessary to determine compliance.

Review of available monitoring data shows that storm water discharges from most types of industrial facilities comply with the pH range of 6.0 to 9.0 pH units. There are specific types of industries, like cement or concrete manufacturers that

have shown a trend of higher pH values very close to 9.0 pH units. Rather than require all industries as a whole to monitor with the more costly 40 Code of Federal Regulations part 136 methods, this General Permit establishes a triggering mechanism for these more advanced pH test methods. The Regional Water Boards retain their authority to require more accurate test methods. Once a Discharger triggers the requirement to use the more accurate testing methods in 40 Code of Federal Regulations part 136, the Discharger may not revert back to screening for pH for the duration of coverage under this General Permit.

In the early 1990s, U.S. EPA, through its group application program, evaluated nationwide monitoring data and developed the listed parameters and SIC associations shown in Table 1 of this General Permit. The 2008 MSGP requires that Dischargers analyze storm water effluent for the listed parameters under certain conditions. In addition to the parameters in Table 1 of this General Permit, Dischargers are required to select additional facility-specific analytical parameters to be monitored, based upon the types of materials that are both exposed to and mobilized by contact with storm water. Dischargers must, at a minimum, understand how to identify industrial materials that are handled outdoors and which of those materials can easily dissolve or be otherwise transported via storm water.

The Regional Water Boards have the authority to revise the monitoring requirements for an individual facility or group of facilities based on site-specific factors including geographic location, industry type, and potential to pollute. For example, the Los Angeles Regional Water Board required all dismantlers (SIC Code 5015) within their jurisdiction to monitor for copper and zinc instead of aluminum and iron during the term of the previous permit. SMARTS will be programmed to incorporate any monitoring revisions required by the Regional Water Boards. Dischargers will receive email notification of the monitoring requirement revision and their SMARTS analytical reporting input screen will display the corresponding revisions. Dischargers may add, but not otherwise modify, the sampling parameters on their SMARTS input screen.

Dischargers are also required to identify pollutants that may cause or contribute to an existing exceedance of any applicable water quality standards for the receiving water. This General Permit requires Dischargers to control its discharge as necessary to meet the receiving water limitations, and to select additional monitoring parameters that are representative of industrial materials handled at the facility (regardless of the degree of storm water contact or relative mobility) that may be related to pollutants causing a water body to be impaired.

4. Methods and Exceptions

   a. Storm Water Discharge Locations

      Dischargers are required to visually observe and collect samples of industrial storm water discharges from each drainage area at all discharge locations. These samples must be representative of the storm water discharge leaving each drainage area. This is a change from the previous permit which allowed a

Discharger to reduce the number of discharge locations sampled if two or more discharge locations were substantially similar.

Dischargers are required to identify, when practicable, alternate discharge locations if: (1) the facility's industrial drainage areas are affected by storm water run-on from surrounding areas that cannot be controlled, or (2) discharge locations are difficult to observe or sample (e.g. submerged discharge outlets, dangerous discharge location accessibility).

b. Representative Sampling Reduction

Some stakeholders have indicated that there are unique circumstances where sampling a subset of representative discharge locations fully characterizes the full set of storm water discharges. Stakeholders provided examples related to drainage areas with multiple discharge locations where sampling only a subset of these discharge locations produces results that are representative of the drainage areas' storm water discharges. In such situations, this General Permit allows Dischargers to reduce the number of discharge locations. For each drainage area with multiple discharge locations (e.g. roofs with multiple downspouts, loading/unloading areas with multiple storm drain inlets), the Discharger may reduce the number of discharge locations to be sampled if the conditions in Section XI.C.4 of this General Permit are met.

c. Qualified Combined Samples

Dischargers may combine samples from up to four (4) discharge locations if the industrial activities within each drainage area and each drainage area's physical characteristics (i.e. grade, surface materials) are substantially similar.

Dischargers are required to provide documentation in the Monitoring Implementation Plan supporting that the above conditions have been evaluated and fulfilled. A Discharger may combine samples from more than four (4) discharge locations only with approval from the appropriate Regional Water Board.

d. Sample Collection and Visual Observation Exceptions

Dischargers are not required to collect samples or conduct visual observations during dangerous weather conditions such as flooding or electrical storms, or outside of scheduled facility operating hours. A Discharger is not precluded from conducting sample collection activities or visual observations outside of scheduled facility operating hours.

In the event that a Discharger is unable to collect the required samples or conduct visual observations due to the above exceptions, the Discharger must include an explanation of the conditions obstructing safe monitoring in its Annual Report. If access to a discharge location is dangerous on a routine basis, a Discharger must choose an alternative discharge location in accordance with General Permit Section XI.C.3.

e. Sampling Frequency Reduction

Facilities that do not have NAL exceedances for four (4) consecutive QSEs are unlikely to pose a significant threat to water quality. If the storm water from these facilities is also in full compliance with this General Permit, the Discharger is eligible for a reduction in sampling frequency. The Sampling Frequency Reduction allows a Discharger to decrease its monitoring from four (4) samples within each reporting year to one (1) QSE within the first half of each reporting year (July 1 to December 31) and one (1) QSE within the second half of each reporting year (January 1 to June 30). If a Discharger has a subsequent NAL exceedance after the Sampling Frequency Reduction, it must comply with the original sampling requirements of this General Permit. Only Dischargers that have baseline status or that have satisfied the Level 1 requirements are eligible for this sampling and analysis reduction.

A Discharger requesting to reduce its sampling frequency shall certify and submit a Sampling Frequency Reduction certification via SMARTS. The Sampling Frequency Reduction certification shall include documentation that the General Permit conditions for the Sampling Frequency Reduction have been satisfied.

Dischargers participating in a Compliance Group and certifying a Sampling Frequency Reduction are only required to collect and analyze storm water samples from one (1) QSE within each reporting year. These Dischargers must receive year-round compliance assistance from their Compliance Group Leader and must comply with all requirements of this General Permit.

5. Facilities Subject to Federal Storm Water Effluent Limitation Guidelines (ELGs)

Federal regulations at Subchapter N establish ELGs for industrial storm water discharges from facilities in eleven industrial sectors. For these facilities, compliance with the ELGs constitutes compliance with the technology standard of BPT, BAT, BCT, or New Source Performance Standards provided in the ELG for the specified pollutants, and compliance with the technology-based requirements in this General Permit for the specified pollutant.

K. Exceedance Response Actions (ERAs)

1. General

The previous permit did not incorporate the benchmarks from any of the MSGPs or NALs for Dischargers to evaluate sampling results. Unlike the requirements for industrial storm water discharges that cause or contribute to an exceedance of a water quality standards, the previous permit did not provide definitions, procedures or guidelines to assess sampling results. Many Regional Water Boards have formally or informally notified Dischargers that exceedances of the MSGP benchmarks should be used to determine whether additional BMPs are necessary. However, there was considerable confusion as to the extent to which a Discharger would be expected to implement actions in response to exceedances of these values, and the timelines that had to be met to prevent an enforcement action. The lack of specificity with regards to what constituted an exceedance, and what actions

are required in response to an exceedance, have been identified as a problem by the Water Boards, industry and environmental stakeholders.

This General Permit contains two (2) types of NALs. Annual NALs function similarly to, and are based upon, the values provided in the 2008 MSGP. Instantaneous maximum NALs target hot spots or episodic discharges of pollutants and are established based on California industrial storm water discharge monitoring data. When a Discharger exceeds an NAL it is required to perform ERAs. The ERAs are divided into two levels of responses and can generally be differentiated by the number of years in which a facility's discharge exceeds an NAL trigger. These two levels are explained further in Section XII of this General Permit. This ERA process provides Dischargers with an adaptive management-based process to develop and implement cost-effective BMPs that are protective of water quality and compliant with this General Permit. This process is also designed to provide Dischargers with a more defined pathway towards full compliance.

The ERA requirements in this General Permit were developed using best professional judgment and Water Board experience with the shortcomings of the previous permit's compliance procedures. Public comments received during State Water Board hearings on the 2002, 2005, 2011, 2012 and 2013 draft permits, and NPDES industrial storm water discharge permits from other states with well-defined ERA requirements were also considered by the State Water Board.

The State Water Board presumes that one single NAL exceedance for a particular parameter is not a clear indicator that a facility's discharge is out of compliance with the technology-based effluent limitations or receiving water limitations. This presumption recognizes the highly variable nature of storm water discharge and the limited value of a single quarterly grab sample to represent the quality of a facility's storm water discharge for an entire storm event and all other non-sampled storm events. With this presumption, the State Water Board is addressing costly monitoring requirements that do not bring forth valuable compliance and/or water quality information.

2. NALs and NAL Exceedances

   a. This General Permit contains two types of NAL exceedances as follows:

      Annual NAL exceedance - the Discharger is required to calculate the average annual concentration for each parameter using the results of all sampling and analytical results for the entire facility for the reporting year (i.e., all "effluent" data), and compare the annual average concentration to the corresponding Annual NAL values in Table 2 of this General Permit. An annual NAL exceedance occurs when the annual average of all the sampling results for a parameter taken within a reporting year exceeds the annual NAL value for that parameter listed in Table 2 of this General Permit.

      For the purposes of calculating the annual average concentration for each parameter, this General Permit considers any sampling result that are a "non-detect" or less than the method detection limit as a zero (0) value. The reason to use zero (0) values instead of the detected but not quantifiable

value (minimum level or reporting limit) is that these values are very low and are unlikely to contribute to an NAL exceedance. There are statistical methods to include low values when calculations are for numeric criteria and limitations, however, the NALs in this General Permit are approximate values used to provide feedback to the Discharger on site performance, and are not numeric criteria or limitations. Therefore, it is not necessary to include these insignificant values in the calculations for the NALs. For Dischargers using composite sampling or flow measurement in accordance with standard practices, the average concentrations shall be calculated in accordance with the U.S. EPA Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Multi-Sector Storm Water General Permit.[14]

i. Instantaneous maximum NAL exceedance - the Discharger is required to compare all sampling and analytical results from each distinct sample (individual or combined) to the corresponding instantaneous maximum NAL values in Table 2 of this General Permit. An instantaneous maximum NAL exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the instantaneous maximum NAL value (for TSS and O&G), or are outside of the instantaneous maximum NAL range (for pH).

b. Instantaneous maximum NAL analysis

In its June 19, 2006 report, the Blue Ribbon Panel of Experts (Panel) made several specific recommendations for how to set numeric limitations in future industrial storm water general permit(s). For sites not subject to TMDLs, the Panel suggested that the numeric values be based upon industry types or categories, with the recognition that each industry has its own specific water quality issues and financial viability. Furthermore, the Panel concluded:

> To establish Numeric Limits for industrial sites requires a reliable database, describing current emissions by industry types or categories, and performance of existing BMPs. The current industrial permit has not produced such a database for most industrial categories because of inconsistencies in monitoring or compliance with monitoring requirements. The Board needs to reexamine the existing data sources, collect new data as required and for additional water quality parameters (the current permit requires only pH, conductivity, total suspended solids, and either total organic carbon or oil and grease) to establish practical and achievable Numeric Limits.

The Panel suggested an alternative method that would allow the use of the existing Water Board dataset to establish action levels, referred to as the “ranked percentile” method. The Panel recommended:

[14] U.S. EPA. NPDES Storm Water Sampling Guidance Document. Web. July 1992. <http://www.epa.gov/npdes/pubs/owm0093.pdf>. [as of February 4, 2014].

> The ranked percentile approach (also a statistical approach) relies on the average cumulative distribution of water quality data for each constituent developed from many water quality samples taken for many events at many locations. The Action Level would then be defined as those concentrations that consistently exceed some percentage of all water quality events (i.e. the 90th percentile). In this case, action would be required at those locations that were consistently in the outer limit (i.e. uppermost 10th percentile) of the distribution of observed effluent qualities from urban runoff.

After performing various data analysis exercises with the Water Board dataset, State Water Board staff concluded that the Water Board dataset is not adequate to calculate instantaneous NAL values using the Panel's recommended method for all of parameters that have annual NAL values based on the U.S. EPA benchmarks. Additionally, public comments on the January 2011 draft of this General Permit suggest that it is problematic to calculate NAL values based on the existing data. Therefore, the Water Board dataset was not used to calculate instantaneous NAL values for all parameters.

However, since all Dischargers regulated under the previous permit were required to sample for TSS and O&G/TOC, State Water Board staff found that the existing dataset for these parameters is of sufficient quality to calculate instantaneous NAL values. State Water Board staff also found that this data was less prone to what appear to be data input errors. The final dataset used to calculate the instantaneous NALs in this General Permit had outlier values that were eliminated from the dataset by using approved test method detection limits ranges. The methods and corresponding method detection limit ranges used to screen outliers are as follows:

- O&G - EPA 413.1 Applicable Range: 5-1,000 mg/L
- O&G - EPA 1664 Applicable Range: 5-1,000 mg/L
- TSS - EPA 160.2 Applicable Range: 4-20,000 mg/L

The intent of the instantaneous maximum NAL is to identify specific drainage areas of concern or episodic sources of pollution in industrial storm water that may indicate inadequate storm water controls and/or water quality impacts. In the effort to add instantaneous NAL exceedances to the ERA process, the State Water Board explored different options for the development of an appropriate value (i.e. percentile approach, benchmarks times a multiplier, confidence intervals). The California Stormwater Quality Association's comments on the previous draft permit included a proposed method for calculating NAL values using a percentile approach. The State Water Board researched and evaluated this methodology and determined it is the most appropriate way to directly compare available electronic sampling data from Dischargers regulated under the previous permit. This percentile approach was used to establish the instantaneous maximum NALs in this General Permit, for discharges to directly compare with sampling results and identify drainage areas of water quality concern.

The percentile approach is a non-parametric approach identified in many statistical textbooks for determining highly suspect values. Highly suspect values are defined as values that exceed the limits of the outer fences of a box plot. Upper limits of the outer fence are calculated by adding three times the inter-quartile range (25th to 75th percentiles) to the upper-end of the inter-quartile range (the 75th percentile). The California Stormwater Quality Association calculated an NAL value of 401 mg/L for TSS using the percentile approach using the Water Board dataset. The State Water Board performed the same analysis with the same Water Board dataset and calculated a slightly different value of 396 mg/L; therefore, the instantaneous maximum NAL value for TSS of 400 mg/L was established. Appling the percentile approach to the existing O&G data results in the instantaneous maximum NAL value for O&G of 25 mg/L.

The State Water Board compared existing sampling data to the instantaneous maximum NAL values and concluded that seven (7) percent of the total samples exceeded the highly suspected value for TSS and 7.8 percent of the total samples exceeded the highly suspected value for O&G. These results suggest that the instantaneous maximum NAL values are adequate to identify drainage areas of concern statewide since they are not regularly exceeded. Using best professional judgment, the State Water Board concludes that an exceedance of these values twice within a reporting year is unlikely to be the result of storm event variability or random BMP implementation problems, and the use of the percentile approach is therefore appropriate.

Due to issues with the ranges of concentrations and the logarithmic nature of pH, statistical methods cannot be applied to pH in the same ways as other parameters. Review of storm water sampling data by the State Water Board and other stakeholders has shown that pH is not typically a parameter of concern for most industrial facilities. Accordingly, a range of pH limits established in Regional Water Board Basin Plans is implemented in this General Permit for the instantaneous maximum NAL values. Most Basin Plans set a water quality objective of 6.0 - 9.0 pH units for water bodies, an exceedance outside the range of 6.0 - 9.0 pH units is consistent with the water quality concerns for pH among Regional Water Boards. An industrial facility with proper BMP implementation is expected to have industrial storm water discharges within the range of 6.0 - 9.0 pH units.

High concentrations of TSS and O&G, or pH values outside the range of 6.0 – 9.0 pH units, in a discharge may be an indicator of potential BMP implementation or receiving water quality concerns with other pollutants with parameters that do not have an instantaneous maximum NAL value. The State Water Board may consider instantaneous maximum NAL values for other parameters in a subsequent reissuance of this General Permit, based on data collected during this General Permit term.

The percentile approach is considered by many stakeholders to be the best method to evaluate BMP performance and general effluent quality in a community or population where the vast majority of the industrial facilities are implementing sufficient pollutant control measures. The Water Board's current

dataset does not provide a way of evaluating actual BMP implementation at each facility when analyzing the data; therefore the monitoring information reported during the previous permit term cannot be linked to compliance with technology-based standards. The State Water Board intends to use data collected during this General Permit term to evaluate the percentile approach, improve the quality of collected data for other parameters, and further develop an understanding of how reported data relates to implemented BMP-control technologies.

Under this General Permit, a Discharger enters Level 1 status and must fulfill the Level 1 status ERA requirements following its first occurrence of any NAL exceedance. Level 2 status ERA requirements follow the second occurrence of an NAL exceedance for the same parameter in a subsequent reporting year. This ERA process provides Dischargers with an adaptive management-based process to develop and implement cost-effective BMPs that are protective of water quality and compliant with this General Permit. This General Permit's ERA process is designed to have a well-defined compliance end-point. It is not a violation of this General Permit to exceed the NAL values; it is a violation of the permit, however, to fail to comply with the Level 1 status and Level 2 status ERA requirements in the event of NAL exceedances.

The State Water Board acknowledges that storm water discharge concentrations are often highly variable and dependent upon numerous circumstances such as storm size, the time elapsed since the last storm, seasonal activities, and the time of sample collection. Since there are potential enforcement consequences for failure to comply with this General Permit's ERA process, the State Water Board's intention is to use NAL exceedances to solely require Dischargers with recurring annual NAL exceedances or drainage areas that produce recurring instantaneous maximum NAL exceedances to be subject to the follow-up ERA requirements.

If NALs exceedances do not occur, the State Water Board generally expects that the Discharger has implemented sufficient BMPs to control storm water pollution. When NAL exceedances do occur, however, the potential that the Discharger may not have implemented appropriate and/or sufficient BMPs increases, and the Discharger is required to implement escalating levels of ERAs. If NAL exceedances occur, this General Permit requires Dischargers to evaluate and potentially install additional BMPs, or re-evaluate and improve existing BMPs to be in compliance with this General Permit.

3. Baseline Status

At the beginning of a Discharger's NOI coverage under this General Permit, the Discharger has Baseline status. A Discharger demonstrating compliance with all NALs will remain at Baseline status and is not required to complete Level 1 status and Level 2 status ERA requirements.

If a Discharger has returned to Baseline status (from Level 2 status) and additional NAL exceedances occur, the Discharger goes into Level 1 status, then potentially

Level 2 status. Dischargers do not go directly into Level 2 status from Baseline status.

4. Level 1 Status

   Regardless of when an NAL exceedance occurs during Baseline status, a Discharger's status changes from Baseline status to Level 1 status on July 1 of the subsequent reporting year. By October 1 following the commencement of Level 1 status, the Discharger is required to appoint a QISP to assist with the completion of the Level 1 Evaluation. The Level 1 Evaluation must include a review of the facility's SWPPP for compliance with the effluent and receiving water limitations of this General Permit, an evaluation of the industrial pollutant sources at the facility that are or may be related to the NAL exceedance(s), and identification of any additional BMPs that will eliminate future exceedances. When conducting the Level 1 Evaluation, a Discharger must ensure that all potential pollutant sources that could be causing or contributing to the NAL exceedance(s) are fully characterized, that the current BMPs are adequately described, that employees responsible for implementing BMPs are appropriately trained, and that internal procedures are in place to track that BMPs are being implemented as designed in the SWPPP. A Discharger is additionally required to evaluate the need for additional BMPs. Level 1 ERAs are designed to provide the Discharger the opportunity to improve existing BMPs or add additional BMPs to comply with the requirements of this General Permit.

   By January 1 following commencement of Level 1 status, a Discharger is required to certify and submit via SMARTS a Level 1 ERA Report prepared by a QISP. The Level 1 ERA Report must contain a summary of the Level 1 Evaluation, all new or revised BMPs added to the SWPPP.

   In most cases, the State Water Board believes that Level 1 status BMPs will be operationally related rather than structural and, therefore can be implemented without delay. Recognizing that a Discharger should not be penalized for sampling results obtained before implementing BMPs, sampling results for parameters and their corresponding drainage areas that caused the NAL exceedance up to October 1 or the date the BMPs were implemented, whichever is sooner, will not be used for calculating NAL exceedances. Although this General Permit allows up to January 1 to implement Level 1 status BMPs, the State Board has chosen an interim date of October 1 to encourage more timely Level 1 BMP implementation. Dischargers who implement Level 1 BMPs after October 1 may risk obtaining subsequent sampling results that may cause them to go into Level 2 status.

5. Level 2 Status

   Level 2 ERAs are required during any subsequent reporting year in which the same parameter(s) has an NAL exceedance (annual average or instantaneous maximum), if this occurs, a Discharger's status changes from Level 1 status to Level 2 status on July 1 of the subsequent reporting year. Dischargers with Level 2 status must further evaluate BMP options for their facility. Dischargers may have to implement additional BMPs, which may include physical, structural, or mechanical devices that

are intended to prevent pollutants from contacting storm water. Examples of such controls include, but are not limited to:

- Enclosing and/or covering outdoor pollutant sources within a building or under a roofed or tarped outdoor area.

- Physically separating the pollutant sources from contact with run-on of uncontaminated storm water.

- Devices that direct contaminated storm water to appropriate treatment BMPs (e.g., discharge to sanitary sewer as allowed by local sewer authority).

- Treatment BMPs including, but not limited to, detention ponds, oil/water separators, sand filters, sediment removal controls, and constructed wetlands.

Dischargers may select the most cost-effective BMPs to control the discharge of pollutants in industrial storm water discharges. Where appropriate, BMPs can be designed and targeted for various pollutant sources (e.g., providing overhead coverage for one potential pollutant while discharging to a detention basin for another source may be the most cost-effective solution).

a. Level 2 ERA Action Plans

The State Water Board acknowledges that there may be circumstances that make it difficult, if not impossible, for a Discharger to immediately implement additional BMPs. For example, it may take time to get a contract for construction in place, obtain necessary building permits, and design and construct the BMPs. Dischargers may also suspect that pollutants are from a non-industrial or natural background source and need time to study their site. A Discharger is required to certify and submit an Action Plan prepared by a QISP via SMARTS by January 1 following the reporting year in which the NAL exceedance that resulted in the Discharger entering Level 2 occurred. The Level 2 ERA Action Plan requires a Discharger to propose actions necessary to complete the Level 2 ERA Technical Report, the demonstrations the Discharger has selected, and propose a time frame for implementation.

If a Discharger changes the QISP assisting with the Level 2 ERA requirements this General Permit requires the Discharger to update the QISP information via SMARTS. Current information on individuals assisting Dischargers with compliance of this General Permit provides the Water Boards with the necessary contact information if there are questions on the submitted documents, and for possible verification of a QISP's certification.

Dischargers are required to address each Level 2 NAL exceedance in an Action Plan. The State Water Board recognizes that Dischargers with Level 2 status may have multiple parameters or facility areas that have Level 2 NAL exceedances and the timing of the exceedances may make it very difficult to address all Level 2 NAL exceedances in one Action Plan. When Level 2 ERA exceedances occur in subsequent reporting years, after an Action Plan is

certified and submitted, a Discharger will need to develop an Action Plan for this new Level 2 NAL exceedance. This General Permit defines new Level 2 NAL exceedances as an exceedance for a new parameter in any drainage area at the facility, or an exceedance for the same parameter being addressed in an existing Action Plan, but where the exceedance occurred in a different drainage area than identified in the existing Action Plan.

b. Level 2 ERA Technical Reports

The Level 2 ERA Technical Report contains three different options that require a Discharger to submit demonstrations showing the cause of the NAL exceedance(s). This General Permit requires a Discharger to appoint a QISP to prepare the Level 2 ERA Technical Reports. The State Water Board acknowledges that there may be cases where a combination of the demonstrations may be appropriate; therefore a Discharger may combine any of the following three demonstration options in their Level 2 ERA Technical Report when appropriate. A Discharger is only required to annually update its Level 2 ERA Technical Report when necessary as defined in Section XII.D.3.c of this General Permit, and is not required to annually re-certify and re-submit the entire Level 2 ERA Technical Report. If there are no changes prompting an update of the Level 2 ERA Technical Report, as specified in Section XII.D.3.c of this General Permit, the Discharger will provide this certification in the Annual Report that there have been no changes warranting re-submittal of the Level 2 ERA Technical Report.

i. Industrial Activity BMPs Demonstration

The Industrial Activity BMPs Demonstration is for the following:

- Dischargers who decided to implement additional BMPs that are expected to eliminate future NAL exceedance(s) and that have been implemented in order to achieve compliance with the technology-based effluent limitations of this General Permit, and

- Dischargers who decided to implement additional BMPs that may not eliminate future NAL exceedance(s) and that have been implemented in order to achieve compliance with the technology-based effluent limitations of this General Permit.

When preparing the Industrial Activity BMPs Demonstration, the QISP shall identify and evaluate all individual pollutant source(s) associated with industrial activity that are or may be related to an NAL exceedance and all designed, information on the drainage areas associated with the Level 2 NAL exceedances, and installed BMPs that are implemented to reduce or prevent pollutants in industrial storm water discharges in compliance with this General Permit.

If an Industrial Activity BMPs Demonstration is submitted as the Level 2 ERA Technical Report and the Discharger is able to show reductions in pollutant concentrations below the NALs for four (4) subsequent consecutive QSEs, the Discharger returns to Baseline Status. A Discharger that submits an Industrial Activity BMPs Demonstration but has not installed additional BMPs that are expected to eliminate future NAL exceedance(s) will remain with Level 2 status but is not subject to additional ERAs unless directed by the Regional Water Board.

ii. Non-Industrial Pollutant Source Demonstration

A Non-Industrial Pollutant Source Demonstration is for a Discharger to demonstrate that the pollutants causing the NAL exceedances are not related to industrial activities conducted at the facility, and additional BMPs at the facility will not contribute to the reduction of pollutant concentrations.

Dischargers including the Non-Industrial Pollutant Demonstration in their Level 2 ERA Technical Report shall have a QISP determine that the sources of non-industrial pollutants in storm water discharges are not from industrial activity or natural background sources within the facility.

Sources of non-industrial pollutants that are discharged separately and are not comingled with storm water associated with industrial activity are not considered subject to this General Permit's requirements. When pollutants from non-industrial sources are comingled with storm water associated with industrial activity, the Discharger is responsible for all the pollutants in the combined discharge unless the technical report clearly demonstrates that the NAL exceedances due to the combined discharge are solely attributable to the non-industrial sources. The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance. In most cases, the Non-Industrial Pollutant Source Demonstration will contain sampling data and analysis distinguishing the pollutants from non-industrial sources from the pollutants generated by industrial activity.

Once the Level 2 ERA Technical Report, including this demonstration is certified and submitted via SMARTS, the Discharger has satisfied all the requirements necessary for that pollutant for ERA purposes. A Discharger that submits a Non-Industrial Pollutant Demonstration remains with Level 2 status but is not subject to additional ERAs unless directed by the Regional Water Board.

iii. Natural Background Pollutant Source Demonstration

The benchmark monitoring schedule in section 6.2.1.2 of the 2008 MSGP allows a Discharger to determine that the exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background. A Discharger making this determination is not required to perform corrective

action or additional benchmark monitoring providing that the other 2008 MSGP requirements are met. The 2008 MSGP Fact Sheet requires Dischargers to include in the following in the SWPPP: 1) map(s) showing the reference site location, facility, available land cover information, reference site and test site elevation, available geology and soil information for reference and test sites, photographs showing site vegetation, site reconnaissance survey data and records. This General Permit requires this information to be included in the Natural Background Pollutant Source Demonstration in Section XII.D.2.c.

The Natural Background Pollutant Source Demonstration in this General Permit is for a Discharger that can demonstrate that pollutants causing the NAL exceedances are not related to industrial activities conducted at the facility, and are solely attributable to the presence of those pollutants in natural background. The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance. Natural background pollutants include those substances that are naturally occurring in soils or groundwater that have not been disturbed by industrial activities. Natural background pollutants do not include legacy pollutants from earlier activity on a site, or pollutants in run-on from neighboring sources which are not naturally occurring. Dischargers are not required to reduce concentrations for pollutants in the effluent caused by natural background sources if these pollutants concentrations are not increased by industrial activity.

The 2008 MSGP Fact Sheet states that the background concentration of a pollutant in runoff from a non-human impacted reference site in the same watershed must be determined by evaluation of ambient monitoring data or by using information from a peer-reviewed publication or a local, state, or federal government publication specific to runoff or storm water in the immediate region. Studies that are in other geographic areas, or are clearly based on different topographies or soils, are not sufficient to meet this requirement. When such data is not available, and there are no known sources of the pollutant, the background concentration should be assumed to be zero.
In cases where historic monitoring data from a site are used for generating a natural background concentration, and the site is no longer accessible or able to meet reference site acceptability criteria, the Discharger must submit documentation (e.g., historic land use maps) indicating the site did meet reference site criteria (such as indicating the absence of human activity) during the time data collection occurred.

Once the Level 2 ERA Technical Report, including a Natural Background Demonstration meeting the conditions in Section XII.D.2.c of this General Permit is certified and submitted via SMARTS, the Discharger is no longer responsible for the identified background parameters(s) in the corresponding drainage area(s). A Discharger that submits this type of demonstration will

remain with Level 2 status but is not subject to additional ERAs unless directed by the Regional Water Board.

c. Level 2 ERA Implementation Extension

The State Water Board recognizes that there may be circumstances that make implementation of all necessary actions required in the Level 2 ERAs by the permitted due dates infeasible. In such circumstances a Discharger may request additional time by submitting a Level 2 ERA Implementation Extension. The Level 2 ERA Implementation Extension will automatically allow Dischargers up to an additional six (6) months to complete the tasks identified in the Level 2 ERA Action Plans while remaining in compliance with this General Permit. The Level 2 ERA Implementation Extension is subject to Regional Water Board review. If additional time is needed beyond the initial six (6) month extension, a second Level 2 ERA Implementation Extension may be submitted but is not effective unless it is approved by the Water Board.

L. Inactive Mining Operations

Inactive mining sites may need coverage under this General Permit. Inactive mining operations are mining sites, or portions of sites, where mineral mining and/or dressing occurred in the past with an identifiable Discharger (owner or operator), but are no longer actively operating. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials. A Discharger has the option to certify and submit via SMARTS that its inactive mining operations meet the conditions for an Inactive Mining Operation Certification in Section XIII of this General Permit. The Discharger must have a SWPPP for an inactive mine signed (wet signature with license number) by a California licensed professional engineer. The Inactive Mining Operation Certification in this General Permit is in lieu of performing certain identified permit requirements. This General Permit requires an annual inspection of an inactive mining site and an annual re-certification of the SWPPP. Any significant updates to the SWPPP shall be signed (wet signature and license number) by a California license professional engineer. The Discharger must certify and submit via SMARTS any significantly revised SWPPP within 30 days of the revision(s)

M. Compliance Groups and Compliance Group Leaders

Group Monitoring, as defined in the previous permit, has been eliminated in this General Permit and replaced with a new compliance option called Compliance Groups. The Compliance Group option differs from Group Monitoring as it requires (1) all Dischargers participating in a Compliance Group (Compliance Group Participants) sample two QSEs each year, (2) the Compliance Group Leader to inspect each Participant's facility within each reporting year, (3) the Compliance Group Leader must complete a State Water Board sponsored or approved training program for Compliance Group Leaders, and (4) the Compliance Group Leader to prepare Consolidated Level 1 ERA Reports, and individual Level 2 ERA Action Plans and Technical Reports. The Compliance Group option is similar to Group Monitoring as it retains a mechanism that

allows Dischargers of the same industry type to comply with this General Permit through shared resources in a cost saving manner.

This General Permit emphasizes sampling and analysis as a means to evaluate BMP performance and overall compliance, and the significantly reduced sampling requirements previously afforded to Group Monitoring Participants (two samples within a five-year period) does not provide the necessary information to achieve these goals. However, a moderate reduction in sampling requirements is included as an incentive for Compliance Group Participants while concurrently requiring sufficient individual facility sampling data to determine compliance. A Compliance Group Leader is required to provide the necessary sampling training and guidance to the Compliance Group Participants. This additional training requirement will increase sampling data quality that will offset the reduced sampling frequency for Compliance Groups.

Participation in Compliance Groups will provide additional cost savings for Dischargers in the preparation of the Consolidated Level 1 ERA Reports, and for Compliance Group Leader assistance in preparing the Level 2 ERA Action Plans and the individual Level 2 ERA Technical Reports. It is likely that many of the pollutant sources causing NAL exceedances, and the corresponding BMP cost evaluation and selection, when appropriate, will overlap for groups of facilities in a similar industry type. When these overlaps occur, a Compliance Group Leader should be able to more efficiently evaluate the pollutant sources and BMP options, and prepare the necessary reports.

The State Water Board believes that it is necessary for Compliance Group Leaders to have a higher level of industrial storm water compliance and training experience than the expectations of a QISP. Many stakeholder comments on this General Permit suggested various certifications to provide this higher level of experience; however, the State Water Board believes a process similar to the Trainer of Record process for the Construction General Permit training program will develop Compliance Group Leaders with the appropriate level of experience to fulfill the necessary qualifications.

The intent of the Compliance Groups is to have only one or a small number of Compliance Groups per industrial sector. The process for becoming a QISP trainer and/or a Compliance Group Leader is purposely similar to the Construction General Permit trainer of record process for consistency within storm water regulatory leaders. The formal process to qualify to conduct trainings for QISPs and/or to be a Compliance Group Leader will include the submittal of a statement of qualifications for review, a review fee, completion of an exam and training specific to this role. For more information see the Construction General Permit trainer of record process: http://www.casqa.org/TrainingandEducation/ConstructionGeneralPermitTrainingQSDQSPToR/tabid/205/Default.aspx

After the initial Compliance Group registration, Compliance Group Leaders are required to submit and maintain their list of Compliance Group Participants via SMARTS. There are no additional administrative documents required. The previous permit required group leaders to provide annual group evaluation reports and a letter of intent to continue group monitoring. The State Water Board found these items to be resource intensive and placed an unnecessary administrative burden on group leaders. The

Compliance Group requirements in this General Permit reduces the administrative burden on both the Compliance Group Leaders and Water Board staff.

The State Water Board's intent for the effluent data, BMP selection, cost, and performance information, and other industry specific information provided in Compliance Group reports is for evaluation of sector-specific permitting approaches and the use of NALs in the next reissuance of this General Permit.

N. Annual Evaluation

Federal regulations require NPDES industrial storm water Dischargers to evaluate their facility and SWPPP annually. Typically this requires an inspection of the facility to ensure: (1) the SWPPP site map is up to date, (2) control of all potential pollutant sources is included in the SWPPP, and (3) sampling data and visual observation records are used to evaluate if the proper BMPs are being implemented. As Dischargers are required to conduct monthly visual observation that partially overlap with the actions required by the annual evaluation requirements, Dischargers may perform the annual evaluation inspection concurrent with a monthly visual observation.

O. Annual Report

All Dischargers shall certify and submit via SMARTS an Annual Report no later than July 15 following each reporting year. The reporting requirements for this General Permit's Annual Report are streamlined in comparison to the previous permit. The Annual Report now consists of two primary parts: (1) a compliance checklist indicating which permit requirements were completed and which were not (e.g., a Discharger who completes the required sampling of four QSEs during the reporting year, versus a Discharger who is only able to sample two QSEs during the reporting year), and (2) an explanation for items on the compliance checklist that were determined incomplete by the Discharger. Unlike the previous permit, the Annual Report does not require Dischargers to provide the details of each visual observation (such as name of observer, time of observation, observation summary, corrective actions, etc.) or provide the details of the Annual Comprehensive Site Evaluation. Dischargers, however, continue to be required to retain those records and have them available upon request. The Annual Report is further simplified through the immediate electronic reporting via SMARTS of sampling data and copies of the original laboratory reports instead of such information being included in the Annual Report.

P. Conditional Exclusion - No Exposure Certification (NEC) Requirements

This General Permit's conditional exclusion requirements are similar to the requirements provided in 40 C.F.R. section 122.26(g)(3). Clarifications were added in this General Permit, however, to the types of "storm resistant shelters" and the periods when "temporary shelters" may be used in order to avert regulatory confusion. California does not have operating coal power plants, which are a major contributor to acid rain elsewhere in the United States. California does have nonpoint sources or atmospheric deposition that may locally impact the pH of the rain water, however this is

not categorized as acid rain as referred to by the U.S. EPA for the NEC coverage requirements. The No Exposure Guidance Document[15] developed by the U.S. EPA mentions acid rain as a potential source of contaminants to consider for NEC coverage. The acid rain leachate language was not included in this General Permit's Appendix 2 to clarify that Dischargers may qualify for NEC coverage, even if the facility has metal buildings or structures.

The Discharger shall certify and submit complete PRDs for NEC coverage via SMARTS. Based upon the State Water Board's experience with reissuing and implementing the 2009 Construction General Permit, the transition for existing Dischargers to register under this new General Permit is staff resource intensive. The State Water Board staff is available to assist Dischargers requiring assistance with enrolling under this General Permit, both for NOI coverage and NEC coverage. The State Water Board has also experienced that more time is needed for its staff to assist Dischargers registering for NEC coverage. To provide better customer service to all Dischargers, three months have been added to the NEC coverage PRD submittal schedule for new and existing Dischargers (Section II.B.4 of this General Permit, extending the NEC coverage registration date to October 1, 2015.

Dischargers must annually inspect their facility to ensure continued compliance with NEC requirements, and annually re-certify and submit an NEC via SMARTS. Based on its regulatory experience, the State Water Board has determined that a five-year NEC re-certification period is inadequate. A significant percentage of facilities may revise, expand, or relocate their operations in any given year. Furthermore, a significant percentage of facilities experience turnover of staff knowledgeable of the NEC requirements and limitations. Accordingly, the State Water Board believes that annual NEC evaluation and re-certification requirements are appropriate to continually assure adequate program compliance.

Q. Special Requirements - Plastic Materials

Water Code section 13367 requires the Water Boards to implement measures that control discharges of preproduction plastic from point and nonpoint sources. The State Water Board intends to use this General Permit to regulate discharges of preproduction plastics from areas of facilities that are subject to this General Permit. A Regional Water Board may designate facilities, or areas of facilities, that are not otherwise subject to this General Permit, pursuant to Section XIX.F. For example, a Regional Water Board may designate Plastic Materials handling areas of a transportation facility that are not associated with vehicle maintenance as requiring coverage under this General Permit.

Preproduction plastics used by the plastic manufacturing industry are small in size and have the potential to mobilize in storm water. Preproduction plastic washed into storm water drains can move to waters of the United States where it contributes to the growing problem of plastic debris in inland and coastal waters. Water Code section 13367

[15] U.S. EPA. Guidance Manual for Conditional Exclusion from Storm Water Permitting Based On "No Exposure" of Industrial Activities to Storm Water. Web. June 2000. < http://www.epa.gov/npdes/pubs/noxguide.pdf>. [as of January 31, 2014].

outlines five mandatory BMPs that are required for all facilities that handle preproduction plastic. These mandatory BMPs are included in this General Permit.

The State Water Board has received comments regarding the Water Code requirements for Plastics Facilities to install a containment system for on-site storm drain locations that meet 1mm capture and 1-year 1-hour storm flow requirement standards. As a result, this General Permit includes the option under Water Code section 13367 that allows a plastics facility to propose an alternative BMP or suite of BMPs that can meet the same performance and flow requirements as a 1mm capture and 1-year 1-hour storm flow containment system standards. These alternative BMPs are to be submitted to the Regional Water Board for approval. This alternative is intended to allow the facility to develop BMPs that focus on pollution prevention measures that can perform as well as, or better than, the containment system otherwise required by the statute.

The State Water Board also includes two additional containment system alternatives in this General Permit that are considered to be equivalent to, or better than, the 1mm capture and 1-year 1-hour storm flow requirements:

- An alternative allowing plastic facilities to implement a suite of eight BMPs addressing the majority of potential sources of plastic discharges. This suite of BMPs is based on industry and U.S. EPA recommendations and Water Board experience with storm water inspections, violations, and enforcement cases throughout California.

- An alternative allowing a facility to operate in a manner such that all preproduction plastic materials are used indoors and pose no potential threat for discharge off-site. The facility is required to notify the Regional Water Board of the intent to seek this exemption and of any changes to the facility or operations that may disqualify the facility for the exemption. The exemption may be revoked by the Regional Water Board at any time.

Plastics facilities may use preproduction plastic materials that are less than 1mm in size, or produce materials, byproducts, or waste that is smaller than 1mm in size. These small size materials will pass through the 1mm capture containment system required by Water Code section 13367. Plastics facilities with sub-1mm materials must design a containment system to capture the smallest size material onsite with a 1-year 1-hour storm flow requirement, or propose alternative BMPs for Regional Water Board approval that meet the same requirements.

The remaining BMPs required by Water Code section 13367 are consistent with recommendations for handling and clean-up of preproduction plastics in the American Chemistry Council publication, *Operation Clean Sweep* and U.S. EPA's publication *Plastic Pellets in the Aquatic Environment: Sources and Recommendations*. The State Water Board believes that the entire approach in this General Permit for plastic materials is consistent with Water Code section 13367.

R. Regional Water Board Authorities

The Regional Water Boards retain discretionary authority over many issues that may arise from industrial discharges within their respective regions. This General Permit

emphasizes the authority of the Regional Water Boards over specific requirements of this General Permit that do not meet region-specific water quality protection regulatory needs.

S. Special Conditions: Requirements for Dischargers Claiming the "No Discharge" Option in the Notice of Non-Applicability

1. General

   Entities that operate facilities generating storm water associated with industrial activities that is not discharged to waters of the United States are not required to obtain General Permit coverage. Entities that have contacted the Water Boards to inquire what is necessary to avoid permit coverage have received inconsistent guidance. This has resulted in regulatory inconsistency and uncertainty as to whether they are in compliance if their industry operates without General Permit coverage. Depending upon how each Regional Water Board handles "No Discharge" claims, some facilities with advanced containment design may be required to obtain General Permit coverage while other facilities with less advanced containment design may be allowed to operate without General Permit coverage. Some stakeholders have complained that this type of regulatory inconsistency puts some facilities at an economically-competitive disadvantage given the costs associated with permit compliance.

   U.S. EPA regulations do not provide a design standard, definition, or guidance as to what constitutes "No Discharge." Unlike Conditional Exclusion requirements, U.S. EPA regulations do not require an entity to submit technical justification or certification that a facility does not discharge to waters of the United States (U.S.). Therefore entities have previously been allowed to self-determine that their facility does not discharge to water of the U.S. when using any containment design standard. The State Water Board does not have available information showing that most entities have adequately performed hydraulic calculations to determine the frequency of discharge corresponding to their containment controls or have had these hydraulic calculations reviewed or completed by a California licensed professional engineer. Although U.S. EPA makes clear that an unpermitted discharge to waters of the U.S. is a violation of the CWA, this leaves regulatory agencies with the very difficult task of knowing when any given facility discharges in order to carry-out enforcement actions.

   In 1998, the Water Code was amended to require entities who are requested by the Water Boards to obtain General Permit coverage, but that have a valid reason to not obtain General Permit coverage, to submit a Notice of Non-Applicability (NONA). (Wat. Code, § 13399.30, subd. (a)(2)). The NONA covers multiple reasons why an entity is not required to be permitted including (1) facility closure, (2) not the legal owner, (3) incorrect SIC code, (4) eligibility for the Conditional Exclusion (No Exposure Certification), and (5) the facility not discharging to water of the U.S. ("No Discharge"). The previous permit contained definitions, requirements, and guidance that entities may reference to determine whether they are eligible to select any of the first four NONA reasons for not obtaining General Permit coverage. However, neither the previous permit nor the Water Code provide definitions, requirements,

and guidance for entities to determine whether they are eligible to indicate "No Discharge" on the NONA as a reason for not obtaining General Permit coverage.

This General Permit addresses and resolves the issues discussed above by establishing consistent, statewide eligibility requirements in Section XX.C for entities submitting NONAs indicating "No Discharge." When requested by the Water Boards to obtain General Permit coverage, entities must meet these "No Discharge" eligibility requirements or obtain General Permit coverage. The Water Boards retain enforcement authority if a facility subsequently discharges.

2. "No Discharge" Eligibility Requirements

The entity must certify submit in SMARTS a NONA Technical Report signed (wet signature and license number) by a California licensed professional engineer that contains the analysis and details of the containment design supporting the "No Discharge" eligibility determination. Because containment design will require hydraulic calculations, soil permeability analysis, soil stability calculations, appropriate safety factor consideration, and the application of other general engineering principles, state law requires the technical report to be signed (wet signature and license number) by a California licensed professional engineer.

The State Water Board has selected a containment design target that, as properly applied will result in few, if any, discharges. The facility must either be:

a. Engineered and constructed to contain all storm water associated with industrial activities from discharging to waters of the United States. (The determination of what is a water of the United States can be complicated, and in certain circumstances, a discharge to groundwater that has a direct hydrologic connection to waters of the United States may constitute a discharge to a water of the United States.) Dischargers must base their information upon maximum historic precipitation event data (or series of events) from the nearest rain gauges as provided by the National Oceanic and Atmospheric Administration's (NOAA) website, or other nearby precipitation data available from other government agencies. At a minimum, Dischargers must ensure that the containment design addresses maximum 1-hour, 24-hour, weekly, monthly, and annual precipitation data for the duration of the exclusion.

   Design storm events are generally specified as a one-time expected hydraulic failure over a reoccurrence of years for a specified storm event. For example, if a design storm standard is a 100 year 24-hour event, then a facility's containment system designed to contain the maximum volume of water would be expected to fall in 24 hours once every 100 years. Design standards vary dependent upon the regulatory program and the level of protection needed. Since California has considerable variations in climate/topography/soil conditions across the state, the "No Discharge" NONA eligibility requirements have been created so that each facility's containment design can incorporate unique site specific circumstances to meet the requirement that discharges will not occur based upon past historical precipitation data. Facilities that are not designed to not meet the "No Discharge" eligibility requirements must obtain General Permit coverage.

b. Located in basins or other physical locations that are not hydrologically connected to waters of the United States.

   The State Water Board considered allowing Entities to review United States Army Corp of Engineer maps to determine, without a California licensed professional engineer, whether their facility location is within a basin and/or other physical location that is not hydrologically connected to waters of the United States. The State Water Board believes that this determination can be difficult in some cases, or is likely to be performed incorrectly. In addition, there may be areas of the state that are not hydrologically connected to waters of the United States, but are not on United States Army Corps of Engineer maps. Therefore, all "No Discharge" Technical Reports must be signed (wet signature and license number) by a California licensed professional engineer.

3. Additional Considerations

   The "No Discharge" determination does not cover storm water containment systems that transfer industrial pollutants to groundwater. Entities must determine whether designs that incorporate infiltration may discharge to and contaminate groundwater. If there is a threat to groundwater, Entities must contact the Regional Water Boards prior to construction of infiltration design elements.

   Entities that have not eliminated all discharges that are subject to General Permit coverage (NOI Coverage or NEC Coverage) are ineligible to submit NONAs indicating "No Discharge."

ATTACHMENT A

FACILITIES COVERED BY NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

1. Facilities Subject To Storm Water Effluent Limitations Guidelines, New Source Performance Standards, or Toxic Pollutant Effluent Standards Found in 40 Code of Federal Regulations, Chapter I, Subchapter N (Subchapter N):

   Cement Manufacturing (40 C.F.R. Part 411); Feedlots (40 C.F.R. Part 412); Fertilizer Manufacturing (40 C.F.R. Part 418); Petroleum Refining (40 C.F.R. Part 419), Phosphate Manufacturing (40 C.F.R. Part 422), Steam Electric (40 C.F.R. Part 423), Coal Mining (40 C.F.R. Part 434), Mineral Mining and Processing (40 C.F.R. Part 436), Ore Mining and Dressing (40 C.F.R. Part 440), Asphalt Emulsion (40 C.F.R. Part 443), Landfills (40 C.F.R. Part 445), and Airport Deicing (40 C.F.R. Part 449).

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2. Manufacturing Facilities:

   Facilities with Standard Industrial Classifications (SICs) 20XX through 39XX, 4221 through 4225. (This category combines categories 2 and 10 of the previous general permit.)

3. Oil and Gas/Mining Facilities:

   Facilities classified as SICs 10XX through 14XX, including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 Code of Federal Regulations. 434.11(1) because the performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Acts authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations. Inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined material; or sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.

4. Hazardous Waste Treatment, Storage, or Disposal Facilities:

   Hazardous waste treatment, storage, or disposal facilities, including any facility operating under interim status or a general permit under Subtitle C of the Federal Resource, Conservation, and Recovery Act.

5. Landfills, Land Application Sites, and Open Dumps:

   Landfills, land application sites, and open dumps that receive or have received industrial waste from any facility within any other category of this Attachment; including facilities subject to regulation under Subtitle D of the Federal Resource, Conservation, and Recovery Act, and facilities that have accepted wastes from construction activities (construction activities include any clearing, grading, or excavation that results in disturbance).

6. Recycling Facilities:

   Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093.

7. Steam Electric Power Generating Facilities:

   Any facility that generates steam for electric power through the combustion of coal, oil, wood, etc.

8. Transportation Facilities:

   Facilities with SICs 40XX through 45XX (except 4221-25) and 5171 with vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or other operations identified under this Permit as associated with industrial activity.

9. Sewage or Wastewater Treatment Works:

   Facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge, that are located within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program under 40 Code of Federal Regulations part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the Clean Water Act.

ATTACHMENT B

ACRONYM LIST

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

ASBS	Areas of Special Biological Significance
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPT	Best Practicable Control Technology Currently Available
CBPELSG	California Board for Professional Engineers, Land Surveyors and Geologists
DWQ	Division of Water Quality
ELGs	Effluent Limitations Guidelines and New Source Performance Standards
ERA	Exceedance Response Action
MS4	Municipal Separate Storm Sewer System
MSGP	Multi Sector General Permit
NAL	Numeric Action Level
NAICS	North American Industrial Classification System
NEC	No Exposure Certification
NEL	Numeric Effluent Limitation
NOI	Notice of Intent
NONA	Notice of Non Applicability
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NSWD	Non Storm Water Discharges
O&G	Oil and Grease
PRDs	Permit Registration Documents
QA/QC	Quality Assurance/Quality Control
QISP	Qualified Industrial Storm water Practitioner
QSE	Qualifying Storm Event
SIC	Standard Industrial Classification
SMARTS	Storm Water Multiple Application and Report Tracking System
SWPPP	Storm Water Pollution Prevention Plan
TBEL	Technology Based Effluent Limitation
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TSS	Total Suspended Solids
U.S. EPA	United States Environmental Protection Agency
WDID	Waste Discharge Identification Number
WQBEL	Water Quality Based Effluent Limitation

ATTACHMENT C

GLOSSARY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

Adoption Date April 1, 2014

Aerial Deposition
Total suspended particulate matter found in the atmosphere as solid particles or liquid droplets. Chemical composition of particulates varies widely, depending on location and time of year. Sources of airborne particulates include but are not limited to: dust, emissions from industrial processes, combustion products from the burning of wood and coal, combustion products associated with motor vehicle or non-road engine exhausts, and reactions to gases in the atmosphere. Deposition is the act of these materials being added to a landform.

Beneficial Uses
As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation, include but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT)
As defined by United States Environmental Protection Agency (U.S. EPA), BAT is a technology-based standard established by the Clean Water Act (CWA) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)
As defined by U.S. EPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Professional Judgment (BPJ)
The method used by permit writers to develop technology-based NPDES permits conditions on a case-by-case basis using all reasonably available and relevant data.

GLOSSARY

Best Management Practices (BMPs)
Scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Chain of Custody
Form used to track sample handling as samples progress from sample collection to the laboratory. The chain of custody is also used to track the resulting analytical data from the laboratory to the client. Chain of custody forms can be obtained from an analytical laboratory upon request.

Debris
Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Detected Not Quantifiable
A sample result that is between the Method Detection Limit (MDL) and the Minimum Level (ML).

Discharger
A person, company, agency, or other entity that is the operator of the industrial facility covered by this General Permit.

Drainage Area
The area of land that drains water, sediment, pollutants, and dissolved materials to a common discharge location.

Effective Date
The date, set by the State Water Resources Control Board (State Water Board), when at least one or more of the General Permit requirements take effect and the previous permit expires. This General Permit requires most of the requirements (such as SMARTs submittals, minimum BMPs, sampling and analysis requirements) to take effect on July 15, 2015.

Effluent
Any discharge of water either to the receiving water or beyond the property boundary controlled by the Discharger.

Effluent Limitation
Any numeric or narrative restriction imposed on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, waters of the contiguous zone, or the ocean.

GLOSSARY

Erosion
The process by which soil particles are detached and transported by the actions of wind, water or gravity.

Erosion Control BMPs
Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Facility
A collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit.

Field Measurements
Testing procedures performed in the field with portable field-testing kits or meters.

Good Housekeeping BMPs
BMPs designed to reduce or eliminate the addition of pollutants through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Industrial Materials
Includes, but is not limited to: raw materials, recyclable materials, intermediate products, final products, by product, waste products, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERLCA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge and that are used, handled, stored, or disposed in relation to a facility's industrial activity.

Method Detection Limit
The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

Minimum Level
The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Monitoring Implementation Plan
Planning document included in the Storm Water Pollution Prevention Plan (SWPPP). Dischargers are required to record information on the implementation of the monitoring requirements in this General Permit. The MIP should include relevant information on:

the Monthly Visual Observation schedule, Sampling Parameters, Representative Sampling Reduction, Sample Frequency Reduction, and Qualified Combined Samples.

Monitoring Requirements
Includes sampling and analysis activities as well as visual observations.

Natural Background
Pollutants including substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from previous activity at a facility, or pollutants in run-on from neighboring sources which are not naturally occurring.

New Discharge(r)
A facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source as defined in 40 Code of Federal Regulations 122.29, and which has never received a finally effective NPDES permit for discharges at that site. See 40 Code of Federal Regulations 122.2.

Numeric Action Level (NAL) Exceedance
Annual NAL exceedance - the Discharger shall determine the average concentration for each parameter using the results of all the sampling and analytical results for the entire facility for the reporting year (i.e., all "effluent" data) and compare this to the corresponding Annual NAL values in Table 2. For Dischargers using composite sampling or flow measurement in accordance with standard practices, the average concentrations shall be calculated in accordance with the U.S. EPA Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Multi-Sector Storm Water General Permit.[1] An annual NAL exceedance occurs when the average of all the analytical results for a parameter from samples taken within a reporting year exceeds an annual NAL value for that parameter listed in Table 2 (or is outside the NAL pH range);

Instantaneous maximum NAL exceedance - the Discharger shall compare all sampling and analytical results from each distinct sample (individual or composite) to the corresponding Instantaneous maximum NAL values in Table 2. An instantaneous maximum NAL exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the instantaneous maximum NAL value (for TSS and O&G), or are outside of the instantaneous maximum NAL range (for pH).

Non Detect
Sample result is less than Method Detection Limit; Analyte being tested cannot be detected by the equipment or method.

[1] U.S. EPA. NPDES Storm Water Sampling Guidance Document. <http://www.epa.gov/npdes/pubs/owm0093.pdf >. [as of July 3, 2013]

Non-Storm Water Discharges (NSWDs)
Discharges that do not originate from precipitation events. Including but not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Numeric Action Level (NAL)
Pollutant concentration levels used to evaluate if best management practices are effective and if additional measures are necessary to control pollutants. NALs are not effluent limits. The exceedance of an NAL is not a permit violation.

Operator
In the context of storm water associated with industrial activity, any party associated with an industrial facility that meets either of the following two criteria:

a. The party has operational control over the industrial SWPPP and SWPPP specifications, including the ability to make modifications to those plans and specifications

b. The party has day-to-day operational control of activities at the facility which are necessary to ensure compliance with a SWPPP for the facility or other permit conditions (e.g., authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

pH
Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6.0 and 9.0, with neutral being 7.0.

Plastic Materials
Plastic Materials are virgin and recycled plastic resin pellets, powders, flakes, powdered additives, regrind, dust, and other similar types of preproduction plastics with the potential to discharge or migrate off-site.

Qualified Industrial Storm Water Practitioner (QISP)
Only required once a Discharger reaches Level 1 status, a QISP is the individual assigned to ensure compliance with this General Permit or to assist New Dischargers with determining coverage eligibility for discharges to an impaired water body. A QISP's responsibilities include implementing the SWPPP, performing the Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation), assisting in the preparation of Annual Reports, performing ERAs, and training appropriate Pollution Prevention Team members. The individual must take the appropriate state approved or sponsored training to be qualified. Dischargers shall ensure that the designated QISP is geographically located in an area where they will be able to adequately perform the permit requirements at all of the facilities they represent.

Qualifying Storm Event (QSE)
A precipitation event that:

a. Produces a discharge for at least one drainage area; and
b. Is preceded by 48 hours with no discharge from any drainage area.

Regional Water Board
Includes the Executive Officer and delegated Regional Water Board staff.

Runoff Control BMPs
Measures used to divert run-on from offsite and runoff within the site.

Run-on
Discharges that originate offsite and flow onto the property of a separate facility or property or, discharges that originate onsite from areas not related to industrial activities and flow onto areas on the property with industrial activity.

Scheduled Facility Operating Hours
The time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.

Sediment
Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation
Process of deposition of suspended matter carried by water, wastewater, or other liquids that flow by gravity. Control of sedimentation is accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs
Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. Includes those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (i.e., silt fence, sediment basin, fiber rolls, etc.).

Sheet Flow
Flow of water that occurs overland in areas where there are no defined channels and where the water spreads out over a large area at a uniform depth.

Source
Any facility or building, property, road, or area that causes or contributes to pollutants in storm water.

Storm Water
Storm water runoff, snowmelt runoff, and storm water surface runoff and drainage.

Storm Water Discharge Associated With Industrial Activity
The discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant as identified in Attachment A of this General Permit. The term does not include discharges from facilities or activities excluded from the NPDES program. The term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials; manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 C.F.R. section 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 C.F.R. section 122.

Material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph) include those facilities designated under 40 C.F.R. section122.26(a)(1)(v).

Structural Controls
Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.

Total Suspended Solids (TSS)
The measure of the suspended solids in a water sample including inorganic substances such as soil particles, organic substances such as algae, aquatic plant/animal waste, and particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

Toxicity
The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses, such as impaired reproduction or growth anomalies.

Trade Secret
Information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (1) derives independent economic value, actual or potential, from not being generally known to the public or to other persons who can obtain economic value from its disclosure or use; and (2) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

Turbidity
The cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The turbidity test is reported in Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU).

Waters of the United States
Generally refers to surface waters, as defined for the purposes of the federal Clean Water Act.

Water Quality Objectives
Defined in the California Water Code as limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Water Quality Standards
Consists of beneficial uses, water quality objectives to protect those uses, an antidegradation policy, and policies for implementation. Water quality standards are established in Regional Water Quality Control Plans (Basin Plans) and statewide Water Quality Control Plans. U.S. EPA has also adopted water quality criteria (the same as objectives) for California in the National Toxics Rule and California Toxics Rule.

ATTACHMENT D

PERMIT REGISTRATION DOCUMENTS (PRDs)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

This Attachment provides an example of the information Dischargers are required to submit in the PRDs via the Storm Water Multiple Application and Report Tracking System (SMARTS). The actual PRD requirements are in Section II of this General Permit.

A. Who Must Submit PRDs

All Dischargers that operate facilities as described in Attachment A of this General Permit are subject to either Notice of Intent (NOI) or No Exposure Certification (NEC) Coverage and shall comply with the PRD requirements in this General Permit.

B. Who Is Not Required to Submit PRDs

Dischargers that operate facilities described below are not required to submit PRDs:

1. Facilities that are not described in Attachment A;

2. Facilities that are described in Attachment A but do not have discharges of storm water associated with industrial activity to waters of the United States; or,

3. Facilities that are already covered by an NPDES permit for discharges of storm water associated with industrial activity.

C. Annual Fees for NOI and NEC Coverage

Annual Fees for NOI and NEC coverage are established through regulations adopted by the State Water Board and are subject to change (see California Code of Regulations, title 23, section 2200 et seq.).

D. When and How to Apply

Dischargers proposing to conduct industrial activities subject to this General Permit must electronically certify and submit PRDs via the Storm Water Multiple Application

Reporting and Tracking System (SMARTS)[1] no less than seven (7) days prior to the commencement of industrial activity. Existing Dischargers must submit PRDs for NOI coverage by July 1, 2015 or for NEC coverage by October 1, 2015.

E. PRD Requirements for NOI Coverage

1. Notice of Intent (NOI) and Signed Electronic Authorization Form.

2. Site Map (Section X.E of this General Permit).

3. Storm Water Pollution Prevention Plan (see Section X of this General Permit).

F. Description of PRDs for NOI Coverage

1. The Notice of Intent (NOI) requires the following information:

   a. Operator/Owner Information

      Operator/Owner Company or Organization Name
      Contact First Name
      Contact Last Name
      Title
      Street Address
      Address Line 2
      City/State/Zip
      Phone (e.g. 999-999-9999)
      E-mail (e.g. abc@xyz.com)
      Federal Tax ID

   b. Facility Information

      Facility Name
      WDID Number (if applicable)
      Contact First Name
      Contact Last Name
      Title
      Street Address
      Address Line 2
      City
      County
      Phone (e.g. 999-999-9999)

[1] The State Water Board has developed the SMARTS online database system to handle registration and reporting under this General Permit. More information regarding SMARTS and access to the database is available online at <https://smarts.waterboards.ca.gov>. [as of June 26, 2013].

Emergency Phone (e.g. 999-999-9999)
E-mail (abc@xyz.com)
State/Zip CA
Total Site Size (Acres)
Latitude (Decimal degrees only, minimum 5 significant digits, e.g. 99.99999)
Longitude (Decimal degrees only, minimum 5 significant digits, e.g. 99.99999)
Total Percentage Site Imperviousness Area of Facility (Acres)
Total Areas of Industrial Activities and Materials Exposed to Precipitation
Primary SIC Code
Secondary SIC Code
Tertiary SIC Code
Regional Water Board

c. Billing Information

Billing Name
Contact First Name
Contact Last Name
Title
Street Address
Address Line 2
City/State/Zip
Phone (e.g. 999-999-9999)
E-mail (e.g. abc@xyz.com)

d. Receiving Water Information

Does your facility's storm water flow directly or indirectly into waters of the US such as river, lake, ocean, etc. (check box for directly or indirectly)

i. Indirectly to waters of the US

ii. Storm drain system - Enter owner's name:

iii. Directly to waters of the US (e.g., river, lake, creek, stream, bay, ocean, etc.)

iv. Name of the receiving water: _____

2. The Site Map(s) shall include the following Information:

   a. The facility boundary;

   b. Storm water drainage areas within the facility boundary;

   c. Portions of any drainage area impacted by discharges from surrounding areas and flow direction of each drainage area;

   d. On-facility surface water bodies;

   e. Areas of soil erosion;

   f. Location(s) of nearby water bodies (such as rivers, lakes, wetlands, etc.);

   g. Location(s) of municipal storm drain inlets that may receive the facility's industrial storm water discharges and authorized Non-Storm Water Discharges (NSWDs);

   h. Locations of storm water collection and conveyance systems and associated points of discharge, and direction of flow;

   i. Any structural control measures (that affect industrial storm water discharges, authorized NSWDs, and run-on);

   j. All impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures;

   k. Locations where materials are directly exposed to precipitation;

   l. Locations where significant spills or leaks identified (Section X.G.1.d of this General Permit) have occurred;

   m. Areas of industrial activity subject to this General Permit;

   n. All storage areas and storage tanks;

   o. Shipping and receiving areas;

   p. Fueling areas;

q. Vehicle and equipment storage/maintenance areas;

r. Material handling and processing areas;

s. Waste treatment and disposal areas;

t. Dust or particulate generating areas;

u. Cleaning and material reuse areas; and,

v. Any other areas of industrial activity which may have potential pollutant sources.

3. The Storm Water Pollution Prevention Plan (SWPPP) must be prepared in accordance with Section X of this General Permit.

4. A NOI Certification by the Discharger that all PRDs submitted are correct and true.

5. SMARTS Electronic Authorization Form (Signed by any user authorized to certify and submit data electronically).

G. PRD Requirements for NEC Coverage

1. No Exposure Certification and Signed Electronic Authorization Form.

2. No Exposure Certification Checklist Consistent with Requirements in Section XVII.F.2 of this General Permit.

3. Current Site Map Consistent with Requirements in Section X.E of this General Permit.

H. Description of PRDs for NEC Coverage

1. The No Exposure Certification requires the following information:

   a. Operator/Owner Information

      Operator/Owner Name
      Contact First Name
      Contact Last Name
      Title

Street Address
Address Line 2
City/State/Zip
Phone Ex (999-999-9999)
E-mail (abc@xyz.com)
Federal Tax ID

b. Facility Information

Facility Name
Contact First Name
Contact Last Name
Title
Street Address
Address Line 2
City
County
Phone Ex (999-999-9999)
Emergency Phone Ex (999-999-9999)
E-mail (abc@xyz.com)
State/Zip CA
Total Site Size (Acres)
Latitude (Decimal degrees only, minimum 5 significant digits, Ex 99.99999)
Longitude (Decimal degrees only, minimum 5 significant digits, Ex 99.99999)
Percent of Site Imperviousness (%)
Primary SIC Code
Secondary SIC Code
Tertiary SIC Code
Regional Water Board

c. Billing Information

Billing Name (if different than Operator/Owner)
Contact First Name
Contact Last Name
Title
Street Address
Address Line 2
City/State/Zip
Phone E.g. (999-999-9999)
E-mail (e.g. abc@xyz.com)

d. SMARTS Electronic Authorization Form - Signed by any user authorized to certify and submit data electronically.

e. Certification by the Discharger that all PRDs submitted are correct and true and that the conditions of no-exposure have been met.

2. The NEC Checklist (Section XVII.F.2 of this General Permit) must be prepared to demonstrate that, based upon a facility inspection and evaluation, none of the following industrial materials or activities are, or will be in the foreseeable future, exposed to precipitation:

   a. Activities such as using, storing, or cleaning industrial machinery or equipment, and areas with materials or residuals from these activities;

   b. Materials or residuals on the ground or in storm water inlets from spills/leaks;

   c. Materials or products from past industrial activity;

   d. Material handling equipment (except adequately maintained vehicles);

   e. Materials or products during loading/unloading or transporting activities;

   f. Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);

   g. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

   h. Materials or products handled/stored on roads or railways owned or maintained by the Discharger;

   i. Waste material (except waste in covered, non-leaking containers, e.g., dumpsters). Application or disposal of processed wastewater (unless already covered by an NPDES permit); and,

   j. Particulate matter or visible deposits of residuals from roof stacks/vents evident in the storm water outflow.

3. The Site Map(s) shall include the following information (see Section X.E of this General Permit):

   a. The facility boundary;

   b. Storm water drainage areas within the facility boundary;

   c. Portions of any drainage area impacted by discharges from surrounding areas and flow direction of each drainage area;

d. On-facility surface water bodies;

e. Areas of soil erosion;

f. Location(s) of nearby water bodies (such as rivers, lakes, wetlands, etc.);

g. Location(s) of municipal storm drain inlets that may receive the facility's industrial storm water discharges and authorized NSWDs;

h. Locations of storm water collection and conveyance systems and associated points of discharge, and direction of flow;

i. Any structural control measures (that affect industrial storm water discharges, authorized NSWDs, and run-on);

j. All impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures;

k. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified (Section X.G.1.d of this General Permit) have occurred;

l. Areas of industrial activity subject to this General Permit;

m. All storage areas and storage tanks;

n. Shipping and receiving areas;

o. Fueling areas;

p. Vehicle and equipment storage/maintenance areas;

q. Material handling and processing areas;

r. Waste treatment and disposal areas;

s. Dust or particulate generating areas;

t. Cleaning and material reuse areas; and,

u. Any other areas of industrial activity which may have potential pollutant sources.

PERMIT REGISTRATION DOCUMENTS (PRDS)

I. Obtaining Coverage

To obtain coverage under this General Permit PRDs must be included and completed. If any of the required items are missing, the PRD submittal is considered incomplete and will be rejected. Upon receipt of a complete PRD submittal, the State Water Board will process the application package in the order received and assign a (WDID) number.

J. Additional Information

The Water Board may require the submittal of additional information in SMARTS if required to determine the appropriate fee for the facility as specified by the fee regulations.

K. Questions

If you have any questions on completing the PRDs or about SMARTS, please email stormwater@waterboards.ca.gov or call (866) 563-3107.

ATTACHMENT E

LIST OF TOTAL MAXIMUM DAILY LOADS (TMDLS) APPLICABLE TO INDUSTRIAL STORM WATER DISCHARGERS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

The following table contains a list of Regional Water Board adopted and/or U.S. EPA established/approved TMDLs, as of the adoption date of this General Permit, that are applicable to industrial storm water Dischargers. TMDLs adopted/established after the effective date of the General Permit may, at the Water Boards discretion, be included in this General Permit. This General Permit may be reopened to amend TMDL-specific permit requirements in this Attachment E, or to incorporate new TMDLs adopted during the term of this General Permit that include requirements applicable to Dischargers covered by this General Permit.

Water Body	Pollutant
San Francisco Bay Regional Water Quality Control Board	
Napa River	Sediment
Sonoma Creek	Sediment
Los Angeles Regional Water Quality Control Board	
Santa Clara River Reach 3	Chloride
Santa Clara River	Nutrients
Los Angeles River	Metals
Los Angeles River	Nutrients
San Gabriel River	Metals and Selenium
Santa Monica Bay	Nearshore Debris
Machado Lake	Nutrient
Harbor Beaches of Ventura	Bacteria
Ballona Creek	Metals
Ballona Creek Estuary	Toxic Pollutants
Los Angeles Harbor	Bacteria
Marina del Rey Back Basins	Bacteria
Santa Clara River	Bacteria
Walker Creek,	Mercury
Oxnard Drain No. 3	Pesticides, PCBs[1] and Sediment Toxicity
Long Beach City Beaches and Los Angeles River Estuary	Indicator Bacteria
Los Angeles and Long Beach Harbors	Toxic and Metals

[1] Polychlorinated biphenyls

LIST OF TOTAL MAXIMUM DAILY LOADS (TMDLS) APPLICABLE TO INDUSTRIAL STORM WATER DISCHARGERS

Los Angeles Area Lakes	Nitrogen, Phosphorus, Mercury, Trash, Organochlorine Pesticides and PCBs
Santa Monica Bay	DDTs and PCBs
Machado Lake	Toxics
Colorado Lagoon	Pesticides, Polycyclic aromatic hydrocarbons, PCBs, and Metals
Calleguas Creek Watershed	Salts
Calleguas Creek Watershed	Metals and Selenium
Ballona Creek, Ballona Estuary, and Sepulveda Channel	Bacteria
Marina Del Rey Harbor-Back Basins	Copper, Lead, Zinc, and Chlordane, and Total PCBs
Los Cerritos Channel	Metals
Santa Ana Regional Water Quality Control Board	
San Diego Creek and Newport Bay	Toxic Pollutants
San Diego Regional Water Quality Control Board	
Chollas Creek	Diazinon
Chollas Creek	Copper, Lead, and Zinc
Los Peñasquitos Lagoon	Sediment
Rainbow Creek	Total Nitrogen and Total Phosphorus
Shelter Island Yacht Basin	Dissolved Copper
Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in SD Bay	Indicator Bacteria
Twenty Beaches and Creeks	Indicator Bacteria

ATTACHMENT F

EFFLUENT LIMITATION GUIDELINES (ELGs)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

The following Parts of federal regulations at 40 Code of Federal Regulations Chapter I Subchapter N (Subchapter N) contain ELGs approved by US EPA for specific categories of industrial storm water discharges:

Point Source Category	ELGs[1]
Part 411 - Cement Manufacturing	411.pdf
Part 418 - Fertilizer Manufacturing	418.pdf
Part 419 - Petroleum Refining	419.pdf
Part 422 - Phosphate Manufacturing	422.pdf
Part 423 - Steam Electric Power Generating	423.pdf

[1] The applicable ELGs are attached to this Attachment F. To view the attachments from an electronic (pdf) version of this Attachment F, left-click on the paper clip icon to the left of this pdf file to make the attachment window appear, then double-click on the icons of the attached pdf files. The attachments are also available on the Industrial Storm Water program pages of the State Water Resources Control Board's website (www.waterboards.ca.gov).

EFFLUENT LIMITATION GUIDELINES (ELGs)

Point Source Category	ELGs[2]
Part 429 - Wetting of logs at wet deck storage areas	429.pdf
Part 434 - Coal Mining	434.pdf
Part 436 - Mineral Mining And Processing	436.pdf
Part 440 - Ore Mining And Dressing	440.pdf
Part 443 - Paving And Roofing Materials (Tars And Asphalt)	443.pdf
Part 445 - Landfills	445.pdf
Part 449 - Airport Deicing	449.pdf

2 The applicable ELGs are attached to this Attachment F. To view the attachments from an electronic (pdf) version of this Attachment F, left-click on the paper clip icon to the left of this pdf file to make the attachment window appear, then double-click on the icons of the attached pdf files. The attachments are also available on the Industrial Storm Water program pages of the State Water Resources Control Board's website (www.waterboards.ca.gov).

EFFLUENT LIMITATION GUIDELINES (ELGs)

New Source Performance Standards

New source performance standards (NSPS) represent the best available demonstrated control technology standards. US EPA has established NSPS guidelines for the industries found in the Table below. The intent of NSPS guidelines is to set effluent limitations that represent state-of-the-art treatment technology for new sources.[3]

Table 1 - Storm Water Specific NSPS Effluent Limitation Guidelines

Regulated Discharge	40 CFR Section	Multi Sector General Permit Sector	NSPS	Date New Source Data Established
Discharge resulting from spray down or intentional wetting of logs as wet deck storage areas	Part 429, Subpart I	A	Yes	1/26/81
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished products, by-products or waste products (SIC 2874)	Part 418, Subpart A	C	Yes	4/8/74
Runoff from asphalt emulsion facilities	Part 443, Subpart A	D	Yes	7/28/75
Runoff from materials storage piles at cement manufacturing facilities	Part 411, Subpart C	E	Yes	2/20/74
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, D	J	No	N/A
Runoff from hazardous waste and non-hazardous waste landfills	Part 445, Subparts A and B	K, L	Yes	2/2/00
Runoff from coal storage piles at steam electric generating facilities	Part 423	O	Yes	11/19/82 & 10/8/74
Discharges from primary airports with over 1,000 annual jet departures that conduct deicing operations.	Part 449, Subpart A	S	Yes	NA

[3] New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced: (1) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or (2) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal as defined in 40 C.F.R section 122.26.

ATTACHMENT G

REQUIREMENTS FOR DISCHARGERS WHO HAVE BEEN GRANTED AN OCEAN PLAN EXCEPTION FOR DISCHARGES TO ASBS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED
WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

A. Areas of Special Biological Significance (ASBS)

1. ASBS are defined in the California Ocean Plan as "those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable."

2. The California Ocean Plan prohibits the discharge of waste to ASBS.

3. The California Ocean Plan authorizes the State Water Board to grant an exception to Ocean Plan provisions where the board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.

4. On March 20, 2012, the State Water Board adopted Resolution 2012-0012 (amended by Resolution 2012-0031 on June 19, 2012) which contained a general exception to the California Ocean Plan for discharges of storm water and non-point sources (ASBS Exception). This resolution also contains the Special Protections that are to be implemented for direct discharges to ASBS. Resolution 2012-0012 is hereby incorporated by reference and its requirements must be complied with by industrial storm water Dischargers discharging directly to ASBS.

5. This General Permit requires Dischargers who have been granted an Ocean Plan exception for discharges to ASBS to comply with the requirements contained in the Special Protections. These requirements are contained below.

B. ASBS Non-Storm Water Discharges

1. The term "ASBS Non-Storm Water Discharges" means any waste discharges from a municipal separate storm sewer system (MS4) or other NPDES permitted storm drain system to an ASBS that are not comprised entirely of storm water.

2. Only the following ASBS Non-Storm Water Discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:

a. Discharges associated with emergency fire fighting operations.

b. Foundation and footing drains.

c. Water from crawl space or basement pumps.

d. Hillside dewatering.

e. Naturally occurring groundwater seepage via a storm drain.

f. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

3. Authorized ASBS Non- Storm Water Discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.

4. At the San Clemente Island ASBS, discharges incidental to military training and research, development, test, and evaluation operations are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed in the two military closure areas in the vicinity of Wilson Cove and Castle Rock. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.

5. At the San Nicolas Island and Begg Rock ASBS, discharges incidental to military research, development, testing, and evaluation of, and training with, guided missile and other weapons systems, fleet training exercises, small-scale amphibious warfare training, and special warfare training are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.

C. ASBS Compliance Plan

1. State Water Board Resolution 2012-0012 grants an exception to the Ocean Plan's prohibition on discharges to ASBS (ASBS Exception) to applicants who were identified as Dischargers of industrial storm water to ASBS (ASBS Dischargers). Each ASBS Discharger shall specifically address the prohibition of ASBS Non-Storm Water Discharges and the requirement to maintain natural water quality for industrial storm water discharges to an ASBS in an ASBS Compliance Plan to be included in the ASBS Discharger's SWPPP. The ASBS Compliance Plan is subject to approval by the Executive Director of the State Water Board. The ASBS Compliance Plan shall include:

a. A map of surface drainage of storm water runoff, showing areas of sheet runoff and priority discharges, and a description of any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. Priority discharges are those that pose the greatest water quality threat and which are identified as requiring installation of structural BMPs. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable. The SWPPP shall also include a procedure for updating the map and plan when changes are made to the storm water conveyance facilities.

b. A description of the measures by which all unauthorized ASBS Non-Storm Water Discharges (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.

c. A description of how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the Discharger can document to the satisfaction of the Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:

   1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or

   2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges.

      The baseline date for the reduction is March 20, 2012 (the effective date of the ASBS Exception), except for those structural BMPs installed between January 1, 2005 and the adoption of these special protections. The reductions must be achieved and documented by March 20, 2018.

d. A description of how the ASBS Discharger will address erosion and the prevention of anthropogenic sedimentation in the ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.

e. A description of the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures, currently employed and planned for higher threat discharges and include an

implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, ASBS Dischargers must first consider using LID practices to infiltrate, use, or evapotranspiration storm water runoff on-site. The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.

D. Reporting

If the results of the receiving water monitoring described in Section F. below (Sampling and Analysis Requirements) indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the ASBS Discharger shall submit a report to the State Water Board within 30 days of receiving the results.

1. The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.

2. The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWPPP for future implementation, and any additional BMPs that may be added to the SWPPP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.

3. Within 30 days of the approval of the report by the Executive Director, the ASBS Discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.

4. As long as the ASBS Discharger has complied with the procedures described above and is implementing the revised SWPPP, the Discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

5. Compliance with this section does not excuse violations of any term, prohibition, or special condition contained in the Special Protections of the ASBS Exception.

E. Compliance Schedule

1. As of March 20, 2012, all unauthorized ASBS Non-Storm Water Discharges (e.g., dry weather flow) were effectively prohibited.

2. By September 20, 2013, the Discharger shall submit a draft written ASBS Compliance Plan to the Executive Director that describes its strategy to comply with these special conditions, including the requirement to maintain natural water

quality in the affected ASBS. The ASBS Compliance Plan shall include a description of appropriate non-structural controls and a time schedule to implement structural controls (implementation schedule) to comply with these special conditions for inclusion in the Discharger's SWPPP.

3. By September 20, 2014, the Discharger shall submit the final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring.

4. By September 20, 2013, any non-structural controls that are necessary to comply with these special conditions shall be implemented.

5. By March 20, 2018, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these special conditions shall be operational.

6. By March 20, 2018, all Dischargers must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Discharger must re-sample the receiving water, pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See Flowchart at the end of this Attachment.

7. The Executive Director may only authorize additional time to comply with the special conditions 5 and 6, above if good cause exists to do so. Good cause means a physical impossibility or lack of funding

   If a Discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in 5. or 6. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of these requirements. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

   The Discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

a. for municipalities, a demonstration of significant hardship to Discharger ratepayers, by showing the relationship of storm water fees to annual household income for residents within the Discharger's jurisdictional area, and the Discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or

b. for other governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

F. Additional Requirements – Waterfront and Marine Operations

In addition to the above provisions, a Discharger with waterfront and marine operations shall comply with the following:

1. For discharges related to waterfront and marine operations, the Discharger shall develop a Waterfront and Marine Operations Management Plan (Waterfront Plan). This plan shall contain appropriate Management Measures/Practices to address nonpoint source pollutant discharges to the affected ASBS.

   a. The Waterfront Plan shall contain appropriate Management Measures/Practices for any waste discharges associated with the operation and maintenance of vessels, moorings, piers, launch ramps, and cleaning stations in order to ensure that beneficial uses are protected and natural water quality is maintained in the affected ASBS.

   b. For discharges from marinas and recreational boating activities, the Waterfront Plan shall include appropriate Management Measures, described in The Plan for California's Nonpoint Source Pollution Control Program, for marinas and recreational boating, or equivalent practices, to ensure that nonpoint source pollutant discharges do not alter natural water quality in the affected ASBS.

   c. The Waterfront Plan shall include Management Practices to address public education and outreach to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in these Special Protections. The management practices shall include appropriate signage, or similar measures, to inform the public of the ASBS restrictions and to identify the ASBS boundaries.

   d. The Waterfront Plan shall include Management Practices to address the prohibition against trash discharges to ASBS. The Management Practices shall include the provision of adequate trash receptacles for marine recreation areas, including parking areas, launch ramps, and docks. The plan shall also include appropriate Management Practices to ensure that the receptacles are

adequately maintained and secured in order to prevent trash discharges into the ASBS. Appropriate Management Practices include covering the trash receptacles to prevent trash from being windblown, staking or securing the trash receptacles so they don't tip over, and periodically emptying the receptacles to prevent overflow.

e. The Discharger shall submit its Waterfront Plan to the State Water Board Executive Director by September 20, 2012. The Waterfront Plan is subject to approval by the State Water Board Executive Director. The plan must be fully implemented within by September 20, 2013.

2. The discharge of chlorine, soaps, petroleum, other chemical contaminants, trash, fish offal, or human sewage to ASBS is prohibited. Sinks and fish cleaning stations are point source discharges of wastes and are prohibited from discharging into ASBS. Anthropogenic accumulations of discarded fouling organisms on the sea floor must be minimized.

3. Limited-term activities, such as the repair, renovation, or maintenance of waterfront facilities, including, but not limited to, piers, docks, moorings, and breakwaters, are authorized only in accordance with Chapter III.E.2 of the Ocean Plan.

4. If the Discharger anticipates that the Discharger will fail to fully implement the approved Waterfront Plan within the 18 month deadline, the Discharger shall submit a technical report as soon as practicable to the Executive Director. The technical report shall contain reasons for failing to meet the deadline and propose a revised schedule to fully implement the plan.

5. The State Water Board may, for good cause, authorize additional time to comply with the Waterfront Plan. Good cause means a physical impossibility or lack of funding.

   If a Discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in Section F.1.e above. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Attachment. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality. The Discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

a. a demonstration of significant hardship by showing that the Discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate.

b. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

G. Sampling and Analysis Requirements

1. Monitoring is mandatory for all ASBS Dischargers to assure compliance with the Ocean Plan. Monitoring requirements include both: (1) Core Discharge Monitoring and (2) Ocean Receiving Water Monitoring (see Sections H. and I. below). The State and Regional Water Boards must approve sampling site locations and any adjustments to the monitoring programs. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

2. Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notifying the Executive Director that hazardous conditions prevail.

3. Analytical Chemistry Methods: All constituents must be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, must be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

H. Core Discharge Monitoring Program

1. General sampling requirements for timing and storm size:

   Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples as described in Section I. below.

2. Runoff flow measurements

   a. For industrial storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width (including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be

measured or calculated, using a method acceptable to and approved by the Executive Director.

b. This will be reported annually for each precipitation season to the Executive Director.

3. Runoff samples – storm events

a. For outfalls equal to or greater than 18 inches (0.46m) in diameter or width: 1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, if within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination; and 2) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

b. For outfalls equal to or greater than 36 inches (0.91m) in diameter or width:

1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, if within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination; and

2) samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals (provided at the end of this Attachment) for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates); and

3) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

4) if an ASBS Discharger has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals (provided at the end of this Attachment) for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

c. For an applicant not participating in a regional integrated monitoring program [see below in Section I.3.] in addition to the sampling requirements in Section H.3.a. and b. above, a minimum of the two largest outfalls or 20 percent of the

larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A constituents, Table B constituents (Table A and B constituents are provided at the end of this Attachment) for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

d. The Executive Director may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

I. Ocean Receiving Water and Reference Area Monitoring Program

1. In addition to performing the Core Discharge Monitoring Program in Section H. above, all ASBS Dischargers must perform ocean receiving water monitoring. In order to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS, ASBS Dischargers may choose either (1) an individual monitoring program, or (2) participation in a regional integrated monitoring program.

2. Individual Monitoring Program: The requirements listed below are for those ASBS Dischargers who elect to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS. In addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

   a. Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in Section H.3. above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents (Table A and B constituents are provided at the end if this Attachment) for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

      The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm), and during (or immediately after) the same storm (post-storm). Post-storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be

sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

b. Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents (provided at the end of this Attachment) for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod Eohaustorius estuarius must be performed.

c. A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.

d. Once during each five (5) year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (Mytilus californianus) and/or sand crabs (Emerita analoga or Blepharipoda occidentalis). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

e. Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the ASBS Discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

f. The monitoring requirements of the Individual Monitoring Program in this Section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point

after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

3. Regional Integrated Monitoring Program: ASBS Dischargers may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the otherwise prescribed individual monitoring approach (in Section I.2.) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

   a. Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional integrated monitoring program, the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled per responsible party. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

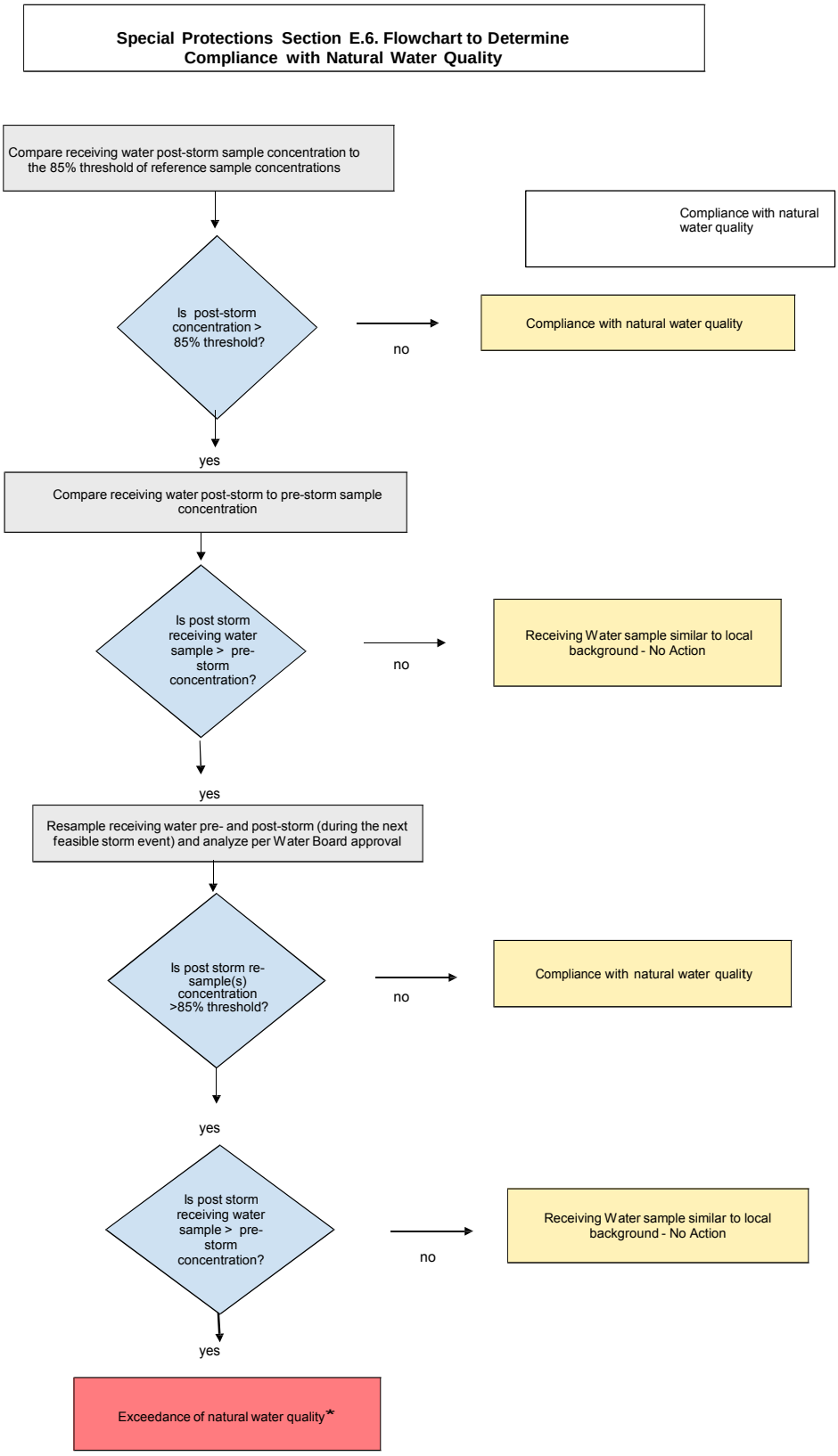
   b. ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than18 inches.) Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate

storm. A minimum of one receiving water location shall be sampled in each ASBS per responsible party in that ASBS. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

c. Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons. For those ASBS Dischargers that have already participated in the Southern California Bight 2008 ASBS regional monitoring effort, sampling may be limited to only one storm season.

d. Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals (provided at the end of this Attachment) for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.

REQUIREMENTS FOR DISCHARGERS WHO HAVE BEEN GRANTED AN OCEAN PLAN EXCEPTION FOR DISCHARGES TO ASBS



* When an exceedance of natural water quality occurs, the Discharger must comply with Section D. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.

ASBS Monitoring

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	Mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

TABLE B
Monitoring Constituent List
(Excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	µg/L
Cadmium	µg/L
Chromium	µg/L
Copper	µg/L
Lead	µg/L
Mercury	µg/L
Nickel	µg/L
Selenium	µg/L
Silver	µg/L
Zinc	µg/L
Cyanide	µg/L
Total Chlorine Residual	µg/L
Ammonia (as N)	µg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	µg/L
Chlorinated Phenolics	µg/L
Endosulfan	µg/L
Endrin	µg/L
HCH	µg/L

Analytical Chemistry Methods: All constituents shall be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, shall be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

ATTACHMENT H

SAMPLE COLLECTION AND HANDLING INSTRUCTIONS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

For more detailed guidance, Dischargers should refer to the U.S. EPA's "Industrial Stormwater Monitoring and Sampling Guide," dated March 2009, available at: http://www.epa.gov/npdes/pubs/msgp_monitoring_guide.pdf and the "NPDES Storm Water Sampling Guidance Document," dated July 1992, available at: http://www.epa.gov/npdes/pubs/owm0093.pdf .

1. Identify the sampling parameters required to be tested and the number of storm water discharge points that will be sampled. Request the analytical testing laboratory to provide the appropriate number and type of sample containers, sample container labels, blank chain of custody forms, and sample preservation instructions.

2. Determine how samples will be transported to the laboratory. The testing laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory). The Discharger may either deliver the samples to the laboratory, arrange for the laboratory to pick up the samples, or overnight ship the samples to the laboratory. All sample analysis shall be done in accordance with 40 Code of Federal Regulations part 136. Samples for pH have a holding time of 15 minutes.[1]

3. Qualified Combined Samples shall be combined by the laboratory and not by the Discharger. Sample bottles must be appropriately labeled to instruct the laboratory on which samples to combine.

4. Unless the Discharger can provide flow weighted information, all combined samples shall be volume weighted.

5. For grab samples, use only the sample containers provided by the laboratory to collect and store samples. Use of any other type of containers may contaminate samples.

6. For automatic samplers that are not compatible with bottles provided by the laboratory, the Discharger is required to send the sample container included with the automatic sampler to the laboratory for analysis.

[1] 40 C.F.R. section 136.3, Table II - Required Containers, Preservation Techniques, and Holding Times.

7. The Discharger can only use automatic sampling device to sample parameters that the device is designed to. For pH, Dischargers can only use automatic sampling devices with the ability to read pH within 15 minutes of sample collection.

8. The Discharger is prohibited from using an automatic sampling device for Oil and Grease, unless the automatic sampling device is specifically designed to sample for Oil and Grease.

9. To prevent contamination, do not touch inside of sample container or cap or put anything into the sample containers before collecting storm water samples.

10. Do not overfill sample containers. Overfilling can change the analytical results.

11. Tightly screw on the cap of each sample container without stripping the threads of the cap.

12. Complete and attach a label for each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.

13. Carefully pack sample containers into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment. Remember to place frozen ice packs into shipping containers. Samples should be kept as close to 4 degrees Celsius (39 degrees Fahrenheit) as possible until arriving to the laboratory. Do not freeze samples.

14. Complete a Chain of Custody form for each set of samples. The Chain of Custody form shall include the Discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, and the analysis that is required for each sample container.

15. Upon shipping/delivering the sample containers, obtain both the signatures of the persons relinquishing and receiving the sample containers.

16. Dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the sample protocols and laboratory practices.

17. Refer to Table 1 in the General Permit for test methods, detection limits, and reporting units.

18. All sampling and sample preservation shall be in accordance with 40 Code of Federal Regulations part 136 and the current edition of "Standard Methods for

the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including Discharger field instruments for measuring pH or specific conductance if identified as an additional sampling parameter) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses shall be conducted according to approved test procedures under 40 Code of Federal Regulations part 136, unless other test procedures have been specified by the Regional Water Quality Control Board. All metals shall be reported as total metals. Dischargers may conduct their own field analysis of pH (or specific conductance if identified as an additional sampling parameter) if the Discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis. With the exception of field analysis conducted by Dischargers for pH (or specific conductance if identified as an additional sampling parameter), all analyses shall be sent to and conducted at a laboratory certified for such analyses by the California Department of Public Health. Dischargers are required to report to the Water Board any sampling data collected more frequently than required in this General Permit (Section XXI.J.2)

APPENDIX 1

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

NATIONAL POLLUTION DISCHARGE ELIMINTATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

FACILITY NAME:_____

Waste Discharge Identification (WDID) #:_____

	FACILITY CONTACT	Consultant/Qualified Industrial Storm Water Practitioner (QISP)
Name		
Title		
Company		
Street Address		
City, State		
Zip		

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Signed Certification (Section II.A)			
Pollution Prevention Team (Section X.D.1)			
Existing Facility Plans (Section X.D.2)			
Site Map(s) (Section X.E)			
Facility boundaries (Section X.E.3.a)			
Drainage areas (Section X.E.3.a)			
Direction of flow (Section X.E.3.a)			
On-facility water bodies (Section X.E.3.a)			

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Areas of soil erosion (Section X.E.3.a)			
Nearby water bodies (Section X.E.3.a)			
Municipal storm drain inlets (Section X.E.3.a)			
Points of discharge (Section X.E.3.b)			
Sampling Locations (Section X.E.3.b)			
Structural control measures (Section X.E.3.c)			
Impervious areas (Section X.E.3.d)			
Location of Directly Exposed Materials (Section X.E.3.e)			
Locations of significant spills and leaks (Section X.E.3.e)			
Areas of Industrial Activity (Section X.E.3.f)			
Areas of industrial activity (Section X.E.3.f)			
Storage areas/storage tanks (Section X.E.3.f)			
Shipping and receiving areas (Section X.E.3.f)			
Fueling areas (Section X.E.3.f)			
Vehicle and equipment storage/maintenance (Section X.E.3.f)			
Material handling/processing (Section X.E.3.f)			
Waste treatment/disposal (Section X.E.3.f)			
Dust or particulate generation (Section X.E.3.f)			
Cleaning and material reuse (Section X.E.3.f)			

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Other areas of industrial activities (Section X.E.3.f)			
List of Industrial Materials (Section X.F)			
Storage location			
Quantity			
Frequency			
Receiving and shipping location			
Quantity			
Frequency			
Handling location			
Quantity			
Frequency			
Potential Pollution Sources (Section X.G)			
Description of Potential Pollution Sources (Section X.G.1)			
Industrial processes (Section X.G.1.a)			
Material handling and storage areas (Section X.G.1.b)			
Dust & particulate generating activities (Section X.G.1.c)			
Significant spills and leaks (Section X.G.1.d)			
Non-storm water discharges (Section X.G.1.e)			
Erodible surfaces (Section X.G.1.f)			
Assessment of Potential Pollutant Sources (Section X.G.2)			
Narrative assessment of likely sources of pollutants (Section X.G.2.a)			
Narrative assessment of likely pollutants present in storm water discharges (Section X.G.2.a)			
Identification of additional BMPs Section X.G.2.b)			

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Identification of drainage areas with no exposure (Section X.G.2.c)			
Identification of additional parameters (Section X.G.2.d)			
Storm Water Best Management Practices (Section X.H)			
Minimum BMPs (Section X.H.1)			
Good housekeeping (Section X.H.1.a)			
Preventative maintenance (Section X.H.1.b)			
Spill response (Section X.H.1.c)			
Material handling and waste management (Section X.H.1.d)			
Erosion and sediment controls (Section X.H.1.e)			
Employee training program (Section X.H.1.f)			
Quality assurance and record keeping (Section X.H.1.g)			
Advanced BMPs (Section X.H.2)			
Implement advanced BMPs at the facility (Section X.H.2.a)			
Exposure Minimization BMPs (Section X.H.2.b.i)			
Storm Water containment and discharge reduction BMPS (Section X.H.2.b.ii)			
Treatment Control BMPs (Section X.H.2.b.iii)			
Other advance BMPs (Section X.H.2.b.iv)			
Temporary Suspension of Activities (Section X.H.3)			
BMPs necessary for stabilization of the facility (Section X.H.3)			

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
BMP Descriptions (Section X.H.4)			
Pollutant that a BMP reduces or prevents (Section X.H.4.a.i)			
Frequency of BMP implementation (Section X.H.4.a.ii)			
Location of BMP (Section X.H.4.a.iii)			
Person implementing BMP (Section X.H.4.a.iv)			
Procedures/maintenance/ instructions for BMP implementation (Section X.H.4.a.v)			
Equipment and tools for BMP implementation (Section X.H.4.a.vi)			
BMPs needing more frequent inspections (Section X.H.4.a.vii)			
Minimum BMP/applicable advanced BMPs not implemented at the facility (Section X.H.4.b)			
BMPs implemented in lieu of minimum or applicable advanced BMPs (Section X.H.4.c)			
BMP Summary Table (Section X.H.5)			
Monitoring Implementation Plan (Section X.I)			
Team members assisting in developing the MIP (Section X.I.1)			
Summary of visual observation procedures, locations, and details (Section X.I.2)			
Justifications if applicable for: Alternative discharge locations, Representative Sampling Reduction or, Qualified Combined Samples (Section X.I.3)			
Procedures for field instrument calibration (Section X.I.4)			

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Example of Chain of Custody (Section X.I.5)			
Annual Comprehensive Facility Compliance Evaluation (Section XV)			
Review of all visual inspection and monitoring records and sampling and analysis results conducted during the previous reporting year (Section XV.A)			
Visual inspection of all areas of industrial activity and associated potential pollutant sources (Section XV.B)			
Visual inspection of all drainage areas previously identified as having no-exposure to industrial activities and materials in accordance with the definitions in Section XVII (Section XV.C)			
Visual inspection of equipment needed to implement the BMPs (Section XV.D)			
Visual inspection of any structural and/or treatment control BMPs (Section XV.E)			
Review and assessment of all BMPs for each area of industrial activity and associated potential pollutant sources (Section XV.F)			
Assessment of other factors needed to complete the information described in Section XVI.B (Section XV.G)			

APPENDIX 2

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES

(GENERAL PERMIT)

This Attachment provides general guidance instructions and guidance for obtaining NEC coverage. The actual NEC requirements are primarily contained in Section XVII of this General Permit.

A. INSTRUCTIONS:

Who May File for NEC Coverage

Sections 301 and 402(p) of the Clean Water Act (CWA), and Sections 1311 and 1342(p) of 33 United States Code prohibit the discharge of storm water associated with industrial activity to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit. However, NPDES permit coverage is "conditionally excluded" for discharges of storm water associated with industrial activities (industrial storm water discharges) if the Discharger can certify that a condition of "No Exposure" exists at the industrial facility. A condition of "No Exposure" means that a Discharger's industrial activities and materials are not exposed to storm water. Industrial storm water discharges from construction and land disturbance activities are ineligible for the NEC coverage. Dischargers who file valid NECs in accordance with these instructions are not required to implement Best Available Technology Economically Achievable /Best Conventional Pollutant Control Technology and comply with the Storm Water Pollution Prevention Plan (SWPPP) and monitoring requirements of this General Permit.

Obtaining and Maintaining NEC Coverage

A Discharger must electronically certify and submit NEC Permit Registration Documents (PRDs) via State Water Resources Control Board's (State Water Board's) Storm Water Multi-Application and Report Tracking System (SMARTS) to obtain NEC coverage. This conditional exclusion does not become effective until the PRDs are submitted and the annual fee is paid. Upon receipt of the annual fee, the Discharger will electronically receive an NEC acceptance notification via SMARTS, which will include a Waste Discharge Identification (WDID) number. A Discharger must maintain a condition of "No Exposure" at the facility for the conditional exclusion to remain applicable. The Discharger must annually electronically re-certify the NEC via SMARTS to confirm that the conditions of "no exposure" are being maintained. If conditions change resulting in the exposure of materials and activities to storm water, the Discharger must electronically certify and submit PRDs via SMARTS for Notice of Intent (NOI) coverage under the General Permit for Storm Water Discharges Associated with Industrial Activities (General Permit).

Fees

First time NEC coverage PRDs and the annual re-certification require a fee. Fees may be changed by State Water Board regulation, independent of this General Permit.

How to Prepare and Submit PRDs for NEC Coverage

A Discharger must electronically certify and submit PRDs for NEC coverage in accordance with the instructions provided at the State Water Board web site for SMARTS:

https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

A Discharger with multiple facilities that satisfy the conditions of "No Exposure" must certify and submit PRDs for each facility. The Discharger is required to inspect and evaluate each individual facility to determine the condition of No-Exposure. The Discharger must retain an electronic or paper copy of the NEC coverage acceptance notification for their records.

The following information is required in the PRDs:

Discharger Information

1. The legal business name of the business entity, public organization, or any other entity that operates the facility described in the certification. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility operations, not the plant or site manager.

2. The mailing address of the facility operator, including the city, state, and zip code.

3. The facility operator contact person, telephone number and e-mail address.

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

Facility Information

4. The legal business name of the facility.

5. The total acreage of the facility associated with industrial activity. (Facility size in acres is calculated by taking the square feet and dividing by 43,560.)

6. The complete physical street address (e.g. the street address used for express deliveries), including the city, State, and zip code. Do not use a P.O. Box number. If a physical street address does not exist, describe the location or provide the latitude and longitude of a point within the facility boundary. Latitude and longitude are available from United States Geological Survey quadrangle or topographic maps, or may be found using a mapping site on the internet.

7. The facility contact person, telephone number, and e-mail address.

8. The 4-digit Standard Industrial Classification (SIC) code that represents the facility primary industrial activity. Provide a brief description of the primary industrial activity. If applicable, enter other significant SIC codes and descriptions. To obtain these codes, see the 1987 SIC Manual or the Occupational Health and Safety Administration's site:

   http://www.osha.gov/pls/imis/sicsearch.html

9. If the facility is currently covered under the General Permit, include the WDID number. The WDID number will be used at a later date to terminate the facility's coverage under the General Permit as necessary.

Facility Mailing or Billing Address

Completion of this item is required the facility mailing address or billing address differs from the physical facility address provided above. The Discharger must indicate which address the annual fee invoice must be sent to if the State Water Board is unable to transmit the invoice electronically.

Site Maps

Site maps must be prepared and submitted in accordance with the requirements in Section X.E of this General Permit.

NEC Checklist

The Discharger must evaluate the eleven major areas that storm water exposure may occur, per the listing at the end of this appendix. The Discharger must be able to certify that none of these major areas have potential for exposure. If the Discharger cannot certify that every one of the eleven major areas do not have exposure, a potential for exposure exists at the facility and the facility is not eligible for NEC coverage. The Discharger must obtain (or continue) NOI coverage under this General Permit if the facility is not eligible for NEC coverage. After obtaining NOI coverage, the Discharger may implement facility modifications to eliminate the potential for a discharge of storm water exposed to industrial activity, and then change their NOI coverage to NEC coverage by certifying the conditions of "No Exposure" are met.

Certification

Federal and state statutes provide for severe penalties for Dischargers that submit false information on the PRDs. Dischargers shall certify and submit PRDs via SMARTS for NEC coverage in accordance with Electronic Signature and Certification Requirements in Section XXI.K of this General Permit.

B. GUIDANCE:

Contact your local Regional Water Quality Control Board (Regional Water Board) office with questions regarding this guidance.

1. Who is Eligible to Qualify for the No Exposure Certification (NEC) - Conditional Exclusion?

All industrial categories listed in Attachment A of this General Permit (excluding construction) are eligible to apply for the NEC coverage.

2. Limitations on Eligibility for NEC coverage

In addition to construction projects not being eligible, the following situations limit the applicability of NEC coverage:

a. NEC coverage is available on a facility-wide basis only, not for individual drainage areas or discharge locations. Generally, if any exposed industrial materials or activities exist, or have a potential to exist, anywhere at a facility, NEC coverage is not applicable to the facility. If the Regional Water Board determines that a facility does have exposure or the facility's storm water discharges have a reasonable potential to cause or contribute to an exceedance of applicable water quality objectives/standards, the Regional Water Board can deny NEC coverage.

b. If changes at a facility result in potential exposure of industrial activities or materials, the facility is no longer eligible for NEC coverage. Dischargers

shall register for NOI coverage under this General Permit prior to a planned facility change that will cause exposure, or within seven (7) calendar days after unplanned exposure occurs. If an unplanned exposure occurs due to an emergency response or one-time event that is unlikely to re-occur, a Discharger may contact the Regional Water Board to discuss whether the requirement to obtain NOI coverage can be waived. Unless the Discharger receives a written waiver from the Regional Water Board, the Discharger shall electronically certify and submit PRDs to obtain NOI coverage.

c. Current contamination resulting from historic industrial practices at the facility (e.g., soil contamination, groundwater contamination, etc.) represents a condition of exposure to waters of the United State; therefore a facility with historic contamination is not eligible for NEC coverage.

3. What is the Definition of No Exposure?

a. No Exposure means all industrial materials and activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff.

b. Industrial materials and activities include, but are not limited to, material-handling equipment or activities; industrial machinery; raw materials, intermediate products, by-products, and final products; or waste products.

c. Material handling activities include storage, loading and unloading, transport, or conveyance of any raw material, intermediate product, by-product, final product, or waste product.

d. Final products intended to be used outdoors (e.g., automobiles) typically pose little risk of polluting storm water since not typically contaminated with pollutants that become mobilized by contact with storm water. Final products are exempt from the requirement for protection by a storm-resistant shelter to qualify for no exposure. Similarly, containers, racks, and other transport platforms (e.g., wooden pallets) used for the storage or conveyance of final products may also be stored outside if pollutant-free or pollutants do not mobilize via contact with storm water.

e. Storm-resistant shelters include: (1) completely roofed and walled buildings or structures, (2) structures with only a top cover (no side coverings) supported by permanent supports, provided material within the structure is not subject to wind dispersion (sawdust, powders, etc.) or being tracked out of the facility, and is not a source of pollutants in the industrial storm water discharges.

4. Industrial Materials/Activities Not Requiring a Storm-Resistant Shelter

The intent of the "No Exposure" exclusion is to maintain a condition of permanent "No Exposure". A storm-resistant shelter is not required for the following industrial materials and activities:

a. Drums, Barrels, Tanks, and Similar Containers that are sealed ("sealed" means banded or otherwise secured and without operational taps or valves), are not exposed provided those containers are not deteriorated, do not contain residual materials on the outside surfaces, and do not leak. Drums, barrels, etc., that are not opened while outdoors, or are not deteriorated or leaking, and that do not pose a risk of contaminating storm water runoff. Consider the following when making a "No Exposure" determination:

i. Materials shall not be added or withdrawn to/from containers while outdoors

ii. Simply moving containers while outside does not create exposure unless exposure occurs when pollutants are "tracked out" by the container handling equipment or vehicles.

iii. All outdoor containers shall be inspected to ensure they are not open, deteriorated, or leaking. When an outdoor container is observed as opened, deteriorated, or leaking, the container must immediately be closed, replaced, or sheltered. Frequent detection of open, deteriorated, or leaking containers, or failure to immediately close, replace, or shelter opened, deteriorated or leaking containers will cause a condition of exposure.

iv. Containers, racks, and other transport platforms (e.g., wooden pallets) used with drums, barrels, etc., can be stored outside providing they are contaminant-free and in good repair.

b. Above Ground Storage Tanks (ASTs) In addition to generally being considered as not exposed, ASTs may also be exempt from the prohibition against adding or withdrawing material to/from external containers. ASTs typically use transfer valves to dispense materials that support facility operations (e.g., heating oil, propane, butane, chemical feedstock) or fuel for delivery vehicles (gasoline, diesel, compressed natural gas). For operational

ASTs to qualify for "No Exposure", the following must be satisfied:

i. The tank(s) shall be physically separated from and not associated with vehicle maintenance operations.

ii. There shall be no leaks from piping, pumps, or other equipment that has the potential to come in contact with storm water.

iii. Wherever feasible, the tank(s) shall have secondary containment (e.g., an impervious dike, berm or concrete retaining structure) to prevent runoff in the event of a structural failure or leaking transfer valve. Note: any resulting unpermitted discharge is in violation of the CWA.

c. Lidded Dumpsters. Lidded dumpsters containing waste materials, providing the containers are completely covered and nothing can drain out holes in the bottom, spilled when loaded into the dumpster, or spilled in loading into a garbage truck. Industrial waste materials and trash that is stored uncovered is considered exposed.

d. Adequately maintained vehicles, such as trucks, automobiles, forklifts, trailers or other general-purpose vehicles found onsite - but not industrial machinery that are not leaking, are in good repair or are not otherwise a potential source of contaminants:

i. Vehicles passing between buildings may be exposed to storm water, however if the vehicles are adequately maintained, a condition of exposure may not exist. Similarly, non-leaking vehicles awaiting maintenance at vehicle maintenance facilities are not considered as potential exposure. However, vehicles that have been washed or rinsed that are not completely dry prior to outside exposure have the potential to cause a condition of exposure. Vehicles that track materials out of the facility are considered to be mobilizing pollutants. Vehicles that exit maintenance bays are also considered to cause exposure.

ii. The mere conveyance between buildings of materials / products that are otherwise not allowed to be stored outdoors, does not create a condition of exposure, provided the materials/products are adequately protected from storm water and do not have the potential to be released as a result of a leak or spill.

e. Final products built and intended for use outdoors (e.g., new cars), provided the final products have not deteriorated, are not contaminated, or are not otherwise potential sources of contaminants.

Types of final products not qualifying for a certification of "No Exposure":

i. Products that may be mobilized in storm water discharges (e.g., rock salt).

ii. Products, which may, when exposed, oxidize, deteriorate, leak, or otherwise be a potential source of contaminants (e.g., junk cars, stockpiled train rails).

iii. "Final" products that are, in actuality, "intermediate" products. Intermediate products are those used in the composition of yet another product (i.e., sheet metal, tubing, and paint used in making tractors).

iv. Even if the intermediate product is "final" for a manufacturer and destined for incorporation in a "final product intended for use outdoors," the product is not allowed to be exposed because they may be chemically treated or are insufficiently impervious to weathering.

f. Special Conditions for Construction Activities
Permanent, uninterrupted sheltering of industrial activities or materials may not always be possible during facility renovation or construction. When such circumstances exist, the Discharger is not required to obtain coverage under an NPDES permit as long as the following conditions are met:

i. Materials and activities are protected with temporary covers or shelters (i.e. tarpaulins);

ii. Temporary covers or shelters prevent the contact of storm water to materials and activities;

iii. Materials are subject to wind dispersion are not stored under temporary sheltering;

iv. Temporary shelters are only used when necessary during facility renovation or construction and until permanent storm-resistant shelters as described above are available; and,

v. Temporary shelters are only used for a single period of ninety days or less. (Facilities with construction and renovation projects that will need the use of temporary shelters beyond 90 days, or that will require multiple periods of ninety

days or less, are required to be covered by an NPDES permit.)

5. Other Potential Sources of Contaminants

a. Particulate Emissions from Roof Stacks and/or Vents: Deposits of particles or residuals from roof stacks/vents that have the potential to be mobilized by storm water runoff are considered exposed.

b. Pollutants Potentially Mobilized by Wind Windblown materials cause a condition of exposure. Materials sheltered from precipitation are be deemed exposed if the materials has a potential to be mobilized by wind.

6. Certifying a Condition of "No Exposure"

To obtain the NEC coverage, the Discharger must electronically certify and submit PRDs via SMARTS that the facility meets the definition of "No Exposure" and pay an annual fee. The Discharger must **submit PRDs for NEC coverage even if the Discharger was not previously required to file for NEC coverage under the previous General Permit**. These PRDs include a checklist requiring the Discharger to evaluate eleven major areas to determine whether there is exposure of industrial activities and materials at the facility. To qualify for NEC coverage the Discharger must satisfy all the NEC coverage conditions in this General Permit and certify that there is "No Exposure". The checklist: 1) aids the Discharger in determining if its facility is eligible for NEC coverage, and 2) furnishes the necessary documentation supporting relief from the General Permit's requirement of NOI coverage. Additionally, Dischargers with NEC coverage are not required to develop and implement SWPPPs or comply with the monitoring requirements.

If a Discharger cannot certify that there is "No Exposure" at the facility, the Discharger must make appropriate changes at the facility to eliminate exposure prior to registering for future NEC coverage. Facility changes must remove all potential for pollutant exposure to storm water.

An annual inspection and evaluation, re-certification and fee are required thereafter.

7. Other NEC coverage Facts:

a. NEC coverage is only valid if the condition of "No Exposure" exists and is reasonably expected to continue to exist. Dischargers shall electronically certify and submit PRDs for NOI coverage when the condition of "No Exposure" is no longer expected to exist.

b. Dischargers must file PRDs for NEC coverage for each qualifying facility.

c. An NEC must be submitted for each separate facility qualifying for the "No Exposure" conditional exclusion.

d. An NEC is non-transferable. If a new operator takes over facility operations, the new operator shall electronically certify and submit PRDs and applicable fees for new NEC coverage via SMARTS prior to the operations transfer. NEC coverage cannot be transferred from one physical location to another regardless of ownership.

8. Operators May Be Required to Obtain NOI Coverage Based on the Protection Of Water Quality?

Operators who certified that their facilities qualify for NEC coverage may, nonetheless, be required by the Regional Water Board to obtain NOI coverage if the Regional Water Board determines that the facility's discharge has the potential to cause or contribute to an exceedance of applicable water quality objectives/standards or determines that exposure exists at the facility. The Regional Water Board may request information and/or inspect the facility to assess potential water quality impacts and to determine if NOI coverage is required. The Discharger shall take appropriate actions to ensure compliance with the General Permit.

9. Steps to Obtain NEC coverage

This section will walk you through the process of obtaining NEC coverage.

Step 1: Determine if your facility is subject to this General Permit (refer to Attachment A of this General Permit). If yes, proceed to Step 2. If not, stop here.

If your facility is included in Attachment A and conducts industrial activities, you are required to **either** register for NOI coverage or NEC coverage.

Step 2: Determine if your regulated industrial activity meets the definition of "No Exposure" and qualifies for the exclusion from permitting. If yes, proceed to Step 3. If no, stop here and obtain NOI coverage. An

evaluation of the facility must be conducted by facility personnel familiar with the facility and its operations. Inspect all facility areas and potential pollutant sources to determine whether the facility satisfies the "No Exposure" conditions.

Step 3: Electronically certify and submit the PRDs for NEC coverage via SMARTS and mail the annual fee to the State Water Board at the following address:

SWRCB
Surface Water Permitting Section
PO Box 1977
Sacramento, CA 95812-1977

To maintain NEC coverage, the NEC must re-certify and pay a fee annually. This may only be done if the condition of "No Exposure" continues to exist at the facility.

Step 4: If requested, staff from the Water Boards, local Municipal Separate Storm Sewer System (MS4), or United States Environmental Protection Agency must be allowed to inspect your facility. All inspection reports will be made publicly available.

Step 5: Maintain a condition of "No Exposure".

- NEC coverage is not a blanket exemption. Therefore, if facility physical or operational changes occur which cause exposure of industrial activities or materials to storm water, the Discharger must then immediately comply with all the requirements of this General Permit, including obtaining NOI coverage as applicable.

- To maintain the condition of "No Exposure", the Discharger shall annually evaluate the facility to assure that the conditions of "No Exposure" still exist. More frequent evaluations may be necessary in circumstances when facility operations are rapidly changing.

- Failure to maintain the condition of "No Exposure" or otherwise obtain NOI coverage may lead to the unauthorized discharge of storm water associated with industrial activity to waters of the United States, resulting in penalties under the CWA and Water Code.

C. Frequently Asked Questions:

Q1. Who is eligible for NEC Coverage?

A. Any Discharger operating a facility described in Attachment A may register for NEC coverage if their facility has a condition of "No Exposure".

Q2. How does an eligible Discharger file for NEC coverage and where is the annual fee sent?

A. The PRDs for NEC coverage shall be electronically certified and submitted in accordance with the instructions provided in SMARTS at the State Water Board website at: https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp. The fee is currently $242, but may be changed by regulation. Once NEC coverage is accepted, an invoice will be electronically sent to the Discharger. The annual fee and invoice shall be sent to:

State Water Resources Control Board
Division of Water Quality
Attention: Industrial Storm Water Unit
P.O. Box 1977
Sacramento, CA 95812-1977

Q3. If my facility's storm water discharges are covered by an individual permit, can I file for NEC coverage?

A. Yes. Storm water discharges covered by an individual permit are eligible for NEC coverage if the conditions at the facility satisfy the definition of "No Exposure" and you obtain approval to terminate individual permit coverage from the local Regional Water Board prior to PRD submittal. Approval from the Regional Water Board is mandatory. Many individual permits, for example, contain numeric storm water effluent limitations ("antibacksliding" provisions may prevent these facilities from qualifying for the "No Exposure" conditional exclusion).

Q4. My facility was originally excluded from the Phase I regulations because it was classified as a "light industrial facility". The facility has never had any exposure to storm water runoff. Do I now need to certify that the facility meets the No Exposure Exclusion from NPDES Storm Water Permitting?

A. Yes. See answer provided to question number 9, "What is the exclusion "conditional" upon?"

Q5. Do I have to file a Notice of Termination (NOT) and a register for NEC coverage if my facility has NOI coverage and qualifies for NEC coverage?

A. No. You are only required to register for NEC coverage. You must provide the WDID# in your NEC coverage PRDs in order for the State Water Board to change permit coverage status.

Q6. When and how often is a NEC coverage re-certification required?

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

A. Re-certification of NEC coverage is required annually (assuming the facility maintains its "No Exposure" status). The State Water Board will electronically transmit an NEC re-certification and annual fee notification to each facility operator who has filed for NEC coverage.

New Dischargers must register for NEC coverage before the commencement of facility operations. Dischargers that fail to file for NEC coverage or apply for NOI coverage before the commencement of facility operations will be out of compliance and subject to enforcement.

Existing Dischargers have two options for submitting NECs:

1. Facility operators of "light industrial" facilities who have been operating under their original, no-certification-required permitting exemption must submit the NEC at any time prior to October 1, 2015. Dischargers who have not submitted an NEC or applied for permit coverage by this due date will be considered out of compliance and subject to Water Board enforcement.

2. Dischargers who have NOI coverage may register for NEC coverage at any time following completion of facility changes that result in the condition of "No Exposure".

Q7. What happens if I know of changes that may cause exposure?

A. If exposure has the potential to occur in the near future due to some anticipated change at the facility, the Discharger must obtain NOI coverage to avoid potential enforcement for violations of this General Permit.

Q8. Is the NEC coverage transferable to a new Discharger?

A. No. If a new operator takes over your facility, the new operator must register for new NEC coverage prior to the transfer. A new application fee is required.

Q9. What is the exclusion "conditional" upon?

A. The exclusion from permit coverage requirements is "conditional" upon the certification of the Discharger that the facility does not have exposure of materials or activities to storm water. PRDs for NEC coverage shall be electronically submitted to the State Water Board and will not be accepted if incomplete. The Regional Water Board may review the information, contact and/or inspect the facility, and invalidate the NEC and require the Discharger to obtain NOI coverage. PRDs are public documents and will be available for public review via SMARTS.

Q10. Can secondary containment around an outdoor exposed area qualify for a condition of "No Exposure"?

A. If secondary containment is engineered to always prevent a discharge of collected rainfall (based on the historical rainfall record) and a simultaneous spill of any other industrial materials or liquids, the "No Exposure" condition may be claimed. Note that there must be proper disposal of any water or liquids collected from the containment (i.e., discharged in compliance with another NPDES permit, treated and discharged to the sanitary sewer, or trucked offsite to an appropriate disposal/treatment facility).

D. NEC Checklist

An NEC Checklist must be prepared by the Discharger demonstrating that: (1) the facility has been evaluated, (2) none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation, and (3) all unauthorized NSWDs have been eliminated:

1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed;

2. Materials or residuals on the ground or in storm water inlets from spills/leaks;

3. Materials or products from past industrial activity;

4. Material handling equipment (except adequately maintained vehicles);

5. Materials or products during loading/unloading or transporting activities;

6. Materials or products stored outdoors (except final products intended for outside use, i.e., new cars, where exposure to storm water does not result in the discharge of pollutants);

7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

8. Materials or products handled/stored on roads or railways owned or maintained by the Discharger;

9. Waste material (except waste in covered, non-leaking containers, i.e., dumpsters);

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

10. Application or disposal of processed wastewater (unless already covered by an NPDES permit); and

11. Particulate matter or visible deposits of residuals from roof stacks/vents evident in the storm water outflow.

APPENDIX 3

WATERBODIES WITH CLEAN WATER ACT SECTION 303(D) LISTED IMPAIRMENTS

NATIONAL POLLUTION DISCHARGE ELIMINTATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

The 303(d) impairments below are sourced from the 2010 Integrated Report. The rows in red are impairments for which industrial storm water Dischargers subject to this General Permit are not required to analyze for additional parameters unless directed by the Regional Water Board, because these parameters are typically not associated with industrial storm water. Test methods with substantially similar or more stringent method detection limits may be used if approved by the staff of the State Water Board prior to sampling and analysis and upon approval, will be added into SMARTS. The rows that are not in red are impairments for which Dischargers in the 303(d) impaired watershed are required to analyze for additional parameters, if applicable, because these parameters are more likely to be associated with industrial storm water. See General Permit Section XI.B.6.e. In the event that any of the impairments in this appendix are subsequently delisted, the Dischargers with discharges to that watershed are no longer required to analyze for the additional parameters for those impairments, and the provisions for new Dischargers with discharges to 303(d) impaired water bodies contained in Section VII.B of this General Permit no longer apply for those impairments.

The Excel spreadsheet containing the water bodies with 303(d) impairments is an attachment to this Appendix 3. To view the attachment from an electronic (pdf) version of this Appendix 3, left-click on the paper clip icon to the left of this pdf file to make the attachment window appear, then double-click on the icon of an Excel spreadsheet. The Excel spreadsheet is also available on the Industrial Storm Water program pages of the State Water Resources Control Board's website (http://www.waterboards.ca.gov/).

ATTACHMENT F-4

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Arnold Schwarzenegger
Governor

Division of Water Quality
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE
ACTIVITIES

ORDER NO. 2009-0009-DWQ
NPDES NO**. CAS000002**

This Order was adopted by the State Water Resources Control Board on:	**September 2, 2009**
This Order shall become effective on:	**July 1, 2010**
This Order shall expire on:	**September 2, 2014**

IT IS HEREBY ORDERED, that this Order supersedes Order No. 99-08-DWQ [as amended by Order No. 2010-0014-DWQ] except for enforcement purposes. The Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on September 2, 2009.

AYE: Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: Chairman Charles R. Hoppin

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

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Arnold Schwarzenegger
Governor

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

ORDER NO. 2010-0014-DWQ
NPDES NO. CAS000002

Order No. 2009-0009-DWQ was adopted by the State Water Resources Control Board on:	**September 2, 2009**
Order No. 2009-0009-DWQ became effective on:	**July 1, 2010**
Order No. 2009-0009-DWQ shall expire on:	**September 2, 2014**
This Order, which amends Order No. 2009-0009-DWQ, was adopted by the State Water Resources Control Board on:	**November 16, 2010**
This Order shall become effective on:	**February 14, 2011**

IT IS HEREBY ORDERED that this Order amends Order No. 2009-0009-DWQ. Additions to Order No. 2009-0009-DWQ are reflected in blue-underline text and deletions are reflected in red-strikeout text.

IT IS FURTHER ORDERED that staff are directed to prepare and post a conformed copy of Order No. 2009-0009-DWQ incorporating the revisions made by this Order.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on **November 16, 2010.**

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: None

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

ORDER NO. 2012-0006-DWQ
NPDES NO**. CAS000002**

Order No. 2009-0009-DWQ was adopted by the State Water Resources Control Board on:	**September 2, 2009**
Order No. 2009-0009-DWQ became effective on:	**July 1, 2010**
Order No. 2010-0014-DWQ became effective on:	**February 14, 2011**
Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ shall expire on:	**September 2, 2014**
This Order, which amends Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ, was adopted by the State Water Resources Control Board on:	**July 17, 2012**
This Order No. 2012-0006-DWQ shall become effective on:	**July 17, 2012**

IT IS HEREBY ORDERED that this Order amends Order No. 2009-0009-DWQ. Additions to Order No. 2009-0009-DWQ are reflected in blue-underline text and deletions are reflected in red-strikeout text.

IT IS FURTHER ORDERED that staff are directed to prepare and post a conformed copy of Order No. 2009-000-DWQ incorporating the revisions made by this Order.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on July 17, 2012.

AYE:	Chairman Charles R. Hoppin Vice Chair Frances Spivy-Weber Board Member Tam M. Doduc Board Member Steven Moore Board Member Felicia Marcus
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend
Clerk to the Board

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STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2009-0009-DWQ
[AS AMENDED BY ORDER NO. 2010-0014-DWQ]
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT NO. CAS000002

WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

I. FINDINGS

A. General Findings

The State Water Resources Control Board (State Water Board) finds that:

1. The federal Clean Water Act (CWA) prohibits certain discharges of storm water containing pollutants except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit (Title 33 United States Code (U.S.C.) §§ 1311 and 1342(p); also referred to as Clean Water Act (CWA) §§ 301 and 402(p)). The U.S. Environmental Protection Agency (U.S. EPA) promulgates federal regulations to implement the CWA's mandate to control pollutants in storm water runoff discharges. (Title 40 Code of Federal Regulations (C.F.R.) Parts 122, 123, and 124). The federal statutes and regulations require discharges to surface waters comprised of storm water associated with construction activity, including demolition, clearing, grading, and excavation, and other land disturbance activities (except operations that result in disturbance of less than one acre of total land area and which are not part of a larger common plan of development or sale), to obtain coverage under an NPDES permit. The NPDES permit must require implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate pollutants in storm water runoff. The NPDES permit must also include additional requirements necessary to implement applicable water quality standards.

2. This General Permit authorizes discharges of storm water associated with construction activity so long as the dischargers comply with all requirements, provisions, limitations and prohibitions in the permit. In addition, this General Permit regulates the discharges of storm water associated with construction activities from all Linear

Underground/Overhead Projects resulting in the disturbance of greater than or equal to one acre (Attachment A).

3. This General Permit regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) to waters of the United States from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface.

4. This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to municipal separate storm sewer systems or other watercourses within their jurisdictions.

5. This action to adopt a general NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.), pursuant to Section 13389 of the California Water Code.

6. Pursuant to 40 C.F.R. § 131.12 and State Water Board Resolution No. 68-16,[1] which incorporates the requirements of § 131.12 where applicable, the State Water Board finds that discharges in compliance with this General Permit will not result in the lowering of water quality standards, and are therefore consistent with those provisions. Compliance with this General Permit will result in improvements in water quality.

7. This General Permit serves as an NPDES permit in compliance with CWA § 402 and will take effect on July 1, 2010 by the State Water Board provided the Regional Administrator of the U.S. EPA has no objection. If the U.S. EPA Regional Administrator objects to its issuance, the General Permit will not become effective until such objection is withdrawn.

8. Following adoption and upon the effective date of this General Permit, the Regional Water Quality Control Boards (Regional Water Boards) shall enforce the provisions herein.

9. Regional Water Boards establish water quality standards in Basin Plans. The State Water Board establishes water quality standards in various statewide plans, including the California Ocean Plan. U.S. EPA establishes water quality standards in the National Toxic Rule (NTR) and the California Toxic Rule (CTR).

[1] Resolution No. 68-16 generally requires that existing water quality be maintained unless degradation is justified based on specific findings.

10. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA § 404 and does not constitute a waiver of water quality certification under CWA § 401.

11. The primary storm water pollutant at construction sites is excess sediment. Excess sediment can cloud the water, which reduces the amount of sunlight reaching aquatic plants, clog fish gills, smother aquatic habitat and spawning areas, and impede navigation in our waterways. Sediment also transports other pollutants such as nutrients, metals, and oils and greases.

12. Construction activities can impact a construction site's runoff sediment supply and transport characteristics. These modifications, which can occur both during and after the construction phase, are a significant cause of degradation of the beneficial uses established for water bodies in California. Dischargers can avoid these effects through better construction site design and activity practices.

13. This General Permit recognizes four distinct phases of construction activities. The phases are Grading and Land Development Phase, Streets and Utilities Phase, Vertical Construction Phase, and Final Landscaping and Site Stabilization Phase. Each phase has activities that can result in different water quality effects from different water quality pollutants. This General Permit also recognizes inactive construction as a category of construction site type.

14. Compliance with any specific limits or requirements contained in this General Permit does not constitute compliance with any other applicable requirements.

15. Following public notice in accordance with State and Federal laws and regulations, the State Water Board heard and considered all comments and testimony in a public hearing on 06/03/2009. The State Water Board has prepared written responses to all significant comments.

16. Construction activities obtaining coverage under the General Permit may have multiple discharges subject to requirements that are specific to general, linear, and/or active treatment system discharge types.

17. The State Water Board may reopen the permit if the U.S. EPA adopts a final effluent limitation guideline for construction activities.

B. Activities Covered Under the General Permit

18. Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

19. Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

20. Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to U.S. EPA regulations, such as dairy barns or food processing facilities.

21. Construction activity associated with Linear Underground/Overhead Utility Projects (LUPs) including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

22. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.[2]

23. Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction sites that intend to disturb one or more acres of land within the jurisdictional boundaries of

[2] Pursuant to the Ninth Circuit Court of Appeals' decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the U.S. EPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the site.

C. Activities Not Covered Under the General Permit

24. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

25. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

26. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.

27. Construction activity and land disturbance involving discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction sites in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit.

28. Construction activity that disturbs less than one acre of land surface, and that is not part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

29. Construction activity covered by an individual NPDES Permit for storm water discharges.

30. Discharges from small (1 to 5 acre) construction activities with an approved Rainfall Erosivity Waiver authorized by U.S. EPA Phase II regulations certifying to the State Board that small construction activity will occur only when the Rainfall Erosivity Factor is less than 5 (“R” in the Revised Universal Soil Loss Equation).

31. Landfill construction activity that is subject to the Industrial General Permit.

32. Construction activity that discharges to Combined Sewer Systems.

33. Conveyances that discharge storm water runoff combined with municipal sewage.

34. Discharges of storm water identified in CWA § 402(*l*)(2), 33 U.S.C. § 1342(*l*)(2).

35. Discharges occurring in basins that are not tributary or hydrologically connected to waters of the United States (for more information contact your Regional Water Board).

D. Obtaining and Modifying General Permit Coverage

36. This General Permit requires all dischargers to electronically file all Permit Registration Documents (PRDs), Notices of Termination (NOT), changes of information, annual reporting, and other compliance documents required by this General Permit through the State Water Board's Storm water Multi-Application and Report Tracking System (SMARTS) website.

37. Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

38. This General Permit grants an exception from the Risk Determination requirements for existing sites covered under Water Quality Orders No. 99-08-DWQ, and No. 2003-0007-DWQ. For certain sites, adding additional requirements may not be cost effective. Construction sites covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at the Risk Level 1. LUPs covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage as a Type 1 LUP. The Regional Water Boards have the authority to require Risk Determination to be performed on sites currently covered under Water Quality Orders No. 99-08-DWQ and No. 2003-0007-DWQ where they deem it necessary. The State Water Board finds that there are two circumstances when it may be appropriate for the Regional Water Boards to require a discharger that had filed an NOI under State Water Board Order No. 99-08-DWQ to recalculate the site's risk level. These circumstances are: (1) when the discharger has a demonstrated history of noncompliance with State Water Board Order No. 99-08-DWQ or; (2) when the discharger's site poses a significant risk of causing or contributing to an exceedance of a water quality standard without the implementation of the additional Risk Level 2 or 3 requirements.

E. Prohibitions

39. All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit. Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may

contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural Best Management Practices (BMPs)[3]. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction.

40. This General Permit prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

41. This General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the State Water Board and the nine Regional Water Boards.

42. Pursuant to the Ocean Plan, discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.

43. This General Permit prohibits the discharge of any debris[4] from construction sites. Plastic and other trash materials can cause negative impacts to receiving water beneficial uses. The State Water Board encourages the use of more environmentally safe, biodegradable materials on construction sites to minimize the potential risk to water quality.

F. Training

44. In order to improve compliance with and to maintain consistent enforcement of this General Permit, all dischargers are required to appoint two positions - the Qualified SWPPP Developer (QSD) and the Qualified SWPPP Practitioner (QSP) - who must obtain appropriate training. Together with the key stakeholders, the State and Regional Water Boards are leading the development of this curriculum through a collaborative organization called The Construction General Permit (CGP) Training Team.

45. The Professional Engineers Act (Bus. & Prof. Code section 6700, et seq.) requires that all engineering work must be performed by a California licensed engineer.

[3] BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practice to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

[4] Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

G. Determining and Reducing Risk

46. The risk of accelerated erosion and sedimentation from wind and water depends on a number of factors, including proximity to receiving water bodies, climate, topography, and soil type.

47. This General Permit requires dischargers to assess the risk level of a site based on both sediment transport and receiving water risk. This General Permit contains requirements for Risk Levels 1, 2 and 3, and LUP Risk Type 1, 2, and 3 (Attachment A). Risk levels are established by determining two factors: first, calculating the site's sediment risk; and second, receiving water risk during periods of soil exposure (i.e. grading and site stabilization). Both factors are used to determine the site-specific Risk Level(s). LUPs can be determined to be Type 1 based on the flowchart in Attachment A.1.

48. Although this General Permit does not mandate specific setback distances, dischargers are encouraged to set back their construction activities from streams and wetlands whenever feasible to reduce the risk of impacting water quality (e.g., natural stream stability and habitat function). Because there is a reduced risk to receiving waters when setbacks are used, this General Permit gives credit to setbacks in the risk determination and post-construction storm water performance standards. The risk calculation and runoff reduction mechanisms in this General Permit are expected to facilitate compliance with any Regional Water Board and local agency setback requirements, and to encourage voluntary setbacks wherever practicable.

49. Rain events can occur at any time of the year in California. Therefore, a Rain Event Action Plan (REAP) is necessary for Risk Level 2 and 3 traditional construction projects (LUPs exempt) to ensure that active construction sites have adequate erosion and sediment controls implemented prior to the onset of a storm event, even if construction is planned only during the dry season.

50. Soil particles smaller than 0.02 millimeters (mm) (i.e., finer than medium silt) do not settle easily using conventional measures for sediment control (i.e., sediment basins). Given their long settling time, dislodging these soils results in a significant risk that fine particles will be released into surface waters and cause unacceptable downstream impacts. If operated correctly, an Active Treatment System (ATS[5]) can prevent or reduce the release of fine particles from construction sites.

[5] An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electro coagulation in order to reduce turbidity caused by fine suspended sediment.

Use of an ATS can effectively reduce a site's risk of impacting receiving waters.

51. Dischargers located in a watershed area where a Total Maximum Daily Load (TMDL) has been adopted or approved by the Regional Water Board or U.S. EPA may be required by a separate Regional Water Board action to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. Such dischargers may also be required to obtain an individual Regional Water Board permit specific to the area.

H. Effluent Standards

52. The State Water Board convened a blue ribbon panel of storm water experts that submitted a report entitled, "The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities," dated June 19, 2006. The panel concluded that numeric limits or action levels are technically feasible to control construction storm water discharges, provided that certain conditions are considered. The panel also concluded that numeric effluent limitations (NELs) are feasible for discharges from construction sites that utilize an ATS. The State Water Board has incorporated the expert panel's suggestions into this General Permit, which includes numeric action levels (NALs) for pH and turbidity, and special numeric limits for ATS discharges.

Determining Compliance with Numeric Limitations

53. This General Permit sets a pH NAL of 6.5 to 8.5, and a turbidity NAL of 250 NTU. The purpose of the NAL and its associated monitoring requirement is to provide operational information regarding the performance of the measures used at the site to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges. An exceedance of a NAL does not constitute a violation of this General Permit.

54. This General Permit requires dischargers with NAL exceedances to immediately implement additional BMPs and revise their Storm Water Pollution Prevention Plans (SWPPPs) accordingly to either prevent pollutants and authorized non-storm water discharges from contaminating storm water, or to substantially reduce the pollutants to levels consistently below the NALs. NAL exceedances are reported in the State Water Boards SMARTS system, and the discharger is

required to provide an NAL Exceedance Report when requested by a Regional Water Board.

I. Receiving Water Limitations

55. This General Permit requires all enrolled dischargers to determine the receiving waters potentially affected by their discharges and to comply with all applicable water quality standards, including any more stringent standards applicable to a water body.

J. Sampling, Monitoring, Reporting and Record Keeping

56. Visual monitoring of storm water and non-storm water discharges is required for all sites subject to this General Permit.

57. Records of all visual monitoring inspections are required to remain on-site during the construction period and for a minimum of three years.

58. For all Risk Level 3/LUP Type 3 and Risk Level 2/LUP Type 2 sites, this General Permit requires effluent monitoring for pH and turbidity. Sampling, analysis and monitoring requirements for effluent monitoring for pH and turbidity are contained in this General Permit.

59. Risk Level 3 and LUP Type 3 sites with effluent that exceeds the Receiving Water Monitoring Triggers contained in this General Permit and with direct discharges to receiving water are required to conduct receiving water monitoring. An exceedance of a Receiving Water Monitoring Trigger does not constitute a violation of this General Permit.

60. This General Permit establishes a 5 year, 24 hour (expressed in inches of rainfall) as an exemptions to the receiving water monitoring requirements for Risk Level 3 and LUP Type 3 dischargers.

61. If run-on is caused by a forest fire or any other natural disaster, then receiving water monitoring triggers do not apply.

62. For Risk Level 3 and LUP Type 3 sites larger than 30 acres and with direct discharges to receiving waters, this General Permit requires bioassessment sampling before and after site completion to determine if significant degradation to the receiving water's biota has occurred. Bioassessment sampling guidelines are contained in this General Permit.

63. A summary and evaluation of the sampling and analysis results will be submitted in the Annual Reports.

64. This General Permit contains sampling, analysis and monitoring requirements for non-visible pollutants at all sites subject to this General Permit.

65. Compliance with the General Permit relies upon dischargers to electronically self-report any discharge violations and to comply with any Regional Water Board enforcement actions.

66. This General Permit requires that all dischargers maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed. For LUPs, these documents may be retained in a crew member's vehicle and made available upon request.

K. Active Treatment System (ATS) Requirements

67. Active treatment systems add chemicals to facilitate flocculation, coagulation and filtration of suspended sediment particles. The uncontrolled release of these chemicals to the environment can negatively affect the beneficial uses of receiving waters and/or degrade water quality (e.g., acute and chronic toxicity). Additionally, the batch storage and treatment of storm water through an ATS' can potentially cause physical impacts on receiving waters if storage volume is inadequate or due to sudden releases of the ATS batches and improperly designed outfalls.

68. If designed, operated and maintained properly an ATS can achieve very high removal rates of suspended sediment (measured as turbidity), albeit at sometimes significantly higher costs than traditional erosion/sediment control practices. As a result, this General Permit establishes NELs consistent with the expected level of typical ATS performance.

69. This General Permit requires discharges of storm water associated with construction activity that undergo active treatment to comply with special operational and effluent limitations to ensure that these discharges do not adversely affect the beneficial uses of the receiving waters or cause degradation of their water quality.

70. For ATS discharges, this General Permit establishes technology-based NELs for turbidity.

71. This General Permit establishes a 10 year, 24 hour (expressed in inches of rainfall) Compliance Storm Event exemption from the technology-based numeric effluent limitations for ATS discharges. Exceedances of the ATS turbidity NEL constitutes a violation of this General Permit.

L. Post-Construction Requirements

72. This General Permit includes performance standards for post-construction that are consistent with State Water Board Resolution No. 2005-0006, "Resolution Adopting the Concept of Sustainability as a Core Value for State Water Board Programs and Directing Its Incorporation," and 2008-0030, "Requiring Sustainable Water Resources Management." The requirement for all construction sites to match pre-project hydrology will help ensure that the physical and biological integrity of aquatic ecosystems are sustained. This "runoff reduction" approach is analogous in principle to Low Impact Development (LID) and will serve to protect related watersheds and waterbodies from both hydrologic-based and pollution impacts associated with the post-construction landscape.

73. LUP projects are not subject to post-construction requirements due to the nature of their construction to return project sites to pre-construction conditions.

M. Storm Water Pollution Prevention Plan Requirements

74. This General Permit requires the development of a site-specific SWPPP. The SWPPP must include the information needed to demonstrate compliance with all requirements of this General Permit, and must be kept on the construction site and be available for review. The discharger shall ensure that a QSD develops the SWPPP.

75. To ensure proper site oversight, this General Permit requires a Qualified SWPPP Practitioner to oversee implementation of the BMPs required to comply with this General Permit.

N. Regional Water Board Authorities

76. Regional Water Boards are responsible for implementation and enforcement of this General Permit. A general approach to permitting is not always suitable for every construction site and environmental circumstances. Therefore, this General Permit recognizes that Regional Water Boards must have some flexibility and authority to alter, approve, exempt, or rescind permit authority granted under this

General Permit in order to protect the beneficial uses of our receiving waters and prevent degradation of water quality.

IT IS HEREBY ORDERED that all dischargers subject to this General Permit shall comply with the following conditions and requirements (including all conditions and requirements as set forth in Attachments A, B, C, D, E and F)[6]:

II. CONDITIONS FOR PERMIT COVERAGE

A. Linear Underground/Overhead Projects (LUPs)

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g. telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

2. The Legally Responsible Person is responsible for obtaining coverage under the General Permit where the construction of pipelines, utility lines, fiber-optic cables, or other linear underground/overhead projects will occur across several properties unless the LUP construction activities are covered under another construction storm water permit.

3. Only LUPs shall comply with the conditions and requirements in Attachment A, A.1 & A.2 of this Order. The balance of this Order is not applicable to LUPs except as indicated in Attachment A.

[6] These attachments are part of the General Permit itself and are not separate documents that are capable of being updated independently by the State Water Board.

B. Obtaining Permit Coverage Traditional Construction Sites

1. The Legally Responsible Person (LRP) (see Special Provisions, Electronic Signature and Certification Requirements, Section IV.I.1) must obtain coverage under this General Permit.

2. To obtain coverage, the LRP must electronically file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.

3. PRDs shall consist of:

   a. Notice of Intent (NOI)
   b. Risk Assessment (Section VIII)
   c. Site Map
   d. Storm Water Pollution Prevention Plan (Section XIV)
   e. Annual Fee
   f. Signed Certification Statement

   Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

   Attachment B contains additional PRD information. Dischargers must electronically file the PRDs, and mail the appropriate annual fee to the State Water Board.

4. This permit is effective on July 1, 2010.

   a. **Dischargers Obtaining Coverage On or After July 1, 2010:** All dischargers requiring coverage on or after July 1, 2010, shall electronically file their PRDs prior to the commencement of construction activities, and mail the appropriate annual fee no later than seven days prior to the commencement of construction activities. Permit coverage shall not commence until the PRDs and the annual fee are received by the State Water Board, and a WDID number is assigned and sent by SMARTS.

   b. **Dischargers Covered Under 99-08-DWQ and 2003-0007-DWQ:** Existing dischargers subject to State Water Board Order No. 99-08-DWQ (existing dischargers) will continue coverage under 99-08-DWQ until July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 99-08-DWQ will be terminated.

Existing dischargers shall electronically file their PRDs no later than July 1, 2010. If an existing discharger's site acreage subject to the annual fee has changed, it shall mail a revised annual fee no less than seven days after receiving the revised annual fee notification, **or else lose permit coverage**. All existing dischargers shall be exempt from the risk determination requirements in Section VIII of this General Permit until two years after permit adoption. All existing dischargers are therefore subject to Risk Level 1 requirements regardless of their site's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the Section VIII risk determination requirements.

5. The discharger is only considered covered by this General Permit upon receipt of a Waste Discharger Identification (WDID) number assigned and sent by the State Water Board Storm water Multi-Application and Report Tracking System (SMARTS). In order to demonstrate compliance with this General Permit, the discharger must obtain a WDID number and must present documentation of a valid WDID upon demand.

6. During the period this permit is subject to review by the U.S. EPA, the prior permit (State Water Board Order No. 99-08-DWQ) remains in effect. Existing dischargers under the prior permit will continue to have coverage under State Water Board Order No. 99-08-DWQ until this General Permit takes effect on July 1, 2010. Dischargers who complete their projects and electronically file an NOT prior to July 1, 2010, are not required to obtain coverage under this General Permit.

7. Small Construction Rainfall Erosivity Waiver

   EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

   Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

   If a small construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the

rainfall erosivity factor for the new project duration and submit this information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

8. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. Revising Permit Coverage for Change of Acreage or New Ownership

1. The discharger may reduce or increase the total acreage covered under this General Permit when a portion of the site is complete and/or conditions for termination of coverage have been met (See Section II.D Conditions for Termination of Coverage); when ownership of a portion of the site is sold to a different entity; or when new acreage, subject to this General Permit, is added to the site.

2. Within 30 days of a reduction or increase in total disturbed acreage, the discharger shall electronically file revisions to the PRDs that include:

   a. A revised NOI indicating the new project size;

   b. A revised site map showing the acreage of the site completed, acreage currently under construction, acreage sold/transferred or added, and acreage currently stabilized in accordance with the Conditions for Termination of Coverage in Section II.D below.

   c. SWPPP revisions, as appropriate; and

   d. Certification that any new landowners have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address of the new landowner.

   e. If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

3. The discharger shall continue coverage under the General Permit for any parcel that has not achieved "Final Stabilization" as defined in Section II.D.

4. When an LRP with active General Permit coverage transfers its LRP status to another person or entity that qualifies as an LRP, the existing LRP shall inform the new LRP of the General Permit's requirements. In order for the new LRP to continue the construction activity on its parcel of property, the new LRP, or the new LRP's approved signatory, must submit PRDs in accordance with this General Permit's requirements.

D. Conditions for Termination of Coverage

1. Within 90 days of when construction is complete or ownership has been transferred, the discharger shall electronically file a Notice of Termination (NOT), a final site map, and photos through the State Water Boards SMARTS system. Filing a NOT certifies that all General Permit requirements have been met. The Regional Water Board will consider a construction site complete only when all portions of the site have been transferred to a new owner, or all of the following conditions have been met:

   a. For purposes of "final stabilization," the site will not pose any additional sediment discharge risk than it did prior to the commencement of construction activity;

   b. There is no potential for construction-related storm water pollutants to be discharged into site runoff;

   c. Final stabilization has been reached;

   d. Construction materials and wastes have been disposed of properly;

   e. Compliance with the Post-Construction Standards in Section XIII of this General Permit has been demonstrated;

   f. Post-construction storm water management measures have been installed and a long-term maintenance plan[7] has been established; and

   g. All construction-related equipment, materials and any temporary BMPs no longer needed are removed from the site.

[7] For the purposes of this requirement a long-term maintenance plan will be designed for a minimum of five years, and will describe the procedures to ensure that the post-construction storm water management measures are adequately maintained.

2. The discharger shall certify that final stabilization conditions are satisfied in their NOT. Failure to certify shall result in continuation of permit coverage and annual billing.

3. The NOT must demonstrate through photos, RUSLE or RUSLE2, or results of testing and analysis that the site meets all of the conditions above (Section II.D.1) and the final stabilization condition (Section II.D.1.a) is attained by one of the following methods:

   a. "70% final cover method," no computational proof required

      OR:

   b. "RUSLE or RUSLE2 method," computational proof required

      OR:

   c. "Custom method", the discharger shall demonstrate in some other manner than a or b, above, that the site complies with the "final stabilization" requirement in Section II.D.1.a.

III. DISCHARGE PROHIBITIONS

A. Dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.

B. All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit.

C. Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. The discharge of non-storm water is authorized under the following conditions:

1. The discharge does not cause or contribute to a violation of any water quality standard;

2. The discharge does not violate any other provision of this General Permit;

3. The discharge is not prohibited by the applicable Basin Plan;

4. The discharger has included and implemented specific BMPs required by this General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.

5. The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;

6. The discharge is monitored and meets the applicable NALs; and

7. The discharger reports the sampling information in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not already authorized by this General Permit or another NPDES permit, to determine whether a separate NPDES permit is necessary.

D. Debris resulting from construction activities are prohibited from being discharged from construction sites.

E. When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

IV. SPECIAL PROVISIONS

A. Duty to Comply

1. The discharger shall comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

2. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

B. General Permit Actions

1. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

2. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

C. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

D. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

F. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

G. Duty to Maintain Records and Provide Information

1. The discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be available at the construction site until construction is completed.

2. The discharger shall furnish the Regional Water Board, State Water Board, or U.S. EPA, within a reasonable time, any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

H. Inspection and Entry

The discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

2. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

3. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

4. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

I. Electronic Signature and Certification Requirements

1. All Permit Registration Documents (PRDs) and Notices of Termination (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP), as defined in Appendix 5 – Glossary, or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory, as defined in Appendix 5 - Glossary) must submit all information electronically via SMARTS.

2. Changes to Authorization. If an Approved Signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or together with any reports, information or applications to be signed by an Approved Signatory.

3. All Annual Reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, U.S. EPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's Approved Signatory.

J. Certification

Any person signing documents under Section IV.I above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

K. Anticipated Noncompliance

The discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

L. Bypass

Bypass[8] is prohibited. The Regional Water Board may take enforcement action against the discharger for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;[9]

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventative maintenance;

3. The discharger submitted a notice at least ten days in advance of the need for a bypass to the Regional Water Board; or

4. The discharger may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The discharger shall submit notice of an unanticipated bypass as required.

M. Upset

1. A discharger that wishes to establish the affirmative defense of an upset[10] in an action brought for noncompliance shall demonstrate,

[8] The intentional diversion of waste streams from any portion of a treatment facility

[9] Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

[10] An exceptional incident in which there is unintentional and temporary noncompliance the technology based numeric effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the discharger can identify the cause(s) of the upset

b. The treatment facility was being properly operated by the time of the upset

c. The discharger submitted notice of the upset as required; and

d. The discharger complied with any remedial measures required

2. No determination made before an action of noncompliance occurs, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof

N. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

O. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

P. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

Q. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

R. Penalties for Violations of Permit Conditions

1. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $37,500[11] per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

2. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

S. Transfers

This General Permit is not transferable.

T. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

[11] May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act.

V. EFFLUENT STANDARDS & RECEIVING WATER MONITORING

A. Narrative Effluent Limitations

1. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

2. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

Table 1- Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level
pH	Field test with calibrated portable instrument	Risk Level 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5
		Risk Level 3			lower NAL = 6.5 upper NAL = 8.5
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2	1	NTU	250 NTU
		Risk Level 3			250 NTU

B. Numeric Action Levels (NALs)

1. For Risk Level 2 and 3 dischargers, the lower storm event average NAL for pH is 6.5 pH units and the upper storm event average NAL for

pH is 8.5 pH units. The discharger shall take actions as described below if the discharge is outside of this range of pH values.

2. For Risk Level 2 and 3 dischargers, the NAL storm event daily average for turbidity is 250 NTU. The discharger shall take actions as described below if the discharge is outside of this range of turbidity values.

3. Whenever the results from a storm event daily average indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL exceedance and shall immediately implement corrective actions if they are needed.

4. The site evaluation shall be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:

   a. Are related to the construction activities and whether additional BMPs are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

      AND/OR:

   b. Are related to the run-on associated with the construction site location and whether additional BMPs measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) what corrective action(s) were taken or will be taken with a description of the schedule for completion.

C. Receiving Water Monitoring Triggers

1. The receiving water monitoring triggers for Risk Level 3 dischargers with direct discharges to surface waters are triggered when the daily average effluent pH values during any site phase when there is a high risk of pH discharge[12] fall outside of the range of 6.0 and 9.0 pH units, or when the daily average effluent turbidity exceeds 500 NTU.

2. Risk Level 3 dischargers with with direct discharges to surface waters shall conduct receiving water monitoring whenever their effluent monitoring results exceed the receiving water monitoring triggers. If the pH trigger is exceeded, the receiving water shall be monitored for pH for the duration of coverage under this General Permit. If the turbidity trigger is exceeded, the receiving water shall be monitored for turbidity and SSC for the duration of coverage under this general permit.

3. Risk Level 3 dischargers with direct discharges to surfaces waters shall initiate receiving water monitoring when the triggers are exceeded unless the storm event causing the exceedance is determined after the fact to equal to or greater than the 5-year 24-hour storm (expressed in inches of rainfall) as determined by using these maps:

   http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif
   http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif

   Verification of the 5-year 24-hour storm event shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.

4. If run-on is caused by a forest fire or any other natural disaster, then receiving water monitoring triggers do not apply.

[12] A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

VI. RECEIVING WATER LIMITATIONS

A. The discharger shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.

B. The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

C. The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).

D. Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL has been approved by the U.S. EPA, shall comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of the pollution.

VII. TRAINING QUALIFICATIONS AND CERTIFICATION REQUIREMENTS

A. General

The discharger shall ensure that all persons responsible for implementing requirements of this General Permit shall be appropriately trained in accordance with this Section. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Those responsible for preparing and amending SWPPPs shall comply with the requirements in this Section VII.

The discharger shall provide documentation of all training for persons responsible for implementing the requirements of this General Permit in the Annual Reports.

B. SWPPP Certification Requirements

1. **Qualified SWPPP Developer:** The discharger shall ensure that SWPPPs are written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:

   a. A California registered professional civil engineer;

   b. A California registered professional geologist or engineering geologist;

   c. A California registered landscape architect;

   d. A professional hydrologist registered through the American Institute of Hydrology;

   e. A Certified Professional in Erosion and Sediment Control (CPESC) ™ registered through Enviro Cert International, Inc.;

   f. A Certified Professional in Storm Water Quality (CPSWQ) ™ registered through Enviro Cert International, Inc.; or

   g. A professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET).

Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

2. The discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.

3. **Qualified SWPPP Practitioner:** The discharger shall ensure that all BMPs required by this General Permit are implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:

   a. A certified erosion, sediment and storm water inspector registered through Enviro Cert International, Inc.; or

   b. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

   Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

4. The LRP shall list in the SWPPP, the name of any Approved Signatory, and provide a copy of the written agreement or other mechanism that provides this authority from the LRP in the SWPPP.

5. The discharger shall include, in the SWPPP, a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.

6. The discharger shall ensure that the SWPPP and each amendment will be signed by the Qualified SWPPP Developer. The discharger shall include a listing of the date of initial preparation and the date of each amendment in the SWPPP.

VIII. RISK DETERMINATION

The discharger shall calculate the site's sediment risk and receiving water risk during periods of soil exposure (i.e. grading and site stabilization) and use the calculated risks to determine a Risk Level(s) using the methodology in

Appendix 1. For any site that spans two or more planning watersheds,[13] the discharger shall calculate a separate Risk Level for each planning watershed. The discharger shall notify the State Water Board of the site's Risk Level determination(s) and shall include this determination as a part of submitting the PRDs. If a discharger ends up with more than one Risk Level determination, the Regional Water Board may choose to break the project into separate levels of implementation.

IX. RISK LEVEL 1 REQUIREMENTS

Risk Level 1 Dischargers shall comply with the requirements included in Attachment C of this General Permit.

X. RISK LEVEL 2 REQUIREMENTS

Risk Level 2 Dischargers shall comply with the requirements included in Attachment D of this General Permit.

XI. RISK LEVEL 3 REQUIREMENTS

Risk Level 3 Dischargers shall comply with the requirements included in Attachment E of this General Permit.

XII. ACTIVE TREATMENT SYSTEMS (ATS)

Dischargers choosing to implement an ATS on their site shall comply with all of the requirements in Attachment F of this General Permit.

[13] Planning watershed: defined by the Calwater Watershed documents as a watershed that ranges in size from approximately 3,000 to 10,000 acres http://cain.ice.ucdavis.edu/calwater/calwfaq.html, http://gis.ca.gov/catalog/BrowseRecord.epl?id=22175 .

XIII. POST-CONSTRUCTION STANDARDS

A. All dischargers shall comply with the following runoff reduction requirements unless they are located within an area subject to post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved Storm Water Management Plan.

1. This provision shall take effect three years from the adoption date of this permit, or later at the discretion of the Executive Officer of the Regional Board.

2. The discharger shall demonstrate compliance with the requirements of this section by submitting with their NOI a map and worksheets in accordance with the instructions in Appendix 2. The discharger shall use non-structural controls unless the discharger demonstrates that non-structural controls are infeasible or that structural controls will produce greater reduction in water quality impacts.

3. The discharger shall, through the use of non-structural and structural measures as described in Appendix 2, replicate the pre-project water balance (for this permit, defined as the volume of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event (or the smallest storm event that generates runoff, whichever is larger). Dischargers shall inform Regional Water Board staff at least 30 days prior to the use of any structural control measure used to comply with this requirement. Volume that cannot be addressed using non-structural practices shall be captured in structural practices and approved by the Regional Water Board. When seeking Regional Board approval for the use of structural practices, dischargers shall document the infeasibility of using non-structural practices on the project site, or document that there will be fewer water quality impacts through the use of structural practices.

4. For sites whose disturbed area exceeds two acres, the discharger shall preserve the pre-construction drainage density (miles of stream length per square mile of drainage area) for all drainage areas within the area serving a first order stream[14] or larger stream and ensure that post-project time of runoff concentration is equal or greater than pre-project time of concentration.

[14] A first order stream is defined as a stream with no tributaries.

B. All dischargers shall implement BMPs to reduce pollutants in storm water discharges that are reasonably foreseeable after all construction phases have been completed at the site (Post-construction BMPs).

XIV. SWPPP REQUIREMENTS

A. The discharger shall ensure that the Storm Water Pollution Prevention Plans (SWPPPs) for all traditional project sites are developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:

1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;

2. Where not otherwise required to be under a Regional Water Board permit, all non-storm water discharges are identified and either eliminated, controlled, or treated;

3. Site BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the BAT/BCT standard;

4. Calculations and design details as well as BMP controls for site run-on are complete and correct, and

5. Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

B. To demonstrate compliance with requirements of this General Permit, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs.

C. The discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

XV. REGIONAL WATER BOARD AUTHORITIES

A. In the case where the Regional Water Board does not agree with the discharger's self-reported risk level (e.g., they determine themselves to be a Level 1 Risk when they are actually a Level 2 Risk site), Regional Water Boards may either direct the discharger to reevaluate the Risk Level(s) for their site or terminate coverage under this General Permit.

B. Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.

C. Regional Water Boards may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.

D. Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.

E. Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

XVI. ANNUAL REPORTING REQUIREMENTS

A. All dischargers shall prepare and electronically submit an Annual Report no later than September 1 of each year.

B. The discharger shall certify each Annual Report in accordance with the Special Provisions.

C. The discharger shall retain an electronic or paper copy of each Annual Report for a minimum of three years after the date the annual report is filed.

D. The discharger shall include storm water monitoring information in the Annual Report consisting of:

1. a summary and evaluation of all sampling and analysis results, including copies of laboratory reports;

2. the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit");

3. a summary of all corrective actions taken during the compliance year;

4. identification of any compliance activities or corrective actions that were not implemented;

5. a summary of all violations of the General Permit;

6. the names of individual(s) who performed the facility inspections, sampling, visual observation (inspections), and/or measurements;

7. the date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge); and

8. the visual observation and sample collection exception records and reports specified in Attachments C, D, and E.

E. The discharger shall provide training information in the Annual Report consisting of:

1. documentation of all training for individuals responsible for all activities associated with compliance with this General Permit;

2. documentation of all training for individuals responsible for BMP installation, inspection, maintenance, and repair; and

3. documentation of all training for individuals responsible for overseeing, revising, and amending the SWPPP.

ATTACHMENT A
Linear Underground/ Overhead Requirements

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All Linear Underground/Overhead project dischargers who submit permit registration documents (PRDs) indicating their intention to be regulated under the provisions of this General Permit shall comply with the following:

A. DEFINITION OF LINEAR UNDERGROUND/OVERHEAD PROJECTS

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquiescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio, or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

2. LUP evaluation shall consist of two tasks:

a. Confirm that the project or project section(s) qualifies as an LUP. The State Water Board website contains a project determination guidance flowchart. http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

b. Identify which Type(s) (1, 2 or 3 described in Section I below) are applicable to the project or project sections based on project sediment and receiving water risk. (See Attachment A.1)

3. A Legally Responsible Person (LRP) for a Linear Underground/Overhead project is required to obtain CGP coverage under one or more permit registration document (PRD) electronic submittals to the State Water Board's Storm Water Multi-Application and Report Tracking (SMARTs) system. Attachment A.1 contains a flow chart to be used when determining if a linear project qualifies for coverage and to determine LUP Types. Since a LUP may be constructed within both developed and undeveloped locations and portions of LUPs may be constructed by different contractors, LUPs may be broken into logical permit sections. Sections may be determined based on portions of a project conducted by one contractor. Other situations may also occur, such as the time period in which the sections of a project will be constructed (e.g. project phases), for which separate permit coverage is possible. For projects that are broken into separate sections, a description of how each section relates to the overall project and the definition of the boundaries between sections shall be clearly stated.

4. Where construction activities transverse or enter into different Regional Water Board jurisdictions, LRPs shall obtain permit coverage for each Regional Water Board area involved prior to the commencement of construction activities.

5. Small Construction Rainfall Erosivity Waiver

EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

If a small linear construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the rainfall erosivity factor for the new project duration and submit this information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

B. LINEAR PROJECT PERMIT REGISTRATION DOCUMENTS (PRDs)

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted. PRDs shall consist of the following:

1. Notice of Intent (NOI)

Prior to construction activities, the LRP of a proposed linear underground/overhead project shall utilize the processes and methods provided in Attachment A.2, Permit Registration Documents (PRDs) – General Instructions for Linear Underground/Overhead Projects to comply with the Construction General Permit.

2. Site Maps

LRPs submitting PRDs shall include at least 3 maps. The first map will be a zoomed[1] 1000-1500 ft vicinity map that shows the starting point of the project. The second will be a zoomed map of 1000-1500 ft showing the ending location of the project. The third will be a larger view vicinity map, 1000 ft to 2000 ft, displaying the entire project location depending on the project size, and indicating the LUP type (1, 2 or 3) areas within the total project footprint.

3. Drawings

LRPs submitting PRDs shall include a construction drawing(s) or other appropriate drawing(s) or map(s) that shows the locations of storm drain

[1] An image with a close-up/enhanced detailed view of site features that show minute details such as streets and neighboring structures.
Or: An image with a close-up/enhanced detailed view of the site's surrounding infrastructure.
Or: An image with a close up detailed view of the project and its surroundings.

inlets and waterbodies[2] that may receive discharges from the construction activities and that shows the locations of BMPs to be installed for all those BMPs that can be illustrated on the revisable drawing(s) or map(s). If storm drain inlets, waterbodies, and/or BMPs cannot be adequately shown on the drawing(s) or map(s) they should be described in detail within the SWPPP.

4. Storm Water Pollution Prevention Plan (SWPPP)

LUP dischargers shall comply with the SWPPP Preparation, Implementation, and Oversight requirements in Section K of this Attachment.

5. Contact information

LUP dischargers shall include contact information for all contractors (or subcontractors) responsible for each area of an LUP project. This should include the names, telephone numbers, and addresses of contact personnel. Specific areas of responsibility of each contact, and emergency contact numbers should also be included.

6. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. LINEAR PROJECT TERMINATION OF COVERAGE REQUIREMENTS

The LRP may terminate coverage of an LUP when construction activities are completed by submitting an electronic notice of termination (NOT) through the State Water Board's SMARTS system. Termination requirements are different depending on the complexity of the LUP. An LUP is considered complete when: (a) there is no potential for construction-related storm water pollution; (b) all elements of the SWPPP have been completed; (c) construction materials and waste have been disposed of properly; (d) the site is in compliance with all local storm water management requirements; and (e) the LRP submits a notice of termination (NOT) and has received approval for termination from the appropriate Regional Water Board office.

1. LUP Stabilization Requirements

The LUP discharger shall ensure that all disturbed areas of the construction site are stabilized prior to termination of coverage under this General Permit. Final stabilization for the purposes of submitting an NOT

[2] Includes basin(s) that the MS4 storm sewer systems may drain to for Hydromodification or Hydrological Conditional of Concerns under the MS4 permits.

is satisfied when all soil disturbing activities are completed and one of the following criteria is met:

a. In disturbed areas that were vegetated prior to construction activities of the LUP, the area disturbed must be re-established to a uniform vegetative cover equivalent to 70 percent coverage of the preconstruction vegetative conditions. Where preconstruction vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: if the preconstruction vegetation covers 50 percent of the ground surface, 70 percent of 50 percent (.70 X .50=.35) would require 35 percent total uniform surface coverage; or

b. Where no vegetation is present prior to construction, the site is returned to its original line and grade and/or compacted to achieve stabilization; or

c. Equivalent stabilization measures have been employed. These measures include, but are not limited to, the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.

2. LUP Termination of Coverage Requirements

The LRP shall file an NOT through the State Water Board's SMARTS system. By submitting an NOT, the LRP is certifying that construction activities for an LUP are complete and that the project is in full compliance with requirements of this General Permit and that it is now compliant with soil stabilization requirements where appropriate. Upon approval by the appropriate Regional Water Board office, permit coverage will be terminated.

3. Revising Coverage for Change of Acreage

When the LRP of a portion of an LUP construction project changes, or when a phase within a multi-phase project is completed, the LRP may reduce the total acreage covered by this General Permit. In reducing the acreage covered by this General Permit, the LRP shall electronically file revisions to the PRDs that include:

a. a revised NOI indicating the new project size;

b. a revised site map showing the acreage of the project completed, acreage currently under construction, acreage sold, transferred or added, and acreage currently stabilized.

c. SWPPP revisions, as appropriate; and

d. certification that any new LRPs have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address (if known) of the new LRP.

If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

D. DISCHARGE PROHIBITIONS

1. LUP dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.

2. LUP dischargers are prohibited from discharging non-storm water that is not otherwise authorized by this General Permit. Non-storm water discharges authorized by this General Permit[3] may include, fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, street cleaning, dewatering,[4] uncontaminated groundwater from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. Such discharges are allowed by this General Permit provided they are not relied upon to clean up failed or inadequate construction or post-construction BMPs designed to keep materials on site. These authorized non-storm water discharges:

[3] Dischargers must identify all authorized non-storm water discharges in the LUP's SWPPP and identify BMPs that will be implemented to either eliminate or reduce pollutants in non-storm water discharges. Regional Water Boards may direct the discharger to discontinue discharging such non-storm water discharges if determined that such discharges discharge significant pollutants or threaten water quality.
[4] Dewatering activities may be prohibited or need coverage under a separate permit issued by the Regional Water Boards. Dischargers shall check with the appropriate Regional Water Boards for any required permit or basin plan conditions prior to initial dewatering activities to land, storm drains, or waterbodies.

a. Shall not cause or contribute to a violation of any water quality standard;

b. Shall not violate any other provision of this General Permit;

c. Shall not violate any applicable Basin Plan;

d. Shall comply with BMPs as described in the SWPPP;

e. Shall not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;

f. Shall be monitored and meets the applicable NALs; and

g. Shall be reported by the discharger in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not authorized by this General Permit to determine the need for a separate NPDES permit.

Additionally, some LUP dischargers may be required to obtain a separate permit if the applicable Regional Water Board has adopted a General Permit for dewatering discharges. Wherever feasible, alternatives, that do not result in the discharge of non-storm water, shall be implemented in accordance with this Attachment's Section K.2 - SWPPP Implementation Schedule.

3. LUP dischargers shall ensure that trench spoils or any other soils disturbed during construction activities that are contaminated[5] are not discharged with storm water or non-storm water discharges into any storm drain or water body except pursuant to an NPDES permit.

When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the LUP discharger shall have those soils sampled and tested to ensure that proper handling and public safety measures are

[5] Contaminated soil contains pollutants in concentrations that exceed the appropriate thresholds that various regulatory agencies set for those substances. Preliminary testing of potentially contaminated soils will be based on odor, soil discoloration, or prior history of the site's chemical use and storage and other similar factors. When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The legally responsible person will notify the appropriate local, State, or federal agency(ies) when contaminated soil is found at a construction site, and will notify the Regional Water Board by submitting an NOT at the completion of the project.

implemented. The LUP discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

4. Discharging any pollutant-laden water that will cause or contribute to an exceedance of the applicable Regional Water Board's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain is prohibited.

5. Debris[6] resulting from construction activities are prohibited from being discharged from construction project sites.

E. SPECIAL PROVISIONS

1. Duty to Comply

a. The LUP discharger must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

b. The LUP discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

a. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

[6] Litter, rubble, discarded refuse, and remains of something destroyed.

b. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an LUP discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The LUP discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The LUP discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit and with the requirements of the Storm Water Pollution Prevention Plan (SWPPP). Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

7. Duty to Maintain Records and Provide Information

a. The LUP discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be kept at the construction site or in a crew

member's vehicle until construction is completed, and shall be made available upon request.

b. The LUP discharger shall furnish the Regional Water Board, State Water Board, or USEPA, within a reasonable time, any requested information to determine compliance with this General Permit. The LUP discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

8. Inspection and Entry

The LUP discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

b. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

9. Electronic Signature and Certification Requirements

a. All Permit Registration Documents (PRDs) and Notices of Termination (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP), as defined in Appendix 5 – Glossary, or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory, as defined in Appendix 5 - Glossary) must submit all information electronically via SMARTS.

b. Changes to Authorization. If an Approved Signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or

together with any reports, information or applications to be signed by an Approved Signatory.

c. All SWPPP revisions, annual reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, USEPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's Approved Signatory.

10. Certification

Any person signing documents under Section E.9 above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Anticipated Noncompliance

The LUP discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

12. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the LUP discharger is or may be subject to under Section 311 of the CWA.

14. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

15. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $37,500[7] per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

17. Transfers

This General Permit is not transferable. A new LRP of an ongoing construction activity must submit PRDs in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit. An LRP who is a property owner with active General Permit coverage who sells a fraction or all the land shall inform the new property owner(s) of the requirements of this General Permit.

18. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those

[7] May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act

dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

F. EFFLUENT STANDARDS & RECEIVING WATER MONITORING

1. Narrative Effluent Limitations

a. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges regulated by this General Permit do not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

b. LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of structural or non-structural controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

Table 1. Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level
pH	Field test with calibrated portable instrument	LUP Type 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5
		LUP Type 3			lower NAL = 6.5 upper NAL = 8.5
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	LUP Type 2	1	NTU	250 NTU
		LUP Type 3			250 NTU

2. Numeric Action Levels (NALs)

a. For LUP Type 2 and 3 dischargers, the lower storm event daily average NAL for pH is 6.5 pH units and the upper storm event daily average NAL for pH is 8.5 pH units. The LUP discharger shall take actions as described below if the storm event daily average discharge is outside of this range of pH values.

b. For LUP Type 2 and 3 dischargers, the storm event daily average NAL for turbidity is 250 NTU. The discharger shall take actions as described below if the storm event daily average discharge is outside of this range of turbidity values.

c. Whenever daily average analytical effluent monitoring results indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the LUP discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL exceedance and shall immediately implement corrective actions if they are needed.

d. The site evaluation will be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:

i Are related to the construction activities and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

AND/OR:

ii Are related to the run-on associated with the construction site location and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) decide what corrective action(s) were taken or will be taken, including a description of the schedule for completion.

3. Receiving Water Monitoring Triggers

a. The receiving water monitoring triggers for LUP Type 3 dischargers with direct discharges to surface waters are triggered when the daily average effluent pH values during any site phase when there is a high risk of pH discharge[8] fall outside of the range of 6.0 and 9.0 pH units, or when the daily average effluent turbidity exceeds 500 NTU.

b. LUP Type 3 dischargers with direct discharges to surface waters shall conduct receiving water monitoring whenever their effluent monitoring results exceed the receiving water monitoring triggers. If the pH trigger is exceeded, the receiving water shall be monitored for pH for the duration of coverage under this General Permit. If the turbidity trigger is exceeded, the receiving water shall be monitored for turbidity and SSC for the duration of coverage under this General Permit.

c. LUP Type 3 dischargers with direct discharges to surfaces waters shall initiate receiving water monitoring when the triggers are exceeded unless the storm event causing the exceedance is determined after the fact to equal to or greater than the 5-year 24-hour storm (expressed in inches of rainfall) as determined by using these maps:

   http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif
   http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif

   Verification of the 5-year 24-hour storm event shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.

d. If run-on is caused by a forest fire or any other natural disaster, then receiving water monitoring triggers do not apply.

G. RECEIVING WATER LIMITATIONS

1. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.

2. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

3. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or

[8] A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).

H. TRAINING QUALIFICATIONS

1. General

All persons responsible for implementing requirements of this General Permit shall be appropriately trained. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Persons responsible for preparing, amending and certifying SWPPPs shall comply with the requirements in this Section H.

2. SWPPP Certification Requirements

a. **Qualified SWPPP Developer:** The LUP discharger shall ensure that all SWPPPs be written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:

i A California registered professional civil engineer;

ii A California registered professional geologist or engineering geologist;

iii A California registered landscape architect;

iv A professional hydrologist registered through the American Institute of Hydrology;

v A certified professional in erosion and sediment control (CPESC) ™ registered through Enviro Cert International, Inc;

vi A certified professional in storm water quality (CPSWQ)™ registered through Enviro Cert International, Inc.; or

vii A certified professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET).

Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

b. The LUP discharger shall ensure that the SWPPP is written and amended, as needed, to address the specific circumstances for each construction site covered by this General Permit prior to commencement of construction activity for any stage.

c. The LUP discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.

d. **Qualified SWPPP Practitioner:** The LUP discharger shall ensure that all elements of any SWPPP for each project will be implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis, and for ensuring full compliance with the permit and implementation of all elements of the SWPPP. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:

   i A certified erosion, sediment and storm water inspector registered through Certified Professional in Erosion and Sediment Control, Inc.; or

   ii A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

   Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

e. The LUP discharger shall ensure that the SWPPP include a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner, and who is ultimately responsible for implementation of the SWPPP. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.

f. The LUP discharger shall ensure that the SWPPP and each amendment be signed by the Qualified SWPPP Developer. The LUP discharger shall include a listing of the date of initial preparation and the dates of each amendment in the SWPPP.

I. TYPES OF LINEAR PROJECTS

This attachment establishes three types (Type 1, 2 & 3) of complexity for areas within an LUP or project section based on threat to water quality. Project area Types are determined through Attachment A.1.

The Type 1 requirements below establish the baseline requirements for all LUPs subject to this General Permit. Additional requirements for Type 2 and Type 3 LUPs are labeled.

1. Type 1 LUPs*:*

LUP dischargers with areas of a LUP designated as Type 1 shall comply with the requirements in this Attachment. Type 1 LUPs are:

a. Those construction areas where 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day; or

b. Where greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:

   i Areas disturbed during construction will be returned to preconstruction conditions or equivalent protection is established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and

   ii Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization BMPs will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.

c. Where the risk determination is as follows:

   i Low sediment risk, low receiving water risk, or

   ii Low sediment risk, medium receiving water risk, or

   iii Medium sediment risk, low receiving water risk

2. Type 2 LUPs:

Type 2 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 2 LUPs have the specified combination of risk:

d. High sediment risk, low receiving water risk, or

e. Medium sediment risk, medium receiving water risk, or

f. Low sediment risk, high receiving water risk

Receiving water risk is either considered "Low" for those areas of the project that are not in close proximity to a sensitive receiving watershed, "Medium" for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, and "High" where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C of this General Permit.

3. Type 3 LUPs:

Type 3 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 3 LUPs have the specified combination of risk:

a. High sediment risk, high receiving water risk, or

b. High sediment risk, medium receiving water risk, or

c. Medium sediment risk, high receiving water risk

Receiving water risk is either considered "Medium" for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, or "High" where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C.

J. LUP TYPE-SPECIFIC REQUIREMENTS

1. Effluent Standards

a. Narrative – LUP dischargers shall comply with the narrative effluent standards below.

i Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

ii LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

b. Numeric – LUP Type 1 dischargers are not subject to a numeric effluent standard

c. Numeric –LUP Type 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

d. Numeric – LUP Type 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

2. Good Site Management "Housekeeping"

a. LUP dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, the good housekeeping measures shall consist of the following:

i Identify the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

ii Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

iii Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

iv Minimize exposure of construction materials to precipitation (not applicable to materials designed to be outdoors and exposed to the environment).

v Implement BMPs to control the off-site tracking of loose construction and landscape materials.

b. LUP dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

i Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

ii Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

iii Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

iv Cover waste disposal containers at the end of every business day and during a rain event.

v Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

vi Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

vii Implement procedures that effectively address hazardous and non-hazardous spills.

viii Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

(1) Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

(2) Appropriate spill response personnel are assigned and trained.

ix Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

c. LUP dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   i Prevent oil, grease, or fuel from leaking into the ground, storm drains or surface waters.

   ii Implement appropriate BMPs whenever equipment or vehicles are fueled, maintained or stored.

   iii Clean leaks immediately and disposing of leaked materials properly.

d. LUP dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   i Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   ii Contain fertilizers and other landscape materials when they are not actively being used.

   iii Discontinue the application of any erodible landscape material at least 2 days before a forecasted rain event[9] or during periods of precipitation.

   iv Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   v Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.

e. LUP dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, LUP dischargers shall do the following:

[9] 50% or greater chance of producing precipitation.

i Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

ii Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

iii Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

iv Ensure retention of sampling, visual observation, and inspection records.

v Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

f. LUP dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations.

3. Non-Storm Water Management

a. LUP dischargers shall implement measures to control all non-storm water discharges during construction.

b. LUP dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

c. LUP dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

4. Erosion Control

a. LUP dischargers shall implement effective wind erosion control.

b. LUP dischargers shall provide effective soil cover for inactive[10] areas and all finished slopes, and utility backfill.

[10] Areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days

c. LUP dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

5. Sediment Controls

a. LUP dischargers shall establish and maintain effective perimeter controls as needed, and implement effective BMPs for all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

b. On sites where sediment basins are to be used, LUP dischargers shall, at minimum, design sediment basins according to the guidance provided in CASQA's Construction BMP Handbook.

c. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[11] in accordance with Table 2 below.

Table 2 – Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

d. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent off-site tracking of sediment.

e. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

f. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall inspect all immediate access roads. At a minimum daily and prior to any rain event, the discharger shall remove any

[11] Sheet flow length is the length that shallow, low velocity flow travels across a site.

sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

g. **Additional LUP Type 3 Requirement:** The Regional Water Board may require LUP Type 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

6. Run-on and Run-off Controls

a. LUP dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site-shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this Attachment.

b. Run-on and runoff controls are not required for Type 1 LUPs unless the evaluation of quantity and quality of run-on and runoff deems them necessary or visual inspections show that the site requires such controls.

7. Inspection, Maintenance and Repair

a. All inspection, maintenance repair and sampling activities at the discharger's LUP location shall be performed or supervised by a QSP representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.

b. LUP dischargers shall conduct visual inspections and observations daily during working hours (not recorded). At least once each 24-hour period during extended storm events, **LUP Type 2 & 3 dischargers** shall conduct visual inspections to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

c. Upon identifying failures or other shortcomings, as directed by the QSP, LUP dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

d. For each pre- and post-rain event inspection required, LUP dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format that includes the information described below.

e. The LUP discharger shall ensure that the checklist remains on-site or with the SWPPP. At a minimum, an inspection checklist should include:

i Inspection date and date the inspection report was written.

ii Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

iii Site information, including stage of construction, activities completed, and approximate area of the site exposed.

iv A description of any BMPs evaluated and any deficiencies noted.

v If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

vi Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

vii Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

viii Photographs taken during the inspection, if any.

ix Inspector's name, title, and signature.

K. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS

1. Objectives

SWPPPs for all LUPs shall be developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:

a. All pollutants and their sources, including sources of sediment, associated with construction activities associated with LUP activity are controlled;

b. All non-storm water discharges are identified and either eliminated, controlled, or treated;

c. BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from LUPs during construction; and

d. Stabilization BMPs installed to reduce or eliminate pollutants after construction is completed are effective and maintained.

2. SWPPP Implementation Schedule

a. LUPs for which PRDs have been submitted to the State Water Board shall develop a site/project location SWPPP prior to the start of land-disturbing activity in accordance with this Section and shall implement the SWPPP concurrently with commencement of soil-disturbing activities.

b. For an ongoing LUP involving a change in the LRP, the new LRP shall review the existing SWPPP and amend it, if necessary, or develop a new SWPPP within 15 calendar days to conform to the requirements set forth in this General Permit.

3. Availability

The SWPPP shall be available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

L. REGIONAL WATER BOARD AUTHORITIES

1. Regional Water Boards shall administer the provisions of this General Permit. Administration of this General Permit may include, but is not limited to, requesting the submittal of SWPPPs, reviewing SWPPPs, reviewing monitoring and sampling and analysis reports, conducting compliance inspections, gathering site information by any medium including sampling, photo and video documentation, and taking enforcement actions.

2. Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.

3. Regional Water Boards may issue separate permits for discharges of storm water associated with construction activity to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a Regional Water Board, dischargers subject to those permits shall no longer be regulated by this General Permit.

4. Regional Water Boards may direct the discharger to reevaluate the LUP Type(s) for the project (or elements/areas of the project) and impose the appropriate level of requirements.

5. Regional Water Boards may terminate coverage under this General Permit for dischargers who negligently or with willful intent incorrectly determine or report their LUP Type (e.g., they determine themselves to be a LUP Type 1 when they are actually a Type 2).

6. Regional Water Boards may review PRDs and reject or accept applications for permit coverage or may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.

7. Regional Water Boards may impose additional requirements on dischargers to satisfy TMDL implementation requirements or to satisfy provisions in their Basin Plans.

8. Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.

9. Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

10. Based on an LUP's threat to water quality and complexity, the Regional Water Board may determine on a case-by-case basis that an LUP, or a portion of an LUP, is not eligible for the linear project requirements contained in this Attachment, and require that the discharger comply with all standard requirements in this General Permit.

11. The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

M. MONITORING AND REPORTING REQUIREMENTS

Table 3. LUP Summary of Monitoring Requirements

LUP Type	Visual Inspections				Sample Collection		
	Daily Site BMP	Pre-storm Event / Baseline	Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water	Non-Visible (when applicable)
1	X						X
2	X	X	X	X	X		X
3	X	X	X	X	X	X	X

1. Objectives

LUP dischargers shall prepare a monitoring and reporting program (M&RP) prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The M&RP must be a part of the SWPPP, included as an appendix or separate SWPPP chapter.

2. M&RP Implementation Schedule

a. LUP dischargers shall implement the requirements of this Section at the time of commencement of construction activity. LUP dischargers are responsible for implementing these requirements until construction activity is complete and the site is stabilized.

b. LUP dischargers shall revise the M&RP when:

i Site conditions or construction activities change such that a change in monitoring is required to comply with the requirements and intent of this General Permit.

ii The Regional Water Board requires the discharger to revise its M&RP based on its review of the document. Revisions may include, but not be limited to, conducting additional site inspections, submitting reports, and certifications. Revisions shall be submitted via postal mail or electronic e-mail.

iii The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

3. LUP Type 1 Monitoring and Reporting Requirements

a. LUP Type 1 Inspection Requirements

i LUP Type 1 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.

ii LUP Type 1 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.

iii LUP Type 1 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.

iv LUP Type 1 dischargers shall conduct daily visual inspections to verify that:

(1) Appropriate BMPs for storm water and non-storm water are being implemented in areas where active construction is occurring (including staging areas);

(2) Project excavations are closed, with properly protected spoils, and that road surfaces are cleaned of excavated material and construction materials such as chemicals by either removing or storing the material in protective storage containers at the end of every construction day;

(3) Land areas disturbed during construction are returned to pre-construction conditions or an equivalent protection is used at the end of each workday to eliminate or minimize erosion and the possible discharge of sediment or other pollutants during a rain event.

v Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures

are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).

vi Inspection programs are required for LUP Type 1 projects where temporary and permanent stabilization BMPs are installed and are to be monitored after active construction is completed. Inspection activities shall continue until adequate permanent stabilization is established and, in areas where re-vegetation is chosen, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.

b. LUP Type 1 Monitoring Requirements for Non-Visible Pollutants

LUP Type 1 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

i Sampling and analysis for non-visible pollutants is only required where the LUP Type 1 discharger believes pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.

(1) Visual observations made during the monitoring program described above will help the LUP Type 1 discharger determine when to collect samples.

(2) The LUP Type 1 discharger is not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.

ii LUP Type 1 dischargers shall collect samples down-gradient from all discharge locations where the visual observations were made triggering the monitoring, and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.

iii If sampling for non-visible pollutant parameters is required, LUP Type 1 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.

iv LUP Type 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

v LUP Type 1 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample[12]) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

vi LUP Type 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).

vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 1 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification.

viii LUP Type 1 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.

c. <u>LUP Type 1 Visual Observation Exceptions</u>

i LUP Type 1 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. The Type 1 LUP discharger is not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

(1) During dangerous weather conditions such as flooding and electrical storms;

(2) Outside of scheduled site business hours.

(3) When access to the site is unsafe due to storm events.

[12] Sample collected at a location unaffected by contruction activities.

ii If the LUP Type 1 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.

d. Particle Size Analysis for Risk Justification

LUP Type 1 dischargers utilizing justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

4. LUP Type 2 & 3 Monitoring and Reporting Requirements

a. LUP Type 2 & 3 Inspection Requirements

i LUP Type 2 & 3 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.

ii LUP Type 2 & 3 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.

iii LUP Type 2 & 3 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.

iv LUP Type 2 & 3 dischargers shall conduct daily visual inspections to verify that appropriate BMPs for storm water and non-storm water are being implemented and in place in areas where active construction is occurring (including staging areas).

v LUP Type 2 & 3 dischargers shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that BMPs have functioned adequately. During

extended storm events, inspections shall be required during normal working hours for each 24-hour period.

vi Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).

vii LUP Type 2 & 3 dischargers shall implement a monitoring program for inspecting projects that require temporary and permanent stabilization BMPs after active construction is complete. Inspections shall ensure that the BMPs are adequate and maintained. Inspection activities shall continue until adequate permanent stabilization is established and, in vegetated areas, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.

viii If possible, LUP Type 2 & 3 dischargers shall install a rain gauge on-site at an accessible and secure location with readings made during all storm event inspections. When readings are unavailable, data from the closest rain gauge with publically available data may be used.

ix LUP Type 2 & 3 dischargers shall Include and maintain a log of the inspections conducted in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection.

b. LUP Type 2 & 3 Storm Water Effluent Monitoring Requirements

Table 4. LUP Type 2 & 3 Effluent Monitoring Requirements

LUP Type	Frequency	Effluent Monitoring
2	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	Turbidity, pH, and non-visible pollutant parameters (if applicable)
3	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	turbidity, pH, and non-visible pollutant parameters (if applicable)

i LUP Type 2 & 3 dischargers shall collect storm water grab samples from sampling locations characterizing discharges associated with activity from the LUP active areas of construction. At a minimum, 3 samples shall be collected per day of discharge.

ii LUP Type 2 & 3 dischargers shall collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.

iii LUP Type 2 & 3 dischargers shall ensure that storm water grab sample(s) obtained be representative of the flow and characteristics of the discharge.

iv LUP Type 2 & 3 dischargers shall analyze their effluent samples for:

(1) pH and turbidity
(2) Any additional parameter for which monitoring is required by the Regional Water Board.

c. LUP Type 2 & 3 Storm Water Effluent Sampling Locations

i LUP Type 2 & 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire disturbed project or area.

ii LUP Type 2 & 3 dischargers may monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to exceedance of NALs.

iii LUP Type 2 & 3 dischargers shall select analytical test methods from the list provided in Table 5 below.

iv LUP Type 2 & 3 dischargers shall ensure that all storm water sample collection preservation and handling shall be conducted in accordance with the “Storm Water Sample Collection and Handling Instructions” below.

d. LUP Type 3 Receiving Water Monitoring Requirements

i In the event that an LUP Type 3 discharger’s effluent exceeds the receiving water monitoring triggers of 500 NTU turbidity or pH range of 6.0-9.0, contained in this General Permit and has a direct discharge to receiving waters, the LUP discharger shall subsequently sample Receiving Waters (RWs) for turbidity, pH (if applicable) and SSC for the duration of coverage under this General Permit. In the event that an LUP Tupe 3 discharger utilizing ATS with direct discharges into receiving waters discharges effluent that exceeds the NELs in this permit, the discharger shall

subsequently sample RWs for turbidity, pH (if applicable), and SSC for the duration of coverage under this General Permit.

ii LUP Type 3 dischargers that meet the project criteria in Appendix 3 of this General Permit and have more than 30 acres of soil disturbance in the project area or project section area designated as Type 3, shall comply with the Bioassessment requirements prior to commencement of construction activity.

iii LUP Type 3 dischargers shall obtain RW samples in accordance with the requirements of the Receiving Water Sampling Locations section (Section M.4.c. of this Attachment).

e. LUP Type 3 Receiving Water Sampling Locations

i **Upstream/up-gradient RW samples**: LUP Type 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible to and upstream from the effluent discharge point.

ii **Downstream/down-gradient RW samples**: LUP Type 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible to and downstream from the effluent discharge point.

iii If two or more discharge locations discharge to the same receiving water, LUP Type 3 dischargers may sample the receiving water at a single upstream and downstream location.

f. LUP Type 2 & 3 Monitoring Requirements for Non-Visible Pollutants

LUP Type 2 & 3 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

i Sampling and analysis for non-visible pollutants is only required where LUP Type 2 & 3 dischargers believe pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.

(1) Visual observations made during the monitoring program described above will help LUP Type 2 & 3 dischargers determine when to collect samples.

(2) LUP Type 2 & 3 dischargers are not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.

ii LUP Type 2 & 3 dischargers shall collect samples down-gradient from the discharge locations where the visual observations were made triggering the monitoring and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.

iii If sampling for non-visible pollutant parameters is required, LUP Type 2 & 3 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.

iv LUP Type 2 & 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

v LUP Type 2 & 3 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample[13]) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

vi LUP Type 2 & 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).

vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 2 & 3 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed.

[13] Sample collected at a location unaffected by construction activities

Portable meters shall be calibrated according to manufacturer's specification.

viii LUP Type 2 & 3 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.

g. LUP Type 2 & 3 Visual Observation and Sample Collection Exceptions

i LUP Type 2 & 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. Type 2 & 3 LUP dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

(1) During dangerous weather conditions such as flooding and electrical storms;

(2) Outside of scheduled site business hours.

(3) When access to the site is unsafe due to storm events.

ii If the LUP Type 2 or 3 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.

h. LUP Type 2 & 3 Storm Water Sample Collection and Handling Instructions

LUP Type 2 & 3 dischargers shall refer to Table 5 below for test Methods, detection Limits, and reporting Units. During storm water sample collection and handling, the LUP Type 2 & 3 discharger shall:

i Identify the parameters required for testing and the number of storm water discharge points that will be sampled. Request the laboratory to provide the appropriate number of sample containers, types of containers, sample container labels, blank chain of custody forms, and sample preservation instructions.

ii Determine how to ship the samples to the laboratory. The testing laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory). The options are to either deliver the samples to the laboratory, arrange to have the laboratory pick them up, or ship them overnight to the laboratory.

iii Use only the sample containers provided by the laboratory to collect and store samples. Use of any other type of containers could contaminate your samples.

iv Prevent sample contamination, by not touching, or putting anything into the sample containers before collecting storm water samples.

v Not overfilling sample containers. Overfilling can change the analytical results.

vi Tightly screw the cap of each sample container without stripping the threads of the cap.

vii Complete and attach a label to each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.

viii Carefully pack sample containers into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment. Remember to place frozen ice packs into the shipping container. Samples should be kept as close to 4° C (39° F) as possible until arriving at the laboratory. Do not freeze samples.

ix Complete a Chain of Custody form for each set of samples. The Chain of Custody form shall include the discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, and the analysis that is required for each sample container.

x Upon shipping/delivering the sample containers, obtain both the signatures of the persons relinquishing and receiving the sample containers.

xi Designate and train personnel to collect, maintain, and ship samples in accordance with the above sample protocols and good laboratory practices.

xii Refer to the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP) for more

information on sampling collection and analysis. See http://www.waterboards.ca.gov/water_issues/programs/swamp/[14]

Table 5. Test Methods, Detection Limits, Reporting Units and Applicable NALs

Parameter	Test Method	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Levels	(LUP Type 3) Receiving Water Monitoring Trigger
pH	Field test with calibrated portable instrument	Type 2 & 3	0.2	pH units	Lower = 6.5 upper = 8.5	Lower = 6.0 upper = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Type 2 & 3	1	NTU	250 NTU	500 NTU
SSC	ASTM Method D 3977-97[15]	Type 3 if Receiving Water Monitoring Trigger is exceeded	5	Mg/L	N/A	N/A
Bioassessment	(STE) Level I of (SAFIT),[16] fixed-count of 600 org/sample	Type 3 LUPs > 30 acres	N/A	N/A	N/A	N/A

i. LUP Type 2 & 3 Monitoring Methods

i The LUP Type 2 or 3 discharger's project M&RP shall include a description of the following items:

(1) Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

[14] Additional information regarding SWAMP's QAPrP can be found at: http://www.waterboards.ca.gov/water_issues/programs/swamp/.

[15] ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394

[16] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

(2) Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program a copy of the Chain of Custody form used when handling and shipping samples.

(3) Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section M.4.f above.

ii LUP Type 2 & 3 dischargers shall ensure that all sampling and sample preservation be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses shall be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses shall be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). The LUP discharger shall conduct its own field analysis of pH and may conduct its own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

j. LUP Type 2 & 3 Analytical Methods

LUP Type 2 & 3 dischargers shall refer to Table 5 above for test Methods, detection Limits, and reporting Units.

i **pH**: LUP Type 2 & 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or pH test kit. The LUP discharger shall record pH monitoring results on paper and retain these records in accordance with Section M.4.o, below.

ii **Turbidity**: LUP Type 2 & 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results shall

be recorded in the site log book in Nephelometric Turbidity Units (NTU).

iii **Suspended sediment concentration (SSC)**: LUP Type 3 dischargers exceeding the turbidity Receiving Water Monitoring Trigger, shall perform SSC analysis using ASTM Method D3977-97.

iv **Bioassessment**: LUP Type 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

k. Watershed Monitoring Option

If an LUP Type 2 or 3 discharger is part of a qualified regional watershed-based monitoring program the LUP Type 2 or 3 discharger may be eligible for relief from the monitoring requirements in this Attachment. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program if it determines that the watershed-based monitoring program will provide information to determine each discharger's compliance with the requirements of this General Permit.

l. Particle Size Analysis for Risk Justification

LUP Type 2 & 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

m. NAL Exceedance Report

i In the event that any effluent sample exceeds an applicable NAL, the Regional Water Boards may require LUP Type 2 & 3 dischargers to submit NAL Exceedance Reports.

ii LUP Type 2 & 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.

iii LUP Type 2 & 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the exceedance report is filed.

iv LUP Type 2 & 3 dischargers shall include in the NAL Exceedance Report:

(1) the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit"); and
(2) the date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.
(3) Description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

n. Monitoring Records

LUP Type 2 & 3 dischargers shall ensure that records of all storm water monitoring information and copies of all reports (including Annual Reports) required by this General Permit be retained for a period of at least three years. LUP Type 2 & 3 dischargers may retain records off-site and make them available upon request. These records shall include:

i The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge);

ii The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements;

iii The date and approximate time of analyses;

iv The individual(s) who performed the analyses;

v A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and all chain of custody forms;

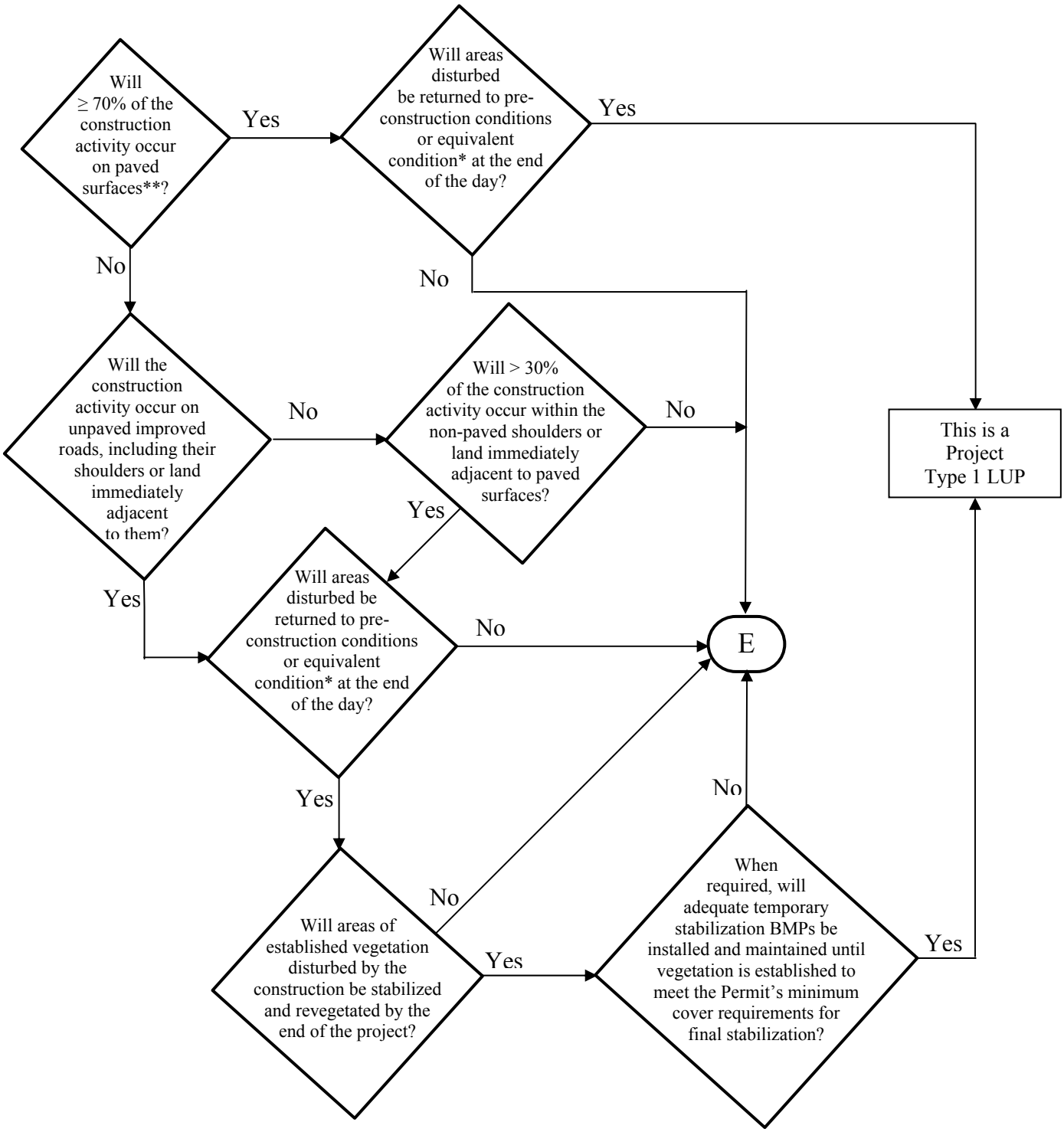
vi Quality assurance/quality control records and results;

vii Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Section M.4.a above);

viii Visual observation and sample collection exception records (see Section M.4.g above); and

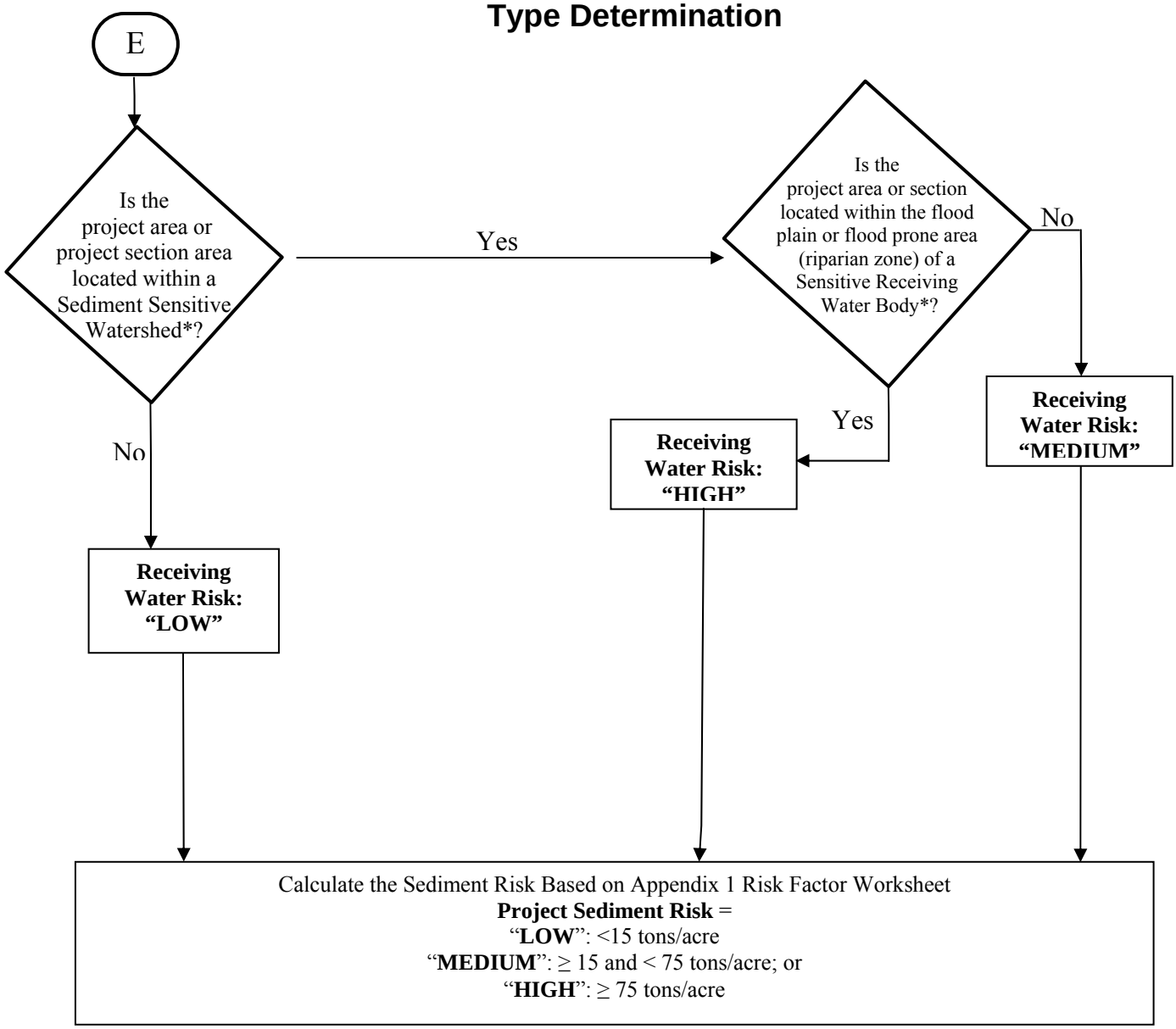
ix The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

ATTACHMENT A.1
LUP Project Area or Project Section Area Type Determination



*See Definition of Terms
** Or: "Will < 30% of the soil disturbance occur on unpaved surfaces?

ATTACHMENT A.1
LUP Project Area or Project Section Area Type Determination



* See Definition of Terms

PROJECT SEDIMENT RISK

RECEIVING WATER RISK	**LOW**	**MEDIUM**	**HIGH**
LOW	Type 1	Type 1	Type 2
MEDIUM	Type 1	Type 2	Type 3
HIGH	Type 2	Type 3	Type 3

ATTACHMENT A.1
Definition of Terms

1. **Equivalent Condition** – Means disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.
2. **Linear Construction Activity** – Linear construction activity consists of underground/ overhead facilities that typically include, but are not limited to, any conveyance, pipe or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/ tower pad and cable/ wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/ borrow locations.
3. **Sediment Sensitive Receiving Water Body –** Defined as a water body segment that is listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or is designated with beneficial uses of SPAWN, MIGRATORY, and COLD.
4. **Sediment Sensitive Watershed –** Defined as a watershed draining into a receiving water body listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or a water body designated with beneficial uses of SPAWN, MIGRATORY, and COLD.

ATTACHMENT A.2
PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS FOR LINEAR UNDERGROUND/OVERHEAD PROJECTS TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT

GENERAL INSTRUCTIONS

Who Must Submit

This permit is effective on July 1, 2010.

The Legally Responsible Person (LRP) for construction activities associated with linear underground/overhead project (LUP) must electronically apply for coverage under this General Permit on or after July 1, 2010. If it is determined that the LUP construction activities require an NPDES permit, the Legally Responsible Person[1] (LRP) shall submit PRDs for this General Permit in accordance with the following:

LUPs associated with Private or Municipal Development Projects

1. For LUPs associated with pre-development and pre-redevelopment construction activities:

   The LRP must obtain coverage[2] under this General Permit for its pre-development and pre-redevelopment construction activities where the total disturbed land area of these construction activities is greater than 1 acre.

2. For LUPs associated with new development and redevelopment construction projects:

   The LRP must obtain coverage under this General Permit for LUP construction activities associated with new development and redevelopment projects where the total disturbed land area of the LUP is greater than 1 acre. Coverage under this permit is not required where the same LUP construction activities are covered by another NPDES permit.

LUPs not associated with private or municipal new development or redevelopment projects:

The LRP must obtain coverage under this General Permit on or after July 1, 2010 for its LUP construction activities where the total disturbed land area is greater than 1 acre.

PRD Submittal Requirements

Prior to the start of construction activities a LRP must submit PRDs and fees to the State Water Board for each LUP.

New and Ongoing LUPs

Dischargers of new LUPs that commence construction activities after the adoption date of this General Permit shall file PRDs prior to the commencement of construction and implement the SWPPP upon the start of construction.

[1] person possessing the title of the land on which the construction activities will occur for the regulated site
[2] obtain coverage means filing PRDs for the project.

PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

Dischargers of ongoing LUPs that are currently covered under State Water Board Order No. 2003-0007 (Small LUP General Permit) shall electronically file Permit Registration Documents no later than July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 2003-0007-DWQ will be terminated. All existing dischargers shall be exempt from the risk determination requirements in Attachment A. All existing dischargers are therefore subject to LUP Type 1 requirements regardless of their project's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the risk determination requirements in Attachment A.

Where to Apply

The Permit Registration Documents (PRDs) can be found at www.waterboards.ca.gov/water_issues/programs/stormwater/

Fees

The annual fee for storm water permits are established through the State of California Code of Regulations.

When Permit Coverage Commences

To obtain coverage under the General Permit, the LRP must include the complete PRDs and the annual fee. All PRDs deemed incomplete will be rejected with an explanation as to what is required to complete submittal. Upon receipt of complete PRDs and associated fee, each discharger will be sent a waste discharger's identification (WDID) number.

Projects and Activities Not Defined As Construction Activity

1. LUP construction activity does not include routine maintenance projects to maintain original line and grade, hydraulic capacity, or original purpose of the facility. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:

    - Maintain the original purpose of the facility, or hydraulic capacity.
    - Update existing lines[3] and facilities to comply with applicable codes, standards and regulations regardless if such projects result in increased capacity.
    - Repairing leaks.

    Routine maintenance does not include construction of new[4] lines or facilities resulting from compliance with applicable codes, standards and regulations.

[3] Update existing lines includes replacing existing lines with new materials or pipes.
[4] New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must acquire new areas, those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement, or agreement.

2. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).

3. Tie-ins conducted immediately adjacent to "energized" or "pressurized" facilities by the discharger are not considered small construction activities where all other LUP construction activities associated with the tie-in are covered by a NOI and SWPPP of a third party or municipal agency.

Calculating Land Disturbance Areas of LUPs

The total land area disturbed for LUPs is the sum of the:

- Surface areas of trenches, laterals and ancillary facilities, plus
- Area of the base of stockpiles on unpaved surfaces, plus
- Surface area of the borrow area, plus
- Areas of paved surfaces constructed for the project, plus
- Areas of new roads constructed or areas of major reconstruction to existing roads (e.g. improvements to two-track surfaces or road widening) for the sole purpose of accessing construction activities or as part of the final project, plus
- Equipment and material storage, staging, and preparation areas (laydown areas) not on paved surfaces, plus
- Soil areas outside the surface area of trenches, laterals and ancillary facilities that will be graded, and/or disturbed by the use of construction equipment, vehicles and machinery during construction activities.

Stockpiling Areas

Stockpiling areas, borrow areas and the removal of soils from a construction site may or may not be included when calculating the area of disturbed soil for a site depending on the following conditions:

- For stockpiling of soils onsite or immediately adjacent to a LUP site and the stockpile is not on a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation.

- The surface area of borrow areas that are onsite or immediately adjacent to a project site are to be included in the disturbed area calculation.

- For soil that is hauled offsite to a location owned or operated by the discharger that is not a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.

PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

- For soil that is brought to the project from an off-site location owned or operated by the discharger the surface area of the borrow pit is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.

- Trench spoils on a paved surface that are either returned to the trench or excavation or hauled away from the project daily for disposal or reuse will not be included in the disturbed area calculation.

If you have any questions concerning submittal of PRDs, please call the State Water Board at (866) 563-3107.

ATTACHMENT B
PERMIT REGISTRATION DOCUMENTS (PRDs) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

A. All Linear Construction Projects shall comply with the PRD requirements in Attachment A.2 of this Order.

B. Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of one acre or more of land must apply for coverage under the General Construction Storm Water Permit (General Permit). Any construction activity that is a part of a larger common plan of development or sale must also be permitted, regardless of size. (For example, if 0.5 acre of a 20-acre subdivision is disturbed by the construction activities of discharger A and the remaining 19.5 acres is to be developed by discharger B, discharger A must obtain a General Storm Water Permit for the 0.5 acre project).

Other discharges from construction activities that are covered under this General Permit can be found in the General Permit Section II.B.

It is the LRP's responsibility to obtain coverage under this General Permit by electronically submitting complete PRDs (Permit Registration Documents).

In all cases, the proper procedures for submitting the PRDs must be completed before construction can commence.

C. Construction Activity Not Covered By This General Permit

Discharges from construction that are not covered under this General Permit can be found in the General Permit Sections II.A &B..

D. Annual Fees and Fee Calculation

Annual fees are calculated based upon the total area of land to be disturbed not the total size of the acreage owned. However, the calculation includes all acres to be disturbed during the duration of the project. For example, if 10 acres are scheduled to be disturbed the first year and 10 in each subsequent year for 5 years, the annual fees would be based upon 50 acres of disturbance. The State Water Board will evaluate adding acreage to an existing Permit Waste Discharge Identification (WDID) number on a case-by-case basis. In general, any acreage to be considered must be contiguous to the permitted land area and the existing

SWPPP must be appropriate for the construction activity and topography of the acreage under consideration. As acreage is built out and stabilized or sold, the Change of Information (COI) form enables the applicant to remove those acres from inclusion in the annual fee calculation. Checks should be made payable to: State Water Board.

The Annual fees are established through regulations adopted by the State Water Board. The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI, based on the total acreage to be disturbed during the life of the project. Annual fees are subject to change by regulation.

Dischargers that apply for and satisfy the Small Construction Erosivity Wavier requirements shall pay a fee of $200.00 plus an applicable surcharge, see the General Permit Section II.B.7.

E. When to Apply

LRP's proposing to conduct construction activities subject to this General Permit must submit their PRDs prior to the commencement of construction activity.

F. Requirements for Completing Permit Registration Documents (PRDs)

All dischargers required to comply with this General Permit shall electronically submit the required PRDs for their type of construction as defined below.

G. Standard PRD Requirements (All Dischargers)

1. Notice of Intent
2. Risk Assessment (Standard or Site-Specific)
3. Site Map
4. SWPPP
5. Annual Fee
6. Certification

H. Additional PRD Requirements Related to Construction Type

1. Discharger in unincorporated areas of the State (not covered under an adopted Phase I or II SUSMP requirements) and that are not a linear project shall also submit a completed:
   a. Post-Construction Water Balance Calculator (Appendix 2).

2. Dischargers who are proposing to implement ATS shall submit:
   a. Complete ATS Plan in accordance with Attachment F at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation.

b. Certification proof that design done by a professional in accordance with Attachment F.

3. Dischargers who are proposing an alternate Risk Justification:
   a. Particle Size Analysis.

I. Exceptions to Standard PRD Requirements

Construction sites with an R value less than 5 as determined in the Risk Assessment are not required to submit a SWPPP.

J. Description of PRDs

1. Notice of Intent (NOI)

2. Site Map(s) Includes:
   a. The project's surrounding area (vicinity)
   b. Site layout
   c. Construction site boundaries
   d. Drainage areas
   e. Discharge locations
   f. Sampling locations
   g. Areas of soil disturbance (temporary or permanent)
   h. Active areas of soil disturbance (cut or fill)
   i. Locations of all runoff BMPs
   j. Locations of all erosion control BMPs
   k. Locations of all sediment control BMPs
   l. ATS location (if applicable)
   m. Locations of sensitive habitats, watercourses, or other features which are not to be disturbed
   n. Locations of all post-construction BMPs
   o. Locations of storage areas for waste, vehicles, service, loading/unloading of materials, access (entrance/exits) points to construction site, fueling, and water storage, water transfer for dust control and compaction practices

3. **SWPPPs**
   A site-specific SWPPP shall be developed by each discharger and shall be submitted with the PRDs.

4. **Risk Assessment**
   All dischargers shall use the Risk Assessment procedure as describe in the General Permit Appendix 1.

   a. The Standard Risk Assessment includes utilization of the following:
      i. Receiving water Risk Assessment interactive map

ii. EPA Rainfall Erosivity Factor Calculator Website
iii. Sediment Risk interactive map
iv. Sediment sensitive water bodies list

b. The Site-Specific Risk Assessment includes the completion of the hand calculated R value Risk Calculator

5. **Post-Construction Water Balance Calculator**
All dischargers subject to this requirement shall complete the Water Balance Calculator (in Appendix 2) in accordance with the instructions.

6. **ATS Design Document and Certification**
All dischargers using ATS must submit electronically their system design (as well as any supporting documentation) and proof that the system was designed by a qualified ATS design professional (See Attachment F).

To obtain coverage under the General Permit PRDs must be included and completed. If any of the required items are missing, the PRD submittal is considered incomplete and will be rejected. Upon receipt of a complete PRD submittal, the State Water Board will process the application package in the order received and assign a (WDID) number.

Questions?

If you have any questions on completing the PRDs please email stormwater@waterboards.ca.gov or call (866) 563-3107.

ATTACHMENT C
RISK LEVEL 1 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 1 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric – Risk Level 1 dischargers are not subject to a numeric effluent standard.

B. Good Site Management "Housekeeping"

1. Risk Level 1 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 1 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 1 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 1 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 1 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain fertilizers and other landscape materials when they are not actively being used.

   c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 1 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 1 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 1 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

C. Non-Storm Water Management

1. Risk Level 1 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 1 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 1 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 1 dischargers shall implement effective wind erosion control.

2. Risk Level 1 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Risk Level 1 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 1 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 1 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

F. Run-on and Runoff Controls

Risk Level 1 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 1 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.

2. Risk Level 1 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 1 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 1 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 1 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

   i. Inspector’s name, title, and signature.

H. Rain Event Action Plan

Not required for Risk Level 1 dischargers.

I. Risk Level 1 Monitoring and Reporting Requirements

Table 1- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
1	X	X		X	X		

1. **Construction Site Monitoring Program Requirements**

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Programs to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

   a. To demonstrate that the site is in compliance with the Discharge Prohibitions;

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and

d. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 1 - Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 1 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 1 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 1 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 1 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 1 dischargers shall visually observe (inspect):

i. All storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. All BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the discharger shall implement appropriate corrective actions.

iii. Any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in e.i and e.iii above, Risk Level 1 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 1 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 1 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 1 – Visual Observation Exemptions**

a. Risk Level 1 dischargers shall be prepared to conduct visual observation (inspections) until the minimum requirements of Section I.3 above are completed. Risk Level 1 dischargers are not required to conduct visual observation (inspections) under the following conditions:

i. During dangerous weather conditions such as flooding and electrical storms.

ii. Outside of scheduled site business hours.

b. If no required visual observations (inspections) are collected due to these exceptions, Risk Level 1 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the visual observations (inspections) were not conducted.

5. **Risk Level 1 – Monitoring Methods**

Risk Level 1 dischargers shall include a description of the visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures in the CSMP.

6. **Risk Level 1 – Non-Storm Water Discharge Monitoring Requirements**

a. Visual Monitoring Requirements:

   i. Risk Level 1 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

   ii. Risk Level 1 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

   iii. Risk Level 1 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 1 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

7. **Risk Level 1 – Non-Visible Pollutant Monitoring Requirements**

   a. Risk Level 1 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

   b. Risk Level 1 dischargers shall ensure that water samples are large enough to characterize the site conditions.

   c. Risk Level 1 dischargers shall collect samples at all discharge locations that can be safely accessed.

   d. Risk Level 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

   e. Risk Level 1 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the

presence of pollutants identified in the pollutant source assessment required (Risk Level 1 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 1 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[2]

h. Risk Level 1 dischargers shall keep all field /or analytical data in the SWPPP document.

8. **Risk Level 1 – Particle Size Analysis for Project Risk Justification**

Risk Level 1 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

9. **Risk Level 1 – Records**

Risk Level 1 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 1 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

d. The individual(s) who performed the analyses.

[2] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, and the analytical techniques or methods used.

f. Rain gauge readings from site inspections.

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.6 above).

i. Visual observation and sample collection exception records (see Section I.4 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

ATTACHMENT D
RISK LEVEL 2 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 2 dischargers shall comply with the narrative effluent standards listed below:

    a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

    b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric – Risk level 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 2 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 2 dischargers shall implement the following good housekeeping measures:

    a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

    b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 2 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly.

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 2 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 2 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain all fertilizers and other landscape materials when they are not actively being used.

   c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 2 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 2 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 2 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 2 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 2 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 2 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 2 dischargers shall implement effective wind erosion control.

2. Risk Level 2 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Risk Level 2 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 2 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 2 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

3. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active[2] construction.

4. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[3] in accordance with Table 1.

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.
[2] Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage.
[3] Sheet flow length is the length that shallow, low velocity flow travels across a site.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

5. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.

6. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

F. Run-on and Run-off Controls

Risk Level 2 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 2 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).

2. Risk Level 2 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 2 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 2 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 2 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

   i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any

likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The discharger shall ensure a QSP obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

2. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).

3. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

    a. Site Address
    b. Calculated Risk Level (2 or 3)
    c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number
    d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
    e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number

4. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP include in the REAP, at a minimum, the following project phase information:

    a. Activities associated with each construction phase
    b. Trades active on the construction site during each construction phase
    c. Trade contractor information
    d. Suggested actions for each project phase

5. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:

    a. Site Address
    b. Calculated Risk Level (2 or 3)
    c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number

d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number
f. Trades active on site during Inactive Construction
g. Trade contractor information
h. Suggested actions for inactive construction sites

6. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.

7. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

I. Risk Level 2 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
2	X	X	X	X	X	X	

1. Construction Site Monitoring Program Requirements

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

   a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs).

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.

d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 2 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 2 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 2 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 2 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 2 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 2 dischargers shall visually observe (inspect):

i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.

iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in c.i and c.iii above, Risk Level 2 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 2 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 2 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 2 – Water Quality Sampling and Analysis**

a. Risk Level 2 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.

b. At minimum, Risk Level 2 dischargers shall collect 3 samples per day of the qualifying event.

c. Risk Level 2 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

<u>Storm Water Effluent Monitoring Requirements</u>

d. Risk Level 2 dischargers shall analyze their effluent samples for:

i. pH and turbidity.

ii. Any additional parameters for which monitoring is required by the Regional Water Board.

5. **Risk Level 2 – Storm Water Discharge Water Quality Sampling Locations**

Effluent Sampling Locations

a. Risk Level 2 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.

b. Risk Level 2 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.

c. Risk Level 2 dischargers shall ensure that storm water discharge collected and observed represent[4] the effluent in each drainage area based on visual observation of the water and upstream conditions.

d. Risk Level 2 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

e. Risk Level 2 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.

f. Risk Level 2 dischargers shall select analytical test methods from the list provided in Table 3 below.

g. All storm water sample collection preservation and handling shall be conducted in accordance with Section I.7 “Storm Water Sample Collection and Handling Instructions” below.

6. **Risk Level 2 – Visual Observation and Sample Collection Exemptions**

a. Risk Level 2 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk Level 2 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

[4] For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment-laden water even if most water flowing through the fence is clear.

i. During dangerous weather conditions such as flooding and electrical storms.

ii. Outside of scheduled site business hours.

b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 2 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

7. **Risk Level 2 – Storm Water Sample Collection and Handling Instructions**

a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. Risk Level 2 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.

c. Risk Level 2 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).[5]

8. **Risk Level 2 – Monitoring Methods**

a. Risk Level 2 dischargers shall include a description of the following items in the CSMP:

i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program

[5] Additional information regarding SWAMP's QAPrP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/. QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf.

an example Chain of Custody form used when handling and shipping samples.

iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.

b. Risk Level 2 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 2 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services. Risk Level 2 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. **Risk Level 2 – Analytical Methods**

a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. **pH**: Risk Level 2 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 2 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.

c. **Turbidity**: Risk Level 2 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).

10. **Risk Level 2 - Non-Storm Water Discharge Monitoring Requirements**

a. Visual Monitoring Requirements:

i. Risk Level 2 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

ii. Risk Level 2 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

iii. Risk Level 2 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 2 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

b. Effluent Sampling Locations:

i. Risk Level 2 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.

ii. Risk Level 2 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.

iii. Risk Level 2 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

11. **Risk Level 2 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 2 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual

inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 2 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 2 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 2 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 2 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 2 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 2 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 2 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[6]

h. Risk Level 2 dischargers shall keep all field /or analytical data in the SWPPP document.

12. **Risk Level 2 – Watershed Monitoring Option**

Risk Level 2 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

[6] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

13. **Risk Level 2 – Particle Size Analysis for Project Risk Justification**

Risk Level 2 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. **Risk Level 2 – Records**

Risk Level 2 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 2 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

d. The individual(s) who performed the analyses.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.

f. Rain gauge readings from site inspections;

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).

i. Visual observation and sample collection exception records (see Section I.6 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. **Risk Level 2 – NAL Exceedance Report**

a. In the event that any effluent sample exceeds an applicable NAL, Risk Level 2 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.

b. Risk Level 2 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.

c. Risk Level 2 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.

d. Risk Level 2 dischargers shall include in the NAL Exceedance Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”).

ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

Table 3 – Risk Level 2 Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level
pH	Field test with calibrated portable instrument	Risk Level 2 Discharges	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2 Discharges other than ATS	1	NTU	250 NTU
		For ATS discharges	1	NTU	N/A

ATTACHMENT E
RISK LEVEL 3 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 3 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric –Risk Level 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 3 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 3 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 3 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protecting stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 3 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 3 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain fertilizers and other landscape materials when they are not actively being used.

   c. Discontinuing the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 3 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 3 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 3 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 3 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 3 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 3 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 3 dischargers shall implement effective wind erosion control.

2. Risk Level 3 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 3 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 3 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

3. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active[2] construction.

4. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[3] in accordance with Table 1.

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.
[2] Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage
[3] Sheet flow length is the length that shallow, low velocity flow travels across a site.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

5. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.

6. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

8. **Additional Risk Level 3 Requirement:** The Regional Water Board may require Risk Level 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

F. Run-on and Run-off Controls

Risk Level 3 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 3 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).

2. Risk Level 3 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 3 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 3 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 3 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

    a. Inspection date and date the inspection report was written.

    b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

    c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

    d. A description of any BMPs evaluated and any deficiencies noted.

    e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

    f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

    g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

    h. Photographs taken during the inspection, if any.

i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The QSP shall obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

2. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).

3. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

   a. Site Address.
   b. Calculated Risk Level (2 or 3).
   c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
   d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
   e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.

4. **Additional Risk Level 3 Requirement:** The QSP shall include in the REAP, at a minimum, the following project phase information:

   a. Activities associated with each construction phase.
   b. Trades active on the construction site during each construction phase.
   c. Trade contractor information.
   d. Suggested actions for each project phase.

5. **Additional Risk Level 3 Requirement:** The QSP shall develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:

a. Site Address.
b. Calculated Risk Level (2 or 3).
c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.
f. Trades active on site during Inactive Construction.
g. Trade contractor information.
h. Suggested actions for inactive construction sites.

6. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.

7. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

I. Risk Level 3 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
3	X	X	X	X	X	X	X[4]

1. Construction Site Monitoring Program Requirements

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Program in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

[4] When receiving water monitoring trigger is exceeded

a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs) of this General Permit.

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.

d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 3 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 3 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 3 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 3 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 3 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 3 dischargers shall visually observe (inspect):

i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.

iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in c.i. and c.iii above, Risk Level 3 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 3 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 3 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 3 – Water Quality Sampling and Analysis**

a. Risk Level 3 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.

b. At minimum, Risk Level 3 dischargers shall collect 3 samples per day of the qualifying event.

c. Risk Level 3 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

<u>Storm Water Effluent Monitoring Requirements</u>

d. Risk Level 3 dischargers shall analyze their effluent samples for:

i. pH and turbidity.

ii. Any additional parameters for which monitoring is required by the Regional Water Board.

e. Risk 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event.

Receiving Water Monitoring Requirements

f. In the event that a Risk Level 3 discharger's effluent exceeds the daily average receiving water monitoring trigger of 500 NTU turbidity or the daily average pH range 6.0-9.0 contained in this General Permit and has a direct discharge into receiving waters, the Risk Level 3 discharger shall subsequently sample receiving waters (RWs) for turbidity, pH (if applicable), and SSC for the duration of coverage under this General Permit. If a Risk Level 3 discharger utilizing ATS with direct discharges into receiving waters discharges effluent that exceeds the NELs in this permit, the discharger shall subsequently sample RWs for turbidity, pH (if applicable), and SSC for the duration of coverage under this General Permit.

g. Risk Level 3 dischargers disturbing 30 acres or more of the landscape and with direct discharges into receiving waters shall conduct or participate in benthic macroinvertebrate bioassessment of RWs prior to commencement of construction activity (See Appendix 3).

h. Risk Level 3 dischargers shall obtain RW samples in accordance with the Receiving Water sampling location section (Section I.5), below.

5. **Risk Level 3 – Storm Water Discharge Water Quality Sampling Locations**

Effluent Sampling Locations

a. Risk Level 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.

b. Risk Level 3 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.

c. Risk Level 3 dischargers shall ensure that storm water discharge collected and observed represent[5] the effluent in each drainage area based on visual observation of the water and upstream conditions.

d. Risk Level 3 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

e. Risk Level 3 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.

f. Risk Level 3 dischargers shall select analytical test methods from the list provided in Table 3 below.

g. All storm water sample collection preservation and handling shall be conducted in accordance with Section I.7 "Storm Water Sample Collection and Handling Instructions" below.

Receiving Water Sampling Locations

h. **Upstream/up-gradient RW samples**: Risk Level 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible and upstream from the effluent discharge point.

i. **Downstream/down-gradient RW samples**: Risk Level 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible and downstream from the effluent discharge point.

j. If two or more discharge locations discharge to the same receiving water, Risk Level 3 dischargers may sample the receiving water at a single upstream and downstream location.

[5] For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment-laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment laden water even if most water flowing through the fence is clear.

6. **Risk Level 3 – Visual Observation and Sample Collection Exemptions**

   a. Risk Level 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk Level 3 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

      i. During dangerous weather conditions such as flooding and electrical storms.

      ii. Outside of scheduled site business hours.

   b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 3 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

7. **Risk Level 3 – Storm Water Sample Collection and Handling Instructions**

   a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

   b. Risk Level 3 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.

   c. Risk Level 3 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).[6]

[6] Additional information regarding SWAMP's QAPrP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/.
QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf

8. **Risk Level 3 – Monitoring Methods**

   a. Risk Level 3 dischargers shall include a description of the following items in the CSMP:

      i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

      ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program an example Chain of Custody form used when handling and shipping samples.

      iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.

   b. Risk Level 3 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 3 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). Risk Level 3 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. **Risk Level 3 – Analytical Methods**

   a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. **pH**: Risk Level 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 3 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.

c. **Turbidity**: Risk Level 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).

d. **Suspended sediment concentration (SSC)**: Risk Level 3 dischargers that exceed the turbidity Receiving Water Monitoring Trigger shall perform SSC analysis using ASTM Method D3977-97.

e. **Bioassessment**: Risk Level 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

10. **Risk Level 3 - Non-Storm Water Discharge Monitoring Requirements**

a. Visual Monitoring Requirements:

i. Risk Level 3 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

ii. Risk Level 3 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

iii. Risk Level 3 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 3 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to

reduce or prevent pollutants from contacting non-storm water discharges.

b. Effluent Sampling Locations:

i. Risk Level 3 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.

ii. Risk Level 3 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.

iii. Risk Level 3 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

11. **Risk Level 3 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 3 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 3 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 3 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 3 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 3 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 3 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[7]

h. Risk Level 3 dischargers shall keep all field /or analytical data in the SWPPP document.

12. **Risk Level 3 – Watershed Monitoring Option**

Risk Level 3 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

13. **Risk Level 3 – Particle Size Analysis for Project Risk Justification**

Risk Level 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. **Risk Level 3 – Records**

Risk Level 3 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 3 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

[7] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

d. The individual(s) who performed the analyses.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.

f. Rain gauge readings from site inspections.

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).

i. Visual observation and sample collection exception records (see Section I.6 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. **Risk Level 3 – NAL Exceedance Report**

a. Risk Level 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.

b. Risk Level 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity In this General Permit.

c. Risk Level 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.

d. Risk Level 3 dischargers shall include in the NAL Exceedance Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”).

ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

16. **Risk Level 3 – Bioassessment**

a. Risk Level 3 dischargers with a total project-related ground disturbance exceeding 30 acres shall:

i. Conduct bioassessment monitoring, as described in Appendix 3.

ii. Include the collection and reporting of specified in stream biological data and physical habitat.

iii. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).[8]

b. Risk Level 3 dischargers qualifying for bioassessment, where construction commences out of an index period for the site location shall:

i. Receive Regional Board approval for the sampling exception.

ii. Conduct bioassessment monitoring, as described in Appendix 3.

iii. Include the collection and reporting of specified instream biological data and physical habitat.

iv. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).

OR

v. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.

[8] http://www.waterboards.ca.gov/water_issues/programs/swamp/.

vi. Send a copy of the check to the Regional Water Board office for the site's region.

vii. Invest $**7,500.00 X The number of samples required** into the SWAMP program as compensation (upon regional board approval).

Table 3 – Risk Level 3 Test Methods, Detection Limits, Reporting Units and Applicable NALs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level	Numeric Effluent Limitation	Receiving Water Monitoring Trigger
pH	Field test with calibrated portable instrument	Risk Level 3 Discharges	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	N/A	lower limit = 6.0 upper limit = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 3 Discharges other than ATS	1	NTU	250 NTU	N/A	500 NTU
		For ATS discharges	1	NTU	N/A	10 NTU for Daily Weighted Average & 20 NTU for Any Single Sample	10 NTU for Daily Weighted Average & 20 NTU for Any Single Sample
SSC	ASTM Method D 3977-97[9]	Risk Level 3 (if Receiving Water Monitoring Trigger exceeded)	5	mg/L	N/A	N/A	N/A
Bioassessment	(STE) Level I of (SAFIT),[10] fixed-count of 600 org/sample	Risk Level 3 projects> 30 acres	N/A	N/A	N/A	N/A	N/A

[9] ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394.

[10] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

ATTACHMENT F:
Active Treatment System (ATS) Requirements

Table 1 – Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
Turbidity	EPA 0180.1 and/or field test with a calibrated portable instrument	For ATS discharges	1	NTU	N/A	10 NTU for Daily Flow-Weighted Average & 20 NTU for Any Single Sample

A. Dischargers choosing to implement an Active Treatment System (ATS) on their site shall comply with all of the requirements in this Attachment.

B. The discharger shall maintain a paper copy of each ATS specification onsite in compliance with the record retention requirements in the Special Provisions of this General Permit.

C. ATS Design, Operation and Submittals

1. The ATS shall be designed and approved by a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ); a California registered civil engineer; or any other California registered engineer.

2. The discharger shall ensure that the ATS is designed in a manner to preclude the accidental discharge of settled floc[1] during floc pumping or related operations.

3. The discharger shall design outlets to dissipate energy from concentrated flows.

4. The discharger shall install and operate an ATS by assigning a lead person (or project manager) who has either a minimum of five years construction storm

[1] Floc is defined as a clump of solids formed by the chemical action in ATS systems.

water experience or who is a licensed contractors specifically holding a California Class A Contractors license.[2]

5. The discharger shall prepare an ATS Plan that combines the site-specific data and treatment system information required to safely and efficiently operate an ATS. The ATS Plan shall be electronically submitted to the State Water Board at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation. At a minimum, the ATS Plan shall include:

   a. ATS Operation and Maintenance Manual for All Equipment.

   b. ATS Monitoring, Sampling & Reporting Plan, including Quality Assurance/Quality Control (QA/QC).

   c. ATS Health and Safety Plan.

   d. ATS Spill Prevention Plan.

6. The ATS shall be designed to capture and treat (within a 72-hour period) a volume equivalent to the runoff from a 10-year, 24-hour storm event using a watershed runoff coefficient of 1.0.

D. Treatment – Chemical Coagulation/Flocculation

1. Jar tests shall be conducted using water samples selected to represent typical site conditions and in accordance with ASTM D2035-08 (2003).

2. The discharger shall conduct, at minimum, six site-specific jar tests (per polymer with one test serving as a control) for each project to determine the proper polymer and dosage levels for their ATS.

3. Single field jar tests may also be conducted during a project if conditions warrant, for example if construction activities disturb changing types of soils, which consequently cause change in storm water and runoff characteristics.

E. Residual Chemical and Toxicity Requirements

1. The discharger shall utilize a residual chemical test method that has a method detection limit (MDL) of 10% or less than the maximum allowable threshold

[2] Business and Professions Code Division 3, Chapter 9, Article 4, Class A Contractor: A general engineering contractor is a contractor whose principal contracting business is in connection with fixed works requiring specialized engineering knowledge and skill. [http://www.cslb.ca.gov/General-Information/library/licensing-classifications.asp].

concentration[3] (MATC) for the specific coagulant in use and for the most sensitive species of the chemical used.

2. The discharger shall utilize a residual chemical test method that produces a result within one hour of sampling.

3. The discharger shall have a California State certified laboratory validate the selected residual chemical test. Specifically the lab will review the test protocol, test parameters, and the detection limit of the coagulant. The discharger shall electronically submit this documentation as part of the ATS Plan.

4. If the discharger cannot utilize a residual chemical test method that meets the requirements above, the discharger shall operate the ATS in Batch Treatment[4] mode.

5. A discharger planning to operate in Batch Treatment mode shall perform toxicity testing in accordance with the following:

   a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge[5]. All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.[6]

   b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas* (fathead minnow). Acute toxicity for *Oncorhynchus mykiss* (Rainbow Trout) may be used as a substitute for testing fathead minnows.

   c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.

   d. The discharger shall electronically report all acute toxicity testing.

[3] The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. A typical MATC would be:
The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

[4] Batch Treatment mode is defined as holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full.

[5] This requirement only requires that the test be initiated prior to discharge.

[6] http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

F. Filtration

1. The ATS shall include a filtration step between the coagulant treatment train and the effluent discharge. This is commonly provided by sand, bag, or cartridge filters, which are sized to capture suspended material that might pass through the clarifier tanks.

2. Differential pressure measurements shall be taken to monitor filter loading and confirm that the final filter stage is functioning properly.

G. Residuals Management

1. Sediment shall be removed from the storage or treatment cells as necessary to ensure that the cells maintain their required water storage (i.e., volume) capability.

2. Handling and disposal of all solids generated during ATS operations shall be done in accordance with all local, state, and federal laws and regulations.

H. ATS Instrumentation

1. The ATS shall be equipped with instrumentation that automatically measures and records effluent water quality data and flow rate.

2. The minimum data recorded shall be consistent with the Monitoring and Reporting requirements below, and shall include:

    a. Influent Turbidity

    b. Effluent Turbidity

    c. Influent pH

    d. Effluent pH

    e. Residual Chemical

    f. Effluent Flow rate

    g. Effluent Flow volume

3. Systems shall be equipped with a data recording system, such as data loggers or webserver-based systems, which records each measurement on a frequency no longer than once every 15 minutes.

4. Cumulative flow volume shall be recorded daily. The data recording system shall have the capacity to record a minimum of seven days continuous data.

5. Instrumentation systems shall be interfaced with system control to provide auto shutoff or recirculation in the event that effluent measurements exceed turbidity or pH.

6. The system shall also assure that upon system upset, power failure, or other catastrophic event, the ATS will default to a recirculation mode or safe shut down.

7. Instrumentation (flow meters, probes, valves, streaming current detectors, controlling computers, etc.) shall be installed and maintained per manufacturer's recommendations, which shall be included in the QA/QC plan.

8. The QA/QC plan shall also specify calibration procedures and frequencies, instrument method detection limit or sensitivity verification, laboratory duplicate procedures, and other pertinent procedures.

9. The instrumentation system shall include a method for controlling coagulant dose, to prevent potential overdosing. Available technologies include flow/turbidity proportional metering, periodic jar testing and metering pump adjustment, and ionic charge measurement controlling the metering pump.

I. ATS Effluent Discharge

1. ATS effluent shall comply with all provisions and prohibitions in this General Permit, specifically the NELs.

2. NELs for discharges from an ATS:

   a. Turbidity of all ATS discharges shall be less than 10 NTU for daily flow-weighted average of all samples and 20 NTU for any single sample.

   b. Residual Chemical shall be < 10% of MATC[7] for the most sensitive species of the chemical used.

[7] The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

3. If an analytical effluent sampling result exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General Permit and shall electronically file the results in violation within 24-hours of obtaining the results.

4. If ATS effluent is authorized to discharge into a sanitary sewer system, the discharger shall comply with any pre-treatment requirements applicable for that system. The discharger shall include any specific criteria required by the municipality in the ATS Plan.

5. Compliance Storm Event:

   Discharges of storm water from ATS shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for ATS discharges is the 10 year, 24 hour storm, as determined using these maps:

   http://www.wrcc.dri.edu/pcpnfreq/nca10y24.gif
   http://www.wrcc.dri.edu/pcpnfreq/sca10y24.gif

   This exemption is dependent on the submission of rain gauge data verifying the storm event is equal to or larger than the Compliance Storm.

J. Operation and Maintenance Plan

1. Each Project shall have a site-specific Operation and Maintenance (O&M) Manual covering the procedures required to install, operate and maintain the ATS.[8]

2. The O&M Manual shall only be used in conjunction with appropriate project-specific design specifications that describe the system configuration and operating parameters.

3. The O&M Manual shall have operating manuals for specific pumps, generators, control systems,and other equipment.

K. Sampling and Reporting Quality Assurance/ Quality Check (QA/QC) Plan

4. A project-specific QA/QC Plan shall be developed for each project. The QA/QC Plan shall include at a minimum:

   a. Calibration – Calibration methods and frequencies for all system and field instruments shall be specified.

[8] The manual is typically in a modular format covering generalized procedures for each component that is utilized in a particular system.

b. Method Detection Limits (MDLs) – The methods for determining MDLs shall be specified for each residual coagulant measurement method. Acceptable minimum MDLs for each method, specific to individual coagulants, shall be specified.

c. Laboratory Duplicates – Requirements for monthly laboratory duplicates for residual coagulant analysis shall be specified.

L. Personnel Training

1. Operators shall have training specific to using an ATS and liquid coagulants for storm water discharges in California.

2. The training shall be in the form of a formal class with a certificate and requirements for testing and certificate renewal.

3. Training shall include a minimum of eight hours classroom and 32 hours field training. The course shall cover the following topics:

   a. Coagulation Basics –Chemistry and physical processes

   b. ATS System Design and Operating Principles

   c. ATS Control Systems

   d. Coagulant Selection – Jar testing, dose determination, etc.

   e. Aquatic Safety/Toxicity of Coagulants, proper handling and safety

   f. Monitoring, Sampling, and Analysis

   g. Reporting and Recordkeeping

   h. Emergency Response

M. Active Treatment System (ATS) Monitoring Requirements

Any discharger who deploys an ATS on their site shall conduct the following:

1. Visual Monitoring

   a. A designated responsible person shall be on site daily at all times during treatment operations.

b. Daily on-site visual monitoring of the system for proper performance shall be conducted and recorded in the project data log.

   i. The log shall include the name and phone number of the person responsible for system operation and monitoring.

   ii. The log shall include documentation of the responsible person's training.

2. Operational and Compliance Monitoring

   a. Flow shall be continuously monitored and recorded at not greater than 15-minute intervals for total volume treated and discharged.

   b. Influent and effluent pH must be continuously monitored and recorded at not greater than 15-minute intervals.

   c. Influent and effluent turbidity (expressed in NTU) must be continuously monitored and recorded at not greater than 15-minute intervals.

   d. The type and amount of chemical used for pH adjustment, if any, shall be monitored and recorded.

   e. Dose rate of chemical used in the ATS system (expressed in mg/L) shall be monitored and reported 15-minutes after startup and every 8 hours of operation.

   f. Laboratory duplicates – monthly laboratory duplicates for residual coagulant analysis must be performed and records shall be maintained onsite.

   g. Effluent shall be monitored and recorded for residual chemical/additive levels.

   h. If a residual chemical/additive test does not exist and the ATS is operating in a batch treatment mode of operation refer to the toxicity monitoring requirements below.

3. Toxicity Monitoring

   A discharger operating in batch treatment mode shall perform toxicity testing in accordance with the following:

   a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge.[9] All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS)

[9] This requirement only requires that the test be initiated prior to discharge.

Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.[10]

b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas or* Rainbow trout *Oncorhynchus mykiss* may be used as a substitute for fathead minnow.

c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.[11]

4. Reporting and Recordkeeping

At a minimum, every 30 days a LRP representing the discharger shall access the State Water Boards Storm Water Mulit-Application and Report Tracking system (SMARTS) and electronically upload field data from the ATS. Records must be kept for three years after the project is completed .

5. Non-compliance Reporting

a. Any indications of toxicity or other violations of water quality objectives shall be reported to the appropriate regulatory agency as required by this General Permit.

b. Upon any measurements that exceed water quality standards, the system operator shall immediately notify his supervisor or other responsible parties, who shall notify the Regional Water Board.

c. If any monitoring data exceeds any applicable NEL in this General Permit, the discharger shall electronically submit a NEL Violation Report to the State Water Board within 24 hours after the NEL exceedance has been identified.

i. ATS dischargers shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity in this General Permit.

ii. ATS dischargers shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the annual report is filed.

iii. ATS dischargers shall include in the NEL Violation Report:

[10] http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.
[11] http://www.epa.gov/waterscience/methods/wet/.

(1) The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”);

(2) The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation; and

(3) A description of the current onsite BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

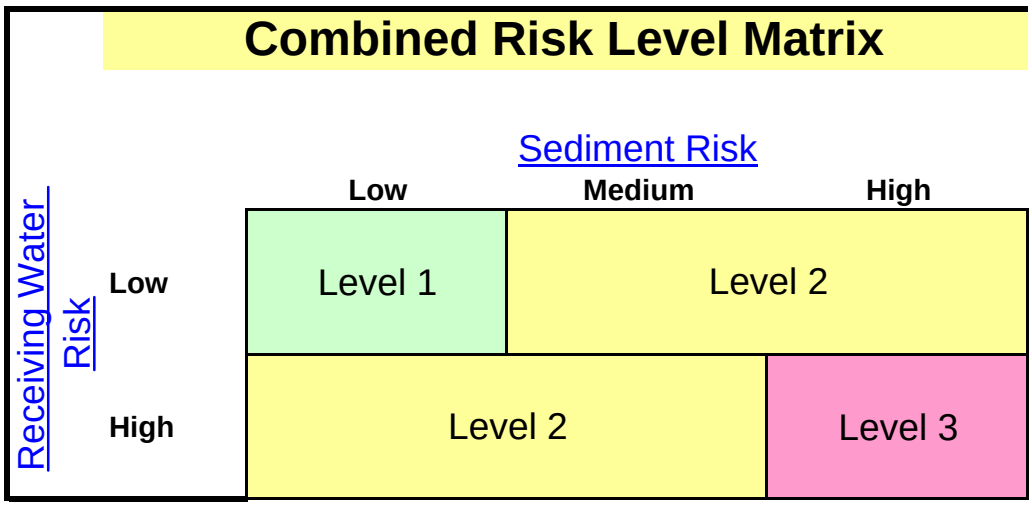
iv. Compliance Storm Exemption - In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, ATS dischargers shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Version 8/17/2011												
2		**Risk Determination Worksheet**											
3													
4			**Step 1**	Determine Sediment Risk via one of the options listed:									
5				1. GIS Map Method - EPA Rainfall Erosivity Calculator & GIS map									
6				2. Individual Method - EPA Rainfall Erosivity Calculator & Individual Data									
7			**Step 2**	Determine Receiving Water Risk via one of the options listed:									
8				1. GIS map of Sediment Sensitive Watersheds provided									
9				2. Site Specific Analysis (support documentation required)									
10			**Step 3**	Determine Combined Risk Level									
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	**A) R Factor**		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		0
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		0
16	**Site Sediment Risk Factor**		**Low**
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			
21			
22			
23	**GIS Map Method:**		
24	**1.** The R factor for the project is calculated using the online calculator at:		
25	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
26			
27	**2.** The K and LS factors may be obtained by accessing the GIS maps located on the State Water Board FTP website at:		
28	ftp://swrcb2a.waterboards.ca.gov/pub/swrcb/dwq/cgp/Risk/		
29			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	**yes/no**	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment** (For help with impaired waterbodies please visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?:	**no**	**Low**
http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml		
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)		
http://www.waterboards.ca.gov/waterboards_map.shtml		
Region 1 Basin Plan		
Region 2 Basin Plan		
Region 3 Basin Plan		
Region 4 Basin Plan		
Region 5 Basin Plan		
Region 6 Basin Plan		
Region 7 Basin Plan		
Region 8 Basin Plan		
Region 9 Basin Plan		

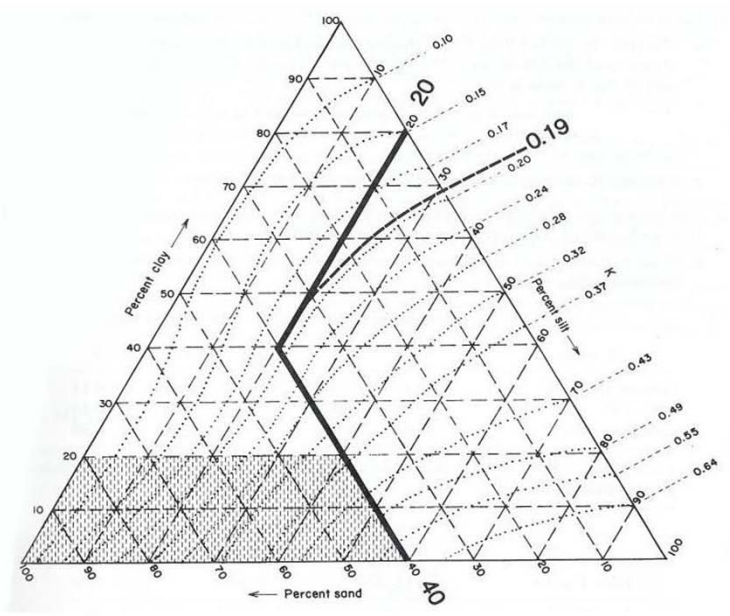
Combined Risk Level Matrix



Project Sediment Risk:	**Low**
Project RW Risk:	**Low**
Project Combined Risk:	**Level 1**

Soil Erodibility Factor (K)

The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.
The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability). *Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.*

Sheet Flow Length (ft)	Average Watershed Slope (%)																		
	0.2	**0.5**	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**12.0**	**14.0**	**16.0**	**20.0**	**25.0**	**30.0**	**40.0**	**50.0**	**60.0**
<3	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.35	0.36	0.38	0.39	0.41	0.45	0.48	0.53	0.58	0.63
6	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.37	0.41	0.45	0.49	0.56	0.64	0.72	0.85	0.97	1.07
9	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.38	0.45	0.51	0.56	0.67	0.80	0.91	1.13	1.31	1.47
12	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.39	0.47	0.55	0.62	0.76	0.93	1.08	1.37	1.62	1.84
15	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.40	0.49	0.58	0.67	0.84	1.04	1.24	1.59	1.91	2.19
25	0.05	0.07	0.10	0.16	0.21	0.26	0.31	0.36	0.45	0.57	0.71	0.85	0.98	1.24	1.56	1.86	2.41	2.91	3.36
50	0.05	0.08	0.13	0.21	0.30	0.38	0.46	0.54	0.70	0.91	1.15	1.40	1.64	2.10	2.67	3.22	4.24	5.16	5.97
75	0.05	0.08	0.14	0.25	0.36	0.47	0.58	0.69	0.91	1.20	1.54	1.87	2.21	2.86	3.67	4.44	5.89	7.20	8.37
100	0.05	0.09	0.15	0.28	0.41	0.55	0.68	0.82	1.10	1.46	1.88	2.31	2.73	3.57	4.59	5.58	7.44	9.13	10.63
150	0.05	0.09	0.17	0.33	0.50	0.68	0.86	1.05	1.43	1.92	2.51	3.09	3.68	4.85	6.30	7.70	10.35	12.75	14.89
200	0.06	0.10	0.18	0.37	0.57	0.79	1.02	1.25	1.72	2.34	3.07	3.81	4.56	6.04	7.88	9.67	13.07	16.16	18.92
250	0.06	0.10	0.19	0.40	0.64	0.89	1.16	1.43	1.99	2.72	3.60	4.48	5.37	7.16	9.38	11.55	15.67	19.42	22.78
300	0.06	0.10	0.20	0.43	0.69	0.98	1.28	1.60	2.24	3.09	4.09	5.11	6.15	8.23	10.81	13.35	18.17	22.57	26.51
400	0.06	0.11	0.22	0.48	0.80	1.14	1.51	1.90	2.70	3.75	5.01	6.30	7.60	10.24	13.53	16.77	22.95	28.60	33.67
600	0.06	0.12	0.24	0.56	0.96	1.42	1.91	2.43	3.52	4.95	6.67	8.45	10.26	13.94	18.57	23.14	31.89	39.95	47.18
800	0.06	0.12	0.26	0.63	1.10	1.65	2.25	2.89	4.24	6.03	8.17	10.40	12.69	17.35	23.24	29.07	40.29	50.63	59.93
1000	0.06	0.13	0.27	0.69	1.23	1.86	2.55	3.30	4.91	7.02	9.57	12.23	14.96	20.57	27.66	34.71	48.29	60.84	72.15

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

APPENDIX 2:
Post-Construction Water Balance Performance Standard Spreadsheet

The discharger shall submit with their Notice of Intent (NOI) the following information to demonstrate compliance with the New and Re-Development Water Balance Performance Standard.

Map Instructions

The discharger must submit a small-scale topographic map of the site to show the existing contour elevations, pre- and post-construction drainage divides, and the total length of stream in each watershed area. Recommended scales include 1 in. = 20 ft., 1 in. = 30 ft., 1 in. = 40 ft., or 1 in = 50 ft. The suggested contour interval is usually 1 to 5 feet, depending upon the slope of the terrain. The contour interval may be increased on steep slopes. Other contour intervals and scales may be appropriate given the magnitude of land disturbance.

Spreadsheet Instructions

The intent of the spreadsheet is to help dischargers calculate the project-related increase in runoff volume and select impervious area and runoff reduction credits to reduce the project-related increase in runoff volume to pre-project levels.

The discharger has the option of using the spreadsheet (**Appendix 2.1)** or a more sophisticated, watershed process-based model (e.g. Storm Water Management Model, Hydrological Simulation Program Fortran) to determine the project-related increase in runoff volume.

In* Appendix 4.1**, ***you must complete the worksheet for each land use/soil type combination for each project sub-watershed.

Steps 1 through 9 pertain specifically to the Runoff Volume Calculator:

Step 1: Enter the county where the project is located in cell H3.

Step 2: Enter the soil type in cell H6.

Step 3: Enter the existing pervious (dominant) land use type in cell H7.

Step 4: Enter the proposed pervious (dominant) land use type in cell H8.

Step 5: Enter the total project site area in cell H11 or J11.

Step 6: Enter the sub-watershed area in cell H12 or J12.

Step 7: Enter the existing rooftop area in cell H17 or J17, the existing non-rooftop impervious area in cell H18 or J18, the proposed rooftop area in cell H19 or J19, and the proposed non-rooftop impervious area in cell H20 or J20

Step 8: Work through each of the impervious area reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Step 9: Work through each of the impervious volume reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Non-structural Practices Available for Crediting

- ***Porous Pavement***
- ***Tree Planting***
- ***Downspout Disconnection***
- ***Impervious Area Disconnection***
- ***Green Roof***
- ***Stream Buffer***
- ***Vegetated Swales***
- ***Rain Barrels and Cisterns***
- ***Landscaping Soil Quality***

Post-Construction Water Balance Calculator

User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.

(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below

(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.

SACRAMENTO

(Step 1c) If you would like a more percise value select the location closest to your site. If you do not recgonize any of these locations, leave this drop-down menu at location. The average value for the County will be used.

SACRAMENTO FAA ARPT

Project Information

Project Name:	***Optional***
Waste Discharge Identification (WDID):	***Optional***
Date:	***Optional***
Sub Drainage Area Name (from map):	***Optional***

Runoff Curve Numbers

Existing Pervious Runoff Curve Number	**82**
Proposed Development Pervious Runoff Curve Number	**74**

Design Storm

Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.	**0.62**	**in**
The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)	**0.44**	**In**
P used for calculations (in) (the greater of the above two criteria)	**0.62**	**In**

^Available at www.cabmphandbooks.com

Pre-Project Runoff Volume (cu ft)	**247**	**Cu.Ft.**
Project-Related Runoff Volume Increase w/o credits (cu ft)	**0**	**Cu.Ft.**
Project-Related Volume Increase with Credits (cu ft)	**0**	**Cu.Ft.**

You have achieved your minimum requirements

Runoff Calculations

(Step 2) Indicate the Soil Type (dropdown menu to right): ***Group C Soils*** — **Low infiltration. Sandy clay loam. Infiltration rate 0.05 to 0.15 inch/hr when wet.**

(Step 3) Indicate the existing **dominant** non-built land Use Type (dropdown menu to right): ***Wood & Grass: <50% ground cover***

(Step 4) Indicate the proposed **dominant** non-built land Use Type (dropdown menu to right): ***Lawn, Grass, or Pasture covering more than 75% of the open space***

	Complete Either Sq Ft	Acres	Acres
(Step 5) Total Project Site Area:		5.00	5.00
(Step 6) Sub-watershed Area:		5.00	5.00
Percent of total project :		100%	

(Step 7) Sub-watershed Conditions	Complete Either Sq Ft	Acres	Calculated Acres
Sub-watershed Area (acres)			5.00
Existing Rooftop Impervious Coverage		0	0.00
Existing Non-Rooftop Impervious Coverage		0	0.00
Proposed Rooftop Impervious Coverage		0	0.00
Proposed Non-Rooftop Impervious Coverage		0	0.00

Credits	Acres	Square Feet
Porous Pavement	0.00	0
Tree Planting	0.00	0
Downspout Disconnection	0.00	0
Impervious Area Disconnection	0.00	0
Green Roof	0.00	0
Stream Buffer	0.00	0
Vegetated Swales	0.00	0
Subtotal	0.00	0
Subtotal Runoff Volume Reduction Credit	0 Cu. Ft.	

(Step 9) Impervious Volume Reduction Credits	Volume (cubic feet)
Rain Barrels/Cisterns	0 Cu. Ft.
Soil Quality	0 Cu. Ft.
Subtotal Runoff Volume Reduction	0 Cu. Ft.
Total Runoff Volume Reduction Credit	0 Cu. Ft.

Porous Pavement Credit Worksheet

Please fill out a porous pavement credit worksheet for each project sub-watershed.

For the PROPOSED Development:

Proposed Porous Pavement	Runoff Reduction*	Fill in either Acres or SqFt		Equivalent Acres
		In SqFt.	In Acres	
Area of **Brick without Grout** on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of **Brick without Grout** on more than 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of **Cobbles** less than 12 inches deep and over soil	0.30			0.00
Area of **Cobbles** less than 12 inches deep and over soil	0.60			0.00
Area of **Reinforced Grass Pavement** on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of **Reinforced Grass Pavement** on at least 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of **Porous Gravel Pavement** on less than 12 inches of base with at least 20% void space over soil	0.38			0.00
Area of **Porous Gravel Pavement** on at least 12 inches of base with at least 20% void space over soil	0.75			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with less than 4 inches of gravel base (washed stone)	0.40			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 4 to 8 inches of gravel base (washed stone)	0.60			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 8 to 12 inches of gravel base (washed stone)	0.80			0.00
Area of **Poured Porous Concrete or Asphalt Pavement** with 12 or more inches of gravel base (washed stone)	1.00			0.00

*=1-Rv**

Return to Calculator

**Using Site Design Techniques to meet Development Standards for Stormwater Quality (BASMAA 2003)

**NCDENR Stormwater BMP Manual (2007)

Tree Planting Credit Worksheet

Please fill out a tree canopy credit worksheet for each project sub-watershed.

Tree Canopy Credit Criteria	Number of Trees Planted	Credit (acres)
Number of proposed evergreen trees to be planted (credit = number of trees x 0.005)*	0	0.00
Number of proposed deciduous trees to be planted (credit = number of trees x 0.0025)*		0.00
	Square feet Under Canopy	
Square feet under an existing tree canopy, that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is LESS than 12 in diameter.		0.00
Square feet under an existing tree canopy that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is 12 in diameter or GREATER.		0.00
Please describe below how the project will ensure that these trees will be maintained.		

0

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* credit amount based on credits from Stormwater Quality Design Manual for the Sacramento and South Placer Regions

Downspout Disconnection Credit Worksheet

Please fill out a downspout disconnection credit worksheet for each project subwatershed. If you answer yes to all questions, all rooftop area draining to each downspout will be subtracted from your proposed rooftop impervious coverage.

Downspout Disconnection Credit Criteria		
Do downspouts and any extensions extend at least six feet from a basement and two feet from a crawl space or concrete slab?	○ Yes	◉ No
Is the area of rooftop connecting to each disconnected downspout 600 square feet or less?	○ Yes	◉ No
Is the roof runoff from the design storm event fully contained in a raised bed or planter box or does it drain as sheet flow to a landscaped area large enough to contain the roof runoff from the design storm event?	○ Yes	◉ No
The Stream Buffer and/or Vegetated Swale credits **will not** be taken in this sub-watershed area?	○ Yes	◉ No

Percentage of existing	0.00	Acres	of rooftop surface has disconnected downspouts	
Percentage of the proposed	0.00	Acres	of rooftop surface has disconnected downspouts	50

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Impervious Area Disconnection Credit Worksheet

Please fill out an impervious area disconnection credit worksheet for each project sub-watershed. If you answer yes to all questions, all non-rooftop impervious surface area will be subtracted from your proposed non-rooftop impervious coverage.

Non-Rooftop Disconnection Credit Criteria	Response
Is the maximum contributing impervious flow path length less than 75 feet or, if equal or greater than 75 feet, is a storage device (e.g. French drain, bioretention area, gravel trench) implemented to achieve the required disconnection length?	◉ Yes ○ No
Is the impervious area to any one discharge location less than 5,000 square feet?	◉ Yes ○ No
The Stream Buffer credit **will not** be taken in this sub-watershed area?	◉ Yes ○ No

Percentage of existing	0.00	Acres non-rooftop surface area disconnected	
Percentage of the proposed	0.00	Acres non-rooftop surface area disconnected	70

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Green Roof Credit Worksheet

Please fill out a greenroof credit worksheet for each project sub-watershed. If you answer yes to all questions, 70% of the greenroof area will be subtracted from your proposed rooftop impervious coverage.

Green Roof Credit Criteria				Response
Is the roof slope less than 15% or does it have a grid to hold the substrate in place until it forms a thick vegetation mat?				◉ Yes ○ No
Has a professional engineer assessed the necessary load reserves and designed a roof structure to meet state and local codes?				◉ Yes ○ No
Is the irrigation needed for plant establishment and/or to sustain the green roof during extended dry periods, is the source from stored, recycled, reclaimed, or reused water?				◉ Yes ○ No
Percentage of existing	0.00	Acres	rooftop surface area in greenroof	
Percentage of the proposed	0.00	Acres	rooftop surface area in greenroof	

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Stream Buffer Credit Worksheet

Please fill out a stream buffer credit worksheet for each project sub-watershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout and/or Impervious Area Disconnection credits.

Stream Buffer Credit Criteria				Response
Does runoff enter the floodprone width* or within 500 feet (whichever is larger) of a stream channel as sheet flow**?				○ Yes ◉ No
Is the contributing overland slope 5% or less, or if greater than 5%, is a level spreader used?				○ Yes ◉ No
Is the buffer area protected from vehicle or other traffic barriers to reduce compaction?				○ Yes ◉ No
Will the stream buffer be maintained in an ungraded and uncompacted condition and will the vegetation be maintained in a natural condition?				○ Yes ◉ No
Percentage of existing	0.00	Acres	impervious surface area draining into a stream buffer:	
Percentage of the proposed	0.00	Acres	impervious surface area that will drain into a stream buffer:	
Please describe below how the project will ensure that the buffer areas will remain in ungraded and uncompacted condition and that the vegetation will be maintained in a natural condition.				

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* floodprone width is the width at twice the bankfull depth.
** the maximum contributing length shall be 75 feet for impervious area

Vegetated Swale Credit Worksheet

Please fill out a vegetated swale worksheet for each project subwatershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout Disconnection credit.

Vegetated Swale Credit Criteria

Have all vegetated swales been designed in accordance with Treatment Control BMP 30 (TC-30 - Vegetated Swale) from the California Stormwater BMP Handbook, New Development and Redevelopment (available at www.cabmphandbooks.com)?	○ Yes ◉ No
Is the maximum flow velocity for runoff from the design storm event less than or equal to 1.0 foot per second?	○ Yes ◉ No

Percentage of existing	0.00	Acres of impervious area draining to a vegetated swale	
Percentage of the proposed	0.00	Acres of impervious area draining to a vegetated swale	

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Rain Barrel/Cistern Credit Worksheet

Please fill out a rain barrel/cistern worksheet for each project sub-watershed.

Rain Barrel/Cistern Credit Criteria	Response
Total number of rain barrel(s)/cisterns	
Average capacity of rain barrel(s)/cistern(s) (in gallons)	
Total capacity rain barrel(s)/cistern(s) (in cu ft) [1]	0

[1] accounts for 10% loss

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Please fill out a soil quality worksheet for each project sub-watershed.

	Response
Will the landscaped area be lined with an impervious membrane?	
Will the soils used for landscaping meet the ideal bulk densities listed in Table 1 below? [1]	○ Yes ◉ No
If you answered yes to the question above, and you know the area-weighted bulk density within the top 12 inches for soils used for landscaping (in g/cm^3)* , fill in the cell to the right and skip to cell G11. If not select from the drop-down menu in G10.	1.3
If you answered yes to the question above, but you do not know the exact bulk density, which of the soil types in the drop down menu to the right best describes the top 12 inches for soils used for landscaping (in g/cm^3).	Sandy loams, loams
What is the average depth of your landscaped soil media meeting the above criteria (inches)?	12
What is the total area of the landscaped areas meeting the above criteria (in acres)?	2.97

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Table 1

Sands, loamy sands	<1.6
Sandy loams, loams	<1.4
Sandy clay loams, loams, clay loams	<1.4
Silts, silt loams	<1.3
Silt loams, silty clay loams	<1.1
Sandy clays, silty clays, some clay loams (35-45% clay)	<1.1
Clays (>45% clay)	<1.1

Porosity (%) 50.94%

Mineral grains in many soils are mainly quartz and feldspar, so 2.65 a good average for particle density. To determine percent porosity, use the formula: Porosity (%) = (1-Bulk Density/2.65) X 100

[1] USDA NRCS. "Soil Quality Urban Technical Note No.2-Urban Soil Compaction". March 2000. http://soils.usda.gov/sqi/management/files/sq_utn_2.pdf

* To determine how to calculate density see: http://www.globe.gov/tctg/bulkden.pdf?sectionID=94

APPENDIX 3
Bioassessment Monitoring Guidelines

Bioassessment monitoring is required for projects that meet all of the following criteria:

1. The project is rated Risk Level 3 or LUP Type 3
2. The project directly discharges runoff to a freshwater wadeable stream (or streams) that is either: (a) listed by the State Water Board or USEPA as impaired due to sediment, and/or (b) tributary to any downstream water body that is listed for sediment; and/or have the beneficial use SPAWN & COLD & MIGRATORY
3. Total project-related ground disturbance exceeds 30 acres.

For all such projects, the discharger shall conduct bioassessment monitoring, as described in this section, to assess the effect of the project on the biological integrity of receiving waters.
Bioassessment shall include:

1. The collection and reporting of specified instream biological data
2. The collection and reporting of specified instream physical habitat data

<u>Bioassessment Exception</u>
If a site qualifies for bioassessment, but construction commences out of an index period for the site location, the discharger shall:

1. Receive Regional Water Board approval for the sampling exception
2. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.
3. Send a copy of the check to the Regional Water Board office for the site's region
4. Invest **7,500.00 X The number of samples required** into the SWAMP program as compensation (upon Regional Water Board approval).
5. Conduct bioassessment monitoring, as described in Appendix 4
6. Include the collection and reporting of specified instream biological data and physical habitat
7. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP)

<u>Site Locations and Frequency</u>
Macroinvertebrate samples shall be collected both before ground disturbance is initiated and after the project is completed. The "after" sample(s) shall be collected after at least one winter season resulting in surface runoff has transpired after project-related ground disturbance has ceased. "Before" and "after" samples shall be collected both upstream and downstream of the project's

discharge. Upstream samples should be taken immediately before the sites outfall and downstream samples should be taken immediately after the outfall (when safe to collect the samples). Samples should be collected for each freshwater wadeable stream that is listed as impaired due to sediment, or tributary to a water body that is listed for sediment. Habitat assessment data shall be collected concurrently with all required macroinvertebrate samples.

Index Period (Timing of Sample Collection)
Macroinvertebrate sampling shall be conducted during the time of year (i.e., the "index period") most appropriate for bioassessment sampling, depending on ecoregion. This map is posted on the State Water Board's Website: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

Field Methods for Macroinvertebrate Collections
In collecting macroinvertebrate samples, the discharger shall use the "Reachwide Benthos (Multi-habitat) Procedure" specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007).[1]

Physical - Habitat Assessment Methods
The discharger shall conduct, concurrently with all required macroinvertebrate collections, the "Full" suite of physical habitat characterization measurements as specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007), and as summarized in the Surface Water Ambient Monitoring Program's *Stream Habitat Characterization Form — Full Version*.

Laboratory Methods
Macroinvertebrates shall be identified and classified according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),[2] and using a fixed-count of 600 organisms per sample.

Quality Assurance
The discharger or its consultant(s) shall have and follow a quality assurance (QA) plan that covers the required bioassessment monitoring. The QA plan shall include, or be supplemented to include, a specific requirement for external QA checks (i.e., verification of taxonomic identifications and correction of data where

[1] This document is available on the Internet at: ~~http://www.swrcb.ca.gov/swamp/docs/phab_sopr6.pdf~~. http://swamp.mpsl.mlml.calstate.edu/wp-content/uploads/2009/04/swamp_sop_bioassessment_collection_020107.pdf.

[2] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: ~~http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf~~ http://www.safit.org/Docs/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

errors are identified). External QA checks shall be performed on one of the discharger's macroinvertebrate samples collected per calendar year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in writing by State Water Board staff.

Sample Preservation and Archiving

The original sample material shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that all QA steps are completed, and shall be checked at least once per year and "topped off" with ethanol to prevent desiccation. The identified organisms shall be relinquished to the State Water Board upon request by any State Water Board staff.

Data Submittal

The macroinvertebrate results (i.e., taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the State Water Board in electronic format. The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) is currently developing standardized formats for reporting bioassessment data. All bioassessment data collected after those formats become available shall be submitted using the SWAMP formats. Until those formats are available, the biological data shall be submitted in MS-Excel (or equivalent) format.[3]

The physical/habitat data shall be reported using the standard format titled *SWAMP Stream Habitat Characterization Form — Full Version*.[4]

[3] Any version of Excel, 2000 or later, may be used.
[4] Available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

Invasive Species Prevention

In conducting the required bioassessment monitoring, the discharger and its consultants shall take precautions to prevent the introduction or spread of aquatic invasive species. At minimum, the discharger and its consultants shall follow the recommendations of the California Department of Fish and Game to minimize the introduction or spread of the New Zealand mudsnail.[5]

[5] Instructions for controlling the spread of NZ mudsnails, including decontamination methods, can be found at: http://www.dfg.ca.gov/invasives/mudsnail/
More information on AIS More information on AIS
http://www.waterboards.ca.gov/water_issues/programs/swamp/ais/

Appendix 4 Non Sediment TMDLs

Region 1 Lost River-DIN and CBOD

Region 1 Source: Cal Trans Construction TMDL Completion Date: 12 30 2008 TMDL Type: River, Lake Watershed Area= 2996 mi^2	**Pollutant Stressors/WLA**	
	Dissolved inorganic nitrogen (DIN) (metric tons/yr)	**Carbonaceous biochemical oxygen demand (CBOD) (metric tons/yr)**
Lost River from the Oregon border to Tule Lake	.1	.2
Tule Lake Refuge	.1	.2
Lower Klamath Refuge	.1	.2

Region 2 San Francisco Bay-Mercury

Region 2 Source:Non-Urban Stormwater Runoff TMDL Type: Bay	**Name**	**Pollutant Stressor/WLA**	**TMDL Completion Date**
	San Francisco Bay	Mercury 25 kg/year	08 09 2006

Region 4 Ballona Creek-Metals and Selenium

Region 4 Source: NPDES General Construction TMDL Completion Date: 12 22 2005 TMDL Type: Creek	**Pollutant Stressors/WLA**							
	Copper (Cu)		**Lead (Pb)**		**Selenium (Se)**		**Zinc (Zn)**	
	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre
Ballona Creek	4.94E-07 x Daily storm volume (L)	2.20E-10 x Daily storm volume (L)	1.62E-06 x Daily storm volume (L)	7.20E-10 x Daily storm volume (L)	1.37E-07 x Daily storm volume (L)	6.10E-11 x Daily storm volume (L)	3.27E-06 x Daily storm volume (L)	1.45E-09 x Daily storm volume (L)

General Construction Storm Water Permits:
Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board.

- Dry-weather Implementation Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08 DWQ), or any successor order, are exempt from the dry-weather waste load allocation equal to zero as long as they comply with the provisions of sections C.3 and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be:
  (1) infeasible to eliminate
  (2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and
  (3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order.
  Unauthorized non-storm water flows are already prohibited by Order No. 99-08 DWQ.
- Wet-weather Implementation Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the final waste load allocations assigned to construction storm water permittees.
- Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL.
- General construction storm water permittees will be considered in compliance with final waste load allocations if they implement these Regional Board approved BMPs. All permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with final waste load allocations.

Region 4 Calleaguas Creek-OC Pesticides, PCBs, and Siltation

Interim Requirements

Region 4 Calleaguas Creek Source: Minor NPDES point sources/WDRs TMDL Completion Date: 3 14 2006 TMDL Type:Creek	**Pollutant Stressor**	**WLA Daily Max (µg/L)**	**WLA Monthly Ave (µg/L)**
	Chlordane	1.2	0.59
	4,4-DDD	1.7	0.84
	4,4-DDE	1.2	0.59
	4,4-DDT	1.2	0.59
	Dieldrin	0.28	0.14
	PCB’s	0.34	0.17
	Toxaphene	0.33	0.16

Final WLA (ng/g)							
Region 4 Calleaguas Creek Source: Stormwater Permittees TMDL Completion Date: 3 14 2006 TMDL Type:Creek	Chlordane	4,4-DDD	4,4-DDE	4,4-DDT	Dieldrin	PCB's	Toxaphene
Mugu Lagoon*	3.3	2.0	2.2	0.3	4.3	180.0	360.0
Callegaus Creek	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Revolon Slough (SW)*	0.9	2.0	1.4	0.3	0.1	130.0	1.0
Arroyo Las posas(SW)*	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Arroyo Simi	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Conejo Creek	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Interim Requirements (ng/g)							
Mugu Lagoon*	25.0	69.0	300.0	39.0	19.0	180.	22900.0
Callegaus Creek	17.0	66.0	470.0	110.0	3.0	3800.0	260.0
Revolon Slough (SW)*	48.0	400.0	1600.0	690.0	5.7	7600.0	790.0
Arroyo Las posas(SW)*	3.3	290.0	950.0	670.0	1.1	25700.0	230.0
Arroyo Simi	3.3	14.0	170.0	25.0	1.1	25700.0	230.0
Conejo Creek	3.4	5.3	20.0	2.0	3.0	3800.0	260.0

*(SW)=Subwatershed

*Mugu Lagoon includes Duck pond/Agricultural Drain/Mugu/Oxnard Drain #2

Compliance with sediment based WLAs is measured as an instream annual average at the base of each subwatershed where the discharges are located.

Region 4 Calleguas Creek-Salts

Final Dry Weather Pollutant WLA (mg/L)					
Region 4 Calleaguas Creek Source Permitted Stormwater Dischargers TMDL Completion Date: 12 2 2008 TMDL Type:Creek	**Critical Condition Flow Rate (mgd)**	**Chloride (lb/day)**	**TDS (lb/day)**	**Sulfate (lb/day)**	**Boron (lb/day)**
Simi	1.39	1738.0	9849.0	2897.0	12.0
Las Posas	0.13	157.0	887.0	261.0	N/A
Conejo	1.26	1576.0	8931.0	2627.0	N/A

Camarillo	0.06	72.0	406.0	119.0	N/A
Pleasant Valley (Calleguas)	0.12	150.0	850.0	250.0	N/A
Pleasant Valley (Revolon)	0.25	314.0	1778.0	523.0	2.0

Dry Weather Interim Pollutant WLA (mg/L)				
	Chloride (mg/L)	**TDS (mg/L)**	**Sulfate (mg/L)**	**Boron (mg/L)**
Simi	230.0	1720.0	1289.0	1.3
Las Posas	230.0	1720.0	1289.0	1.3
Conejo	230.0	1720.0	1289.0	1.3
Camarillo	230.0	1720.0	1289.0	1.3
Pleasant Valley (Calleguas)	230.0	1720.0	1289.0	1.3
Pleasant Valley (Revolon)	230.0	1720.0	1289.0	1.3

- General Construction permittees are assigned a dry weather wasteload allocation equal to the average dry weather critical condition flow rate multiplied by the numeric target for each constituent. Waste load allocations apply in the receiving water at the base of each subwatershed. Dry weather allocations apply when instream flow rates are below the 86th percentile flow and there has been no measurable precipitation in the previous 24 hours.
- Because wet weather flows transport a large mass of salts at low concentrations, these dischargers meet water quality objectives during wet weather.
- Interim limits are assigned for dry weather discharges from areas covered by NPDES stormwater permits to allow time to implement appropriate actions. The interim limits are assigned as concentration based receiving water limits set to the 95th percentile of the discharger data as a monthly average limit except for chloride. The 95th percentile for chloride was 267 mg/L which is higher than the recommended criteria set forth in the Basin Plan for protection of sensitive beneficial uses including aquatic life. Therefore, the interim limit for chloride for Permitted Stormwater Dischargers is set equal to 230 mg/L to ensure protection of sensitive beneficial uses in the Calleguas Creek watershed.

Region 4 San Gabriel River and Tributaries-Metals and Selenium

Region 4 San Gabriel River and Tributaries Source: Construction Stormwater Dischargers TMDL Completion Date: 3 2007 TMDL Type: Creek	**Pollutant Stressor**	**Wet weather Allocations**	**Dry Weather Allocations**	**% of Watershed**

San Gabriel Reach 2	Lead (Pb)	0.7% * 166 µg/l * Daily Storm Vol	N/A	0.7%
San Gabriel Reach 2	Lead (Pb) Mass based	0.8 kg/d	N/A	0.7%
Coyote Creek	Copper (Cu)	0.285 kg/d	0	5.0%
Coyote Creek	Lead (Pb)	1.70 kg/d	N/A	5.0%
Coyote Creek	Zinc (Zn)	2.4 kg/d	N/A	5.0%
San Jose Creek Reach 1 and 2	Selenium	5 µg/L	5 µg/L	5.0%

Wet-weather allocations for lead in San Gabriel River Reach 2. Concentration-based allocations apply to non-stormwater NPDES discharges. Stormwater allocations are expressed as a percent of load duration curve. Mass-based values presented in table are based on a flow of 260 cfs (daily storm volume = 6.4 $x10^{8}$ liters).

There are 1555 acres of water in the entire watershed, 37.4 acres of water in the Reach 1 subwatershed (2.4%), and 269 acres in the Coyote Creek subwatershed (17%).

General Construction Storm Water Permits

Waste load allocations for the general construction storm water permits may be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board. An estimate of direct atmospheric deposition is developed based on the percent area of surface water in the watershed. Approximately 0.4% of the watershed area draining to San Gabriel River Reach 2 is comprised of water and approximately 0.2% of the watershed area draining to Coyote Creek is comprised of water.

Region 4 The Harbor Beaches of Ventura County-Bacteria

The TMDL has a multi-part numeric target based on the bacteriological water quality objectives for marine water to protect the water contact recreation use. These targets are the most appropriate indicators of public health risk in recreational waters. Bacteriological objectives are set forth in Chapter 3 of the Basin Plan. The objectives are based on four bacteria indicators and include both geometric mean limits and single sample limits. The Basin Plan objectives that serve as the numeric targets for this TMDL are:

The General NPDES Construction permit is seen as a minor contributor and is given no allocation

General NPDES permits, individual NPDES permits, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and WDR permittees in the Channel Islands Harbor subwatershed are assigned WLAs of zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, individual NPDES permit, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and WDR will also be subject to a WLA of zero (0) days of allowable exceedances.

Region 4 Resolution No. 03-009 Los Angeles River and Tributaries-Nutrients

Minor Point Sources
Waste loads are allocated to minor point sources enrolled under NPDES or WDR permits including but not limited to Tapia WRP, Whittier Narrows WRP, Los Angeles Zoo WRP, industrial and construction stormwater, and municipal storm water and urban runoff from municipal separate storm sewer systems (MS4s)

Region 4 Minor Point Sources for NPDES/WDR Permits TMDL Completion Date: 7 10 2003 TMDL Type: River	Pollutant Stressor/WLA				
	Total Ammonia (NH_3)		**Nitrate-nitrogen (NO_3-N)**	**Nitrite-nitrogen (NO_2-N)**	**NO_3-N + NO_3-N**
	1 Hr Ave mg/l	30 Day Ave mg/l	30 Day Ave mg/l		30 Day Ave mg/l
LA River Above Los Angeles-Glendale WRP (LAG)	4.7	1.6	8.0	1.0	8.0
LA River Below LAG	8.7	2.4	8.0	1.0	8.0
Los Angeles Tributaries	10.1	2.3	8.0	1.0	8.0

Malibu Creek Attachment A to Resolution No. 2004-019R-Bacteria

12 13 2004 The WLAs for permittees under the NPDES General Stormwater Construction Permit are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean.

Region 4 Marina del Rey Harbor, Mothers' Beach and Back Basins

Attachment A to Resolution No. 2003-012-Bacteria

8 7 2003 As discussed in “Source Analysis”, discharges from general NPDES permits, general industrial storm water permits and general construction storm water permits are not expected to be a significant source of bacteria. Therefore, the WLAs for these discharges are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the MdR Watershed will also be subject to a WLA of zero days of allowable exceedances.

Region 4 San Gabriel River and Tributaries-Metals and Selenium

Dry Weather Selenium WLA
A zero WLA is assigned to the industrial and construction stormwater permits during dry weather. Non-storm water discharges are already prohibited or restricted by existing general permits.

Region 4 General Construction Permittees TMDL Completion Date: 7 13 2006 TMDL Type: River	**Total Recoverable Metals (kg/day)**		
	Copper (Cu) Kg/day	**Lead (Pb) Kg/day**	**Zinc (Zn) Kg/day**
San Gabriel River Reach 2 and upstream reaches/tributaries	**XXXX**	Daily storm volume x 1.24 µg/L	**XXXX**
Coyote Creek and Tributaries	Daily storm volume x 0.7 µg/L	Daily storm volume x 4.3 µg/L	Daily storm volume x 6.2 µg/L

Each enrollee under the general construction stormwater permit receives a WLA on a per acre basis

Region 4 General Construction Permittees TMDL Completion Date: 7 13 2006 TMDL Type: River	**Total Recoverable Metals (kg/day/acre)**		
	Copper (Cu) Kg/acre/day	**Lead (Pb) Kg/acre/day**	**Zinc (Zn) Kg/acre/day**
San Gabriel River Reach 2 and upstream reaches/tributaries	**XXXX**	Daily storm volume x 0.56 µg/L	**XXXX**

Coyote Creek and Tributaries	Daily storm volume x 0.12 µg/L	Daily storm volume x 0.70 µg/L	Daily storm volume x 1.01 µg/L

For the general industrial and construction storm water permits, the daily storm volume is measured at USGS station 11085000 for discharges to Reach 2 and above and at LACDPW flow gauge station F354-R for discharges to Coyote Creek.

General construction storm water permits
WLAs will be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board.

Dry-weather implementation
Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (NPDES Permit No. CAS000002), or any successor permit, are exempt from the dry-weather WLA equal to zero as long as they comply with the provisions of sections C.3.and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be (1) infeasible to eliminate (2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and (3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order. Unauthorized non-storm water flows are already prohibited by Permit No. CAS000002.

Upon permit issuance, renewal, or re-opener
Non-storm water flows not authorized by Order No. 99-08 DWQ, or any successor order, shall achieve dry-weather WLAs. WLAs shall be expressed as NPDES water quality-based effluent limitations specified in accordance with federal regulations and state policy on water quality control. Effluent limitations may be expressed as permit conditions, such as the installation, maintenance, and monitoring of Regional Board-approved BMPs.

Six years from the effective date of the TMDL
The construction industry will submit the results of wet-weather BMP effectiveness studies to the Los Angeles Regional Board for consideration. In the event that no effectiveness studies are conducted and no BMPs are approved, permittees shall be subject to site-specific BMPs and monitoring to demonstrate BMP effectiveness.

Seven years from the effective date of the TMDL
The Los Angeles Regional Board will consider results of the wet weather BMP effectiveness studies and consider approval of BMPs.

Eight years from the effective date of the TMDL
All general construction storm water permittees shall implement Regional Board-approved BMPs.

Total Maximum Daily Loads (TMDLs) for San Diego Creek,
Upper and Lower Newport Bay, Orange County, California

Region 8 NPDES Construction Permit TMDL Completion Date: 1 24 1995 TMDL Type: River. Cr, Bay	Organochlorine Compounds							
	Total DDT		**Chlordane**		**Total PCBs**		**Toxaphene**	
	g/day	g/yr	g/day	g/yr	g/day	g/yr	g/day	g/yr
San Diego Creek	.27	99.8	**.18***	**64.3***	**.09***	**31.5***	.004	1.5
Upper Newport Bay	.11	40.3	.06	23.4	.06	23.2	**X**	**X**
Lower Newport Bay	.04	14.9	.02	8.6	.17	60.7	**X**	**X**

*Red= Informational WLA only, not for enforcement purposes

Organochlorine Compounds TMDLs Implementation Tasks and Schedule

Regional Board staff shall develop a SWPPP Improvement Program that identifies the Regional Board's expectations with respect to the content of SWPPPs, including documentation regarding the selection and implementation of BMPs, and a sampling and analysis plan. The Improvement Program shall include specific guidance regarding the development and implementation of monitoring plans, including the constituents to be monitored, sampling frequency and analytical protocols. The SWPPP Improvement Program shall be completed by (*the date of OAL approval of this BPA*). ***No later than two months*** from completion of the Improvement Program, Board staff shall assure that the requirements of the Program are communicated to interested parties, including dischargers with existing authorizations under the General Construction Permit. Existing, authorized dischargers shall revise their project SWPPPs as needed to address the Program requirements as soon as possible but ***no later than (three months of completion of the SWPPP Improvement Program)***. Applicable SWPPPs that do not adequately address the Program requirements shall be considered inadequate and enforcement by the Regional Board shall proceed accordingly. The Caltrans and Orange County MS4 permits shall be revised as needed to assure that the permittees communicate the Regional Board's SWPPP expectations, based on the SWPPP Improvement Program, with the Standard Conditions of Approval.

Appendix 4 Sediment TMDLs

Implemented Sediment TMDLs in California. Construction was listed as a source in all fo these TMDLs in relation to road construction. Although construction was mentioned as a source, it was not given a specific allocation amount. The closest allocation amount would be for the road activity management WLA. **Implementation Phase** – Adoption process by the Regional Board, the State Water Resources Control Board, the Office of Administrative Law, and the US Environmental Protection Agency completed and TMDL being implemented.

A. Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.albionfinaltmdl	R	Albion River	Sedimentation	Road Construction	2001	43 acres	See A (table 6)

B Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelR-middle.mainSed.temp	R	Middle Main Eel River and Tributaries (from Dos Rios to the South Fork)	Sedimentation	Road Construction	2005-2006	521 mi^2	100

C Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelRsouth.sed.temp	R	South Fork Eel River	Sedimentation	Road Construction	12 1999	See chart	473

D Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.bigfinaltmdl	R	Big River	Sedimentation	Road Construction	12 2001	181 mi^2 watershed drainage	TMDL = loading capacity = nonpoint sources + background =

							393 t mi2 yr

E Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelR-lower.Sed.temp-121807-signed	R	Lower Eel River	Sedimentation	Road Construction	12 2007	300 square-mile watershed	898

F Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.EelR-middle.Sed.temp-	R	Middle Fork Eel River	Sedimentation	Road Construction	12 2003	753 mi^2 (approx. 482,000 acres)	82

G Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** Mi^2	**WLA** tons mi^2 yr
1 R1.epa.EelRnorth-Sed.temp.final-121807-signed	R	North Fork Eel River	Sedimentation	Road Construction	12 30 2002	289 (180,020 acres)	20

H Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** Mi^2	**WLA** tons mi^2 yr
1 R1.epa.EelR-upper.mainSed.temp-	R	Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Sedimentation	Road Construction	12 29 2004	688 (approx. 440,384 acres)	14

I Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres**	**WLA** tons mi^2 yr
1 R1.epa.gualalafinaltmdl	R	Gualala River	Sedimentation	Road Construction	Not sure	300 (191,145 acres)	7

J Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.Mad-sed.turbidity	R	Mad River	Sedimentation	Road Construction	12 21 2007	480	174

K Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.mattole.sediment	R	Mattole River	Sedimentation	Road Construction	12 30 2003	296	27 or 520+27 = 547

L Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.navarro.sed.temp	R	Navarro River	Sedimentation	Road Construction	Not sure	315 (201,600 acres).	50

M Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.noyo.sediment	R	Noyo River	Sedimentation	Road Construction	12 16 1999	113 (72,323 acres)	68 (three areas measured) Table 16 in the TMDL

N Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.RedwoodCk.sed	Cr	Redwood Creek	Sedimentation	Road Construction	12 30 1998	278	1900 Total allocation

O Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA – Roads** tons mi^2 yr
1 R1.epa.tenmile.sed	R	Ten Mile River	Sedimentation	Road Construction	2000	120	9

P Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA management** tons mi^2 yr
1 R1.epa.trinity.sed	R	Trinity River	Sedimentation	Road Construction	12 20 2001	2000 of 3000 covered in this TMDL	See rows below
1	Cr	Horse Linto Creek	Sedimentation	Road Construction	12 20 2001	64	528
1	Cr	Mill creek and Tish Tang	Sedimentation	Road Construction	12 20 2001	39	210
1	Cr	Willow Creek	Sedimentation	Road Construction	12 20 2001	43	94
1	Cr	Campbell Creek and Supply Creek	Sedimentation	Road Construction	12 20 2001	11	1961
1	Cr	Lower Mainstem and Coon Creek	Sedimentation	Road Construction	12 20 2001	32	63
1	R	Reference	Sedimentation	Road	12 20 2001	434	24

		Subwatershed [1]		Construction			
1	Cr	Canyon Creek	Sedimentation	Road Construction	12 20 2001	64	326
1	R	Upper Tributaries[2]	Sedimentation	Road Construction	12 20 2001	72	67
1	R	Middle Tributaries[3]	Sedimentation	Road Construction	12 20 2001	54	53
1	R	Lower Tributaries[4]	Sedimentation	Road Construction	12 20 2001	96	55
1	Cr	Weaver and Rush Creeks	Sedimentation	Road Construction	12 20 2001	72	169
1	Cr	Deadwood Creek Hoadley Gulch Poker Bar	Sedimentation	Road Construction	12 20 2001	47	68
1	L	Lewiston Lake	Sedimentation	Road Construction	12 20 2001	25	49
1	Cr	Grassvalley Creek	Sedimentation	Road Construction	12 20 2001	37	44
1	Cr	Indian Creek	Sedimentation	Road Construction	12 20 2001	34	81
1	Cr	Reading and Browns Creek	Sedimentation	Road Construction	12 20 2001	104	66
1	Cr	Reference Subwatersheds[5]	Sedimentation	Road Construction	12 20 2001	235	281
1	L, Cr	Westside tributaries[6]	Sedimentation	Road Construction	12 20 2001	93	105
1	R, Cr, G	Upper trinity[7]	Sedimentation	Road Construction	12 20 2001	161	690
1	R, Cr, G	East Fork Tributaries[8]	Sedimentation	Road Construction	12 20 2001	115	65

1
2
3
4
5
6
7
8

1	R, L	Eastside Tributaries[9]	Sedimentation	Road Construction	12 20 2001	89	60

1 New River, Big French, Manzanita, North Fork, East Fork, North Fork
2 Dutch, Soldier, Oregon gulch, Conner Creek
3 Big Bar, Prairie Creek, Little French Creek
4 Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quimby, Hawkins, Sharber
5 Stuarts Fork, Swift Creek, Coffee Creek
6 Stuart Arm, Stoney Creek, Mule Creek, East Fork, Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek,
7 Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstream, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowslide Gulch, Scorpion Creek
8 East Fork Trinity, Cedar Creek, Squirrel Gulch
9 East Side Tributaries, Trinity Lake

Q Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.trinity.so.sed	R, Cr	South Fork Trinity River and Hayfork Creek	Sedimentation	Road Construction	12 1998	Not given, 19 miles long	33 (road total)

R Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
1 R1.epa.vanduzen.sed	R, Cr	Van Duzen River and Yager Creek	Sedimentation	Various	12 16 1999	429	1353 total allocation
1		Upper Basin	Sedimentation	Road Construction			7
1		Middle Basin	Sedimentation	Road Construction			22
1		Lower Basin	Sedimentation	Road Construction			20

S Region	**Type**	**Name**	**Pollutant Stressor**	**Potential**	**TMDL**	**Watershed**	**WLA** tons mi^2

9 2009-0009-DWQ as amended by 2010-0014-DWQ & 2012-0006-DWQ

				Sources	**Completion Date**	**Acres** mi^2	yr
6 R6.blackwood.sed	Cr	Blackwood Creek (Placer County)	Bedded Sediment	Various	9 2007	11	17272 total

T Region	**Type**	**Name**	**Pollutant Stressor**	**Potential Sources**	**TMDL Completion Date**	**Watershed Acres** mi^2	**WLA** tons mi^2 yr
6 R6.SquawCk.sed	R	Squaw Creek (Placer County)	Sedimentation /controllable sources	Various – basin plan amendment	4 13 2006	8.2	10,900

Adopted TMDLs for Construction Sediment Sources

Region	Type	Name	Pollutant Stressor	Potential Sources	**TMDL Completion Date**	**Watershed Area** mi^2	Waste load Allocation tons mi^2 yr
8	R	Newport Bay San Diego Creek Watershed	Sedimentation	Construction Land Development	1999	2.24 (1432 acres)	125,000 tons per Year (no more than 13,000 tons per year from construction sites)

APPENDIX 5:
Glossary

Active Areas of Construction
All areas subject to land surface disturbance activities related to the project including, but not limited to, project staging areas, immediate access areas and storage areas. All previously active areas are still considered active areas until final stabilization is complete. [The construction activity Phases used in this General Permit are the Preliminary Phase, Grading and Land Development Phase, Streets and Utilities Phase, and the Vertical Construction Phase.]

Active Treatment System (ATS)
A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment.

Acute Toxicity Test
A chemical stimulus severe enough to rapidly induce a negative effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute.

Air Deposition
Airborne particulates from construction activities.

Approved Signatory
A person who has been authorized by the Legally Responsible Person to sign, certify, and electronically submit Permit Registration Documents, Notices of Termination, and any other documents, reports, or information required by the General Permit, the State or Regional Water Board, or U.S. EPA. The Approved Signatory must be one of the following:

1. For a corporation or limited liability company: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation or limited liability company; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

3. For a municipality, State, Federal, or other public agency: a principal executive officer, ranking elected official, city manager, council president, or any other authorized public employee with managerial responsibility over the

construction or land disturbance project (including, but not limited to, project manager, project superintendent, or resident engineer);

4. For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated;

5. For a public university: an authorized university official;

6. For an individual: the individual, because the individual acts as both the Legally Responsible Person and the Approved Signatory; or

7. For any type of entity not listed above (e.g. trusts, estates, receivers): an authorized person with managerial authority over the construction or land disturbance project.

Beneficial Uses
As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT)
As defined by USEPA, BAT is a technology-based standard established by the Clean Water Act (CWA) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)
As defined by USEPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Professional Judgment (BPJ)
The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Best Management Practices (BMPs)
BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures,

and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Chain of Custody (COC)
Form used to track sample handling as samples progress from sample collection to the analytical laboratory. The COC is then used to track the resulting analytical data from the laboratory to the client. COC forms can be obtained from an analytical laboratory upon request.

Coagulation
The clumping of particles in a discharge to settle out impurities, often induced by chemicals such as lime, alum, and iron salts.

Common Plan of Development
Generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans or contract documents. Any of these documents could delineate the boundaries of a common plan area. However, broad planning documents, such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development.

Daily Average Discharge
The discharge of a pollutant measured during any 24-hour period that reasonably represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged during the day. For pollutants with limitations expressed in other units of measurement (e.g., concentration) the daily discharge is calculated as the average measurement of the pollutant throughout the day (40 CFR 122.2). In the case of pH, the pH must first be converted from a log scale.

Debris
Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Direct Discharge
A discharge that is routed directly to waters of the United States by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff.

Discharger
The Legally Responsible Person (see definition) or entity subject to this General Permit.

Dose Rate (for ATS)
In exposure assessment, dose (e.g. of a chemical) per time unit (e.g. mg/day), sometimes also called dosage.

Drainage Area
The area of land that drains water, sediment, pollutants, and dissolved materials to a common outlet.

Effluent
Any discharge of water by a discharger either to the receiving water or beyond the property boundary controlled by the discharger.

Effluent Limitation
Any numeric or narrative restriction imposed on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Erosion
The process, by which soil particles are detached and transported by the actions of wind, water, or gravity.

Erosion Control BMPs
Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Field Measurements
Testing procedures performed in the field with portable field-testing kits or meters.

Final Stabilization
All soil disturbing activities at each individual parcel within the site have been completed in a manner consistent with the requirements in this General Permit.

First Order Stream
Stream with no tributaries.

Flocculants
Substances that interact with suspended particles and bind them together to form flocs.

Good Housekeeping BMPs
BMPs designed to reduce or eliminate the addition of pollutants to construction site runoff through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Grading Phase (part of the Grading and Land Development Phase)
Includes reconfiguring the topography and slope including; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; land form grading; and stockpiling of select material for capping operations.

Hydromodification
Hydromodification is the alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources. Hydromodification can cause excessive erosion and/or sedimentation rates, causing excessive turbidity, channel aggradation and/or degradation.

Identified Organisms
Organisms within a sub-sample that is specifically identified and counted.

Inactive Areas of Construction
Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Index Period
The period of time during which bioassessment samples must be collected to produce results suitable for assessing the biological integrity of streams and rivers. Instream communities naturally vary over the course of a year,and sampling during the index period ensures that samples are collected during a time frame when communities are stable so that year-to-year consistency is obtained. The index period approach provides a cost-effective alternative to year-round sampling. Furthermore, sampling within the appropriate index period will yield results that are comparable to the assessment thresholds or criteria for a given region, which are established for the same index period. Because index periods differ for different parts of the state, it is essential to know the index period for your area.

K Factor
The soil erodibility factor used in the Revised Universal Soil Loss Equation (RUSLE). It represents the combination of detachability of the soil, runoff potential of the soil, and the transportability of the sediment eroded from the soil.

Legally Responsible Person
The Legally Responsible Person (LRP) will typically be the project proponent. The categories of persons or entities that are eligible to serve as the LRP are set forth below. For any construction or land disturbance project where multiple persons or entities are eligible to serve as the LRP, those persons or entities

shall select a single LRP. In exceptional circumstances, a person or entity that qualifies as the LRP may provide written authorization to another person or entity to serve as the LRP. In such a circumstance, the person or entity that provides the authorization retains all responsibility for compliance with the General Permit. Except as provided in category 2(d), a contractor who does not satisfy the requirements of any of the categories below is not qualified to be an LRP.

The following persons or entities may serve as an LRP:

1. A person, company, agency, or other entity that possesses a real property interest (including, but not limited to, fee simple ownership, easement, leasehold, or other rights of way) in the land upon which the construction or land disturbance activities will occur for the regulated site.

2. In addition to the above, the following persons or entities may also serve as an LRP:

    a. For linear underground/overhead projects, the utility company, municipality, or other public or private company or agency that owns or operates the LUP;

    b. For land controlled by an estate or similar entity, the person who has day-to-day control over the land (including, but not limited to, a bankruptcy trustee, receiver, or conservator);

    c. For pollution investigation and remediation projects, any potentially responsible party that has received permission to conduct the project from the holder of a real property interest in the land; or

    d. For U.S. Army Corp of Engineers projects, the U.S. Army Corps of Engineers may provide written authorization to its bonded contractor to serve as the LRP, provided, however, that the U.S. Army Corps of Engineers is also responsible for compliance with the general permit, as authorized by the Clean Water Act or the Federal Facilities Compliance Act.

Likely Precipitation Event
Any weather pattern that is forecasted to have a 50% or greater chance of producing precipitation in the project area. The discharger shall obtain likely precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

Maximum Allowable Threshold Concentration (MATC)
The allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity

testing conducted by an independent, third-party laboratory. A typical MATC would be:

The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Natural Channel Evolution
The physical trend in channel adjustments following a disturbance that causes the river to have more energy and degrade or aggrade more sediment. Channels have been observed to pass through 5 to 9 evolution types. Once they pass though the suite of evolution stages, they will rest in a new state of equilibrium.

Non-Storm Water Discharges
Discharges are discharges that do not originate from precipitation events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Non-Visible Pollutants
Pollutants associated with a specific site or activity that can have a negative impact on water quality, but cannot be seen though observation (ex: chlorine). Such pollutants being discharged are not authorized.

Numeric Action Level (NAL)
Level is used as a warning to evaluate if best management practices are effective and take necessary corrective actions. Not an effluent limit.

Original Sample Material
The material (i.e., macroinvertebrates, organic material, gravel, etc.) remaining after the subsample has been removed for identification.

pH
Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Post-Construction BMPs
Structural and non-structural controls which detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained.

Preliminary Phase (Pre-Construction Phase - Part of the Grading and Land Development Phase)
Construction stage including rough grading and/or disking, clearing and grubbing operations, or any soil disturbance prior to mass grading.

Project

Qualified SWPPP Developer
Individual who is authorized to develop and revise SWPPPs.

Qualified SWPPP Practitioner
Individual assigned responsibility for non-storm water and storm water visual observations, sampling and analysis, and responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

Qualifying Rain Event
Any event that produces 0.5 inches or more precipitation with a 48 hour or greater period between rain events.

R Factor
Erosivity factor used in the Revised Universal Soil Loss Equation (RUSLE). The R factor represents the erosivity of the climate at a particular location. An average annual value of R is determined from historical weather records using erosivity values determined for individual storms. The erosivity of an individual storm is computed as the product of the storm's total energy, which is closely related to storm amount, and the storm's maximum 30-minute intensity.

Rain Event Action Plan (REAP)
Written document, specific for each rain event, that when implemented is designed to protect all exposed portions of the site within 48 hours of any likely precipitation event.

Remaining Sub sampled Material
The material (e.g., organic material, gravel, etc.) that remains after the organisms to be identified have been removed from the subsample for identification. (Generally, no macroinvertebrates are present in the remaining subsampled material, but the sample needs to be checked and verified using a complete Quality Assurance (QA) plan)

Routine Maintenance
Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Runoff Control BMPs
Measures used to divert runon from offsite and runoff within the site.

Run-on
Discharges that originate offsite and flow onto the property of a separate project site.

Revised Universal Soil Loss Equation (RUSLE)
Empirical model that calculates average annual soil loss as a function of rainfall and runoff erosivity, soil erodibility, topography, erosion controls, and sediment controls.

Sampling and Analysis Plan
Document that describes how the samples will be collected, under what conditions, where and when the samples will be collected, what the sample will be tested for, what test methods and detection limits will be used, and what methods/procedures will be maintained to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

Sediment
Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation
Process of deposition of suspended matter carried by water, wastewater, or other liquids, by gravity. It is usually accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs
Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. They include those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (e.g., silt fence, sediment basin, fiber rolls, etc.).

Settleable Solids (SS)
Solid material that can be settled within a water column during a specified time frame. It is typically tested by placing a water sample into an Imhoff settling cone and then allowing the solids to settle by gravity for a given length of time. Results are reported either as a volume (mL/L) or a mass (mg/L) concentration.

Sheet Flow
Flow of water that occurs overland in areas where there are no defined channels where the water spreads out over a large area at a uniform depth.

Site

Soil Amendment
Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water.

Streets and Utilities Phase
Construction stage including excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer system and/or other drainage improvements.

Structural Controls
Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution

Suspended Sediment Concentration (SSC)
The measure of the concentration of suspended solid material in a water sample by measuring the dry weight of all of the solid material from a known volume of a collected water sample. Results are reported in mg/L.

Total Suspended Solids (TSS)
The measure of the suspended solids in a water sample includes inorganic substances, such as soil particles and organic substances, such as algae, aquatic plant/animal waste, particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

Toxicity
The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Turbidity
The cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The turbidity test is reported in Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU).

Vertical Construction Phase
The Build out of structures from foundations to roofing, including rough landscaping.

Waters of the United States
Generally refers to surface waters, as defined by the federal Environmental Protection Agency in 40 C.F.R. § 122.2.[1]

Water Quality Objectives (WQO)
Water quality objectives are defined in the California Water Code as limits or levels of water quality constituents or characteristics, which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

[1] The application of the definition of "waters of the United States" may be difficult to determine; there are currently several judicial decisions that create some confusion. If a landowner is unsure whether the discharge must be covered by this General Permit, the landowner may wish to seek legal advice.

APPENDIX 6:
Acronym List

ASBS	Areas of Special Biological Significance
ASTM	American Society of Testing and Materials; Standard Test Method for Particle-Size Analysis of Soils
ATS	Active Treatment System
BASMAA	Bay Area Storm water Management Agencies Association
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPJ	Best Professional Judgment
CAFO	Confined Animal Feeding Operation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CIWQS	California Integrated Water Quality System
CKD	Cement Kiln Dust
COC	Chain of Custody
CPESC	Certified Professional in Erosion and Sediment Control
CPSWQ	Certified Professional in Storm Water Quality
CSMP	Construction Site Monitoring Program
CTB	Cement Treated Base
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
CWP	Center for Watershed Protection
DADMAC	Diallyldimethyl-ammonium chloride
DDNR	Delaware Department of Natural Resources
DFG	Department of Fish and Game
DHS	Department of Health Services
DWQ	Division of Water Quality
EC	Electrical Conductivity
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESC	Erosion and Sediment Control
HSPF	Hydrologic Simulation Program Fortran
JTU	Jackson Turbidity Units
LID	Low Impact Development
LOEC	Lowest Observed Effect Concentration
LRP	Legally Responsible Person
LUP	Linear Underground/Overhead Projects

MATC	Maximum Allowable Threshold Concentration
MDL	Method Detection Limits
MRR	Monitoring and Reporting Requirements
MS4	Municipal Separate Storm Sewer System
MUSLE	Modified Universal Soil Loss Equation
NAL	Numeric Action Level
NEL	Numeric Effluent Limitation
NICET	National Institute for Certification in Engineering Technologies
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTR	National Toxics Rule
NTU	Nephelometric Turbidity Units
O&M	Operation and Maintenance
PAC	Polyaluminum chloride
PAM	Polyacrylamide
PASS	Polyaluminum chloride Silica/sulfate
POC	Pollutants of Concern
PoP	Probability of Precipitation
POTW	Publicly Owned Treatment Works
PRDs	Permit Registration Documents
PWS	Planning Watershed
QAMP	Quality Assurance Management Plan
QA/QC	Quality Assurance/Quality Control
REAP	Rain Event Action Plan
Regional Board	Regional Water Quality Control Board
ROWD	Report of Waste Discharge
RUSLE	Revised Universal Soil Loss Equation
RW	Receiving Water
SMARTS	Storm water Multi Application Reporting and Tracking System
SS	Settleable Solids
SSC	Suspended Sediment Concentration
SUSMP	Standard Urban Storm Water Mitigation Plan
SW	Storm Water
SWARM	Storm Water Annual Report Module
SWAMP	Surface Water Ambient Monitoring Program
SWMM	Storm Water Management Model
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
TC	Treatment Control
TDS	Total Dissolved Solids

TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USACOE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WDID	Waste Discharge Identification Number
WDR	Waste Discharge Requirements
WLA	Waste Load Allocation
WET	Whole Effluent Toxicity
WRCC	Western Regional Climate Center
WQBEL	Water Quality Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard

APPENDIX 7:
State and Regional Water Resources Control Board Contacts

NORTH COAST REGION (1)
5550 Skylane Blvd, Ste. A
Santa Rose, CA 95403
(707) 576-2220 FAX: (707)523-0135

SAN FRANCISCO BAY REGION (2)
1515 Clay Street, Ste. 1400
Oakland, CA 94612
(510) 622-2300 FAX: (510) 622-2640

CENTRAL COAST REGION (3)
895 Aerovista Place, Ste 101
San Luis Obispo, CA 93401
(805) 549-3147 FAX: (805) 543-0397

LOS ANGELES REGION (4)
320 W. 4th Street, Ste. 200
Los Angeles, CA 90013
(213) 576-6600 FAX: (213) 576-6640

CENTRAL VALLEY REGION (5S)
11020 Sun Center Dr., #200
Rancho Cordova, CA 95670-6114
(916) 464-3291 FAX: (916) 464-4645

FRESNO BRANCH OFFICE (5F)
1685 E St.
Fresno, CA 93706
(559) 445-5116 FAX: (559) 445-5910

REDDING BRANCH OFFICE (5R)
364 Knollcrest Drive, Ste. 205
Redding, CA 96002
(530) 224-4845 FAX: (530) 224-4857

LAHONTAN REGION (6 SLT)
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
(530) 542-5400 FAX: (530) 544-2271

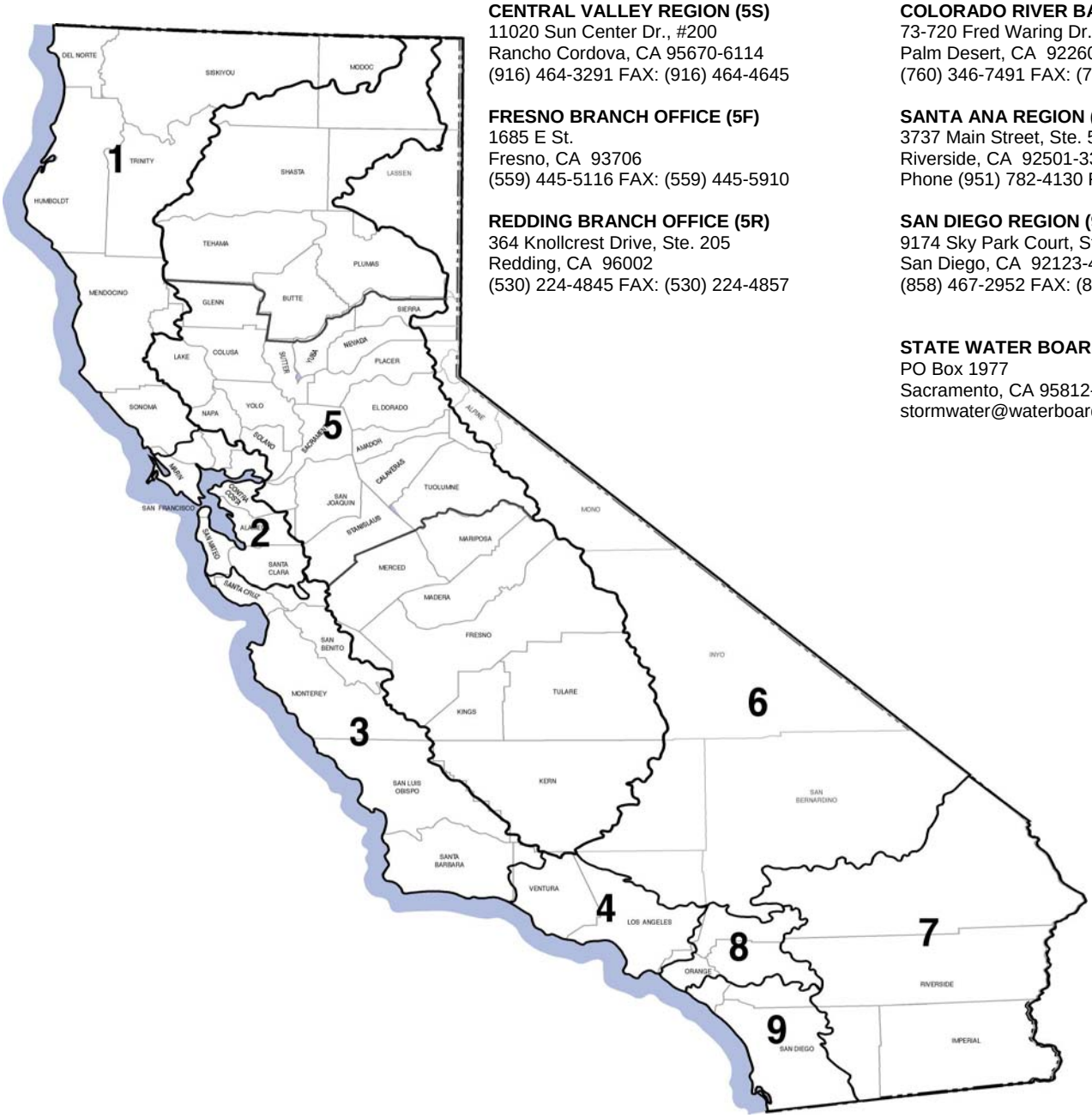
VICTORVILLE OFFICE (6V)
14440 Civic Drive, Ste. 200
Victorville, CA 92392-2383
(760) 241-6583 FAX: (760) 241-7308

COLORADO RIVER BASIN REGION (7)
73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491 FAX: (760) 341-6820

SANTA ANA REGION (8)
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
Phone (951) 782-4130 FAX: (951) 781-6288

SAN DIEGO REGION (9)
9174 Sky Park Court, Ste. 100
San Diego, CA 92123-4340
(858) 467-2952 FAX: (858) 571-6972

STATE WATER BOARD
PO Box 1977
Sacramento, CA 95812-1977
stormwater@waterboards.ca.gov



State Water Resources Control Board
Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5455
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100
Fax (916) 341-5463 • http://www.waterboards.ca.gov

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

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I. BACKGROUND

A. History

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that established storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 lowered the permitting threshold from five acres to one acre.

While federal regulations allow two permitting options for storm water discharges (Individual Permits and General Permits), the State Water Board has elected to adopt only one statewide General Permit at this time that will apply to most storm water discharges associated with construction activity.

On August 19, 1999, the State Water Board reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ). On December 8, 1999 the State Water Board amended Order 99-08-DWQ to apply to sites as small as one acre.

The General Permit accompanying this fact sheet regulates storm water runoff from construction sites. Regulating many storm water discharges under one permit will greatly reduce the administrative burden associated with permitting individual storm water discharges. To obtain coverage under this General Permit, dischargers shall electronically file the Permit Registration Documents (PRDs), which includes a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other compliance related documents required by this General Permit and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Quality Control Boards (Regional Water Boards) may issue General Permits or Individual Permits containing more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers.

B. Legal Challenges and Court Decisions

1. Early Court Decisions

Shortly after the passage of the CWA, the USEPA promulgated regulations exempting most storm water discharges from the NPDES permit requirements. (See 40 C.F.R. § 125.4 (1975); see also *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1372 (*Costle*); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1163 (*Defenders of Wildlife*).) When environmental groups challenged this exemption in federal court, the District of Columbia Court of Appeals invalidated the regulation, holding that the USEPA "does not have authority to exempt categories of point sources from the permit requirements of [CWA] § 402." (*Costle*, 568 F.2d at 1377.) The *Costle* court rejected the USEPA's argument that effluent-based storm sewer regulation was administratively infeasible because of the variable nature of storm water pollution and the number of affected storm sewers throughout the country. (*Id.* at 1377-82.) Although the court acknowledged the practical problems relating to storm sewer regulation, the court found the USEPA had the flexibility under the CWA to design regulations that would overcome these problems. (*Id.* at 1379-83.) In particular, the court pointed to general permits and permits based on requiring best management practices (BMPs).

During the next 15 years, the USEPA made numerous attempts to reconcile the statutory requirement of point source regulation with the practical problem of regulating possibly millions of diverse point source discharges of storm water. (See *Defenders of Wildlife*, 191 F.3d at 1163; see also Gallagher, Clean Water Act in Environmental Law Handbook (Sullivan, edit., 2003)
p. 300 (Environmental Law Handbook); Eisen, *Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Storm Water Runoff* (1995) 48 Wash. U.J. Urb. & Contemp. L.1, 40-41 [Regulation of Urban Storm Water Runoff].)

In 1987, Congress amended the CWA to require NPDES permits for storm water discharges. (See CWA § 402(p), 33 U.S.C. § 1342(p); *Defenders of Wildlife,* 191 F.3d at 1163; *Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1296.) In these amendments, enacted as part of the Water Quality Act of 1987, Congress distinguished between industrial and municipal storm water discharges. With respect to industrial storm water discharges, Congress provided that NPDES permits "shall meet all applicable provisions of this section and section 1311 [requiring the USEPA to establish effluent limitations under specific timetables]." (CWA § 402(p)(3)(A), 33 U.S.C. § 1342(p)(3)(A); see also *Defenders of Wildlife,* 191 F.3d at 1163-64.)

In 1990, USEPA adopted regulations specifying what activities were considered “industrial” and thus required discharges of storm water associated with those activities to obtain coverage under NPDES permits. (55 Fed. Reg. 47,990 (1990); 40 C.F.R. § 122.26(b)(14).) Construction activities, deemed a subset of the industrial activities category, must also be regulated by an NPDES permit. (40 C.F.R. § 122.26(b)(14)(x)). In 1999, USEPA issued regulations for “Phase II” of storm water regulation, which required most small construction sites (1-5 acres) to be regulated under the NPDES program. (64 Fed. Reg. 68,722; 40 C.F.R. § 122.26(b)(15)(i).)

2. Court Decisions on Public Participation

Two recent federal court opinions have vacated USEPA rules that denied meaningful public review of NPDES permit conditions. On January 14, 2003, the Ninth Circuit Court of Appeals held that certain aspects of USEPA’s Phase II regulations governing MS4s were invalid primarily because the general permit did not contain express requirements for public participation. (*Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832.) Specifically, the court determined that applications for general permit coverage (including the Notice of Intent (NOI) and Storm Water Management Program (SWMP)) must be made available to the public, the applications must be reviewed and determined to meet the applicable standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. (*Id.* at 852-54.) Similarly, on February 28, 2005, the Second Circuit Court of Appeals held that the USEPA's confined animal feeding operation (CAFO) rule violated the CWA because it allowed dischargers to write their own nutrient management plans without public review. (*Waterkeeper Alliance v. USEPA* (2d Cir. 2005) 399 F.3d 486.) Although neither decision involved the issuance of construction storm water permits, the State Water Board’s Office of Chief Counsel has recommended that the new General Permit address the courts’ rulings where feasible[1].

[1] In *Texas Independent Producers and Royalty Owners Assn. v. USEPA* (7th Cir. 2005) 410 F.3d 964, the Seventh Circuit Court of Appeals held that the USEPA’s construction general permit was not required to provide the public with the opportunity for a public hearing on the Notice of Intent or Storm Water Pollution Prevention Plan. The Seventh Circuit briefly discussed why it agreed with the Ninth Circuit’s dissent in *Environmental Defense Center*, but

The CWA and the USEPA's regulations provide states with the discretion to formulate permit terms, including specifying best management practices (BMPs), to achieve strict compliance with federal technology-based and water quality-based standards. (*Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1308.) Accordingly, this General Permit has developed specific BMPs as well as numeric action levels (NALs) in order to achieve these minimum federal standards. In addition, the General Permit requires a SWPPP and REAP (another dynamic, site-specific plan) to be developed but has removed all language requiring the discharger to implement these plans – instead, the discharger is required to comply with specific requirements. By requiring the dischargers to implement these specific BMPs and NALs, this General Permit ensures that the dischargers do not "write their own permits." As a result this General Permit does not require each discharger's SWPPP and REAP to be reviewed and approved by the Regional Water Boards.

This General Permit also requires dischargers to electronically file all permit-related compliance documents. These documents include, but are not limited to, NOIs, SWPPPs, annual reports, Notice of Terminations (NOTs), and numeric action level (NAL) exceedance reports. Electronically submitted compliance information is immediately available to the public, as well as the Regional Water Quality Control Board (Regional Water Board) offices, via the Internet. In addition, this General Permit enables public review and hearings on permit applications when appropriate. Under this General Permit, the public clearly has a meaningful opportunity to participate in the permitting process.

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generally did not discuss the substantive holdings in *Environmental Defense Center* and *Waterkeeper Alliance*, because neither court addressed the initial question of whether the plaintiffs had standing to challenge the permits at issue. However, notwithstanding the Seventh Circuit's decision, it is not binding or controlling on the State Water Board because California is located within the Ninth Circuit.

C. Blue Ribbon Panel of Experts and Feasibility of Numeric Effluent Limitations

In 2005 and 2006, the State Water Board convened an expert panel (panel) to address the feasibility of numeric effluent limitations (NELs) in California's storm water permits. Specifically, the panel was asked to address:

"Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits? How would such limitations or criteria be established, and what information and data would be required?"

"The answers should address industrial general permits, construction general permits, and area-wide municipal permits. The answers should also address both technology-based limitations or criteria and water quality-based limitations or criteria. In evaluating establishment of any objective criteria, the panel should address all of the following:

The ability of the State Water Board to establish appropriate objective limitations or criteria;

How compliance determinations would be made;

The ability of dischargers and inspectors to monitor for compliance; and

The technical and financial ability of dischargers to comply with the limitations or criteria."

Through a series of public participation processes (State Water Board meetings, State Water Board workshops, and the solicitation of written comments), a number of water quality, public process and overall program effectiveness problems were identified. Some of these problems are addressed through this General Permit.

D. Summary of Panel Findings on Construction Activities

The panel's final report can be downloaded and viewed through links at www.waterboards.ca.gov or by clicking here[2].

The panel made the following observations:

"Limited field studies indicate that traditional erosion and sediment controls are highly variable in performance, resulting in highly variable turbidity levels in the site discharge."

"Site-to-site variability in runoff turbidity from undeveloped sites can also be quite large in many areas of California, particularly in more arid regions with less natural vegetative cover and steep slopes."

[2] http://www.waterboards.ca.gov/stormwtr/docs/numeric/swpanel_final_report.pdf

"Active treatment technologies involving the use of polymers with relatively large storage systems now exist that can provide much more consistent and very low discharge turbidity. However, these technologies have as yet only been applied to larger construction sites, generally five acres or greater. Furthermore, toxicity has been observed at some locations, although at the vast majority of sites, toxicity has not occurred. There is also the potential for an accidental large release of such chemicals with their use."

"To date most of the construction permits have focused on TSS and turbidity, but have not addressed other, potentially significant pollutants such as phosphorus and an assortment of chemicals used at construction sites."

"Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors."

"The quality of storm water discharges from construction sites that effectively employ BMPs likely varies due to site conditions such as climate, soil, and topography."

"The States of Oregon and Washington have recently adopted similar concepts to the Action Levels described earlier."

In addition, the panel made the following conclusions:

"It is the consensus of the Panel that active treatment technologies make Numeric Limits technically feasible for pollutants commonly associated with storm water discharges from construction sites (e.g. TSS and turbidity) for larger construction sites. Technical practicalities and cost-effectiveness may make these technologies less feasible for smaller sites, including small drainages within a larger site, as these technologies have seen limited use at small construction sites. If chemical addition is not permitted, then Numeric Limits are not likely feasible."

"The Board should consider Numeric Limits or Action Levels for other pollutants of relevance to construction sites, but in particular pH. It is of particular concern where fresh concrete or wash water from cement mixers/equipment is exposed to storm water."

"The Board should consider the phased implementation of Numeric Limits and Action Levels, commensurate with the capacity of the dischargers and support industry to respond."

E. How the Panel's Findings are Used in this General Permit

The State Water Board carefully considered the findings of the panel and related public comments. The State Water Board also reviewed and considered the comments regarding statewide storm water policy and the reissuance of the Industrial General Permit. From the input received the State Water Board identified some permit and program performance gaps that are addressed in this General Permit. The Summary of Significant Changes (below) in this General Permit are a direct result of this process.

F. Summary of Significant Changes in This General Permit

The State Water Board has significant changes to Order 99-08-DWQ. This General Permit differs from Order 99-08-DWQ in the following significant ways:

Rainfall Erosivity Waiver: this General Permit includes the option allowing a small construction site (>1 and <5 acres) to self-certify if the rainfall erosivity value (R value) for their site's given location and time frame compute to be less than or equal to 5.

Technology-Based Numeric Action Levels: this General Permit includes NALs for pH and turbidity.

Risk-Based Permitting Approach: this General Permit establishes three levels of risk possible for a construction site. Risk is calculated in two parts: 1) Project Sediment Risk, and 2) Receiving Water Risk.

Minimum Requirements Specified: this General Permit imposes more minimum BMPs and requirements that were previously only required as elements of the SWPPP or were suggested by guidance.

Project Site Soil Characteristics Monitoring and Reporting: this General Permit provides the option for dischargers to monitor and report the soil characteristics at their project location. The primary purpose of this requirement is to provide better risk determination and eventually better program evaluation.

Effluent Monitoring and Reporting: this General Permit requires effluent monitoring and reporting for pH and turbidity in storm water discharges. The purpose of this monitoring is to evaluate whether NALs and NELs for Active Treatment Systems included in this General Permit are exceeded.

Receiving Water Monitoring and Reporting: this General Permit requires some Risk Level 3 and LUP Type 3 dischargers to monitor receiving waters and conduct bioassessments.

Post-Construction Storm Water Performance Standards: this General Permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES permit, to avoid, minimize and/or mitigate post-construction storm water runoff impacts.

Rain Event Action Plan: this General Permit requires certain sites to develop and implement a Rain Event Action Plan (REAP) that must be designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event.

Annual Reporting: this General Permit requires all projects that are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and pubic information.

Certification/Training Requirements for Key Project Personnel: this General Permit requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with General Permit requirements.

Linear Underground/Overhead Projects: this General Permit includes requirements for all Linear Underground/Overhead Projects (LUPs).

II. RATIONALE

A. General Permit Approach

A general permit for construction activities is an appropriate permitting approach for the following reasons:

1. A general permit is an efficient method to establish the essential regulatory requirements for a broad range of construction activities under differing site conditions;

2. A general permit is the most efficient method to handle the large number of construction storm water permit applications;

3. The application process for coverage under a general permit is far less onerous than that for individual permit and hence more cost effective;

4. A general permit is consistent with USEPA's four-tier permitting strategy, the purpose of which is to use the flexibility provided by the CWA in designing a workable and efficient permitting system; and

5. A general permit is designed to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. It is appropriate when the discharge characteristics are sufficiently similar, and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges. In most cases, the general permit will provide sufficient and appropriate management requirements to protect the quality of receiving waters from discharges of storm water from construction sites.

There may be instances where a general permit is not appropriate for a specific construction project. A Regional Water Board may require any discharger otherwise covered under the General Permit to apply for and obtain an Individual Permit or apply for coverage under a more specific General Permit. The Regional Water Board must determine that this General Permit does not provide adequate assurance that water quality will be protected, or that there is a site-specific reason why an individual permit should be required.

B. Construction Activities Covered

1. **Construction activity subject to this General Permit:**

Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or sale of one or more acres of disturbed land surface.

Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to USEPA regulations, such as dairy barns or food processing facilities.

Construction activity associated with LUPs including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete

and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.[3]

Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction[4] (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction projects that intend to disturb one or more acres of land within the jurisdictional boundaries of a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the project.

2. Linear Underground/Overhead Projects (LUPs) subject to this General Permit:

Underground/overhead facilities typically constructed as LUPs include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Water Quality Order 2003-0007-DWQ regulated construction activities associated with small LUPs that resulted in land disturbances greater than one acre, but less than five acres. These projects were considered non-traditional construction projects. Attachment A of this Order now regulates all construction activities from LUPs resulting in land disturbances greater than one acre.

3. Common Plan of Development or Sale

USEPA regulations include the term “common plan of development or sale” to ensure that acreage within a common project does not artificially escape the permit requirements because construction activities are phased, split among smaller parcels, or completed by different owners/developers. In the absence of an

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[3] Pursuant to the Ninth Circuit Court of Appeals’ decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the USEPA’s petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

[4] A construction site that includes a dredge and/or fill discharge to any water of the United States (e.g., wetland, channel, pond, or marine water) requires a CWA Section 404 permit from the U.S. Army Corps of Engineers and a CWA Section 401 Water Quality Certification from the Regional Water Board or State Water Board.

exact definition of “common plan of development or sale,” the State Water Board is required to exercise its regulatory discretion in providing a common sense interpretation of the term as it applies to construction projects and permit coverage. An overbroad interpretation of the term would render meaningless the clear “one acre” federal permitting threshold and would potentially trigger permitting of almost any construction activity that occurs within an area that had previously received area-wide utility or road improvements.

Construction projects generally receive grading and/or building permits (Local Permits) from local authorities prior to initiating construction activity. These Local Permits spell out the scope of the project, the parcels involved, the type of construction approved, etc. Referring to the Local Permit helps define “common plan of development or sale.” In cases such as tract home development, a Local Permit will include all phases of the construction project including rough grading, utility and road installation, and vertical construction. All construction activities approved in the Local Permit are part of the common plan and must remain under the General Permit until construction is completed. For custom home construction, Local Permits typically only approve vertical construction as the rough grading, utilities, and road improvements were already independently completed under the a previous Local Permit. In the case of a custom home site, the homeowner must submit plans and obtain a distinct and separate Local Permit from the local authority in order to proceed. It is not the intent of the State Water Board to require permitting for an individual homeowner building a custom home on a private lot of less than one acre if it is subject to a separate Local Permit. Similarly, the installation of a swimming pool, deck, or landscaping that disturbs less than one acre that was not part of any previous Local Permit are not required to be permitted.

The following are several examples of construction activity of less than one acre that would require permit coverage:

a. A landowner receives a building permit(s) to build tract homes on a 100-acre site split into 200 one-third acre parcels, (the remaining acreage consists of streets and parkways) which are sold to individual homeowners as they are completed. The landowner completes and sells all the parcels except for two. Although the remaining two parcels combined are less than one acre, the landowner must continue permit coverage for the two parcels.

b. One of the parcels discussed above is sold to another owner who intends to complete the construction as already approved in the Local Permit. The new landowner must file Permit Registration Documents (PRDs) to complete the construction even if the new landowner is required to obtain a separate Local Permit.

c. Landowner in (1) above purchases 50 additional one half-acre parcels adjacent to the original 200-acre project. The landowner seeks a Local Permit (or amendment to existing Local permit) to build on 20 parcels while leaving the remaining 30 parcels for future development. The landowner must amend PRDs to include the 20 parcels 14 days prior to commencement of construction activity on those parcels.

C. Construction Activities Not Covered

1. Traditional Construction Projects Not Covered

This General Permit does not apply to the following construction activity:

a. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

b. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

c. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.

d. Discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction projects in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit. Construction projects within the Lahontan region must also comply with the Lahontan Region Project Guideline for Erosion Control (R6T-2005-0007 Section), which can be found at **http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2005/r6t_2005_0007.pdf**

e. Construction activity that disturbs less than one acre of land surface, unless part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

f. Construction activity covered by an individual NPDES Permit for storm water discharges.

g. Landfill construction activity that is subject to the Industrial General Permit.

h. Construction activity that discharges to Combined Sewer Systems.

i. Conveyances that discharge storm water runoff combined with municipal sewage.

j. Discharges of storm water identified in CWA § 402(*l*)(2), 33 U.S.C. § 1342(*l*)(2).

2. **Linear Projects Not Covered**

a. LUP construction activity does not include linear routine maintenance projects. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements, or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:

i. Maintain the original purpose of the facility or hydraulic capacity.

ii. Update existing lines[5] and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity.

iii. Repairing leaks.

[5]Update existing lines includes replacing existing lines with new materials or pipes.

Routine maintenance does not include construction of new[6] lines or facilities resulting from compliance with applicable codes, standards, and regulations.

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must secure new areas, those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement, or agreement.

b. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).

c. Tie-ins conducted immediately adjacent to "energized" or "pressurized" facilities by the discharger are not considered construction activities where all other LUP construction activities associated with the tie-in are covered by an NOI and SWPPP of a third party or municipal agency.

3. **EPA's Small Construction Rainfall Erosivity Waiver**

EPA's Storm Water Phase II Final Rule provides the option for a Small Construction Rainfall Erosivity Waiver. This waiver applies to small construction sites between 1 and 5 acres, and allows permitting authorities to waive those sites that do not have adverse water quality impacts.

Dischargers eligible for this waiver are exempt from Construction General Permit Coverage. In order to obtain the waiver, the discharger must certify to the State Water Board that small construction activity will occur only when the rainfall erosivity factor is less than 5 ("R" in the Revised Universal Soil Loss Equation). The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a practice that provides interim non-vegetative stabilization can be used for the end of the construction period. The operator must agree (as a condition waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the General Permit have been met. If use of this interim stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with a certification statement constitutes acceptance of and commitment to complete the final stabilization process. The discharger must submit a waiver certification to the State Board prior to commencing construction activities.

USEPA funded a cooperative agreement with Texas A&M University to develop an online rainfall erosivity calculator. Dischargers can access the calculator from EPA's website at: www.epa.gov/npdes/stormwater/cgp. Use of the calculator allows the discharger to determine potential eligibility for the rainfall erosivity waiver. It may also be useful in determining the time periods during which construction activity could be waived from permit coverage.

[6]New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

D. Obtaining and Terminating Permit Coverage

The appropriate Legally Responsible Person (LRP) must obtain coverage under this General Permit. To obtain coverage, the LRP or the LRP's Approved Signatory must file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.

To obtain coverage under this General Permit, LRPs must electronically file the PRDs, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by this General Permit, and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Boards may issue General Permits or Individual Permits that contain more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers that obtain coverage under Individual Permits.

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

The application requirements of the General Permit establish a mechanism to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the General Permit and to document the discharger's knowledge of the General Permit's requirements.

This General Permit provides a grandfathering exception to existing dischargers subject to Water Quality Order No. 99-08-DWQ. Construction projects covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at Risk Level 1. LUP projects covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage at LUP Type 1. The Regional Water Boards have the authority to require Risk Determination to be performed on projects currently covered under Water Quality Order No. 99-08-DWQ and 2003-0007-DWQ where they deem necessary.

LRPs must file a Notice of Termination (NOT) with the Regional Water Board when construction is complete and final stabilization has been reached or ownership has been transferred. The discharger must certify that all State and local requirements have been met in accordance with this General Permit. In order for construction to be found complete, the discharger must install post-construction storm water management measures and establish a long-term maintenance plan. This requirement is intended to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect water quality impacts (i.e., pollution and/or hydromodification) upstream and downstream. Specifically, the discharger must demonstrate compliance with the post-construction standards set forth in this General Permit (Section XIII). The discharger is responsible for all compliance issues including all annual fees until the NOT has been filed and approved by the local Regional Water Board.

E. Discharge Prohibitions

This General Permit authorizes the discharge of storm water to surface waters from construction activities that result in the disturbance of one or more acres of land, provided that the discharger satisfies all permit conditions set forth in the Order. This General Permit prohibits the discharge of pollutants other than storm water and non-storm water discharges authorized by this General Permit or another NPDES permit. This General Permit also prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges. In addition, this General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the nine Regional Water Boards. Discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.

Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural BMPs. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction projects. Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water dewatering, and other discharges not subject to a separate general NPDES permit adopted by a region. Therefore this General Permit authorizes such discharges provided they meet the following conditions.

These authorized non-storm water discharges must:

1. be infeasible to eliminate;
2. comply with BMPs as described in the SWPPP;
3. filter or treat, using appropriate technology, all dewatering discharges from sedimentation basins;
4. meet the NALs for pH and turbidity; and
5. not cause or contribute to a violation of water quality standards.

Additionally, authorized non-storm water discharges must not be used to clean up failed or inadequate construction or post-construction BMPs designed to keep materials onsite. Authorized non-storm water dewatering discharges may require a permit because some Regional Water Boards have adopted General Permits for dewatering discharges.

This General Permit prohibits the discharge of storm water that causes or threatens to cause pollution, contamination, or nuisance.

F. Effluent Standards for All Types of Discharges

1. Technology-Based Effluent Limitations

Permits for storm water discharges associated with construction activity must meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize best available technology economically achievable (BAT) for toxic pollutants and non conventional pollutants and best conventional pollutant control technology (BCT) for conventional pollutants. Additionally, these provisions require controls of pollutant discharges to reduce pollutants and any more stringent controls necessary to meet water quality standards. The USEPA has already established such limitations, known as effluent limitation guidelines (ELGs), for some industrial categories. This is not the case with construction discharges. In instances where there are no ELGs the permit writer is to use best professional judgment (BPJ) to establish requirements that the discharger must meet using BAT/BCT technology. This General Permit contains only narrative effluent limitations and does not contain numeric effluent limitations, except for Active Treatment Systems (ATS).

Order No. 2009-0009-DWQ, as originally adopted by the State Water Board on September 2, 2009, contained numeric effluent limitations for pH (within the range of 6.0 and 9.0 pH units) and turbidity (500 NTU) that applied only to Risk Level 3 and LUP Type 3 construction sites. The State Water Board adopted the numeric effluent limitations as technology-based effluent limitations based upon its best professional judgment. The California Building Industry Association, the Building Industry Legal Defense

Foundation, and the California Business Properties Association (petitioners) challenged Order No. 2009-0009-DWQ in *California Building Industry Association et al. v. State Water Resources Control Board*. On December 27, 2011, the Superior Court issued a judgment and writ of mandamus. The Superior Court ruled in favor of the State Water Board on almost all of the issues the petitioners raised, but the Superior Court invalidated the numeric effluent limitations for pH and turbidity for Risk Level 3 and LUP Type 3 sites because it determined that the State Water Board did not have sufficient BMP performance data to support those numeric effluent limitations. Therefore, the Superior Court concluded that the State Water Board did not comply with the federal regulations that apply to the use of best professional judgment. In invalidating the numeric effluent limitations, the Superior Court also suspended two ancillary requirements (a compliance storm event provision and receiving water monitoring at Risk Level 3 and LUP Type 3 sites that violated the numeric effluent limitations) that related solely to the invalidated numeric effluent limitations.

As a result of the Superior Court's writ of mandamus, this Order no longer contains numeric effluent limitations for pH and turbidity, except for ATS. In addition, as a result of the Superior Court's writ of mandamus, the receiving water monitoring requirements for Risk Level 3 and LUP Type 3 sites were suspended until the State Water Board amended this Order to restore the receiving water monitoring requirements. As amended, this Order now requires Risk Level 3 and LUP Type 3 Dischargers with direct discharges to surface waters to conduct receiving water monitoring whenever their effluent exceeds specified receiving water monitoring triggers. The receiving water monitoring triggers were established at the same levels as the previous numeric effluent limitations (effluent pH outside the range of 6.0 and 9.0 pH units or turbidity exceeding 500 NTU). In restoring the receiving water monitoring requirements, the State Water Board determined that it was appropriate to require receiving water monitoring for these types of sites with direct discharges to surface waters that exceeded the receiving water monitoring triggers under any storm event scenarios, because these sites represent the highest threat to receiving water quality. An exceedance of a receiving water monitoring trigger does not constitute a violation of this General Permit. These receiving water monitoring requirements take effect on the effective date of the amendment to this Order.

BAT/BCT technologies not only include passive systems such as conventional runoff and sediment control, but also treatment systems such as coagulation/flocculation using sand filtration, when appropriate. Such technologies allow for effective treatment of soil particles less 0.02 mm (medium silt) in diameter. The discharger must install structural controls, as necessary, such as erosion and sediment controls that meet BAT and BCT to achieve compliance with water quality standards. The narrative effluent limitations constitute compliance with the requirements of the CWA.

Because the permit is an NPDES permit, there is no legal requirement to address the factors set forth in Water Code sections 13241 and 13263, unless the permit is more stringent than what federal law requires. (See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618, 627.) None of the requirements in this permit are more stringent than the minimum federal requirements, which include technology-based requirements achieving BAT/BCT and strict compliance with water quality standards. The inclusion of numeric effluent limitations (NELs) in the permit for Active Treatment Systems does not cause the permit to be more stringent than current federal law. NELs and best management practices are simply two different methods of achieving the same federal requirement: strict compliance with state water quality standards. Federal law authorizes both narrative and numeric effluent limitations to meet state water quality standards. The use of NELs to achieve compliance with water quality standards is not a more stringent requirement than the use of BMPs. (State Water Board Order No. WQ 2006-0012 (*Boeing*).) Accordingly, the State Water Board does not need to take into account the factors in Water Code sections 13241 and 13263.

The State Water Board has concluded that the establishment of BAT/BCT will not create or aggravate other environmental problems through increases in air pollution, solid waste generation, or energy consumption. While there may be a slight increase in non-water quality impacts due to the implementation of additional monitoring or the construction of additional BMPs, these impacts will be negligible in comparison with the construction activities taking place on site and would be justified by the water quality benefits associated with compliance.

pH Receiving Water Monitoring Trigger

Given the potential contaminants, the minimum standard method for control of pH in runoff requires the use of preventive measures such as avoiding concrete pours during rainy weather, covering concrete and directing flow away from fresh concrete if a pour occurs during rain, covering scrap drywall and stucco materials when stored outside and potentially exposed to rain, and other housekeeping measures. If necessary, pH-impaired storm water from construction sites can be treated in a filter or settling pond or basin, with additional natural or chemical treatment required to meet pH limits set forth in this permit. The basin or pond acts as a collection point and holds storm water for a sufficient period for the contaminants to be settled out, either naturally or artificially, and allows any additional treatment to take place. The State Water Board considers these techniques to be equivalent to BCT. In determining the pH concentration trigger for discharges, the State Water Board used BPJ to set these limitations.

The chosen trigger was established by calculating three standard deviations above and below the mean pH of runoff from highway construction sites[7] in California. Proper implementation of BMPs should result in discharges that are within the range of 6.0 to 9.0 pH Units.

Turbidity Receiving Water Monitoring Trigger

The Turbidity receiving water monitoring trigger of 500 NTU is a technology-based trigger and was developed using three different analyses aimed at finding the appropriate threshold to set the technology-based limit to ensure environmental protection, effluent quality and cost-effectiveness. The analyses fell into three, main types: (1) an ecoregion-specific dataset developed by Simon et. al. (2004) [8]; (2) Statewide Regional Water Quality Control Board enforcement data; and (3) published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites.

A 1:3 relationship between turbidity (expressed as NTU) and suspended sediment concentration (expressed as mg/L) is assumed based on a review of suspended sediment and turbidity data from three gages used in the USGS National Water Quality Assessment Program:

USGS 11074000 SANTA ANA R BL PRADO DAM CA
USGS 11447650 SACRAMENTO R A FREEPORT CA
USGS 11303500 SAN JOAQUIN R NR VERNALIS CA

The receiving water monitoring trigger represents staff determination that the trigger value is the most practicable based on available data. The turbidity receiving water monitoring trigger represents a bridge between the narrative effluent limitations and receiving water limitations. To support this receiving water monitoring trigger, State Water Board staff analyzed construction site discharge information (monitoring data, estimates) and receiving water monitoring information.

Since the turbidity receiving water monitoring trigger represents an appropriate threshold level expected at a site, compliance with this value does not necessarily represent compliance with either the narrative effluent limitations (as enforced through the BAT/BCT standard) or the receiving water limitations. In the San Diego region, some inland surface waters have a receiving water objective for turbidity equal to 20 NTU. Obviously a discharge up to, but not exceeding, the turbidity receiving water monitoring trigger of

[7] Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf.

500 NTU may still cause or contribute to the exceedance of the 20 NTU standard. Most of the waters of the State are protected by turbidity objectives based on background conditions**.**

Table 1 - Regional Water Board Basin Plans, Water Quality Objectives for Turbidity

REGIONAL WATER BOARD	WQ Objective	Background/Natural Turbidity	Maximum Increase
1	Based on background	All levels	20%
2	Based on background	> 50 NTU	10%
3	Based on background	0-50 JTU 50-100 JTU > 100 JTU	20% 10 NTU 10%
4	Based on background	0-50 NTU > 50 NTU	20% 10%
5	Based on background	0-5 NTU 5-50 NTU 50-100 NTU >100 NTU	1 NTU 20% 10 NTU 10%
6	Based on background	All levels	10%
7	Based on background	N/A	N/A
8	Based on background	0-50 NTU 50-100 NTU >100 NTU	20% 10 NTU 10%
9	Inland Surface Waters, 20 NTU All others, based on background	 0-50 NTU 50-100 NTU >100 NTU	 20% 10 NTU 10%

Table 2 shows the suspended sediment concentrations at the 1.5 year flow recurrence interval for the 12 ecoregions in California from Simon et. al (2004).

Table 2 - Results of Ecoregion Analysis

Ecoregion	Percent of California Land Area	Median Suspended Sediment Concentration (mg/L)
1	9.1	874
4	0.2	120
5	8.8	35.6
6	20.7	1530
7	7.7	122
8	3.0	47.4
9	9.4	284
13	5.2	143
14	21.7	5150
78	8.1	581
80	2.4	199
81	3.7	503
Area-weighted average		1633

If a 1:3 relationship between turbidity and suspended sediment is assumed, the median turbidity is 544 NTU.

The following table is composed of turbidity readings measured in NTUs from administrative civil liability (ACL) actions for construction sites from 2003 - 2009. This data was derived from the complete listing of construction-related ACLs for the six year period. All ACLs were reviewed and those that included turbidimeter readings at the point of storm water discharge were selected for this dataset.

Table 3 – ACL Sampling Data taken by Regional Water Board Staff

WDID#	Region	Discharger	Turbidity (NTU)
5S34C331884	5S	Bradshaw Interceptor Section 6B	1800
5S05C325110	5S	Bridalwood Subdivision	1670
5S48C336297	5S	Cheyenne at Browns Valley	1629
5R32C314271	5R	Grizzly Ranch Construction	1400
6A090406008	6T	El Dorado County Department of Transportation, Angora Creek	97.4
5S03C346861	5S	TML Development, LLC	1600
6A31C325917	6T	Northstar Village	See Subdata Set

Subdata Set - Turbidity for point of storm water runoff discharge at Northstar Village

Date	Turbidity (NTU)	Location
10/5/2006	900	Middle Martis Creek
11/2/2006	190	Middle Martis Creek
01/04/2007	36	West Fork, West Martis Creek
02/08/2007	180	Middle Martis Creek
02/09/2007	130	Middle Martis Creek
02/09/2007	290	Middle Martis Creek
02/09/2007	100	West Fork, West Martis Creek
02/10/2007	28	Middle Martis Creek
02/10/2007	23	Middle Martis Creek
02/10/2007	32	Middle Martis Creek
02/10/2007	12	Middle Martis Creek
02/10/2007	60	West Fork, West Martis Creek
02/10/2007	34	West Fork, West Martis Creek

A 95% confidence interval for mean turbidity in an ACL order was constructed. The data set used was a small sample size, so the 500 NTU (the value derived as the receiving water monitoring trigger for this General Permit) needed to be verified as a possible population mean. In this case, the population refers to a hypothetical population of turbidity measurements of which our sample of 20 represents. A t-distribution was assumed due to the small sample size:

Mean: 512.23 NTU
Standard Deviation: 686.85
Margin of Error: 321.45
Confidence Interval: 190.78 NTU (Low)
833.68 NTU (High)

Based on a constructed 95% confidence interval, an ACL order turbidity measurement will be between 190.78 – 833.68 NTU. 500 NTU falls within this range. Using the same data set, a small-sample hypothesis test was also performed to test if the ACL turbidity data set contains enough information to cast doubt on choosing a 500 NTU as a mean. 500 NTU was again chosen due to its proposed use as an acceptable value. The test was carried out using a 95% confidence interval. Results indicated that the ACL turbidity data set *does not* contain significant sample evidence to reject the claim of 500 NTU as an acceptable mean for the ACL turbidity population.

There are not many published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites. The most often cited study is a report titled, "Improving the Cost Effectiveness of Highway Construction Site Erosion and Pollution Control" (Horner, Guedry, and Kortenhof 1990, http://www.wsdot.wa.gov/Research/Reports/200/200.1.htm). In a comment letter summarizing this report sent to the State Water Board, the primary author, Dr. Horner, states:

"The most effective erosion control product was wood fiber mulch applied at two different rates along with a bonding agent and grass seed in sufficient time before the tests to achieve germination. Plots treated in this way reduced influent turbidity by more than 97 percent and discharged effluent exhibiting mean and maximum turbidity values of 21 and 73 NTU, respectively. Some other mulch and blanket materials performed nearly as well. These tests demonstrated the control ability of widely available BMPs over a very broad range of erosion potential."

Other technologies studied in this report produced effluent quality at or near 100 NTU. It is the BPJ of the State Water Board staff that erosion control, while preferred, is not always an option on construction sites and that technology performance in a controlled study showing effluent quality directly leaving a BMP is always easier and cheaper to control than effluent being discharged from the project (edge of property, etc.). As a result, it is the BPJ of the State Water Board staff that it is not cost effective or feasible, at this time, for all risk level and type 3 sites in California to achieve effluent discharges with turbidity values that are less than 100 NTU.

To summarize, the analysis showed that: (1) results of the Simon et. al dataset reveals turbidity values in background receiving water in California's ecoregions range from 16 NTU to 1716 NTU (with a mean of 544 NTU); (2) based on a constructed 95% confidence interval, construction sites will be subject to administrative civil liability (ACL) when their turbidity measurement falls between 190.78 – 833.68 NTU; and (3) sites with highly controlled discharges employing and maintaining good erosion control practices can discharge effluent from the BMP with turbidity values less than 100 NTU. State Water Board staff has determined, using its BPJ, that it is most cost effective to set the receiving water monitoring trigger for turbidity at 500 NTU.

i. ***Compliance Storm Event***

While this General Permit no longer contains "compliance storm event" exceptions from technology-based NELs, the "compliance storm event" exception from the ATS NELs remain in effect. See Section K of this Fact Sheet, and Attachment F of this General Permit for more information.

a. **TMDLs and Waste Load Allocations**

Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL for sediment has been adopted by the Regional Water Board or USEPA, must comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of sediment. If it does, the

TMDL should include a specific waste load allocation for this activity/source. The discharger, in this case, may be required by a separate Regional Water Board order to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. If a specific waste load allocation has been established that would apply to a specific discharge, the Regional Water Board may adopt an order requiring specific implementation actions necessary to meet that allocation. In the instance where an approved TMDL has specified a general waste load allocation to construction storm water discharges, but no specific requirements for construction sites have been identified in the TMDL, dischargers must consult with the state TMDL authority[9] to confirm that adherence to a SWPPP that meets the requirements of the General Permit will be consistent with the approved TMDL.

2. Determining Compliance with Effluent Standards

a. Technology-Based Numeric Action Levels (NALs)

This General Permit contains technology-based NALs for pH and turbidity, and requirements for effluent monitoring at all Risk level 2 & 3, and LUP Type 2 & 3 sites. Numeric action levels are essentially numeric benchmark values for certain parameters that, if exceeded in effluent sampling, trigger the discharger to take actions. Exceedance of an NAL does not itself constitute a violation of the General Permit. If the discharger fails to take the corrective action required by the General Permit, though, that may consititute a violation.

The primary purpose of NALs is to assist dischargers in evaluating the effectiveness of their on-site measures. Construction sites need to employ many different systems that must work together to achieve compliance with the permit's requirements. The NALs chosen should indicate whether the systems are working as intended.

Another purpose of NALs is to provide information regarding construction activities and water quality impacts. This data will provide the State and Regional Water Boards and the rest of the storm water community with more information about levels and types of pollutants present in runoff and how effective the dischargers BMPs are at reducing pollutants in effluent. The State Water Board also hopes to learn more about the linkage between effluent and receiving water quality. In addition, these requirements will provide information on the mechanics needed to establish compliance monitoring programs at construction sites in future permit deliberations.

i. *pH*

The chosen limits were established by calculating one standard deviation above and below the mean pH of runoff from highway construction sites[10] in California. Proper implementation of BMPs should result in discharges that are within the range of 6.5 to 8.5 pH Units.

[9] http://www.waterboards.ca.gov/tmdl/tmdl.html.
[10] Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf.

The Caltrans study included 33 highway construction sites throughout California over a period of four years, which included 120 storm events. All of these sites had BMPs in place that would be generally implemented at all types of construction sites in California.

ii. ***Turbidity***

BPJ was used to develop an NAL that can be used as a learning tool to help dischargers improve their site controls, and to provide meaningful information on the effectiveness of storm water controls. A statewide turbidity NAL has been set at 250 NTU.

G. Receiving Water Limitations

Construction-related activities that cause or contribute to an exceedance of water quality standards must be addressed. The dynamic nature of construction activity gives the discharger the ability to quickly identify and monitor the source of the exceedances. This is because when storm water mobilizes sediment, it provides visual cues as to where corrective actions should take place and how effective they are once implemented.

This General Permit requires that storm water discharges and authorized non-storm water discharges must not contain pollutants that cause or contribute to an exceedance of any applicable water quality objective or water quality standards. The monitoring requirements in this General Permit for sampling and analysis procedures will help determine whether BMPs installed and maintained are preventing pollutants in discharges from the construction site that may cause or contribute to an exceedance of water quality standards.

Water quality standards consist of designated beneficial uses of surface waters and the adoption of ambient criteria necessary to protect those uses. When adopted by the State Water Board or a Regional Water Board, the ambient criteria are termed "water quality objectives." If storm water runoff from construction sites contains pollutants, there is a risk that those pollutants could enter surface waters and cause or contribute to an exceedance of water quality standards. For that reason, dischargers should be aware of the applicable water quality standards in their receiving waters. (The best method to ensure compliance with receiving water limitations is to implement BMPs that prevent pollutants from contact with storm water or from leaving the construction site in runoff.)

In California, water quality standards are published in the Basin Plans adopted by each Regional Water Board, the California Toxics Rule (CTR), the National Toxics Rule (NTR), and the Ocean Plan.

Dischargers can determine the applicable water quality standards by contacting Regional Water Board staff or by consulting one of the following sources. The actual Basin Plans that contain the water quality standards can be viewed at the website of the appropriate Regional Water Board. (http://www.waterboards.ca.gov/regions.html), the State Water Board site for statewide plans (http://www.waterboards.ca.gov/plnspols/index.html), or the USEPA regulations for the NTR and CTR (40 C.F.R. §§ 131.36-38). Basin Plans and statewide plans are also available by mail from the appropriate Regional Water Board or the State Water Board. The USEPA regulations are available at http://www.epa.gov/. Additional information concerning water quality standards can be accessed through http://www.waterboards.ca.gov/stormwtr/gen_const.html.

H. Training Qualifications and Requirements

The Blue Ribbon Panel (BRP) made the following observation about the lack of industry-specific training requirements:

"Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors."

Order 99-08-DWQ required that all dischargers train their employees on how to comply with the permit, but it did not specificy a curriculum or certification program. This has resulted in inconsistent implementation by all affected parties - the dischargers, the local governments where the construction activity occurs, and the regulators required to enforce 99-08-DWQ. This General Permit requires Qualified SWPPP Developers and practitioners to obtain appropriate training, and makes this curriculum mandatory two years after adoption, to allow time for course completion. The State and Regional Water Board are working with many stakeholders to develop the curriculum and mechanisms needed to develop and deliver the courses.

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, the Qualified SWPPP Developer and Qualified SWPPP Practitioners responsible for creating, revising, overseeing, and implementing the SWPPP must attend a State Water Board-sponsored or approved Qualified SWPPP Developer and Qualified SWPPP Practitioner training course.

I. Sampling, Monitoring, Reporting and Record Keeping

1. Traditional Construction Monitoring Requirements

This General Permit requires visual monitoring at all sites, and effluent water quality at all Risk Level 2 & 3 sites. It requires receiving water monitoring at some Risk Level 3 sites. All sites are required to submit annual reports, which contain various types of information, depending on the site characteristics and events. A summary of the monitoring and reporting requirements is found in Table 4.

Table 4 - Required Monitoring Elements for Risk Levels

	Visual	Non-visible Pollutant	Effluent	Receiving Water
Risk Level 1	three types required for all Risk Levels: non-storm water, pre-rain and post-rain	As needed for all Risk Levels (see below)	where applicable	not required
Risk Level 2			pH, turbidity	not required
Risk Level 3			pH, turbidity	(if Receiving Water Monitoring Trigger exceeded) pH, turbidity and SSC. Bioassessment for sites 30 acres or larger.

a. Visual

All dischargers are required to conduct quarterly, non-storm water visual inspections. For these inspections, the discharger must visually observe each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources. For storm-related inspections, dischargers must visually observe storm water discharges at all discharge locations within two business days after a qualifying event. For this requirement, a qualifying rain event is one producing precipitation of ½ inch or more of discharge. Dischargers must conduct a post-storm event inspection to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify any additional BMPs necessary and revise the SWPPP accordingly. Dischargers must maintain on-site records of all visual observations, personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

b. Non-Visible Pollutant Monitoring

This General Permit requires that all dischargers develop a sampling and analysis strategy for monitoring pollutants that are not visually detectable in storm water. Monitoring for non-visible pollutants must be required at any construction site when the exposure of construction materials occurs and where a discharge can cause or contribute to an exceedance of a water quality objective.

Of significant concern for construction discharges are the pollutants found in materials used in large quantities at construction sites throughout California and exposed throughout the rainy season, such as cement, flyash, and other recycled materials or by-products of combustion. The water quality standards that apply to these materials will depend on their composition. Some of the more common storm water pollutants from construction activity are not CTR pollutants. Examples of non-visible pollutants include glyphosate (herbicides), diazinon and chlorpyrifos (pesticides), nutrients (fertilizers), and molybdenum (lubricants). The use of diazinon and chlorpyrifos is a common practice among landscaping professionals and may trigger sampling and analysis requirements if these materials come into contact with storm water. High pH values from cement and gypsum, high pH and SSC from wash waters, and chemical/fecal contamination from portable toilets, also are not CTR pollutants. Although some of these constituents do have numeric water quality objectives in individual Basin Plans, many do not and are subject only to narrative water quality standards (i.e. not causing toxicity). Dischargers are encouraged to discuss these issues with Regional Water Board staff and other storm water quality professionals.

The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and storm water runoff. Materials that are not exposed do not have the potential to enter storm water runoff, and therefore receiving waters sampling is not required. Preventing contact between storm water and construction materials is one of the most important BMPs at any construction site.

Preventing or eliminating the exposure of pollutants at construction sites is not always possible. Some materials, such as soil amendments, are designed to be used in a manner that will result in exposure to storm water. In these cases, it is important to make sure that these materials are applied according to the manufacturer's instructions and at a time when they are unlikely to be washed away. Other construction materials can be exposed when storage, waste disposal or the application of the material is done in a manner not protective of water quality. For these situations, sampling is required unless there is capture and containment of all storm water that has been exposed. In cases where construction materials may be exposed to storm water, but the storm water is contained and is not allowed to run off the site, sampling will only be required when inspections show that the containment failed or is breached, resulting in potential exposure or discharge to receiving waters.

The discharger must develop a list of potential pollutants based on a review of potential sources, which will include construction materials soil amendments, soil treatments, and historic contamination at the site. The discharger must review existing environmental and real estate documentation to determine the potential for pollutants that could be present on the construction site as a result of past land use activities.

Good sources of information on previously existing pollution and past land uses include:

i. Environmental Assessments;

ii. Initial Studies;

iii. Phase 1 Assessments prepared for property transfers; and

iv. Environmental Impact Reports or Environmental Impact Statements prepared under the requirements of the National Environmental Policy Act or the California Environmental Quality Act.

In some instances, the results of soil chemical analyses may be available and can provide additional information on potential contamination.

The potential pollutant list must include all non-visible pollutants that are known or should be known to occur on the construction site including, but not limited to, materials that:

i. are being used in construction activities;

ii. are stored on the construction site;

iii. were spilled during construction operations and not cleaned up;

iv. were stored (or used) in a manner that created the potential for a release of the materials during past land use activities;

v. were spilled during previous land use activities and not cleaned up; or

vi. were applied to the soil as part of past land use activities.

C. Effluent Monitoring

Federal regulations[11] require effluent monitoring for discharges subject to NALs. Subsequently, all Risk Level 2 and 3 dischargers must perform sampling and analysis of effluent discharges to characterize discharges associated with construction activity from the entire area disturbed by the project. Dischargers must collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.

Table 5 - Storm Water Effluent Monitoring Requirements by Risk Level

	Frequency	Effluent Monitoring (Section E, below)
Risk Level 1	when applicable	non-visible pollutant parameters (if applicable)
Risk Level 2	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	pH, turbidity, and non-visible pollutant parameters (if applicable)
Risk Level 3	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	pH, turbidity, and non-visible pollutant parameters if applicable

Risk Level 1 dischargers must analyze samples for:

i. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment C contained in the General Permit.

[11] 40 C.F.R. § 122.44.

Risk Level 2 dischargers must analyze samples for:

i. pH and turbidity;

ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment D contained in the General Permit, and

iii. any additional parameters for which monitoring is required by the Regional Water Board.

Risk Level 3 dischargers must analyze samples for:

i. pH, turbidity;

ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment E contained in the General Permit, and

iii. any additional parameters for which monitoring is required by the Regional Water Board.

2. Linear Monitoring and Sampling Requirements

Attachment A, establishes minimum monitoring and reporting requirements for all LUPs. It establishes different monitoring requirements depending on project complexity and risk to water quality. The monitoring requirements for Type 1 LUPs are less than Type 2 & 3 projects because Type 1 projects have a lower potential to impact water quality.

A discharger shall prepare a monitoring program prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project.

a. Type 1 LUP Monitoring Requirements

A discharger must conduct daily visual inspections of Type 1 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be conducted in conjunction with other daily activities. Inspections will be conducted to ensure the BMPs are adequate, maintained, and in place at the end of the construction day. The discharger will revise the SWPPP, as appropriate, based on the results of the daily inspections. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures have been installed, and successful final vegetative cover or other stabilization criteria have been met).

A discharger shall implement the monitoring program for inspecting Type 1 LUPs. This program requires temporary and permanent stabilization BMPs after active construction is completed. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where re-vegetation is chosen until minimum vegetative coverage has been established. Photographs shall be taken during site inspections and submitted to the State Water Board.

b. Type 2 & 3 LUP Monitoring Requirements

A discharger must conduct daily visual inspections of Type 2 & 3 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be in conjunction with other daily activities.

All dischargers of Type 2 & 3 LUPs are required to conduct inspections by qualified personnel of the construction site during normal working hours prior to all anticipated storm events and after actual storm events. During extended storm events, the discharger shall conduct inspections during normal working hours for each 24-hour period. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures installed, and successful vegetative cover or other stabilization criteria have been met).

The goals of these inspections are (1) to identify areas contributing to a storm water discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the General Permit; and (3) to determine whether additional control practices or corrective maintenance activities are needed. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

All dischargers shall develop and implement a monitoring program for inspecting Type 2 & 3 LUPs that require temporary and permanent stabilization BMPs after active construction is completed. Inspections will be conducted to ensure the BMPs are adequate and maintained. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where revegetation is chosen until minimum vegetative coverage has been established.

A log of inspections conducted before, during, and after the storm events must be maintained in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection. Photographs must be taken during site inspections and submitted to the State Water Board.

C. Sampling Requirements for all LUP Project Types

LUPs are also subject to sampling and analysis requirements for visible pollutants (i.e., sedimentation/siltation, turbidity) and for non-visible pollutants.

Sampling for visible pollutants is required for Type 2 & 3 LUPs.

Non-visible pollutant monitoring is required for pollutants associated with construction sites and activities that (1) are not visually detectable in storm water discharges, and (2) are known or should be known to occur on the construction site, and (3) could cause or contribute to an exceedance of water quality objectives in the receiving waters. Sample collection for non-visible pollutants must only be required (1) during a storm event when pollutants associated with construction activities may be discharged with storm water runoff due to a spill, or in the event there was a breach, malfunction, failure, and/or leak of any BMP, and (2) when the discharger has failed to adequately clean the area of material and pollutants. Failure to implement appropriate BMPs will trigger the same sampling requirements as those required for a breach, malfunction and/or leak, or when the discharger has failed to implement appropriate BMPs prior to the next storm event.

Additional monitoring parameters may be required by the Regional Water Boards.

It is not anticipated that many LUPs will be required to collect samples for pollutants not visually detected in runoff due to the nature and character of the construction site and activities as previously described in this fact sheet. Most LUPs are constructed in urban areas with public access (e.g., existing roadways, road shoulders, parking areas, etc.). This raises a concern regarding the potential contribution of pollutants from vehicle use and/or from normal activities of the public (e.g., vehicle washing, landscape fertilization, pest spraying, etc.) in runoff from the project site. Since the dischargers are not the land owners of the project area and are not able to control the presence of these pollutants in the storm water that runs through their projects, it is not the intent of this General Permit to require dischargers to sample for these pollutants. This General Permit does not require the discharger to sample for these types of pollutants except where the discharger has brought materials onsite that contain these pollutants and when a condition (e.g., breach, failure, etc.) described above occurs.

3. Receiving Water Monitoring

In order to ensure that receiving water limitations are met, discharges subject to receiving water monitoring triggers (i.e., Risk Level 3 and LUP Type 3 sites) or numeric effluent limitations (i.e., Risk Level 3 and LUP Type 3 sites utilizing ATS with direct discharges into receiving waters) must also monitor the downstream receiving water(s) for turbidity, SSC, and pH (if applicable) when a receiving water monitoring trigger or NEL is exceeded.

a. Bioassessment Monitoring

This General Permit requires a bioassessment of receiving waters for dischargers of Risk Level 3 or LUP Type 3 construction projects equal to or larger than 30 acres with direct discharges into receiving waters. Benthic macroinvertebrate samples will be taken upstream and downstream of the site's discharge point in the receiving water. Bioassessments measure the quality of the stream by analyzing the aquatic life present. Higher levels of appropriate aquatic species tend to indicate a healthy stream; whereas low levels of organisms can indicate stream degradation. Active construction sites have the potential to discharge large amounts of sediment and pollutants into receiving waters. Requiring a bioassessment for large project sites, with the most potential to impact water quality, provides a snapshot of the health of the receiving water prior to initiation of construction activities. This snapshot can be used in comparison to the health of the receiving water after construction has commenced.

Each ecoregion (biologically and geographically related area) in the State has a specific yearly peak time where stream biota is in a stable and abundant state. This time of year is called an Index Period. The bioassessment requirements in this General Permit, requires benthic macroinvertebrate sampling within a sites index period. The State Water Board has developed a map designating index periods for the ecoregions in the State (see State Water Board Website).

This General Permit requires the bioassessment methods to be in accordance with the Surface Water Ambient Monitoring Program (SWAMP) in order to provide data consistency within the state as well as generate useable biological stream data.

Table 6 - Receiving Water Monitoring Requirements

	Receiving Water Monitoring Parameters
Risk Level 1 /LUP Type 1	not required
Risk Level 2 / LUP Type 2	not required
Risk Level 3 / LUP Type 3	If Receiving Water Monitoring Trigger exceeded: pH (if applicable), turbidity, and SSC. Bioassessment for sites 30 acres or larger.

4. Reporting Requirements

a. NAL Exceedance Report

All Risk Level 3 and LUP Type 3 dischargers must electronically submit all storm event sampling results to the State And Regional Boards, via the electronic data system, no later than 10 days after the conclusion of the storm event.

b. Annual Report

All dischargers must prepare and electronically submit an annual report no later than September 1 of each year using the Storm water Multi-Application Reporting and Tracking System (SMARTS). The

Annual Report must include a summary and evaluation of all sampling and analysis results, original laboratory reports, chain of custody forms, a summary of all corrective actions taken during the compliance year, and identification of any compliance activities or corrective actions that were not implemented.

5. Record Keeping

According to 40 C.F.R. Parts 122.21(p) and 122.41(j), the discharger is required to retain paper or electronic copies of all records required by this General Permit for a period of at least three years from the date generated or the date submitted to the State Water Board or Regional Water Boards. A discharger must retain records for a period beyond three years as directed by Regional Water Board.

J. Risk Determination

1. Traditional Projects

a. Overall Risk Determination

There are two major requirements related to site planning and risk determination in this General Permit. The project's overall risk is broken up into two elements – (1) project sediment risk (the relative amount of sediment that can be discharged, given the project and location details) and (2) receiving water risk (the risk sediment discharges pose to the receiving waters).

Project Sediment Risk:
Project Sediment Risk is determined by multiplying the R, K, and LS factors from the Revised Universal Soil Loss Equation (RUSLE) to obtain an estimate of project-related bare ground soil loss expressed in tons/acre. The RUSLE equation is as follows:

A = (R)(K)(LS)(C)(P)

Where: A = the rate of sheet and rill erosion
R = rainfall-runoff erosivity factor
K = soil erodibility factor
LS = length-slope factor
C = cover factor (erosion controls)
P = management operations and support practices (sediment controls)

The C and P factors are given values of 1.0 to simulate bare ground conditions.

There is a map option and a manual calculation option for determining soil loss. For the map option, the R factor for the project is calculated using the online calculator at http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm. The product of K and LS are shown on Figure 1. To determine soil loss in tons per acre, the discharger multiplies the R factor times the value for K times LS from the map.

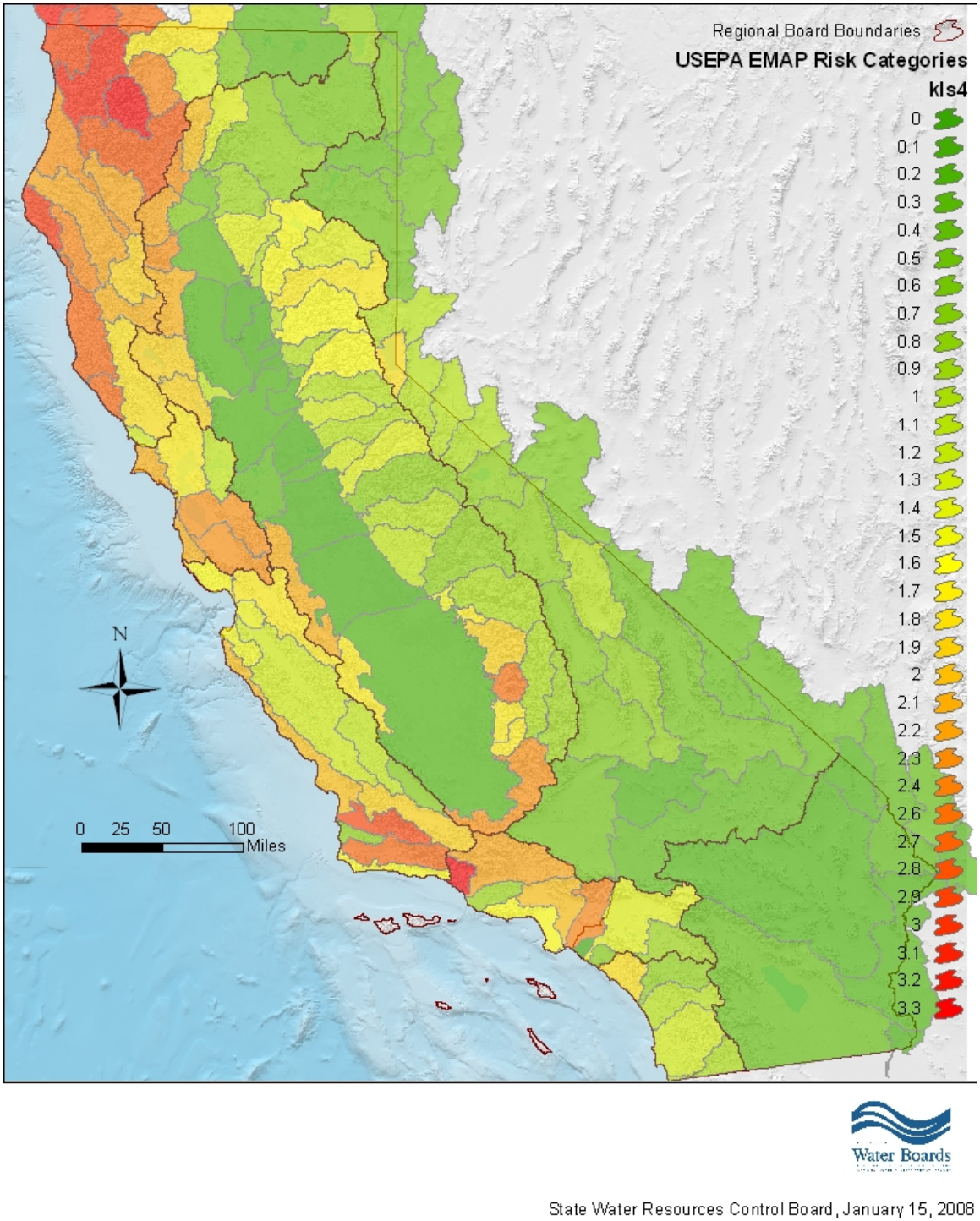

Figure 1 -Statewide Map of K * LS

For the manual calculation option, the R factor for the project is calculated using the online calculator at http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm. The K and LS factors are determined using Appendix 1.

Soil loss of less than 15 tons/acre is considered **low** sediment risk.
Soil loss between 15 and 75 tons/acre is **medium** sediment risk.
Soil loss over 75 tons/acre is considered **high** sediment risk.

The soil loss values and risk categories were obtained from mean and standard deviation RKLS values from the USEPA EMAP program. High risk is the mean RKLS value plus two standard deviations. Low risk is the mean RKLS value minus two standard deviations.

Receiving Water Risk:
Receiving water risk is based on whether a project drains to a sediment-sensitive waterbody. A sediment-sensitive waterbody is either

on the most recent 303d list for waterbodies impaired for sediment;
has a USEPA-approved Total Maximum Daily Load implementation plan for sediment; **or**
has the beneficial uses of COLD, SPAWN, and MIGRATORY.

A project that meets at least one of the three criteria has a high receiving water risk. A list of sediment-sensitive waterbodies will be posted on the State Water Board's website. It is anticipated that an interactive map of sediment sensitive water bodies in California will be available in the future.

The Risk Levels have been altered by eliminating the possibility of a Risk Level 4, and expanding the constraints for Risk Levels 1, 2, and 3. Therefore, projects with high receiving water risk and high sediment risk will be considered a Risk Level 3 risk to water quality.

In response to public comments, the Risk Level requirements have also been changed such that Risk Level 1 projects will be subject to minimum BMP and visual monitoring requirements, Risk Level 2 projects will be subject to NALs and some additional monitoring requirements, and Risk Level 3 projects will be subject to NALs, and more rigorous monitoring requirements such as receiving water monitoring and in some cases bioassessment.

Table 7 - Combined Risk Level Matrix

Combined Risk Level Matrix				
Receiving Water Risk		Sediment Risk		
		Low	Medium	High
	Low	Level 1	Level 2	
	High	Level 2		Level 3

b. Effluent Standards

All dischargers are subject to the narrative effluent limitations specified in the General Permit. The narrative effluent limitations require storm water discharges associated with construction activity to meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize BAT and BCT to reduce pollutants and any more stringent controls necessary to meet water quality standards.

Risk Level 2 dischargers that pose a medium risk to water quality are subject to technology-based NALs for pH and turbidity. Risk Level 3 dischargers that pose a high risk to water quality are also subject to technology-based NALs for pH and turbidity.

c. Good Housekeeping

Proper handling and managing of construction materials can help minimize threats to water quality. The discharger must consider good housekeeping measures for: construction materials, waste management, vehicle storage & maintenance, landscape materials, and potential pollutant sources. Examples include; conducting an inventory of products used, implementing proper storage & containment, and properly cleaning all leaks from equipment and vehicles.

d. Non-Storm Water Management

Non-storm water discharges directly connected to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-storm water discharges during construction, and from dewatering activities associated with construction. Examples include; properly washing vehicles in contained areas, cleaning streets, and minimizing irrigation runoff.

e. Erosion Control

The best way to minimize the risk of creating erosion and sedimentation problems during construction is to disturb as little of the land surface as possible by fitting the development to the terrain. When development is tailored to the natural contours of the land, little grading is necessary and, consequently, erosion potential is lower.[14] Other effective erosion control measures include: preserving existing vegetation where feasible, limiting disturbance, and stabilizing and re-vegetating disturbed areas as soon as possible after grading or construction activities. Particular attention must be paid to large, mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded.[12]

Risk Level 3 dischargers pose a higher risk to water quality and are therefore additionally required to ensure that post-construction soil loss is equivalent to or less than the pre-construction levels.

f. Sediment Control

Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only

[12] U.S. Environmental Protection Agency. 2007. Developing Your Storm Water Pollution Prevention Plan: A Guide for Construction Sites.

examples of what should be considered and should not preclude new or innovative approaches currently available or being developed.

Because Risk Level 2 and 3 dischargers pose a higher risk to water quality, additional requirements for the application of sediment controls are imposed on these projects. This General Permit also authorizes the Regional Water Boards to require Risk Level 3 dischargers to implement additional site-specific sediment control requirements if the implementation of other erosion or sediment controls are not adequately protecting the receiving waters.

g. Run-on and Runoff Control

Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions.

Risk Level 1 dischargers with lower risks to impact water quality are not subject to the run-on and runoff control requirements unless an evaluation deems them necessary or visual inspections show that such controls are required.

h. Inspection, Maintenance and Repair

All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended.

i. Rain Event Action Plan (REAP)

A Rain Event Action Plan (REAP) is a written document, specific for each rain event. A REAP should be designed that when implemented it protects all exposed portions of the site within 48 hours of any likely precipitation event forecast of 50% or greater probability.

This General Permit requires Risk Level 2 and 3 dischargers to develop and implement a REAP designed to protect all exposed portions of their sites within 48 hours prior to any likely precipitation event. The REAP requirement is designed to ensure that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures that are intended to reduce the amount of sediment and other pollutants generated from the active site. A REAP must be developed when there is likely a forecast of 50% or greater probability of precipitation in the project area. (The National Oceanic and Atmospheric Administration (NOAA) defines a chance of precipitation as a probability of precipitation of 30% to 50% chance of producing precipitation in the project area.[13] NOAA defines the probability of precipitation (PoP) as the likelihood of occurrence (expressed as a percent) of a measurable amount (0.01 inch or more) of liquid precipitation (or the water equivalent of frozen precipitation) during a specified period of time at any given point in the forecast area.) Forecasts are normally issued for 12-hour time periods. Descriptive terms for uncertainty and aerial coverage are used as follows:

Table 8 -National Oceanic and Atmospheric Administration (NOAA) Definition of Probability of Precipitation (PoP)

[13] http://www.crh.noaa.gov/lot/severe/wxterms.php.

PoP	Expressions of Uncertainty	Aerial Coverage
0%	none used	none used
10%	none used	isolated
20%	slight chance	isolated
30-50%	chance	scattered
60-70%	likely	numerous
80-100%	none used	none used

The discharger must obtain the precipitation forecast information from the National Weather Service Forecast Office (http://www.srh.noaa.gov/).

2. **Linear Projects**

a. **Linear Risk Determination**

LUPs vary in complexity and water quality concerns based on the type of project. This General Permit has varying application requirements based on the project's risk to water quality. Factors that lead to the characterization of the project include location, sediment risk, and receiving water risk.

Based on the location and complexity of a project area or project section area, LUPs are separated into project types. As described below, LUPs have been categorized into three project types.

i. ***Type 1 LUPs***

Type 1 LUPs are those construction projects where:

(1) 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day, or

(2) greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:

Areas disturbed during construction will be returned to pre-construction conditions or equivalent protection established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and

Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization Best Management Practices (BMPs) will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.

Type 1 LUPs typically do not have a high potential to impact storm water quality because (1) these construction activities are not typically conducted during a rain event, (2) these projects are normally constructed over a short period of time[14], minimizing the duration that pollutants could potentially be exposed to rainfall; and (3) disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.

Type 1 LUPs are determined during the risk assessment found in Attachment A.1 to be 1) low sediment risk and low receiving water risk; 2) low sediment risk and medium receiving water risk; and 3) medium sediment risk and low receiving water risk.

This General Permit requires the discharger to ensure a SWPPP is developed for these construction activities that is specific to project type, location and characteristics.

ii. ***Type 2 LUPs:***

Type 2 projects are determined to have a combination of High, Medium, and Low project sediment risk along with High, Medium, and Low receiving water risk. Like Type 1 projects, Type 2 projects are typically constructed over a short period of time. However, these projects have a higher potential to impact water quality because they:

(1) typically occur outside the more urban/developed areas;

(2) have larger areas of soil disturbance that are not closed or restored at the end of the day;

(3) may have onsite stockpiles of soil, spoil and other materials;

(4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and

(5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location and characteristics.

iii. ***Type 3 LUPs:***

[14] Short period of time refers to a project duration of weeks to months, but typically less than one year in duration.

Type 3 projects are determined to have a combination of High and Medium project sediment risk along with High and Medium receiving water risk. Similar to Type 2 projects, Type 3 projects have a higher potential to impact water quality because they:

(1) typically occur outside of the more urban/developed areas;

(2) have larger areas of soil disturbance that are not closed or restored at the end of the day;

(3) may have onsite stockpiles of soil, spoil and other materials;

(4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and

(5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location, and characteristics.

b. Linear Effluent Standards

All LUPs are subject to the narrative effluent limitations specified in the General Permit.

Type 2 and Type 3 projects are subject to technology-based NALs for pH and turbidity.

c. Linear Good Housekeeping

Improper use and handling of construction materials could potentially cause a threat to water quality. In order to ensure proper site management of these construction materials, all LUP dischargers must comply with a minimum set of Good Housekeeping measures specified in Attachment A of this General Permit.

d. Linear Non-Storm Water Management

In order to ensure control of all non-storm water discharges during construction, all LUP dischargers must comply with the Non-Storm Water Management measures specified in Attachment A of this General Permit.

e. Linear Erosion Control

This General Permit requires all LUP dischargers to implement effective wind erosion control measures, and soil cover for inactive areas. Type 3 LUPs posing a higher risk to water quality are additionally required to ensure the post-construction soil loss is equivalent to or less than the pre-construction levels.

f. Linear Sediment Control

In order to ensure control and containment of all sediment discharges, all LUP dischargers must comply with the general Sediment Control measures specified in Attachment A or this General Permit. Additional requirements for sediment controls are imposed on Type 2 & 3 LUPs due to their higher risk to water quality.

g. Linear Run-on and Runoff Control

Discharges originating outside of a project's perimeter and flowing onto the property can adversely affect the quantity and quality of discharges originating from a project site. In order to ensure proper management of run-on and runoff, all LUPs must comply with the run-on and runoff control measures specified in Attachment A of this General Permit. Due to the lower risk of impacting water quality, Type 1 LUPs are not required to implement run-on and runoff controls unless deemed necessary by the discharger.

h. Linear Inspection, Maintenance and Repair

Proper inspection, maintenance, and repair activities are important to ensure the effectiveness of on-site measures to control water quality. In order to ensure that inspection, maintenance, and repair activities are adequately performed, the all LUP dischargers a re required to comply with the Inspection, Maintenance, and Repair requirements specified in Attachment A of this General Permit.

K. ATS[15] Requirements

There are instances on construction sites where traditional erosion and sediment controls do not effectively control accelerated erosion. Under such circumstances, or under circumstances where storm water discharges leaving the site may cause or contribute to an exceedance of a water quality standard, the use of an Active Treatment System (ATS) may be necessary. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.[16]

Although treatment systems have been in use in some form since the mid-1990s, the ATS industry in California is relatively young, and detailed regulatory standards have not yet been developed. Many developers are using these systems to treat storm water discharges from their construction sites. The new ATS requirements set forth in this General Permit are based on those in place for small wastewater treatment systems, ATS regulations from the Central Valley Regional Water Quality Control Board (September 2005 memorandum "2005/2006 Rainy Season – Monitoring Requirements for Storm Water Treatment Systems that Utilize Chemical Additives to Enhance Sedimentation"), the Construction Storm Water Program at the State of Washington's Department of Ecology, as well as recent advances in technology and knowledge of coagulant performance and aquatic safety.

The effective design of an ATS requires a detailed survey and analysis of site conditions. With proper planning, ATS performance can provide exceptional water quality discharge and prevent significant impacts to surface water quality, even under extreme environmental conditions.

These systems can be very effective in reducing the sediment in storm water runoff, but the systems that use additives/polymers to enhance sedimentation also pose a potential risk to water quality (e.g., operational failure, equipment failure, additive/polymer release, etc.). The State Water Board is concerned about the potential acute and chronic impacts that the polymers and other chemical additives may have on fish and aquatic organisms if released in sufficient quantities or concentrations. In addition

[15] An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation in order to reduce turbidity caused by fine suspended sediment.
[16] Pitt, R., S. Clark, and D. Lake. 2006. Construction Site Erosion and Sediment Controls: Planning, Design, and Performance. DEStech Publications. Lancaster, PA. 370pp.

to anecdotal evidence of polymer releases causing aquatic toxicity in California, the literature supports this concern.[17] For example, cationic polymers have been shown to bind with the negatively charged gills of fish, resulting in mechanical suffocation.[18] Due to the potential toxicity impacts, which may be caused by the release of additives/polymers into receiving waters, this General Permit establishes residual polymer monitoring and toxicity testing requirements have been established in this General Permit for discharges from construction sites that utilize an ATS in order to protect receiving water quality and beneficial uses.

The primary treatment process in an ATS is coagulation/flocculation. ATS's operate on the principle that the added coagulant is bound to suspended sediment, forming floc, which is gravitationally settled in tanks or a basin, or removed by sand filters. A typical installation utilizes an injection pump upstream from the clarifier tank, basin, or sand filters, which is electronically metered to both flow rate and suspended solids level of the influent, assuring a constant dose. The coagulant mixes and reacts with the influent, forming a dense floc. The floc may be removed by gravitational setting in a clarifier tank or basin, or by filtration. Water from the clarifier tank, basin, or sand filters may be routed through cartridge(s) and/or bag filters for final polishing. Vendor-specific systems use various methods of dose control, sediment/floc removal, filtration, etc., that are detailed in project-specific documentation. The particular coagulant/flocculant to be used for a given project is determined based on the water chemistry of the site because the coagulants are specific in their reactions with various types of sediments. Appropriate selection of dosage must be carefully matched to the characteristics of each site.

ATS's are operated in two differing modes, either Batch or Flow-Through. Batch treatment can be defined as Pump-Treat-Hold-Test-Release. In Batch treatment, water is held in a basin or tank, and is not discharged until treatment is complete. Batch treatment involves holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full. In Flow-Through treatment, water is pumped into the ATS directly from the runoff collection system or storm water holding pond, where it is treated and filtered as it flows through the system, and is then directly discharged. "Flow-Through Treatment" is also referred to as "Continuous Treatment."

1. Effluent Standards

This General Permit establishes NELs for discharges from construction sites that utilize an ATS. These systems lend themselves to NELs for turbidity and pH because of their known reliable treatment. Advanced systems have been in use in some form since the mid-1990s. An ATS is considered reliable, can consistently produce a discharge of less than 10 NTU, and has been used successfully at many sites in several states since 1995 to reduce turbidity to very low levels.[19]

This General Permit contains "compliance storm event" exceptions from the technology-based NELs for ATS discharges. The rationale is that technology-based requirements are developed assuming a certain design storm. In the case of ATS the industry-standard design storm is 10-year, 24-hour (as stated in

[17] RomØen, K., B. Thu, and Ø. Evensen. 2002. Immersion delivery of plasmid DNA II. A study of the potentials of a chitosan based delivery system in rainbow trout (*Oncorhynchus mykiss*) fry. *Journal of Controlled Release* **85**: 215-225.
[18] Bullock, G., V. Blazer, S. Tsukuda, and S. Summerfelt. 2000. Toxicity of acidified chitosan for cultured rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* **185**:273-280.
[19] Currier, B., G. Minton, R. Pitt, L. Roesner, K. Schiff, M. Stenstrom, E. Strassler, and E. Strecker. 2006. The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.

Attachment F of this General Permit), so the compliance storm event has been established as the 10-year 24-hour event as well to provide consistency.

2. **Training**

Operator training is critical to the safe and efficient operation and maintenance of the ATS, and to ensure that all State Water Board monitoring and sampling requirements are met. The General Permit requires that all ATS operators have training specific to using ATS's liquid coagulants.

L. Post-Construction Requirements

Under past practices, new and redevelopment construction activities have resulted in modified natural watershed and stream processes. This is caused by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, increasing drainage density through pipes and channels, and altering the condition of stream channels through straightening, deepening, and armoring. These changes result in a drainage system where sediment transport capacity is increased and sediment supply is decreased. A receiving channel's response is dependent on dominant channel materials and its stage of adjustment.

Construction activity can lead to impairment of beneficial uses in two main ways. First, during the actual construction process, storm water discharges can negatively affect the chemical, biological, and physical properties of downstream receiving waters. Due to the disturbance of the landscape, the most likely pollutant is sediment, however pH and other non-visible pollutants are also of great concern. Second, after most construction activities are completed at a construction site, the finished project may result in significant modification of the site's response to precipitation. New development and redevelopment projects have almost always resulted in permanent post-construction water quality impacts because more precipitation ends up as runoff and less precipitation is intercepted, evapotranspired, and infiltrated.

General Permit 99-08-DWQ required the SWPPP to include a description of all post-construction BMPs on a site and a maintenance schedule. An effective storm water management strategy must address the full suite of storm events (water quality, channel protection, overbank flood protection, extreme flood protection) (Figure 2).

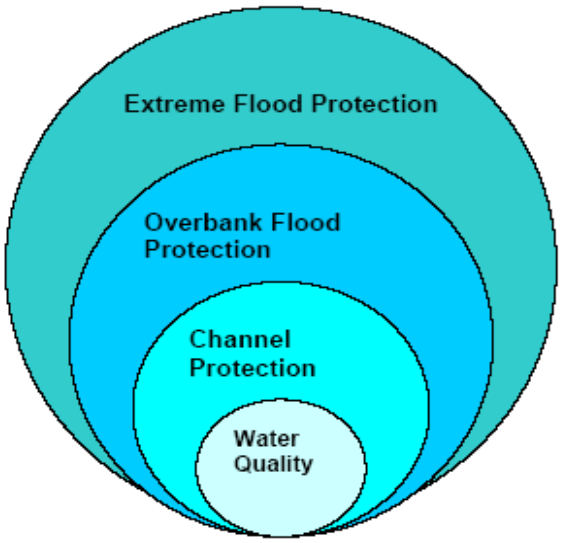

Figure 2 - Suite of Storm Events

The post-construction storm water performance standards in this General Permit specifically address water quality and channel protection events. Overbank flood protection and extreme flood protection events are traditionally dealt with in local drainage and flood protection ordinances. However, measures in this General Permit to address water quality and channel protection also reduce overbank and extreme flooding impacts. This General Permit aims to match post-construction runoff to pre-construction runoff for the 85th percentile storm event, which not only reduces the risk of impact to the receiving water's channel morphology but also provides some protection of water quality.

This General Permit clarifies that its runoff reduction requirements only apply to projects that lie outside of jurisdictions covered by a Standard Urban Storm water Management Plan (SUSMP) (or other more protective) post-construction requirements in either Phase I or Phase II permits.

Figures 3 and 4, below, show the General Permit enrollees (to Order 99-08-DWQ, as of March 10, 2008) overlaid upon a map with SUSMP (or more protective) areas in blue and purple. Areas without blue or purple indicate where the General Permit's runoff reduction requirements would actually apply.

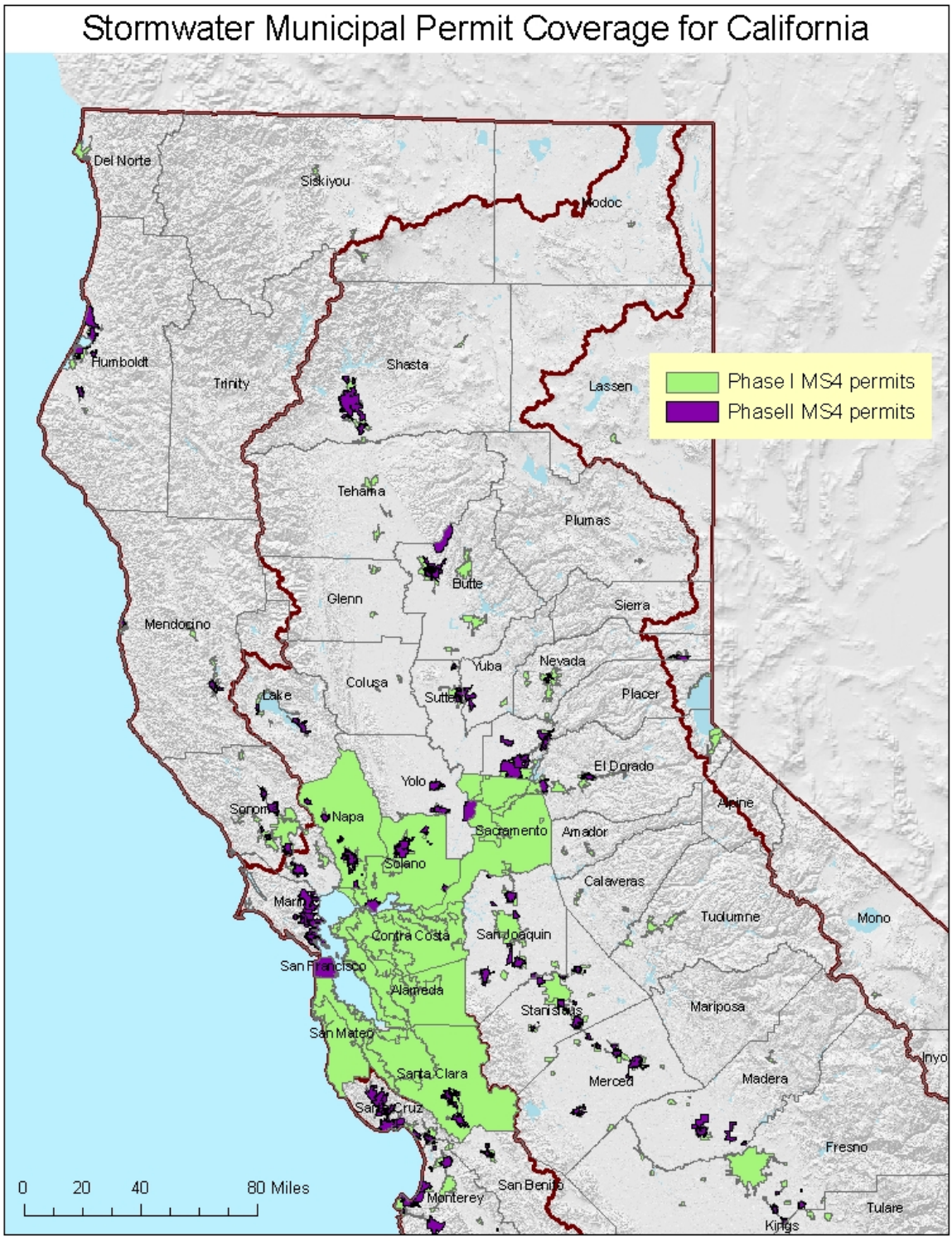

Figure 3 - Northern CA (2009) Counties / Cities With SUSMP-Plus Coverage

Figure 4 - Southern CA (2009) Counties / Cities With SUSMP-Plus Coverage

Water Quality:
This General Permit requires dischargers to replicate the pre-project runoff water balance (defined as the amount of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event, or the smallest storm event that generates runoff, whichever is larger. Contemporary storm water management generally routes these flows directly to the drainage system, increasing pollutant loads and potentially causing adverse effects on receiving waters. These smaller water quality events happen much more frequently than larger events and generate much higher pollutant loads on an annual basis. There are other adverse hydrological impacts that result from not designing according to the site's pre-construction water balance. In Maryland, Klein[20] noted that baseflow decreases as the extent of urbanization increases. Ferguson and Suckling[21] noted a similar relation in watersheds in Georgia. On Long Island, Spinello and Simmons[22] noted substantial decreases in base flow in intensely urbanized watersheds.

The permit emphasizes runoff reduction through on-site storm water reuse, interception, evapo-transpiration and infiltration through non-structural controls and conservation design measures (e.g., downspout disconnection, soil quality preservation/enhancement, interceptor trees). Employing these measures close to the source of runoff generation is the easiest and most cost-effective way to comply with the pre-construction water balance standard. Using low-tech runoff reduction techniques close to the source is consistent with a number of recommendations in the literature.[23] In many cases, BMPs implemented close to the source of runoff generation cost less than end-of the pipe measures.[24] Dischargers are given the option of using Appendix 2 to calculate the required runoff volume or a watershed process-based, continuous simulation model such as the EPA's Storm Water Management Model (SWMMM) or Hydrologic Simulation Program Fortran (HSPF). Such methods used by the discharger will be reviewed by the Regional Water Board upon NOT application.

Channel Protection:
In order to address channel protection, a basic understanding of fluvial geomorphic concepts is necessary. A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and bankfull discharge (1.5 to 2 year recurrence interval). The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphologic characteristics of channels.[25] Lane (1955 as cited in Rosgen 1996[26]) showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope in

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[20] Klein 1979 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.
[21] Ferguson and Suckling 1990 as cited Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.
[22] Center for Watershed Protection (CWP). 2000. The Practice of Watershed Protection: Techniques for protecting our nation's streams, lakes, rivers, and estuaries. Ellicott City, MD. 741 pp.
[23] Bay Area Storm Water Management Agencies Association (BASMAA). 1997. Start at the Source: Residential Site Planning and Design Guidance Manual for Storm Water Quality Protection. Palo Alto, CA;
McCuen, R.H. 2003 Smart Growth: hydrologic perspective. Journal of Professional Issues in Engineering Education and Practice. Vol (129), pp.151-154;
Moglen, G.E. and S. Kim. 2007. Impervious imperviousness-are threshold based policies a good idea? Journal of the American Planning Association, Vol 73 No. 2. pp 161-171.
[24] Delaware Department of natural Resources (DDNR). 2004. Green technology: The Delaware urban Runoff Management Approcah. Dover, DE. 117 pp.
[25] Dunne, T and L.B. Leopold. 1978. Water in Environmental Planning. San Francisco W.H. Freeman and Company
[26] Rosgen. D.L. 1996. Applied River Morphology. Pagosa Springs. Wildland Hydrology

Figure 5. A change in any one of these variables sets up a series of mutual adjustments in the companion variables with a resulting direct change in the physical characteristics of the stream channel.

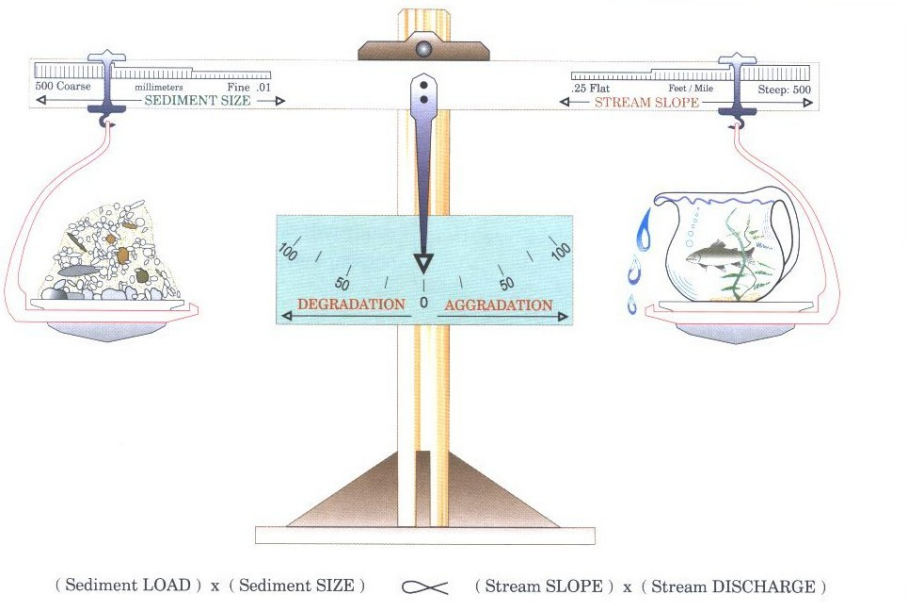

Figure 5 - Schematic of the Lane Relationship

After Lane (1955) as cited in Rosgen (1996)

Stream slope multiplied by stream discharge (the right side of the scale) is essentially an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (sediment load and sediment size represented on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels.[27] Most of this sediment is delivered to stream channels during large, episodic rain events.[28] This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et. al (1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 6).

[27] Goldman S.J., K. Jackson, and T.A. Bursztynsky. 1986. Erosion and Sediment Control Handbook. McGraw Hill. San Francisco.
[28] Wolman 1967 as cited in Paul, M.P. and J.L. Meyer. 2001. Streams in the Urban Landscape. *Annu. Rev.Ecol. Syst.* 32: 333-365.

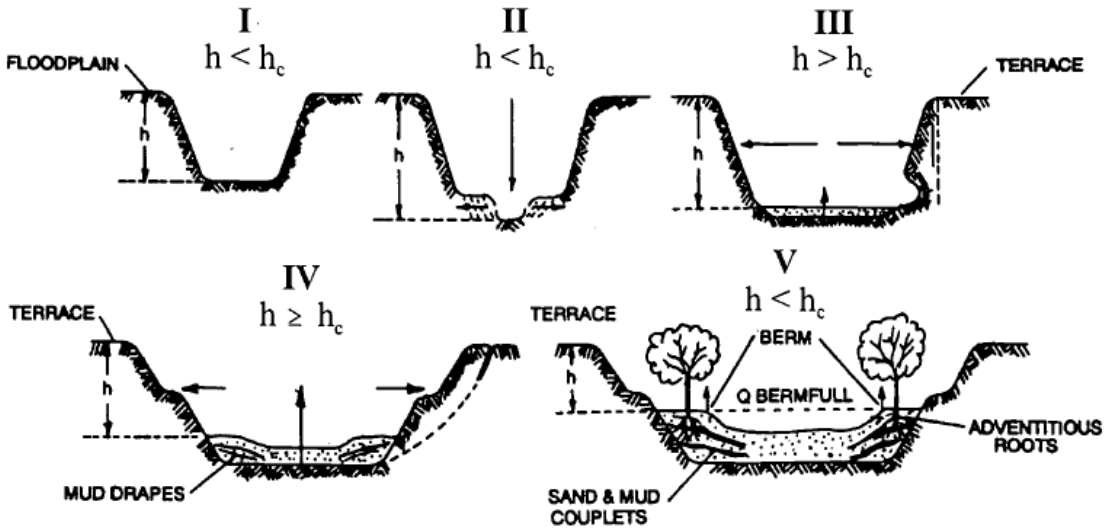

Figure 6 - Channel Changes Associated with Urbanization

After Incised Channel Evolution Sequence in Schumm et. al 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges.[29] Increased drainage density (miles of stream length per square mile of watershed) also negatively impacts receiving stream channels.[30] Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often "sediment starved" and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size, or d_{50}) decrease during urbanization.[31] This means

[29] Booth, D. B. and C. R. Jackson. 1997. Urbanization of Aquatic Systems: Degradation Thresholds, Storm Water Detection, and the Limits of Mitigation. Journal of the American Water Resources Association Vol. 33, No.5, pp. 1077-1089.

[30] May, C.W. 1998. Cumulative effects of urbanization on small streams in the Puget Sound Lowland ecoregion. Conference proceedings from Puget Sound Research '98 held March 12, 13 1998 in Seattle, WA;
Santa Clara Valley Urban Runoff Pollution Prevention Program. 2002. Hydromodification Management Plan Literature Review. 80 pp.

[31] Finkenbine, J.K., D.S. Atwater, and D.S. Mavinic. 2000. Stream health after urbanization. *J. Am. Water Resour. Assoc.* 36:1149-60;

that even if pre- and post-development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant (provided they are non-cohesive).

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power [32]and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel. After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening.[33] At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution. Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies

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Pizzuto, J.E. W.S. Hession, and M. McBride. 2000. Comparing gravel-bed rivers in paired urban and rural catchments of southeastern Pennsylvania. *Geology* 28:79-82.

[32] Hammer 1973 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp;
Booth, D.B. 1990. Stream Channel Incision Following Drainage Basin Urbanization. *Water Resour. Bull.* 26:407-417.

[33] Trimble, S.W. 1997. Contribution of Stream Channel Erosion to Sediment Yield from an Urbanizing Watershed. *Science*: Vol. 278 (21), pp. 1442-1444.

must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein and Zaleski 2005). [34]

Traditional structural water quality BMPs (e.g. detention basins and other devices used to store volumes of runoff) unless they are highly engineered to provide adequate flow duration control, do not adequately protect receiving waters from accelerated channel bed and bank erosion, do not address post-development increases in runoff volume, and do not mitigate the decline in benthic macroinvertebrate communities in the receiving waters[35] suggest that structural BMPs are not as effective in protecting aquatic communities as a continuous riparian buffer of native vegetation. This is supported by the findings of Zucker and White[36], where instream biological metrics were correlated with the extent of forested buffers.

This General Permit requires dischargers to maintain pre-development drainage densities and times of concentration in order to protect channels and encourages dischargers to implement setbacks to reduce channel slope and velocity changes that can lead to aquatic habitat degradation.

There are a number of other approaches for modeling fluvial systems, including statistical and physical models and simpler stream power models.[37] The use of these models in California is described in Stein and Zaleski (2005).[38] Rather than prescribe a specific one-size-fits-all modeling method in this permit, the State Water Board intends to develop a stream power and channel evolution model-based framework to assess channels and develop a hierarchy of suitable analysis methods and management strategies. In time, this framework may become a State Water Board water quality control policy.

Permit Linkage to Overbank and Extreme Flood Protection
Site design BMPs (e.g. rooftop and impervious disconnection, vegetated swales, setbacks and buffers) filter and settle out pollutants and provide for more infiltration than is possible for traditional centralized structural BMPs placed at the lowest point in a site. They provide source control for runoff and lead to a reduction in pollutant loads. When implemented, they also help reduce the magnitude and volume of larger, less frequent storm events (e.g., 10-yr, 24-hour storm and larger), thereby reducing the need for expensive flood control infrastructure. Nonstructural BMPs can also be a landscape amenity, instead of a large isolated structure requiring substantial area for ancillary access, buffering, screening and maintenance facilities.[25] The multiple benefits of using non-structural benefits will be critically important as the state's population increases and imposes strains upon our existing water resources.

Maintaining predevelopment drainage densities and times of concentration will help reduce post-development peak flows and volumes in areas not covered under a municipal permit. The most effective way to preserve drainage areas and maximize time of concentration is to implement landform grading,

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[34] Stein, E.S. and S. Zaleski. 2005.Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.
[35] Horner, R.R. 2006. Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices (LID) for the San Diego Region. Available at: http://www.projectcleanwater.org/pdf/permit/case-study_lid.pdf.
[36] Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.
[37] Finlayson, D.P. and D.R. Montgomery. 2003. Modeling large-scale fluvial erosion in geographic information systems. Geomorphology (53), pp. 147-164).
[38] Stein, E.S. and S. Zaleski. 2005.Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.

incorporate site design BMPs and implement distributed structural BMPs (e.g., bioretention cells, rain gardens, rain cisterns).

M. Storm Water Pollution Prevention Plans

USEPA's Construction General Permit requires that qualified personnel conduct inspections. USEPA defines qualified personnel as "a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity."[39] USEPA also suggests that qualified personnel prepare SWPPPs and points to numerous states that require certified professionals to be on construction sites at all times. States that currently have certification programs are Washington, Georgia, Florida, Delaware, Maryland, and New Jersey. The Permit 99-08-DWQ did not require that qualified personnel prepare SWPPPs or conduct inspections. However, to ensure that water quality is being protected, this General Permit requires that all SWPPPs be written, amended, and certified by a Qualified SWPPP Developer. A Qualified SWPPP Developer must possess one of the eight certifications and or registrations specified in this General Permit and effective two years after the adoption date of this General Permit, must have attended a State Water Board-sponsored or approved Qualified SWPPP Developer training course. Table 9 provides an overview of the criteria used in determining qualified certification titles for a QSD and QSP.

39 US Environmental Protection Agency. Stormwater Pollution Prevention Plans for Construction Activities. <http://cfpub.epa.gov/npdes/stormwater/swppp.cfm> and <http://www.epa.gov/npdes/pubs/sw_swppp_guide.pdf>.

Table 9 - Qualified SWPPP Developer/ Qualified SWPPP Practitioner Certification Criteria

Certification/ Title	Registered By	QSD/QSP	Certification Criteria
Professional Civil Engineer	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Geologist or Engineering Geologist	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Landscape Architect	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Hydrologist	American Institute of Hydrology	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Certified Professional in Erosion and Sediment Control™ (CPESC)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Inspector of Sediment and Erosion Control™ (CISEC)	Certified Inspector of Sediment and Erosion Control, Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Erosion, Sediment and Storm Water Inspector™ (CESSWI)	Enviro Cert International Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Professional in Storm Water Quality™ (CPSWQ)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education

The previous versions of the General Permit required development and implementation of a SWPPP as the primary compliance mechanism. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The SWPPP must include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

This General Permit shifts some of the measures that were covered by this general requirement to specific permit requirements, each individually enforceable as a permit term. This General Permit emphasizes the use of appropriately selected, correctly installed and maintained pollution reduction BMPs. This approach provides the flexibility necessary to establish BMPs that can effectively address source control of pollutants during changing construction activities. These specific requirements also improve both the clarity and the enforceability of the General Permit so that the dischargers understand, and the public can determine whether the discharges are in compliance with, permit requirements.

The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The SWPPP must remain on the site during construction activities, commencing with the initial mobilization and ending with the termination of coverage under the General Permit. For LUPs the discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio or telephone. Once construction activities are complete, until stabilization is achieved, the SWPPP shall be available from the SWPPP contact listed in the PRDs

A SWPPP must be appropriate for the type and complexity of a project and will be developed and implemented to address project specific conditions. Some projects may have similarities or complexities, yet each project is unique in its progressive state that requires specific description and selection of BMPs needed to address all possible generated pollutants

N. Regional Water Board Authorities

Because this General Permit will be issued to thousands of construction sites across the State, the Regional Water Boards retain discretionary authority over certain issues that may arise from the discharges in their respective regions. This General Permit does not grant the Regional Water Boards any authority they do not otherwise have; rather, it merely emphasizes that the Regional Water Boards can take specific actions related to this General Permit. For example, the Regional Water Boards will be enforcing this General Permit and may need to adjust some requirements for a discharger based on the discharger's compliance history.

ATTACHMENT F-5

CONFORMED (04/07/15)

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

The State Water Resources Control Board adopted Order 2012-0011-DWQ on:	September 19, 2012
The Executive Director of the State Water Resources Control Board issued Order WQ 2014-0006-EXEC on:	January 17, 2014
The State Water Resources Control Board adopted Order WQ 2014-0077-DWQ on:	May 20, 2014
The Executive Director of the State Water Resources Control Board issued Order WQ 2015-0036-EXEC on:	April 7, 2015
The amendments to Order 2012-0011-DWQ contained in Order 2015-0036-DWQ are effective on:	**April 7, 2015**

CERTIFICATION

The undersigned, Clerk to the State Water Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 19, 2012.

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Steven Moore
Board Member Felicia Marcus

NAY: None

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STATEWIDE STORM WATER PERMIT WASTE DISCHARGE REQUIREMENTS (WDRS) FOR STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

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CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
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NPDES NO. CAS000003
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

FINDINGS

The State Water Resources Control Board (State Water Board) finds that:

Permit Application

1. The State of California, Department of Transportation (hereafter the Department) has applied to the State Water Board for reissuance of its statewide storm water permit and waste discharge requirements to discharge storm water and permitted non-storm water to waters of the United States under the National Pollutant Discharge Elimination System (NPDES) permit program.

Background and Authority

Permit Background

2. Prior to issuance of the Department's first statewide storm water permit (Order No. 99-06-DWQ), the Regional Water Boards regulated storm water discharges from the Department's storm drain systems with individual permits. On July 15, 1999, the State Water Board adopted a statewide permit to consolidate storm water permits previously adopted by the Regional Water Boards. This statewide permit regulates storm water and non-storm water discharges from the Department's properties and facilities, and discharges associated with operation and maintenance of the State highway system. The Department's properties include all Right-of-Way (ROW) owned by the Department. The Department's facilities include, but are not limited to, maintenance stations/yards, equipment storage areas, storage facilities, fleet vehicle parking and maintenance areas and warehouses with material storage areas.

Federal Authority

3. In 1987, the United States Congress amended the federal Clean Water Act (CWA) and added section 402(p), which established a framework for regulating municipal and

industrial storm water discharges under the NPDES Permit Program. On November 16, 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated federal regulations for controlling pollutants in storm water runoff discharges (known as Phase I storm water regulations). Phase I storm water regulations require permit coverage for storm water discharges from large and medium Municipal Separate Storm Sewer Systems (MS4s), certain categories of industrial facilities, and construction activities disturbing five or more acres of land. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II storm water regulations, which require NPDES permit coverage for storm water discharges from small MS4s and construction sites which disturb one to five acres of land.

State Authority

4. California Water Code (Wat. Code) section 13376 provides that any person discharging or proposing to discharge pollutants to waters of the United States within the jurisdiction of the state shall apply for and obtain Waste Discharge Requirements (WDRs). (For this permit, the State term "WDRs" is equivalent to the federal term "NPDES permits" as used in the Clean Water Act). The State Water Board issues this Order pursuant to section 402 of the Clean Water Act and implementing regulations adopted by U.S. EPA and chapter 5.5, division 7 of the California Water Code (commencing with § 13370 et seq.). It shall serve as an NPDES permit for point source discharges to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with § 13260 et seq.). Applicable State regulations on discharges of waste are contained in the California Code of Regulations (Cal. Code Regs.), tit. 23, Division 3, Chapter 9.

Storm Water Definition

Storm Water Discharge

5. Storm water discharges consist only of those discharges that originate from precipitation events. Storm water is defined in the Code of Federal Regulations (40 C.F.R. § 122.26(b)(13)) as storm water runoff, snowmelt runoff, and surface runoff and drainage. During precipitation events, storm water picks up and transports pollutants into and through MS4s and ultimately to waters of the United States.

Non-Storm Water Discharge

6. Non-storm water discharges consist of all discharges from an MS4 that do not originate from precipitation events.

Generally, non-storm water discharges to an MS4 are prohibited, conditionally exempt from prohibition, or regulated separately by an NPDES permit. The categories of conditionally exempt non-storm water discharge are specified at 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1). Non-storm water discharges that are regulated by a separate NPDES permit are not subject to the discharge prohibition. Prohibited non-storm water discharges include conditionally exempt discharges that are found to be a source of pollutants to waters of the United States. Illicit discharges must also be prohibited. An illicit discharge is defined in 40 Code of Federal Regulations section 122.26(b)(2) as "any discharge to a municipal storm sewer that is not composed entirely of storm water except

discharges pursuant to an NPDES permit (other than the NPDES Permit for discharges from the Municipal Separate Storm Sewer System) and discharges resulting from fire fighting activities." Provision B of this Order addresses non-storm water discharge.

Non-storm water discharges to an MS4 with a discharge to an ASBS are subject to a different set of conditions as stated in Finding 22.a.

Performance Standards

Performance Standard for Discharges from MS4s

7. Clean Water Act section 402(p) establishes performance standards for discharges from MS4s. Clean Water Act section 402(p)(3)(B) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." This Order prohibits storm water discharges that do not comply with the maximum extent practicable (MEP) standard.

8. Compliance with the MEP standard involves applying Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the United States. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. BMP development is a dynamic process, and the menu of BMPs contained in a SWMP may require changes over time as experience is gained and/or the state of the science and art progresses. MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. The State Water Board has held that “MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the costs would be prohibitive.” (SWRCB, 2000b).

Permit Coverage and Scope

Discharges Regulated by this Permit

9. This Order regulates the following discharges:

    a. Storm water discharges from all Department-owned MS4s;
    b. Storm water discharges from the Department’s vehicle maintenance, equipment cleaning operations facilities and any other non-industrial facilities with activities that have the potential of generating significant quantities of pollutants; and
    c. Certain categories of non-storm water discharges as listed under provision B. of this Order.

    This Order does not regulate storm water discharges from leased office spaces, Department owned batch plants or any other industrial facilities, as industrial facilities defined in the Statewide Industrial General Permit. The Department will obtain coverage

for storm water discharges associated with industrial activities under the Statewide Industrial General Permit for each batch plant and industrial facility, and shall comply with applicable requirements. While this Order does not regulate storm water discharges associated with industrial activities, it does impose contractor requirements for certain industrial facilities.

This Order does not regulate discharges from the Department's construction activities, including dewatering effluent discharges from construction projects. Instead, the Department will obtain coverage for storm water discharges associated with construction activities under Order No. 2009-0009-DWQ Statewide Construction General Permit. While this Order does not regulate storm water discharges associated with construction activities, it does impose electronic filing, notification, reporting and contractor requirements for certain construction projects, and imposes limitations on types of materials that may be used during construction which may have an impact on post-construction discharges. Any discharges from a site occurring after completion of construction are fully subject to the requirements of this Order.

Some Regional Water Boards have issued specific requirements for dewatering effluent discharges in their regions. The Department will consult with the appropriate Regional Water Board and comply with the applicable dewatering requirements in each region.

Department Activities and Discharges

Department Activities

10. The Department is primarily responsible for the design, construction, management, and maintenance of the State highway system including; freeways, bridges, tunnels, and facilities such as corporation yards, maintenance facilities, rest areas, weigh stations, park and ride lots, toll plazas and related properties. The Department is also responsible for initial emergency spill response and cleanup for unauthorized discharges of waste within the Department's ROW.

Department Discharges

11. The Department's discharges include storm water and non-storm water discharges generated from:

    a. Maintenance and operation of State-owned ROW;
    b. Department storage and disposal areas;
    c. Department facilities;
    d. Department Airspaces; and
    e. Other properties and facilities owned and operated by the Department.

    The Department discharges either directly to surface waters or indirectly through municipal storm water conveyance systems. These surface waters include creeks, rivers, reservoirs, wetlands, saline sinks, lagoons, estuaries, bays, and the Pacific Ocean and tributaries thereto, some or all of which are waters of the United States as defined in 40 Code of

Federal Regulations section 122.2. As specified, this Order regulates the Department's municipal storm water and non-storm water discharges.

Potential Pollutants

12. Discharges of storm water and non-storm water from Department properties, facilities, and activities have been shown to contribute pollutants to waters of the United States. As such, these discharges may be causing or threatening to cause violations of water quality objectives and can have damaging effects on human health and aquatic ecosystems. The quality and quantity of these discharges vary considerably and are affected by many environmental factors including hydrology, geology, land use, climatology and chemistry, and by controllable management factors including maintenance practices, spill prevention and response activities, public education (i.e., concerning trash and other storm water pollutants) and pollution prevention.

    Pollutant sources from the Department properties, facilities, and activities include motor vehicles, highway surface materials such as fine particles of asphalt and concrete, highway maintenance products, construction activities, erodible shoulder materials, eroding cut and filled slopes, abrasive sand and deicing salts used in winter operations, abraded tire rubber, maintenance facilities, illegal connections, illegal dumping, fluids from accidents and spills, and landscape care products.

    Pollutant categories include, but are not limited to, metals (such as copper, lead, and zinc), synthetic organic compounds (pesticides), Polycyclic Aromatic Hydrocarbons (PAHs) from vehicle emissions, oil and grease, Total Petroleum Hydrocarbons (TPH), sediment, nutrients (nitrogen and phosphorus fertilizers), debris (trash and litter), pathogens, and oxygen demanding substances (decaying vegetation, animal waste, and other organic matter).

Characterization Monitoring

13. Under the previous permit (Order No. 99-06-DWQ), the Department conducted a comprehensive, multi-component storm water monitoring program. The Department monitored and collected pollutant characterization information at more than 180 sites statewide, yielding more than 60,000 data points. The Department used the data to evaluate the effectiveness of the Department's maintenance facility pollution prevention plans and highway operation control measures. This information is also used to identify pollutants of concern in the Department's discharges.

Department Discharge Characterization Studies

14. The Department compared the monitoring results from the 2002 and 2003 Runoff Characterization Studies (California Department of Transportation, 2003)[1] to California Toxics Rule (CTR) objectives and to several surface water quality objectives considered potentially relevant to storm water runoff quality. The Department prioritized constituents as high, medium, and low, according to a percentage estimate by which the most stringent water quality objective was exceeded. The Department identified lead, copper, zinc,

[1] References are found in Attachment X of this Order.

aluminum, diazinon, chlorpyrifos, and iron as high priority constituents in the Department's runoff. The sources of other water quality objectives considered were:

a. National Primary Drinking Water Maximum Contaminant Levels (40 C.F.R., § 141.1);
b. U.S. EPA Action Plan for Beaches and Recreational Waters;
c. U.S. EPA Aquatic Life Criteria;
d. California Department of Public Health Maximum Contaminant Levels; and California Department of Fish and Game Recommended Criteria for Diazinon and Chlorpyrifos.

Department Discharges that are Subject to MS4 Permit Regulations

15. An MS4 is a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains. An MS4 is designed or used for collecting or conveying storm water. It is not a combined sanitary sewer and is not part of a Publicly Owned Treatment Works (POTW). Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. All MS4s under the Department's jurisdiction are considered one system, and are regulated by this Order. Therefore, all storm water and exempted and conditionally exempted non-storm water discharges from the Department owned MS4 are subject to the requirements in this Order.

Maintenance and Construction Activities not Subject to the Construction General Permit

16. Some maintenance and construction activities such as roadway and parking lot repaving and resurfacing may not be subject to the Construction General Permit. Such activities may involve grinding and repaving the existing surface and have the potential to mobilize pollutants, even though it may not involve grading or land disturbance. The Department's Maintenance Staff Guide (Department, 2007b), Project Planning and Design Guide (Department, 2010) and the California Stormwater Quality Association (CASQA) California Construction Stormwater BMP Handbook (CASQA, 2009) specify BMPs for paving and grinding operations. The Department is required to implement BMPs for such operations to control the discharge of pollutants to the MEP.

Department Construction Projects Involving Lead Contaminated Soils

17. Department construction projects may involve soils that contain lead in quantities that meet the State definition of hazardous waste but not the federal definition. The Department of Toxic Substances Control (DTSC) has issued a variance (V09HQSCD006) effective July 1, 2009, allowing the Department to place soil containing specific concentrations of aerially deposited lead under pavement or clean soil. In addition to complying with the terms of the variance, the Department also needs to notify the appropriate Regional Water Boards to determine the appropriate regulation of these soils.

18. Past monitoring data show that storm water runoff from the Department's facilities contains pollutants that may adversely affect the beneficial uses of receiving waters. Facilities not

subject to the Industrial General Permit are required to implement BMPs to reduce the discharge of pollutants from these facilities to the MEP.

Provisions of This Order

19. Storm water discharges from MS4s are highly variable in frequency, intensity, and duration, and it is difficult to characterize the amount of pollutants in the discharges. In accordance with 40 Code of Federal Regulations section 122.44(k)(2), the inclusion of BMPs in lieu of numeric effluent limitations is appropriate in storm water permits. This Order requires implementation of BMPs to control and abate the discharge of pollutants in storm water to the MEP. To assist in determining if the BMPs are effectively achieving MEP standards, this Order requires effluent and receiving water monitoring. The monitoring data will be used to determine the effectiveness of the applied BMPs and to make appropriate adjustments or revisions to BMPs that are not effective.

Receiving Water Limitations

20. The effect of the Department's storm water discharges on receiving water quality is highly variable. For this reason, this Order requires the Department to implement a storm water program designed to achieve compliance with water quality standards, over time through an iterative approach. If discharges are found to be causing or contributing to an exceedance of an applicable Water Quality Standard, the Department is required to revise its BMPs (including use of additional and more effective BMPs).

Discharges to Areas of Special Biological Significance

21. The State Water Board has designated 34 coastal marine waters as Areas of Special Biological Significance (ASBS) in the California Ocean Plan. An ASBS is a coastal area requiring protection of species or biological communities. The Department discharges storm water into the following ASBS:

    a. Redwoods National Park ASBS
    b. Saunders Reef ASBS
    c. James V. Fitzgerald ASBS
    d. Año Nuevo ASBS
    e. Carmel Bay ASBS
    f. Point Lobos ASBS
    g. Julia Pfeiffer Burns ASBS
    h. Salmon Creek Coast ASBS
    i. Laguna Point to Latigo Point ASBS
    j. Irvine Coast ASBS

22. The Ocean Plan prohibits waste discharges into ASBS. The Ocean Plan allows the State Water Board to grant exceptions to this prohibition, provided that: (1) the exception will not compromise protection of ocean waters for beneficial uses, and (2) the public interest will be served. The Department has applied for and been granted an exception under the General Exception for Storm Water and Non-Point Source Discharges to ASBS. The exception

allows the continued discharge into ASBS provided the Department complies with the special protections specified in the General Exception.

22a. Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally. In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order.

<u>New Development and Re-development Design Standards</u>

23. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(2) requires municipal storm water permittees to implement a new development and redevelopment program to reduce the post-construction generation and transport of pollutants. Development can involve grading and soil compaction, an increase in impervious surfaces (roadways, roofs, sidewalks, parking lots, etc.), and a reduction of vegetative cover, all of which increase the amount of rainfall that ends up as runoff, and decrease the particle size and the load of watershed sediment. The increase in runoff generally leads to increased pollutant loading from watersheds, even if post-construction pollutant concentrations are similar to pre-construction concentrations. The accelerated erosion and deposition resulting from an increase in runoff and a decrease in the size and load of watershed sediment generally causes a stream channel to respond by deepening and widening and detaching from the historic floodplain. The magnitude of response depends on geology, land use, and channel stability at the time of the watershed disturbance. Increased pollutant loads and alteration of the runoff/sediment balance have the potential to negatively impact the beneficial uses of receiving waters including streams, lakes, wetlands, ground water, oceans, bays and estuaries, and the biological habitats supported by these aquatic systems.

24. Department projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The hydromodification requirements in this Order are "effluent limitations," which are defined by the Clean Water Act to include any restriction on the quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources (C.W.A., § 502(11)).

25. Waters of the United States supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes affected by Department activities. This Order requires the Department to submit to the State Water Board the annual report required under Article 3.5 of the Streets and Highways Code reporting on the Department's progress in locating, assessing, and remediating barriers to fish passage.

26. Low Impact Development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID uses site design and storm water management to maintain the site's pre-project runoff rates and volumes by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source.

27. On October 5, 2000, the State Water Board adopted a precedential decision concerning the use of Standard Urban Storm Water Mitigation Plans (SUSMPs) (Order WQ 2000-11). The SUSMP in that case required sizing design standards for post-construction BMPs for specific categories of new development and redevelopment projects. Order WQ 2000-11 found that provisions in the SUSMPs, as revised in the order, reflected MEP. The LID requirements, post-construction requirements for impervious surface and the design standards in this Order are consistent with Order WQ 2000-11 and meet the requirement for development of a SUSMP.

Self-Monitoring Program

28. Effluent and receiving water monitoring are necessary to evaluate the effectiveness of BMP measures and to track compliance with water quality standards. This Order requires the Department to conduct effluent and receiving water monitoring.

Storm Water Management Plan (SWMP)

29. The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management

Practices (BMP) controls and many other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007. The 2004 and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

30. The SWMP and any future modifications or revisions are integral to and enforceable components of this Order. Any documents incorporated into the SWMP by reference that specify the manner in which the Department will implement the SWMP shall be consistent with the requirements of this Order.

31. This Order requires the Department to submit an Annual Report each year to the State Water Board. The Annual Report serves the purpose of evaluating, assessing, and reporting on each relevant element of the storm water program, and revising activities, control measures, BMPs, and measurable objectives, as necessary, to meet the applicable standards.

32. Revisions to the SWMP requiring approval by the State Water Board's Executive Director are subject to public notice and the opportunity for a public hearing.

Total Maximum Daily Load (TMDL) Requirements

33. TMDLs are calculations of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations or WLAs) and non-point sources (load allocations or LAs), plus the contribution from background sources and a margin of safety (40 C.F.R., § 130.2, subd.(i)). Discharges from the Department's MS4 are considered point source discharges.

34. This Order implements U.S. EPA-approved or U.S. EPA-established TMDLs applicable to the Department. This Order requires the Department to comply with all TMDLs listed in Attachment IV. Attachment IV identifies TMDLs adopted by the Regional Water Boards and approved by the State Water Board and U.S. EPA that assign the Department a Waste Load Allocation (WLA) or that specify the Department as a responsible party in the implementation plan. In addition, Attachment IV identifies TMDLs established by U.S. EPA that specify the Department as a responsible party or that identify NPDES permitted storm water sources or point sources generally, or identify roads generally, as subject to the TMDL. In accordance with 40 Code of Federal Regulations section 122.44, subdivision (d)(1)(vii)(B), NPDES water quality-based effluent limitations (WQBELs) must be consistent with the assumptions and requirements of available TMDL WLAs. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. The TMDL requirements in this Order are consistent with the assumptions and requirements of the TMDLs applicable to the Department.

35. TMDL WLAs in this Order are not limited by the MEP standard. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric WQBELs, federal regulations (40 C.F.R., § 122.44, subd. (k)(2)) allow for the implementation of BMPs to control or abate the discharge of pollutants from storm water.

36. The Department reported in its 2008-09 Annual Report to the State Water Board that it is subject to over 50 TMDLs and is in the implementation phase of over 30 TMDLs. The State Water Board has since determined that the Department is subject to 84 TMDLs. WLAs and LAs for some TMDLs are shared jointly among several dischargers, with no specific mass loads assigned to individual dischargers. In some of these cases, multiple dischargers are assigned a grouped or aggregate waste load allocation, and each discharger is jointly responsible for complying with the aggregate waste load allocation.

37. The high variance in the level of detail and specificity in the TMDLs developed by the Regional Water Boards and U.S. EPA necessitates the development of more specific permit requirements in many cases, including deliverables and required actions, derived from each TMDL's WLA and implementation requirements. These requirements will provide clarity to the Department regarding its responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to notice and a public comment period. Because most of the TMDLs were developed by the Regional Water Boards, and because some of the WLAs are shared by multiple dischargers, the development of TMDL-specific permit requirements has been coordinated initially at the Regional Water Board level.

38. Attachment IV specifies TMDL-specific permit implementation requirements for the Lake Tahoe sediment and nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. These requirements are consistent with the assumptions and requirements of applicable WLAs assigned to the Department, and with the adopted and approved TMDL, Basin Plan, and related Regional Water Board Orders and Resolutions.

39. For all remaining TMDLs identified in Attachment IV, the Regional Water Boards, in consultation with the State Water Board and the Department, developed categorical pollutant permit requirements. The Fact Sheet contains supporting analyses explaining how the proposed categorical pollutant permit requirements will implement the TMDL and are consistent with the assumptions and requirements of any applicable WLA and how the BMPs will be sufficient to implement applicable WLAs. Following a notice and comment period, Attachment IV of this Order and the Fact Sheet was reopened consistent with provision E.11.c. for incorporation of these requirements and supporting analysis into the Order and Fact Sheet.

40. This Order specifies the requirements to be followed for the Comprehensive TMDL Monitoring Plan. TMDL monitoring requirements are found in Attachment IV, Section III.A. The Regional Water Boards may require additional monitoring through Regional Water Board orders pursuant to Water Code section 13383.

41. Attachment IV may additionally be reopened consistent with provision E.11.b. of this Order for incorporation of newly adopted TMDLs or amendments to existing TMDLs into the Permit.

Non-Compliance

42. NPDES regulations require the Department to notify the Regional Water Board and/or State Water Board of anticipated non-compliance with this Order (40 C.F.R., § 122.41(l)(2)); or of instances of non-compliance that endanger human health or the environment (40 C.F.R., § 122.41(l)(6)).

Regional Water Board and State Water Board Enforcement

43. The Regional Water Boards and the State Water Board will enforce the provisions and requirements of this Order.

Region Specific Requirements

Basin Plans

44. Each Regional Water Board has adopted a Basin Plan for the watersheds within its jurisdiction. Basin Plans identify the beneficial uses for each water body and the water quality objectives necessary to protect them. The Department is subject to the prohibitions and requirements of each Basin Plan.

Region Specific Requirements

45. Regional Water Boards have identified Region-specific water quality issues and concerns pertaining to discharges from the Department's properties. Region-specific requirements to address these issues are included in this Order.

Local Municipalities and Preemption

46. Storm water and non-storm water from MS4s that are owned and managed by other NPDES permitted municipalities may discharge to storm water conveyance systems owned and managed by the Department. This Order does not supersede the authority of the Department to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within its jurisdiction as allowed by State and federal law.

    Storm water and non-storm water from the Department's ROW, properties, facilities, and activities may discharge to storm water conveyance systems managed by other NPDES permitted municipalities. This Order does not preempt or supersede the authority of the permitted municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law.

Anti-Degradation Policy

47. 40 Code of Federal Regulations section 131.12 requires that state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's anti-degradation policy in State Water Board Resolution No.

68-16. Resolution No. 68-16 incorporates the federal anti-degradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plans implement, and incorporate by reference, both the State and federal anti-degradation policies. This Order is consistent with the anti-degradation provision of 40 Code of Federal Regulations section 131.12 and State Water Board Resolution No. 68-16.

Endangered Species Act

48. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2115.5) or the Federal Endangered Species Act (16 U.S.C.A., §§ 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the United States. The Department is responsible for meeting all requirements of the applicable Endangered Species Act.

California Environmental Quality Act (CEQA)

49. The action to adopt an NPDES Permit is exempt from the provisions of CEQA (Public Resources Code, § 21100, et. seq.), pursuant to section 13389 of the California Water Code (County of Los Angeles et al., v. California Water Boards et al., (2006), 143 Cal.App.4th 985).

Public Notification

50. The Department, interested agencies, and persons have been notified of the State Water Board's intent to reissue requirements for storm water discharges and have been provided an opportunity to submit their written comments and recommendations. State Water Board staff prepared a Fact Sheet and Response to Comments, which are incorporated by reference as part of this Order.

Public Hearing

51. The State Water Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.

Cost of Compliance

52. The State Water Board has considered the costs of complying with this Order and whether the required BMPs meet the minimum "maximum extent practicable" standard required by federal law. The MEP approach is an evolving, flexible, and advancing concept, which considers technical and economic feasibility. Because of the numerous advances in storm water regulation and management and the size of the Department's MS4, the Order does not require the Department to fully incorporate and implement all advances in a single permit term, but takes an incremental approach that allows for prioritization of efforts for the most effective use of the increased, but nevertheless limited, Department funds. This Order will have an effect on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-

construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges.[2] These incremental costs are necessary to advance the controls and management of storm water by the Department and to facilitate reduction of the discharge of pollutants to the MEP.

53. This Order supersedes Order No. 99-06-DWQ.

54. This Order serves as an NPDES permit pursuant to Clean Water Act section 402 or amendments thereto, and shall become effective on July 1, 2013, provided that the Regional Administrator, U.S. EPA, Region IX, expresses no objections.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code, regulations, and plans and policies adopted thereafter, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereafter, that the Department shall comply with the following:

A. GENERAL DISCHARGE PROHIBITIONS

1. Storm water discharges from the Department's Municipal Separate Storm Sewer System (MS4) containing pollutants that have not been reduced to the Maximum Extent Practicable (MEP), are prohibited. The Department shall achieve the pollutant reductions described in this Prohibition through implementation of the provisions in this Order and the approved SWMP.

2. Discharges to Areas of Special Biological Significance (ASBS).

    a. Existing storm water discharges into an ASBS are allowed only if the discharges:

        1) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
        2) Are designed to prevent soil erosion;
        3) Occur only during wet weather; and
        4) Are composed of only storm water runoff, except as provided at B.6.

    b. Discharges composed of storm water runoff shall not alter natural water quality in an ASBS.

    c. The discharge of trash is prohibited.

    d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no

[2] Although the cost of compliance with TMDL waste load allocations was considered, compliance with TMDLs is not subject to the MEP standard.

additional pollutant loading). "Existing storm water outfalls" are those that were constructed or under construction prior to January 1, 2005. "New contribution of waste" is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

e. The discharges comply with all terms, prohibitions, and special conditions contained in sections E.2.c.2)a)i) and E.5. of this Order.

3. Discharge of material other than storm water, or discharge that is not composed entirely of storm water, to waters of the United States or another permitted MS4 is prohibited, except as conditionally exempted under Section B.2 of this Order or authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit.

4. The discharge of storm water or conditionally exempt non-storm water that causes or contributes to the violation of water quality standards or water quality objectives (collectively WQSs), the California Toxics Rule (CTR), or impairs the beneficial uses established in a Water Quality Control Plan, or a promulgated policy of the State or Regional Water Boards, is prohibited. The Department shall comply with all discharge prohibitions contained in Regional Water Board Basin Plans.

5. The discharge of storm water to surface waters of the United States in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code section 13050 is prohibited.

6. Discharge of wastes or wastewater from road-sweeping vehicles or from other maintenance activities to any waters of the United States or to any storm drain leading to waters of the United States is prohibited unless in compliance with section E.2.h.3)c)ii) of this Order or authorized by another NPDES permit.

7. The dumping, deposition, or discharge of waste by the Department directly into waters of the United States or adjacent to such waters in any manner that may allow its being transported into the waters is prohibited unless authorized by the Regional Water Board.

8. The discharge of sand, silt, clay, or other earthen materials from any activity in quantities which cause deleterious bottom deposits, turbidity, or discoloration in waters of the United States or which unreasonably affect or threaten to affect beneficial uses of such waters, is prohibited.

B. NON-STORM WATER DISCHARGE PROHIBITIONS

Non-storm water discharges, other than those to ASBS, must comply with the following provisions:

1. The Department shall effectively prohibit non-storm water discharges into its storm water conveyance system unless such discharges are either:

   a. Authorized by a separate NPDES permit; or
   b. Conditionally exempt in accordance with provision B.2. of this NPDES permit

2. Conditionally Exempt Non-storm Water Discharges.

   The following non-storm water discharges are conditionally exempt from Prohibition B.1 unless the Department or the State Water Board Executive Director identifies them as sources of pollutants to receiving waters. For discharges identified as sources of pollutants, the Department shall either eliminate the discharge or otherwise effectively prohibit the discharge.

   a. Diverted stream flows;
   b. Rising ground waters;
   c. Uncontaminated ground water infiltration (as defined at 40 C.F.R., § 35.2005(20)) to MS4s;
   d. Uncontaminated pumped ground water;
   e. Foundation drains, including slope lateral drains;
   f. Springs;
   g. Water from crawl space pumps;
   h. Footing drains;
   i. Air conditioning condensation;
   j. Flows from riparian habitats and wetlands;
   k. Water line flushing[3];
   l. Minor, incidental discharges of landscape irrigation water[4];
   m. Discharges from potable water sources[3];
   n. Irrigation water[5];
   o. Minor incidental discharges from lawn watering;
   p. Individual residential car washing; and
   q. Dechlorinated swimming pool discharges.

3. Some Regional Water Boards have separate dewatering and/or "de minimus" NPDES discharge permits or Basin Plan requirements for some or all of these listed non-storm water discharges. The Department shall check with the appropriate Regional Water Board to determine if a specific non-storm water discharge requires coverage under a separate NPDES permit.

4. The Department is not required to prohibit emergency fire fighting flows (i.e., flows necessary for the protection of life or property). Discharges associated with emergency

[3] In order to remain conditionally exempt, discharges shall be dechlorinated prior to discharge.
[4] In order to remain conditionally exempt, landscape irrigation systems must be designed, operated and maintained to control non-incidental runoff. See definition of incidental runoff in Attachment VIII.
[5] Return flows from irrigated agriculture are not point-source discharges and are not prohibited from entering the Department's MS4.

firefighting do not require BMPs, but they are recommended if feasible. As part of the SWMP, the Department shall develop and implement a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) as specified in the SWMP.

5. If the State Water Board Executive Director determines that any category of conditionally exempt non-storm water discharge is a source of pollutants, the State Water Board Executive Director may require the Department to conduct additional monitoring and submit a report on the discharges. The State Water Board Executive Director may also order the Department to cease a non-storm water discharge if it is found to be a source of pollutants.

   Non-storm water discharges to ASBS must comply with the following provisions:

6. Non-storm water discharges to ASBS are prohibited except as stated in this Section.

   The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability, or occur naturally:

   a. Discharges associated with emergency fire fighting operations.
   a. Foundation and footing drains.
   b. Water from crawl space or basement pumps.
   c. Hillside dewatering.
   d. Naturally occurring groundwater seepage via a storm drain.
   f. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

   Discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. A Regional Water Board may nonetheless prohibit a specific discharge from a utility vault or underground structure if it determines that the discharge is causing the MS4 discharge to the ASBS to alter natural ocean water quality in the ASBS.

   Additional non-storm water discharges to a segment of the Department's MS4 with a direct discharge to an ASBS are allowed only to the extent the relevant Regional Water Board finds that the discharge does not alter natural ocean water quality in the ASBS.

   Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan or alter natural ocean water quality in an ASBS.

C. EFFLUENT LIMITATIONS

The Department shall reduce the discharge of pollutants from its MS4 to waters of the United States to the MEP, as necessary to achieve TMDL WLAs established for discharges by the Department, and to comply with the Special Protections for discharges to ASBS.

D. RECEIVING WATER LIMITATIONS

1. Receiving water quality objectives, as specified in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, are applicable to discharges from the Department's facilities and properties.

2. The discharge of storm water from a facility or activity shall not cause or contribute to an exceedance of any applicable water quality standard.

3. Storm water discharges shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the United States:

    a. Floating or suspended solids, deposited macroscopic particulate matter, or foam;
    b. Bottom deposits or aquatic growth;
    c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
    d. Visible, floating, suspended, or deposited oil or other products of petroleum origin, and/or;
    e. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

4. The Department shall comply with Sections A.4, D.2 and D.3 of this Order through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this Order including any modifications. The SWMP shall be designed to achieve compliance with Sections A.4, D.2 and D.3 of this Order. If exceedance(s) of WQS persist notwithstanding implementation of the SWMP and other requirements of this Order, the Department shall assure compliance with Sections A.4, D.2 and D.3 of this Order by complying with the procedure specified at Section E.2.c.6)c) of this Order.

5. Provided the Department has complied with the procedure set forth in provision E.2.c.6)c) of this Order and is implementing the revised SWMP required by provision E.1., the Department is not required to repeat the procedure called for in provision E.2.c.6)c) for continuing or recurring exceedances of the same receiving water limitations unless directed by the State Water Board's Executive Director or Regional Water Board Executive Officer to develop additional BMPs.

6. Where the Department discharges waste to a water of the State that is not a water of the United States, compliance with the prohibitions, limitations, and provisions of this Order when followed for that water of the State will constitute compliance with the requirements of the Porter-Cologne Water Quality Control Act, unless the Department is notified otherwise in writing by the State Water Board Executive Director or a Regional Water Board Executive Officer.

E. PROVISIONS

1. Storm Water Management Plan (SWMP)

a. The Department shall update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order as outlined in E.1.b below. The Department shall submit for Executive Director approval an updated SWMP consistent with the provisions and requirements of this Order within one year of the effective date of this Order. The SWMP shall identify and describe the BMPs that shall be used. The SWMP shall be reviewed annually and modified as necessary to maintain an effective program in accordance with the procedures of this Order. The SWMP shall reflect the principles that storm water management is to be a year-round proactive program to eliminate or control pollutants at their source or to reduce them from the discharge by either structural or nonstructural means when elimination at the source is not possible.

b. The SWMP shall contain the following elements:

1) Overview
2) Management And Organization
3) Monitoring And Discharge Characterization Program
4) Project Planning And Design
5) BMP Development and Implementation
6) Construction
7) Compliance with the Industrial General Permit
8) Maintenance Program Activities, including facilities operations
9) Non-Departmental Activities
10) Non-Storm Water Activities/ Discharges
11) Training
12) Public Education and Outreach
13) Region Specific Activities (See provision E.6 and Attachment V.)
14) Program Evaluation
15) Measurable Objectives
16) Reporting
17) References

The Department shall implement all requirements of this Order regardless of whether those requirements are addressed by an element of the SWMP.

c. The SWMP shall include all provisions and commitments in the 2003 SWMP (Department, 2003c), as revised in response to U.S. EPA's Findings of Violation and Order for Compliance (U.S. EPA Docket No. C.W.A.-09-2011-0001). The Department shall continue to implement the 2003 SWMP to the extent that it does not conflict with the requirements of this Order and until a new SWMP is approved pursuant to this Order.

d. All policies, guidelines, and manuals referenced by the SWMP and related to storm water are intended to facilitate implementation of the SWMP, and shall be consistent with the requirements of this Order.

e. The SWMP shall define terms in a manner that is consistent with the definitions in 40 Code of Federal Regulations section 122.2. This includes, but is not limited to, the definitions for pollutant, waters of the United States, and point source. Where there is a conflict between the SWMP and the language of this Order, the language of this Order shall govern.

f. Unless otherwise specified in this Order, proposed revisions to the SWMP shall be submitted to the State Water Board Executive Director as part of the Annual Report. The Department shall revise all other appropriate manuals to reflect modifications to the SWMP.

g. Revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board's website and via the storm water electronic notification list. During the public notice period, members of the public may submit written comments or request a public hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised at the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing prior to approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director shall consider all public comments received and may approve the SWMP revision if it meets the conditions set forth in this Order. Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.

h. The Department shall maintain for public access on its website the latest approved version of the SWMP. The Department shall update the SWMP on its website within 30 days of approval of revisions by the State Water Board.

2. Storm Water Program Implementation Requirements

a. Overview

The Department shall provide an overview of the storm water program in the SWMP. The overview will include:

1) A statement of the SWMP purpose;
2) A description of the regulatory background;
3) A description of the SWMP applicability;
4) A description of the relationship of the Permit, SWMP, and related Department documents; and
5) A description of the permits addressed by the SWMP.

b. Management and Organization

The Department shall provide in the SWMP an overview of its management and organizational structure, roles and responsibilities of storm water personnel, a description of the role and focal point of the Department's storm water program, and a description of the Storm Water Advisory Teams. The Department shall implement the program specified in the SWMP. The Department shall also implement any additional requirements contained in this Order.

1) *Coordination with Local Municipalities*

a) The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or other State agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.

b) The Department shall include a ***MUNICIPAL COORDINATION PLAN*** in the SWMP. The plan shall describe the specific steps that the Department will take in establishing communication, coordination, cooperation, and collaboration with other MS4 storm water management agencies and their programs including establishing agreements with municipalities, flood control departments, or districts as necessary or appropriate. The Department shall report on the status and progress of interagency coordination activities in each Annual Report.

2) *Legal Authority*

a) The Department shall establish, maintain, and certify that it has adequate legal authority through statute, permit, contract or other means to control discharges to and from the Department's properties, facilities and activities.

b) The Department has provided a statement certified by its chief legal counsel that the Department has adequate legal authority to implement and enforce

each of the key regulatory requirements contained in 40 Code of Federal Regulations sections 122.26(d)(2)(i)(A-F). The Department shall submit annually, as part of the Annual Report, a ***CERTIFICATION OF THE ADEQUACY OF LEGAL AUTHORITY***.

3) *Fiscal Resources*

a) The Department shall seek to maintain adequate fiscal resources to comply with this NPDES Permit. This includes but is not limited to:

i) Implementing and maintaining all BMPs;
ii) Implementing an effective storm water monitoring program; and
iii) Retaining qualified personnel to manage the storm water program.

b) The Department shall submit a ***FISCAL ANALYSIS*** of the storm water program annually. At a minimum, the fiscal analysis shall show:

i) The allocation of funds to the Districts for compliance with this Order;
ii) The funding for each program element;
iii) A comparison of actual past year expenditures with the current year's expenditures and next year's proposed expenditures;
iv) How the funding has met the goals specified in the SWMP and District workplans; and
v) Description of any cost sharing agreements with other responsible parties in implementing the storm water management program.

c) The fourth year report shall contain a ***BUDGET ANALYSIS*** for the next permit cycle.

4) *Practices and Policies*
The Department shall identify in the SWMP any of the Department's practices and policies that conflict with implementation of the storm water program. The Department shall annually propose changes, including changes to implementation schedules, needed to resolve these conflicts and otherwise effectively implement the SWMP and the requirements of this Order.

5) *Inspection Program*
The Department shall have an inspection program to ensure that this Order and the SWMP are implemented, and that facilities are constructed, operated, and maintained in accordance with this Order and the SWMP. The program shall include training for inspection personnel, documentation of field activities, a reporting system that can be used to track effectiveness of control measures, enforcement procedures (or referral for enforcement) for non-compliance, procedures for taking corrective action, and responsibilities and responsible personnel of all affected functional offices and branches.

The inspection program shall also include standard operating procedures for documenting inspection findings, a system of escalating enforcement response to non-compliance (including procedures for addressing third party (i.e., contractor) non-compliance), and a system to ensure the timely resolution of all violations of this Order or the SWMP. The Department shall delegate adequate authority to appropriate personnel within all affected functional offices and branches to require corrective actions (including stop work orders).

6) *Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance*
The Department shall report all known incidents of non-compliance with this Order. Non-compliance may be emergency, field, or administrative. The Department shall electronically file a complete ***INCIDENT REPORT FORM*** (Attachment I) in the Storm Water Multiple Application Report and Tracking System (SMARTS)[6] and provide verbal notifications as soon as practicable, but no later than the time frames specified in Attachment I. Submission of an Incident Report Form is not an admission by the Department of a violation of this Order. The types of incidents requiring non-compliance reporting are discussed in Attachment I. The State Water Board or Regional Water Board may require additional information. The Department shall include in the Annual Report a summary of all incidents by type and District, and report on the status of each.

The Department shall report all potential or threatened non-compliance to the State Water Board and appropriate Regional Water Board in accordance with the "Anticipated non-compliance" provisions described in Attachment VI (Standard Provisions). The report shall describe the timing, nature and extent of the anticipated non-compliance. An Incident Report Form is not required for anticipated non-compliance. Anticipated non-compliance may be for field or administrative incidents only.

c. Monitoring and Discharge Characterization Requirements
The Department shall revise and implement the SWMP consistent with the requirements specified below.

1) *Monitoring Site Selection*
Monitoring shall be conducted in two tiers. Tier 1 consists of all sites for which monitoring is required pursuant to the requirements of the General Exception, including Special Protections, to the California Ocean Plan waste discharge prohibitions for storm water and non-point source discharges to ASBS, and sites in impaired watersheds for which the Department has been assigned a WLA and monitoring requirements pursuant to an approved TMDL. Tier 2 consists of all sites where the Department has existing monitoring data, including both storm water and non-storm water. Tier 2 sites may include locations where the Department has conducted characterization monitoring or where monitoring has been conducted for other purposes.

[6] https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

The Department shall conduct without limitation all Tier 1 monitoring as required under the ASBS Special Protections and under the adopted and approved TMDLs. The Department may satisfy Tier 1 monitoring requirements by participating in stakeholder groups. Retrofitting and verification monitoring under Tier 2 need not be initiated until there are less than 100 sites actively monitored under Tier 1. There shall be a minimum of 100 active monitoring sites at any one time, consisting of Tier 1, Tiers 1 and 2, or Tier 2.

Sites from Tier 2 shall be prioritized by the Department in consideration of the threat to water quality, including the pollutant and its concentration or load, the distance to receiving water, water quality objectives, and any existing impairments in the receiving waters. The prioritized list shall be submitted to the State Water Board within eight (8) months of the effective date of this Order. The State Water Board will review the prioritized list and may revise it to reflect Regional or State Water Board priorities. The revised list will be approved by the Executive Director and will become effective upon notice to the Department.

2) *Water Quality Monitoring*

a) Tier 1 Monitoring Requirements

i) Areas of Special Biological Significance

The Department's ASBS monitoring program shall include both core discharge monitoring and ocean receiving water and reference site monitoring. The State and Regional Water Boards must approve receiving water and reference site sampling locations and any adjustments to the monitoring program. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions exist.

(1) Core Discharge Monitoring Program

Core discharge monitoring is the monitoring of storm water effluents from the storm water outfalls at the priority discharge locations listed in Attachment III.

(a) General Sampling Requirements for Timing and Storm Size

Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for

the same constituents as receiving water and reference site samples (see section E.2.c.2)a)i)(2)) as described below.

(b) Runoff Flow Measurements
For storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width, including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State Water Board. Report measurements annually for each precipitation season to the State and Regional Water Boards.

(c) Runoff samples – storm events

(i) Outfalls equal to or greater than 18 inches (0.46m) in diameter or width.

Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS. If the Department has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B (shown in Attachment II) metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

(ii) Outfalls equal to or greater than 36 inches (0.91m) in diameter or width.
Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and

phosphates). Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

(d) If the Department does not participate in a regional monitoring program as described in provision E.2.c.2)a)i)(2)(b)in addition to (i) and (ii) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A (shown in Attachment II) constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For discharges to ASBS in more than one Regional Water Board, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

(e) The Executive Director of the State Water Board may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(2) Ocean Receiving Water and Reference Area Monitoring Program
In addition to performing the Core Discharge Monitoring Program in provision E.2.c.2)a)i)(1) above, the Department must perform ocean receiving water monitoring. The Department may either implement an individual monitoring program or participate in a regional integrated monitoring program.

(a) Individual Monitoring Program
If the Department elects to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS, in addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

(i) Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in provision E.2.c.2)a)i)(1)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan

PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm) and during (or immediately after) the same storm (post storm). Post storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

(ii) Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.

(iii) A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.

(iv) Once during each permit term and in each subsequent five year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the

State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

(v) Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

(vi) The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(b) Regional Integrated Monitoring Program

The Department may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within an ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the prescribed individual monitoring approach described in provision E.2.c.2)a)i)(2)(a) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

(i) Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are

303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled by the Department. Because the Department discharges to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

(ii) ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than18 inches). Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS by the Department. At a minimum, one reference station and one receiving water station shall be sampled in each applicable Regional Water Board.

(iii) Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons.

(iv) Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.

(v) Determinations of compliance with Special Protections requirements for ASBS discharges (State Water Board resolution DWQ 2012-0012) shall be made by the Executive Director of the State Water Board or his designee. When a determination is made that a site or discharge is in compliance with the Special Protections, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1). This provision applies regardless of any continued monitoring that may be required at the site pursuant to the Special Protections.

ii) Total Maximum Daily Load Watersheds
The Department shall comply with the TMDL monitoring requirements in Attachment IV, or in orders of the Regional Water Boards pursuant to Water Code section 13383 that require TMDL-related monitoring. TMDL monitoring shall also include the constituents listed in Attachment II, except as exempted in Attachment IV.

Determinations of compliance with the TMDL shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance with the TMDL, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1) and monitoring of Attachment II constituents will be discontinued. This provision applies regardless of any continued monitoring that may be required at the site pursuant to the TMDL.

b) Tier 2 Retrofit and Verification Monitoring Requirements
Corrective actions shall be implemented at the top 15 percent of sites (rounded up) on the Tier 2 priority list, subject to the number of sites per year specified in provision E.2.c.1). Follow up monitoring shall be conducted to confirm the effectiveness of the measures implemented, as determined by the Executive Officer of the Regional Water Board or his designee. Follow up monitoring is not required where the discharge has been eliminated, or where

the implemented BMP provides full retention of the 85th percentile, 24-hour rain event.

Determinations of compliance at the Tier 2 sites shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1).

3) *Corrective Actions*
Corrective actions may include structural or non-structural BMPs. All structural BMPs must be designed according to the requirements in provisions E.2.d. and E.2.e.

4) *Field and Laboratory Data Requirements*
The Department shall prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the Surface Water Ambient Monitoring Program. All monitoring samples shall be collected and analyzed according to the Department's QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml

All samples shall be analyzed by a certified or accredited laboratory as required by Water Code section 13176. Global Positioning System (GPS) coordinates shall be recorded for all monitoring sites, including sites selected for the final Tier 2 priority list (top 15%) according to existing data.

Water quality data (receiving water and effluent) shall be uploaded to the Storm Water Multi-Application Reporting and Tracking System (SMARTS) and must conform to "CEDEN Minimum Data Templates" format. CEDEN Minimum Data Templates are available at **http://ceden.org/**.

Analytical results shall be filed electronically in SMARTS within 30 days of receipt by the Department.

5) *Monitoring Results Report*
The Department shall submit, separate from the Annual Report, a ***MONITORING RESULTS REPORT*** (**MRR)** by October 1 of each year.

a) The MRR shall include a list of all sites in Tier 1 and Tier 2 being actively monitored, and the results of the past fiscal year's monitoring activities including effluent and receiving water quality monitoring.
b) The Department shall specifically highlight sample values that exceed applicable WQSs, including toxicity objectives. Complete sample results or

lab data need not be included, but must be retained and filed electronically, and must be provided to the Regional Water Board or State Water Board as provided in provision E.2.c.4).

c) The MRR shall include a summary of sites requiring corrective actions needed to achieve compliance with this Order, and a review of any iterative procedures (where applicable) at sites needing corrective actions.
d) The reporting period for the MRR shall be July 1 of the prior year through June 30 of the current year.

6) *Compliance Monitoring and Reporting*

a) The Department shall review and propose any updates, as needed, to the Non-compliance Reporting Plan for Municipal and Construction Activities in section 9.4.1 of the SWMP. The plan shall identify the staff in each District Office and Regional Water Board to send and receive ***INCIDENT REPORT FORMS*** (Attachment I). The Department shall continue to implement the July 2008 Construction Compliance Evaluation Plan or any updated plan as approved by the Executive Director.
b) The Department shall summarize, by District, all non-compliance incidents, including construction, in the Annual Report. The summary shall include incident dates, types, locations, and the status of the non-compliance incidents.
c) Receiving Water Limitations Compliance.

i) Upon a determination by the Department or the Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS, the Department shall provide verbal notification within five (5) days, and within 30 days thereafter submit a report to the appropriate Regional Water Board with a copy to the State Water Board. Verbal notification is not required where the determination is made by the Regional Water Board. An Incident Report is not required. Where the pollutant causing the exceedance is subject to a waste load allocation listed in Attachment IV of this Order, the Department shall comply with the requirements of the relevant TMDL in lieu of this provision.
ii) The report shall describe BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance. The report shall include an implementation schedule. The Regional Water Board Executive Officer may require modifications to the report.
iii) The Department shall submit any modifications to the report required by the Regional Water Board within 30 days of notification.
iv) The Department shall implement the revised BMPs and conduct any additional monitoring required according to the implementation schedule.

d) Toxicity
   i) Tests for chronic toxicity, where required, shall be estimated as specified in Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002; Table IA, 40 Code of Federal Regulations section 136 and its subsequent amendments or revisions.
   ii) For the Department's discharges, the In-stream Waste Concentration (IWC) is 100 percent (i.e., either is 100 percent storm water or 100% non-storm water). To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used. A Pass result indicates no toxicity at the IWC, and a Fail result indicates toxicity at the IWC. Results shall be reported as provided in provision E.2.c.5).

e) Toxicity Reduction Evaluations (TREs)
   i) The Department shall include in the SWMP a TRE workplan (1-2 pages) specifying the steps that will be taken in preparing a TRE, when a TRE is required pursuant to provision E.2.c.6)e)ii). The workplan shall include, at a minimum:

      (a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and BMP efficiencies.
      (b) A description of the steps that will be taken to identify effective pollutant/toxicity reduction opportunities.
      (c) If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., a Department laboratory or outside contractor).

   ii) Upon a determination that a discharge is causing or contributing to an exceedance of an applicable toxicity standard, a TRE may be required by the appropriate Regional Water Board Executive Officer on a site specific basis. The TRE shall be conducted according to the workplan in the SWMP.

d. <u>Project Planning and Design</u>
The Department shall describe in the SWMP how storm water management is incorporated into the project planning and design process, and how the procedures and methodologies used in the selection of Design and Construction BMPs will be used in Department projects. The Department shall implement the program specified in the SWMP, any documents incorporated into the SWMP by reference, and any additional requirements contained in this Order.

Department and Non-Department projects within the Department's ROW that are new development or redevelopment shall comply with the standard project planning and design requirements for new development and redevelopment specified below. These requirements shall apply to all new and redevelopment projects that have not completed the project initiation phase on the effective date of this Order.

1) *Design Pollution Prevention Best Management Practices*
   The following design pollution prevention best management practices shall be incorporated into all projects that create disturbed soil area (DSA), including projects designed to meet the post-construction treatment requirements (Section E.2.d.2)). The SWMP shall be updated to reflect these principles.

   a) Conserve natural areas, to the extent feasible, including existing trees, stream buffer areas, vegetation and soils;
   b) Minimize the impervious footprint of the project;
   c) Minimize disturbances to natural drainages;
   d) Design and construct pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope and other pertinent factors;
   e) Implement landscape and soil-based BMPs such as compost-amended soils and vegetated strips and swales;
   f) Use climate-appropriate landscaping that minimizes irrigation and runoff, promotes surface infiltration, and minimizes the use of pesticides and fertilizers; and
   g) Design all landscapes to comply with the California Department of Water Resources Water Efficient Landscape Ordinance.

      http://www.water.ca.gov/wateruseefficiency/landscapeordinance/technical.cfm

      Where the California Department of Water Resources Water Efficient Landscape Ordinance conflicts with a local water conservation ordinance, the Department shall comply with the local ordinance.

2) *Post-Construction Storm Water Treatment Controls*

   a) <u>Projects Subject to Post-Construction Treatment Requirements</u>
      i) Department Projects
         The Department shall implement post construction treatment control BMPs for the following new development or redevelopment projects:

         (1) Highway Facility projects that create 1 acre or more of new impervious surface.
         (2) Non-Highway Facility projects that create 5,000 square feet or more of new impervious surface.

ii) Non-Department Projects within Department ROW

(1) The Department shall exercise control or oversight over Non-Department projects through encroachment permits or other means.
(2) Non-Department development or redevelopment projects shall be subject to the same post-construction treatment control requirements as Department projects.
(3) For all Non-Department Projects that trigger post-construction treatment control requirements, the Department shall review and approve the design of post-construction treatment controls and BMPs prior to implementation.

iii) Waiver
Where a Regional Water Board Executive Officer finds that a project will have a minimal impact on water quality, the Executive Officer may waive the treatment control requirements, or lessen the stringency of the requirements, for a project. Waivers may not be granted for projects subject to treatment control requirements based on a waste load allocation assigned to the Department.

b) Numeric Sizing Criteria for Storm Water Treatment Control BMPs:
Treatment control BMPs constructed for Department and Non-Department projects shall be designed according to the following priorities (in order of preference):

i) Infiltrate, harvest and re-use, and/or evapotranspire the storm water runoff;
ii) Capture and treat the storm water runoff.

The storm water runoff volumes and rates used to size BMPs shall be based on the 85th percentile 24-hour storm event. This sizing criterion shall apply to the entire treatment train within Project Limits. Design Pollution Prevention BMPs can be used to comply with this requirement.

In the event the entire runoff volume from an 85th percentile 24-hour storm event cannot be infiltrated, harvested and re-used, or evapotranspired, the excess volume may be treated by Low Impact Development (LID)-based flow-through treatment devices. Where LID-based flow-through treatment devices are not feasible, the excess volume may be treated through conventional volume-based or flow-based storm water treatment devices.

The Department shall always prioritize the use of landscape and soil-based BMPs to treat storm water runoff. Other BMPs may be used only after landscape and soil-based BMPs are determined to be infeasible. The

Department shall also consider other effective storm water treatment control methods or devices for Department approval.

c) Scope of Design Criteria Applicability for Redevelopment Projects

i) For Highway Facilities:

(1) Where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either: provide treatment for redeveloped areas and as much of the hydraulically inseparable flow as feasible, based on site conditions and constraints; or identify treatment opportunities equivalent to the redeveloped area (see Alternative Compliance, below).

If it is not possible to separate the flows from redeveloped areas from the existing impervious area, the treatment system shall be designed to treat as much of the hydraulically inseparable flow as feasible, and shall bypass or divert any excess around the treatment device. The purpose of this requirement is to prevent overloading the treatment device and impairing its performance.

(2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria apply to the entire project.

ii) For Non-Highway Facilities, where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

(1) If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either provide treatment for existing and redeveloped areas, or identify treatment opportunities equivalent to the redeveloped area (See Alternative Compliance, below).

(2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria apply to the entire project.

d) Alternative Compliance

If the Department determines that all or any portion of on-site treatment for a project is infeasible on-site, the Department shall prepare a proposal for alternative compliance for approval by the Regional Water Board Executive Officer or his designee until such time as a statewide process is approved by the Executive Director of the State Water Board. The proposal shall include documentation supporting the determination of infeasibility. Alternative compliance may be achieved outside Project Limits within the Department's ROW, including within another Department project. Alternative compliance to be achieved outside Project Limits shall include provisions for the long-term maintenance of such treatment facilities.

3) *Hydromodification Requirements*

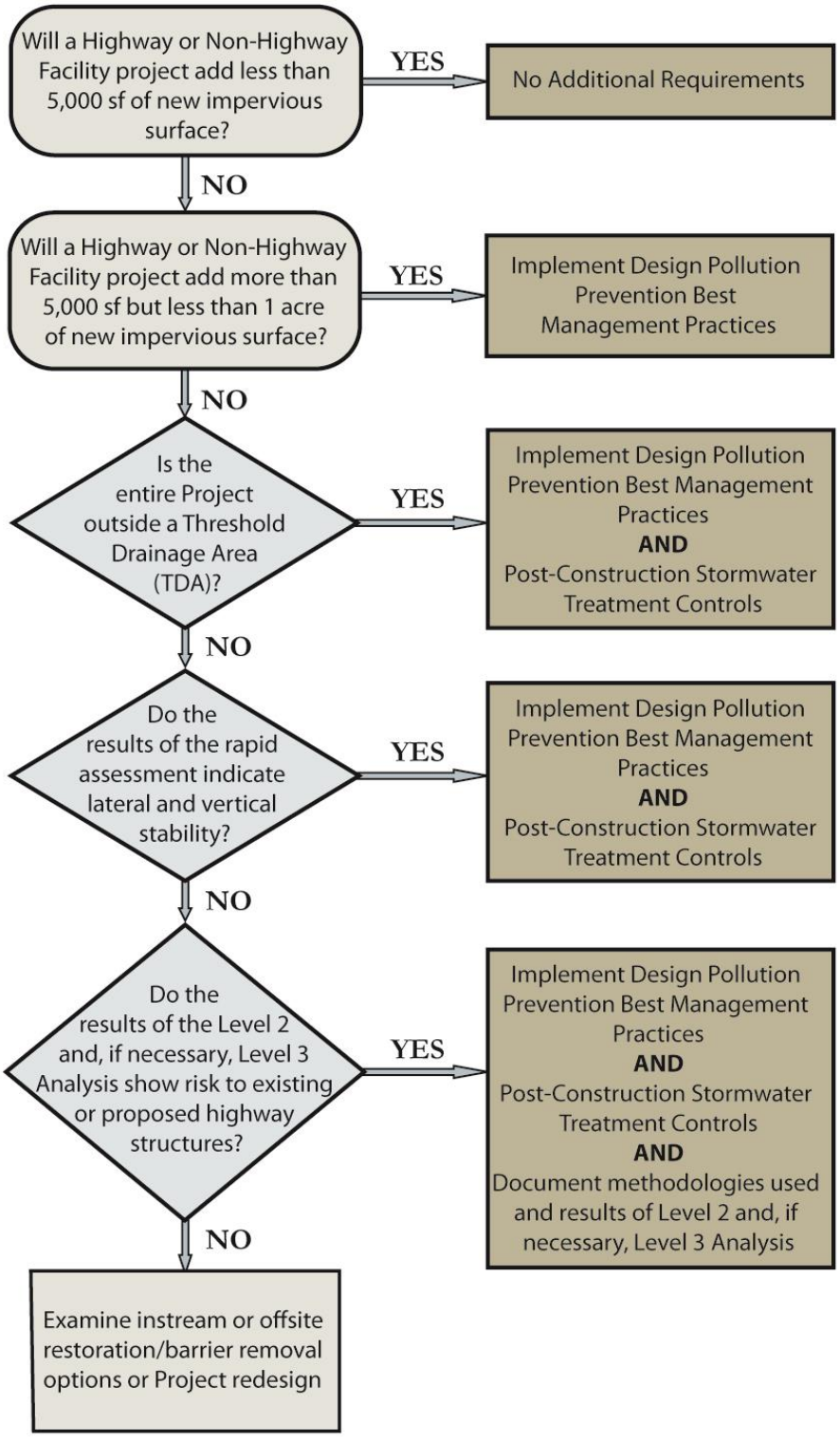
The Department shall ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. Unstable stream channels negatively impact water quality by yielding much greater quantities of sediment than stable channels. The Department shall employ the risk-based approach detailed in this permit to assess lateral and vertical stability. The approach assists the Department in assessing pre-project channel stability and implementing mitigation measures that are appropriate to protect structures and minimize stream channel bank and bed erosion. The approach is depicted in Figure 1 and described below.

a) Highway or Non-Highway Facility projects that add between 5,000 square feet and 1 acre of new impervious surface must implement the Design Pollution Prevention Best Management Practices in Section E.2.d.1).

b) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface completely outside of a Threshold Drainage Area[7] must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.

[7] Threshold Drainage Area is defined as the area draining to a location at least 20 channel widths downstream of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits. Delineating the Threshold Drainage Area is not necessary if there is/ are no stream crossing(s) within the Project Limits.

FIGURE 1: Hydromodification Flowchart



c) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface with any impervious portion of the project located within a Threshold Drainage Area must conduct a rapid assessment of stream stability[8] at each stream crossing (e.g., pipe, culvert, swale or bridge) within that Threshold Drainage Area. If the stream crossing is a bridge, a follow up rapid assessment of stream stability is also required and can be coordinated with the federally-mandated bridge inspection process. The assessment will be conducted within a representative channel reach to assess lateral and vertical stability. A representative reach is a length of stream channel that extends at least 20 channel widths upstream and downstream of a stream crossing. For example, a 20 foot-wide channel would require analyzing a 400 foot distance upstream and downstream of the discharge point or bridge. If sections of the channel within the 20 channel width distance are immediately upstream or downstream of steps, culverts, grade controls, tributary junctions, or other features and structures that significantly affect the shape and behavior of the channel, more than 20 channel widths should be analyzed.

d) If the results of the rapid assessment indicate that the representative reach is laterally and vertically stable (i.e., a rating of excellent or good) the Department does not have to conduct further analyses and must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.

e) If the results of the rapid assessment indicate that the representative reach will not be laterally and vertically stable (i.e., a rating of excellent or good), the Department must determine whether the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures by conducting appropriate Level 2 (and, if necessary, Level 3) analyses. The Department shall follow the Level 2 and 3 analysis guidelines contained in HEC-20 (FHWA, 2001) or a suitable equivalent within an accessible portion of the reach. If the results of the appropriate Level 2 (and, if necessary Level 3) analyses indicate that there is no risk to existing or proposed highway structures, the Department must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d. and document the methodologies used, the results, and the mitigation measures suggested as part of the appropriate Level 2 and, if necessary, Level 3 analyses.

f) If the results of the Level 2 and 3 analysis indicate that the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures, other options must be implemented, including, but not limited to, in-stream and floodplain enhancement/restoration, fish barrier

[8] Guidance and worksheets used for the rapid assessment of stream stability are in the Federal Highway Administration publication "*Assessing Stream Channel Stability at Bridges in Physiographic Regions"* (FHWA, 2006).

removal as identified in the report required under Article 3.5 of the Streets and Highways Code (see below), regional flow control, off-site BMPs, and, if necessary, project re-design.

4) *Stream Crossing Design Guidelines to Maintain Natural Stream Processes*
The Department shall review and revise as necessary the guidance document "Fish Passage Design for Road Crossings" (Department, 2009). In reviewing and revising the guidance document, the Department shall be consistent with the latest stream crossing design, construction, and rehabilitation criteria contained in the California Salmonid Stream Habitat Restoration Manual (California Department of Fish & Game, 2010) and National Marine Fisheries Service guidance (NMFS, 2001). The review shall be completed no later than one year after the effective date of this Order. The Department shall submit in the Year 2 Annual Report a report detailing the review of the guidance document. The Year 2 Annual Report shall also report on the implementation of the road crossing guidelines.

If it is infeasible to meet any of the guidelines specified above, the Department shall prepare written documentation justifying the determination of infeasibility. Documentation shall be provided to the Regional Water Board for approval.

The Department shall submit to the State Water Board by October 1 of each year the same report required under Article 3.5 of the Streets and Highways Code requiring the Department to report on the status of its efforts in locating, assessing, and remediating barriers to fish passage.

e. BMP Development & Implementation
In the SWMP, the Department shall include a description of how BMPs will be developed, constructed and maintained. The Department shall continue to evaluate and investigate new BMPs through pilot studies. The Department shall submit updates to the ***STORM WATER TREATMENT BMP TECHNOLOGY REPORT*** and the ***STORM WATER MONITORING AND BMP DEVELOPMENT STATUS REPORT*** in the Annual Report.

1) *Vector Control*

a) All storm water BMPs that retain storm water shall be designed, operated and maintained to minimize mosquito production, and to drain within 96 hours of the end of a rain event, unless designed to control vectors. BMPs shall be maintained at the frequency specified by the manufacturer. This limitation does not apply in the Lake Tahoe Basin and in other high-elevation regions of the Sierra Nevada above 5000 feet elevation with similar alpine climates. The Department shall operate and maintain all BMPs to prevent the propagation of vectors, including complying with applicable provisions of the California Health and Safety Code relating to vector control.

b) The Department shall cooperate and coordinate with the California Department of Public Health (CDPH) and with local mosquito and vector control agencies on issues related to vector production in the Department's structural BMPs. The Department shall prepare and maintain an inventory of structural BMPs that retain water for more than 96 hours. The inventory need not include BMPs in the Lake Tahoe Basin or other regions of the Sierra Nevada above 5000 feet. The inventory shall be provided to CDPH in electronic format for distribution to local mosquito and vector control agencies. The inventory shall be provided in Year 2 of the permit and updated every two years.

2) *Storm Water Treatment BMPs*

a) The Department shall inspect all newly installed storm water treatment BMPs within 45 days of installation to ensure they have been installed and constructed in accordance with approved plans. If approved plans have not been followed, the Department shall take appropriate remedial actions to bring the BMP or control into conformance with its approved design.
b) The Department shall inspect all installed storm water treatment BMPs at least once every year, beginning one year after the effective date of this Order.
c) The Department may drain storm water treatment BMPs to the MS4 if the discharge does not cause or contribute to exceedances of water quality standards. Retained sediments shall be disposed of properly, in compliance with all applicable local, State, and federal acts, laws, regulations, ordinances, and statutes.
d) The Department shall develop and utilize a watershed-based database to track and inventory treatment BMPs and treatment BMP maintenance within its jurisdiction. At a minimum, the database shall include:

i) Name and location of BMP;
ii) Watershed, Regional Water Board and District where project is located;
iii) Size and capacity;
iv) Treatment BMP type and description;
v) Date of installation;
vi) Maintenance certifications or verifications;
vii) Inspection dates and findings;
viii) Compliance status;
ix) Corrective actions, if any; and
x) Follow-up inspections to ensure compliance.

Electronic reports for each BMP inspected during the reporting period shall be submitted to each associated Regional Water Board in tabular form. A summary of the tracking system data shall be included in the Annual Report along with a report on maintenance activities for post construction BMPs.

The tracking system database shall be made available to the State Water Board or any Regional Water Board upon request.

3) BMPs shall not constitute a hazard to wildlife.

4) *Biodegradable Materials.*
The Department shall utilize wildlife-friendly 100% biodegradable[9] erosion control products wherever feasible. At any site where erosion control products containing non-biodegradable materials have been used for temporary site stabilization, the Department shall remove such materials when they are no longer needed. If the Department finds that erosion control netting or products have entrapped or harmed wildlife at any site or facility, the Department shall remove the netting or product and replace it with wildlife-friendly biodegradable products.

f. Construction

1) *Compliance with the Statewide Construction Storm Water General Permit (CGP) and Lake Tahoe Construction General Permit (TCGP)*
Construction activities that may receive coverage under the CGP or the TCGP are not covered under this MS4 Permit. The Department shall electronically file Permit Registration Documents (PRD) for coverage under the CGP or TCGP for all projects subject to the CGP or TCGP.

2) *Construction Activities not Requiring Coverage Under the CGP*
For construction activities that are not subject to the CGP or the TCGP, the Department shall implement BMPs to reduce the discharge of pollutants to the MEP in storm water discharges associated with land disturbance activities including clearing, grading and excavation activities that result in the disturbance of less than one acre of total land area. The Department shall also implement BMPs to reduce the discharge of pollutants to the MEP for construction and maintenance activities that do not involve land disturbance such as roadway and parking lot repaving and resurfacing. The Department must comply with any region-specific waste discharge requirements, including any requirements applicable to activities involving less than one acre land disturbance.

3) *Construction Projects Involving Lead Contaminated Soils*
The Department has applied for and received variances from the California Department of Toxic Substances Control (DTSC) for the reuse of some soils that contain lead. For construction projects that have received a DTSC variance, the Department shall notify the appropriate Regional Water Board in writing 30 days prior to advertisement for bids to allow a determination by the Regional Water Board of the need for development of Waste Discharge Requirements (WDRs).

[9] For purposes of this Order, photodegradable synthetic products are not considered biodegradable.

4) *Pavement Grindings*
The Department shall comply with the requirements of the Regional Water Boards for the management of pavement grindings as well as with all local and State regulations, including Titles 22 and 27 of the California Code of Regulations.

5) *Contractor Compliance*
The Department shall require its contractors to comply with this Order and with all applicable requirements of the CGP.

6) *Construction Non-Compliance Reporting*
Incidents of non-compliance with the CGP shall be reported pursuant to the provisions of the CGP. The Department shall provide in the Annual Report a summary of all construction project non-compliance (Section E.2.c.6)b)).

g. Compliance with Statewide Industrial Storm Water General Permit (IGP)
Industrial activities are not covered under this MS4 permit. The Department shall electronically file PRDs for coverage under the IGP for all facilities subject to coverage under the IGP. The categories of industrial facilities are provided in Attachment 1 of the Industrial General Permit (NPDES Permit No. CAS000001; the current Order No. 97-03-DWQ). The Department shall require its industrial facility contractors to comply with all requirements of the IGP. The discharge of pollutants from facilities not covered by the Industrial General Permit will be reduced to the MEP through the appropriate implementation of BMPs.

h. Maintenance Program Activities and Facilities Operations

1) *Implement SWMP Requirements*
The Department shall implement the program specified in the SWMP to reduce or eliminate pollutants in storm water discharges from Department maintenance facilities and maintenance activities. The Department shall also implement any additional requirements contained in this Order.

2) A ***FACILITY POLLUTION PREVENTION PLAN (FPPP)*** describes the activities conducted at a facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility.

The Department shall prepare, revise and/or update the FPPPs for all maintenance facilities by October 1 of the first year. Each facility shall be evaluated separately and assigned appropriate site specific BMPs. The FPPP shall describe the activities conducted at the facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility. The FPPP shall describe the inspection program used to ensure that maintenance BMPs are implemented and maintained. The Department shall identify in each Annual Report the status of the FPPP for each

Maintenance Facility by District and Region, including the date of the last update or revision and the nature of any revisions.

The Department shall evaluate all non-maintenance Facilities, excluding leased properties, for water quality problems. If the Department identifies a water quality problem at a non-maintenance facility, it shall prepare an FPPP for that facility. If Regional Water Board staff determines that a non-maintenance facility may discharge pollutants to the storm water drainage system or directly to surface waters, the Department shall prepare an FPPP for that facility.

Regional Water Board staff has the authority to require the submittal of an FPPP at any time, to require changes to a FPPP, and to require changes in the implementation of the provisions of a FPPP.

3) *Highway Maintenance Activities*
   a) The Department shall develop and implement runoff management programs and systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters. The Department shall:

      i) Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures). Priority shall be given to sites in sensitive watersheds or where there is an existing or potential threat to water quality;
      ii) Establish schedules for implementing appropriate controls; and
      iii) Identify road segments with slopes that are prone to erosion and sediment discharge and stabilize these slopes to control the discharge of pollutants to the MEP. An inventory of vulnerable road segments shall be maintained in the District Work Plans. Stabilization activities shall be reported in the Annual Report. This section does not apply to landslides and other forms of mass wasting which are covered under section E.2.h.3)d).

   b) Vegetation Control
      The Department shall control its handling and application of chemicals including pesticides, herbicides, and fertilizers to reduce or eliminate the discharge of pollutants to the MEP. The Department shall incorporate integrated pest management and integrated vegetation management practices into its vegetation control program[10]. At a minimum, the Department shall:

      i) Apply herbicides and pesticides in compliance with federal, state and local use regulations and product label directions.

[10] http://www.epa.gov/opp00001/factsheets/ipm.htm and http://www.ipm.ucdavis.edu/

(1) Violations of regulations shall be reported to the County Agricultural Commissioners within 10 business days.
(2) The Annual Report shall include a summary of violations and follow-up actions to correct them.

ii) Minimize the application of chemicals by using integrated pest management and integrated vegetation management. For example, the Department may reduce the need for application of fertilizers and herbicides by using native species and using mechanical and biological methods for control of exotic species.

iii) Prior to chemical applications, assess site-specific and application-specific conditions to prevent discharge. The assessment shall include the following variables:

(1) Expected precipitation events, especially those with the potential for high intensity;
(2) Proximity to water bodies;
(3) Intrinsic mobility of the chemical;
(4) Application method, including any tendency for aerial dispersion;
(5) Fate and transport of the chemical after application;
(6) Effects of using combinations of chemicals; and
(7) Other conditions as identified by the applicator.

iv) Apply nutrients at rates and by means necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.

v) Ensure that all employees or contractors who, within the scope of their duties, prescribe or apply herbicides, pesticides, or fertilizers (including over-the-counter products) are appropriately trained and licensed to comply with these provisions.

vi) Propose SWMP provisions as appropriate.

vii) Include the following items in the Annual Report:

(1) A summary of the Department's chemical use. Report the quantity of chemicals used during the previous reporting period by name and type of chemical, by District, and by month.
(2) An assessment of long-term trends in herbicide usage. Include a table presenting yearly District herbicide totals by chemical type;
(3) A comparison of the statewide herbicide use with the Department's herbicide reduction goals;

(4) An analysis of the effectiveness of implementation of vegetation control BMPs. Improvements to BMP implementation either being used or proposed for usage shall be discussed. If no improvements are proposed, explain why;
(5) Justification for any increases in use of herbicides, pesticides, and fertilizers;
(6) A report on the number and percentage of employees who apply pesticides and have been trained and licensed in the Department's Pesticide and Fertilizer Pollution Control Program policies; and
(7) Training materials, if requested by the State Water Board.

c) Storm Water Drainage System Facilities Maintenance

i) The Department shall inspect all urban[11] drainage inlets and catch basins a minimum of once per year and shall remove all waste and debris from drainage inlets and catch basins when waste and debris have accumulated to a depth of 50 percent of the inlet or catch basin capacity.
ii) Waste and debris, including sweeper and vacuum truck waste, shall be managed and reported in accordance with all applicable laws and regulations, including the Cal. Code Regs. Title 27, Division 2, Subdivision 1.
iii) The Department shall develop a ***WASTE MANAGEMENT PLAN*** that includes a comprehensive inventory of waste storage, transfer, and disposal sites; the source(s) of waste and the physical and chemical characterization of the waste retained at each site; estimated annual volumes of material and existing or planned waste management practices for each waste and facility type. Waste characterization need not be conducted on a site-by-site basis but may be evaluated programmatically based upon the highway environment and associated land uses contributing to the sites, climate, and ecoregion. The Waste Management Plan shall be submitted for State Water Board review and approval within one year of the effective date of this Order.

d) Landslide Management Activities
The Department shall develop a ***LANDSLIDE MANAGEMENT PLAN*** that includes BMPs for Department construction and maintenance work landslide-related activities (e.g., prevention, containment, clean-up). The *Landslide Management Plan* shall address all forms of mass wasting such as slumps, mud flows, and rockfalls, and shall include BMPs specifically for burn site management activities. The Department shall submit the *Landslide Management Plan* with the Year 1 Annual Report and implement the *Landslide Management Plan* for the remainder of the Permit term.

[11] For purposes of this requirement, the term "urban" shall mean located within an "urbanized area" as determined by the latest Decennial Census by the Bureau of the Census (Urbanized Area).

4) *Surveillance Activities*

a) Spill Response

The Department will follow the applicable Emergency Management Agency (EMA) procedures and timelines specified in Water Code sections 13271 and 13272 for reporting spills.

b) Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response

i) The Department shall implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs and illegal dumping.

ii) The Department shall develop an ***IC/ID AND ILLEGAL DUMPING RESPONSE PLAN*** that includes, at a minimum, the following:

(a) Procedures for investigating reports or discoveries of IC/IDs or incidents of illegal dumping, for remediating or eliminating the IC/IDs, and for clean-up of illegal dump sites.

(b) Procedures for prevention of illegal dumping at sites subject to repeat or chronic incidents of illegal dumping.

(c) Procedures for educating the public, raising awareness and changing behaviors regarding illegal dumping, and encouraging the public to contact the appropriate local authorities if they witness illegal dumping.

Within 6 months of the effective date of this Order, the Department shall submit the ***IC/ID AND ILLEGAL DUMPING RESPONSE PLAN*** to the State Water Board Executive Director for approval.

iii) The Department shall report all suspected IC/IDs to the Regional Water Board.

c) Reporting Requirements for Trash and Litter

The Department shall report on the trash and litter removal activities that are currently underway or are initiated after adoption of this Order. Activities include, but are not limited to, storm drain maintenance, road sweeping, public education and the Adopt-A-Highway program. Reporting and assessment of these or future activities shall follow protocols established by the Department and shall include estimated annual volumes of the trash and litter removed. Results shall be submitted as part of the Annual Report in a summary format by District. Prior year's data shall be included to facilitate an analysis of trends.

d) Department Activities Outside the Department's Right-of-Way

The Department shall include provisions in its contracts that require the contractor to obtain and comply with applicable permits for project-related facilities and operations outside the Department's ROW. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry

processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads.

5) *Maintenance Facility Compliance Inspections*

a) District staff shall inspect all maintenance facilities at least twice annually. Follow up inspections shall be conducted when deficiencies are noted. The inspections are to identify areas contributing to a discharge of pollutants associated with maintenance facility activities, to determine if control practices to reduce pollutant loadings identified in the Facility Pollution Prevention Plans (FPPP) are adequate and properly implemented, and to determine whether additional control practices are needed. The District shall keep a record of inspections. The record of the inspections shall include the date of the inspection, the individual(s) who performed the inspection, a report of the observations, recommendations for any corrective actions identified or needed, and a description of any corrective actions undertaken.

b) The Regional Water Board may require the Department to conduct additional site inspections, to submit reports and certifications, or to perform additional sampling and analysis to the extent authorized by the Water Code.

c) Records of all inspections, compliance certifications, and non-compliance reporting shall be retained for a period of at least three years. With the exception of non-compliance reporting, the Department is not required to submit these records unless requested.

6) *Operation and Maintenance of Post-Construction BMPs*
The Department shall prepare and implement long-term operation and maintenance plans for every site subject to the post-construction storm water treatment design standards. The plans must ensure the following: a) Long-term structural LID BMPs are maintained as necessary to ensure they continue to work effectively; b) Proprietary devices are maintained according to the manufacturer's directions; and c) Post-construction BMPs are replaced if they lose their effectiveness.

i. Non-Departmental Activities
The Department shall summarize its control over all non-departmental (third party) activities performed on Department ROW in the SWMP. The summary shall describe how the Department shall ensure compliance with this Order in all non-departmental activities.

The Department shall not grant or renew encroachment permits or easements benefitting any third party required to obtain coverage under the Statewide Construction and/or Industrial Storm Water General Permits unless the party has obtained coverage. In all leases, rental agreements, and all other contracts with

third parties conducting activities within the ROW, the Department shall require the third party to comply with applicable requirements of the Construction General Permit, the Industrial General Permit, and this Order.

j. Non-Storm Water Activities/ Discharges

1) The Department shall describe the management activities for all non-storm water discharges in the SWMP. Management activities shall include the procedures for prohibiting illicit discharges and illegal connections, and procedures for spill response, cleanup, reporting, and follow-up.

2) *Agricultural Return Flows*
The Department shall provide reasonable support to the monitoring activities of agricultural dischargers whose runoff enters the MS4. Reasonable support includes facilitating monitoring activities, providing necessary access to monitoring sites, and cooperating with monitoring efforts as needed. It does not include actively conducting monitoring or providing funding. The Department may require agricultural dischargers to follow established Department access and encroachment procedures in establishing sites and conducting monitoring activities, and may deny access at sites that may restrict traffic flow or pose a danger to any party.

3) See Section B of this Order for the complete list of conditionally exempt non-storm water discharges and compliance requirements.

k. Training

1) The Department shall implement a training program for Department employees and construction contractors. The training program shall be described in the SWMP.

2) The training program shall cover:

a) Causes and effects of storm water pollution;
b) Regulatory requirements;
c) Best Management Practices;
d) Penalties for non-compliance with this Order; and
e) Lessons learned.

3) The Department shall provide a review and assessment of all training activities in the Annual Report.

l. Public Education and Outreach

The Department shall implement a Statewide Public Education Program and describe it in the SWMP. The Department shall continue to seek opportunities to participate in public outreach and education activities with other MS4 permittees.

1) The Statewide Public Education Program shall include the following elements:

   a) Research: A plan for conducting research on public behavior that affects the quality of the Department's runoff. The information gathered will form the foundation for all the public education conducted.
   b) Education: Education of the general public to modify behavior and communicate with commercial and industrial entities whose actions may add pollutants to the Department's storm water.
   c) Mass Media Advertising: Continue the advertising campaign as a focal point of the public education strategy. The campaign should focus on the behaviors of concern and should be designed to motivate the public to change those behaviors. The public education campaign should be revised and updated according to the results of the research. The Department may cooperate with other organizations to implement the public education campaign.

2) A ***PUBLIC EDUCATION PROGRAM PROGRESS REPORT*** shall be submitted as part of the Annual Report.

m. Program Evaluation

1) The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order.
2) *Field Activities* ***SELF-AUDIT***
   The Department will perform compliance evaluations for field activities including construction, highway maintenance, facility maintenance, and selected targeted program components. The results of the field compliance evaluations for each fiscal year will be provided in the Annual Report.
3) ***OVERALL PROGRAM EFFECTIVENESS EVALUATION****:*
   Each year, the Department shall submit an ***OVERALL PROGRAM EFFECTIVENESS EVALUATION*** together with the Annual Report. The Department shall increase the scope of the evaluation each year in response to the environmental monitoring data it collects. The effectiveness evaluation shall be comparable to that outlined in CASQA's *Municipal Stormwater Program Effectiveness Assessment Guidance*[12] and shall emphasize assessment of BMPs specifically targeting primary pollutants of concern. The effectiveness evaluation shall include, but is not limited to, the following components:

[12] https://www.casqa.org/store/products/tabid/154/p-7-effectiveness-assessment-guide.aspx

a) Assessment of program effectiveness in achieving permit requirements and measurable objectives.
b) Assessment of program effectiveness in protecting and restoring water quality and beneficial uses.
c) Identification of quantifiable effectiveness measurements for each BMP, including measurements that link BMP implementation with improvement of water quality and beneficial use conditions.
d) Identification of how the Department will propose revisions to the SWMP to optimize BMP effectiveness when effectiveness assessments identify BMPs or programs that are ineffective or need improvement.

n. Measurable Objectives
The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order. In the SWMP, the Department shall identify measurable objectives to meet the SWMP's goals, proposed activities and tasks to meet the objectives, and a time schedule for the proposed activities and tasks. In the Annual Report, the Department shall report on its progress in meeting the measurable objectives.

o. References
The Department shall provide references for all information, documents, and studies used in the development of the SWMP.

3. Annual Report

a. The Department shall submit 13 copies of an ***ANNUAL REPORT*** to the State Water Board Executive Director by October 1 of each year. An electronic copy shall also be uploaded into SMARTS in the portable document format (PDF). The reporting period for the Annual Report shall be July 1 through June 30. The Annual Report shall contain all information and submittals required by this Order including, but not limited to:

1) A District-by-District description of storm water pollution control activities conducted during the reporting period;
2) A progress report on meeting the SWMP's measurable objectives;
3) An Overall Program Effectiveness Evaluation as described in section E.2.m.3);
4) Proposed revisions to the SWMP, including revisions to existing BMPs, along with corresponding justifications;
5) A report on post-construction BMP maintenance activities;
6) A list of non-approved BMPs that were implemented in each District during the reporting period including the type of BMP, reason for use, physical location, and description of any monitoring;
7) An evaluation of project planning and design activities conducted during the year;

8) A summary of non-compliance with this Order and the SWMP as specified in Section E.2.c.6)b). The summary shall include an assessment of the effectiveness of any Department enforcement and penalties, and as appropriate, proposed solutions to improve compliance;
9) An evaluation of the Monitoring Results Report, including a summary of the monitoring results;
10) Proposed revisions to the Department's Vegetation Control Program;
11) Proposals for monitoring and control of non-storm water discharges that are found to be sources of pollutants as described in Section B. of this Order;
12) District Workplans (See below); and
13) Measures implemented to meet region-specific requirements.

A partial summary of reporting requirements is contained in Attachment IX of this Order.

b. ***DISTRICT WORKPLANS***

The Department shall submit ***DISTRICT WORKPLANS*** (workplans) for each District by October 1 of each year, as part of the Annual Report. The workplans will be forwarded to the appropriate Regional Water Board Executive Officer for acceptance. Workplans are deemed accepted after 60 days after receipt by the Regional Water Board unless rejected in writing. District staff shall meet with Regional Water Board staff on an annual basis prior to submittal of the workplans to discuss alternatives and ensure that appropriate post construction controls are included in the project development process through review of the workplan and early consultation and coordination between District and Regional Water Board staff. Workplans shall conform with the requirements of applicable Regional Water Board Basin Plans and shall include, at a minimum:

1) A description of all activities and projects, including maintenance projects, to be undertaken by the Districts. For all projects with soil disturbing activities, this shall include a description of the construction and post construction controls to be implemented;
2) The area of new impervious surface and the percentage of new impervious surface to existing impervious surface for each project;
3) The area of disturbed soil associated with each project or activity;
4) A description of other permits needed from the Regional Water Boards for each project or activity;
5) Potential and actual impacts of the discharge(s) from each project or activity;
6) The proposed BMPs to be implemented in coordination with other MS4 permittees to comply with WLAs and LAs assigned to the Department for specific pollutants in specific watersheds or sub watersheds;
7) The elements of the statewide monitoring program to be implemented in the District;

8) Identification of high-risk areas (such as locations where spills or other releases may discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities);
9) Spill containment, spill prevention and spill response and control measures for high-risk areas; and
10) Proposed measures to be taken to meet Region-specific requirements included in Attachment V.
11) An inventory of vulnerable road segments having slopes that are prone to erosion and sediment discharge.

4. TMDL Compliance Requirements

a. Implementation

The Department shall comply with all TMDL-related requirements identified in Attachment IV.

In addition, consistent with provision E.11.b of this Order, the State Water Board may reopen this Order to incorporate any modifications or revisions to the TMDLs in Attachment IV, or to incorporate any new TMDLs adopted during the term of this Order that assign a WLA to the Department or that identify the Department as a responsible party in the TMDL implementation plan.

b. Status Review Report

The Department shall prepare a ***TMDL STATUS REVIEW REPORT*** to be submitted with each Annual Report. The ***TMDL STATUS REVIEW REPORT*** shall include all information required in Attachment IV.

5. ASBS Compliance Requirements

a. Priority Discharges
Attachment III, ASBS Priority Discharge Locations, identifies representative monitoring locations where the Department has priority discharges to ASBS. Priority discharges are those that pose the greatest threat to water quality in the ASBS and which the State Water Board identifies to require monitoring and potential installation of structural or non-structural controls.

b. Alternate Locations
The Executive Director of the State Water Board may authorize revisions to Attachment III, ASBS Priority Discharge Locations, where access limitations or safety considerations make it infeasible to conduct monitoring. Alternate locations proposed by the Department shall be in as close proximity to the original priority discharge locations as is feasible.

c. Compliance Schedule

1) On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) to ASBS shall be effectively prohibited.

2) No later than September 20, 2013, the Department shall submit a draft written ASBS Compliance Plan to the State Water Board Executive Director that describes its strategy to comply with these provisions, including the requirement to maintain natural water quality in the affected ASBS (see provision E.5.d.). The final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, shall be submitted no later than September 20, 2015 and shall be included in the SWMP.

3) Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these provisions shall be implemented.

4) Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these provisions shall be operational.

5) Within six (6) years of the effective date of the Exception, the Department must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85^{th} percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Department must re-sample the receiving water, pre- and post-storm. If after re-sampling, the post-storm levels are still higher than the 85^{th} percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See Figure 2.

6) The Executive Director of the State Water Board may only authorize additional time to comply with provisions E.5.b.4) and E.5.b.5) above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

   If the Department claims physical impossibility, it shall notify the Executive Director of the State Water Board in writing within thirty (30) days of the date that the discharger Department first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in provisions E.5.c.4) or E.5.c.5). The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Permit provision. The Department shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of

the delay on water quality, the measures taken or to be taken by the Department to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Department shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The Department may request an extension of time for compliance based on lack of funding. The request for an extension shall require a demonstration and documentation of a good faith effort to acquire funding through the Department's budgetary process, and a demonstration that funding was unavailable or inadequate.

d. ASBS Compliance Plan
The Department shall develop and submit to the Executive Director of the State Water Board a draft ASBS Compliance Plan not later than September 20, 2013. The ASBS Compliance Plan shall address all locations listed in Attachment III as follows:

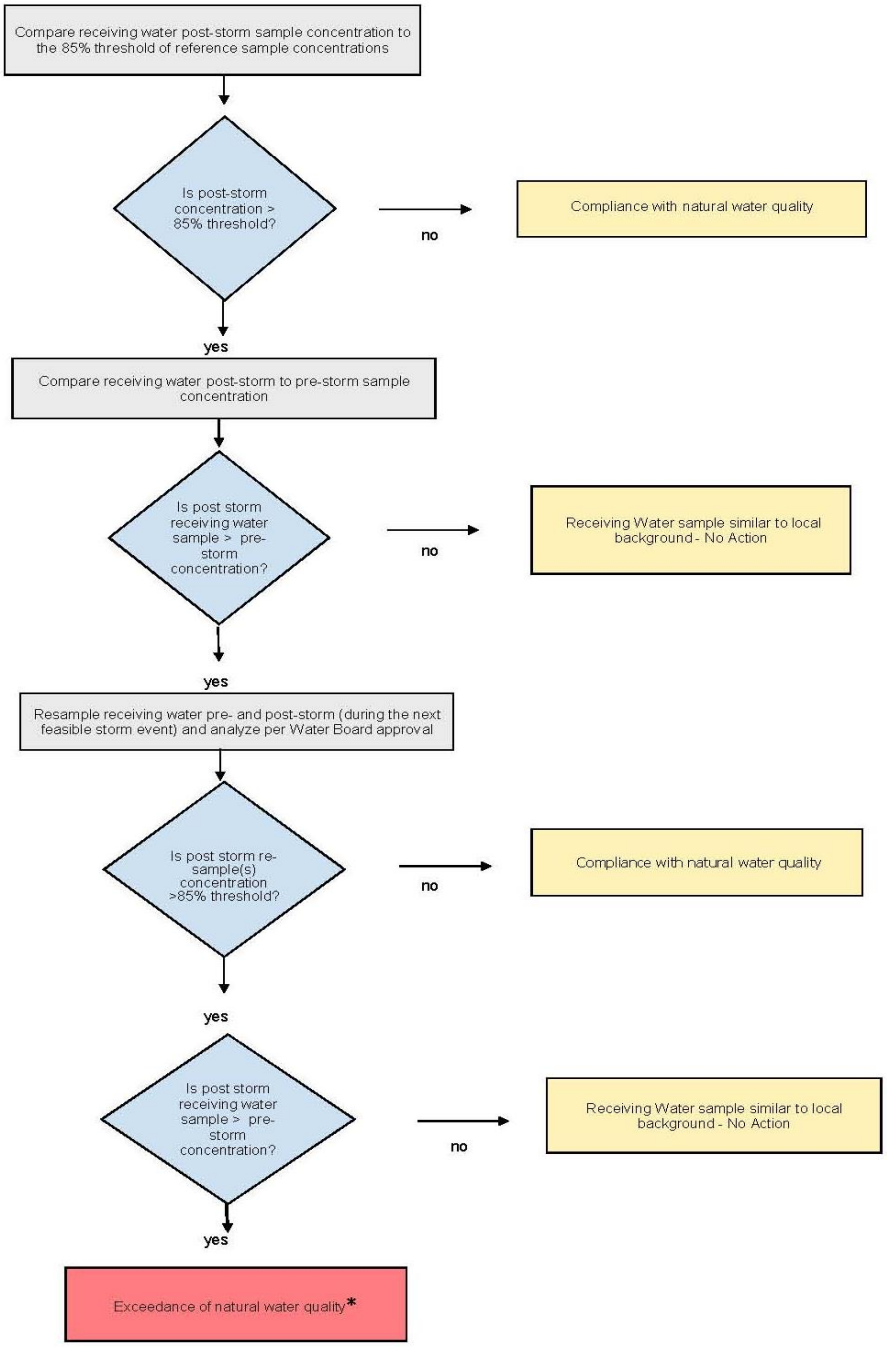
1) Include a map of surface drainage of storm water runoff, showing areas of sheet runoff, priority discharge locations, and any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable.

2) Describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.

3) Require minimum inspection frequencies as follows:

a) The minimum inspection frequency for construction sites shall be weekly during the rainy season;
b) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season; and
c) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season, and maintained to remove trash and other anthropogenic debris.

Figure 2
ASBS Special Protections
Flowchart to Determine Compliance with Natural Water Quality



*** When an exceedance of natural water quality occurs, the Department must comply with section I.A.2.h of the Special Protections as well as the requirements of this Order. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.**

4) Address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:

   a) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
   b) A 90% reduction in pollutant loading during storm events, for the Department's total discharges.

   The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of the Special Protections.

5) Address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.

6) Describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures currently employed and planned for higher threat discharges, and shall include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, the Department must first consider, and use where feasible, LID practices to infiltrate, use, or evapotranspire storm water runoff on-site, if LID practices would be the most effective at reducing pollutants from entering the ASBS.

7) The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.

e. Reporting
   If the results of the receiving water monitoring described in provision E.2.c.2)a)i) indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and Regional Water Board within 30 days

of receiving the results.

1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.

2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWMP for future implementation, and any additional BMPs that may be added to the SWMP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.

3) Within 30 days of the approval of the report by the State Water Board Executive Director, the discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.

4) As long as the discharger has complied with the procedures described above and is implementing the revised SWMP, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

6. Region Specific Requirements

a. The Department shall implement the region-specific requirements specified in this Order.
b. In the SWMP, the Department shall describe how individual Districts will address region-specific requirements in each Regional Water Board.
c. Region specific requirements are specified in Attachment V of this Order.

7. Regional Water Board Authorities

a. Upon the effective date of this Order, the Regional Water Boards shall enforce the requirements of this Order. Enforcement may include, but is not limited to, reviewing FPPPs, reviewing workplans and monitoring reports, conducting compliance inspections, conducting monitoring, reviewing Annual Reports and other information, and issuing enforcement orders.
b. Regional Water Boards may require submittal of FPPPs.
c. Regional Water Boards may require retention of records for more than three years.
d. To the extent authorized by the Water Code, Regional Water Boards may impose additional monitoring and reporting requirements and may provide guidance on monitoring plan implementation (Water Code, § 13383).
e. Regional Water Board staff may inspect the Department's facilities, roads, highways, bridges, and construction sites.

f. Regional Water Boards may issue other individual storm water NPDES permits or WDRs to the Department, particularly for discharges beyond the scope of this Order.

8. Requirements of Other Agencies

This Order does not preempt or supersede the authority of other State or local agencies (such as the Department of Toxic Substances Control or the California Coastal Commission) and local municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdictions as allowed by State and federal law.

9. Standard Provisions

The Department shall comply with the Standard Provisions (Attachment VI) and any amendments thereto.

10. Permit Compliance and Rescission of Previous Waste Discharge Requirements

This Order shall serve and become effective as an NPDES permit and the Department shall comply with all its requirements on July 1, 2013. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 99-06-DWQ, except for compliance purposes for violations occurring before the effective date of this Order.

11. Permit Re-Opener

This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations 122.62, 122.63, 122.64, and 124.5. The State Water Board may reopen and modify this Order at any time prior to its expiration under any of the following circumstances:

a. Present or future investigations demonstrate that the discharge(s) regulated by this Order may have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses.
b. New or revised Water Quality Objectives come into effect, or any new TMDL is adopted or revised that assigns a WLA to the Department or that identifies the Department as a responsible party in the TMDL implementation plan. In such cases, effluent limitations and other requirements in this Order may be modified as necessary to reflect the new TMDLs or the new or revised Water Quality Objectives; or
c. TMDL-specific permit requirements for adopted TMDLs are developed by a Regional Water Board for incorporation into this Order.

d. The State Water Board determines, after opportunity for public comment and a public workshop, that revisions are warranted to those provisions of the Order addressing compliance with water quality standards in the receiving water and/or those provisions of the Order establishing an iterative process for implementation of management practices to assure compliance with water quality standards in the receiving water.

12. Dispute Resolution

In the event of a disagreement between the Department and a Regional Water Board over the interpretation of any provision of this Order, the Department shall first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, the Department may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within ten days of any final determination by the Executive Officer of the Regional Water Board. The Executive Officer of the Regional Water Board will be provided an opportunity to respond.

13. Order Expiration and Reapplication

a. This Order expires on June 30, 2018.

b. If a new order is not adopted by June 30, 2018, then the Department shall continue to implement the requirements of this Order until a new one is adopted.

c. In accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations, the Department shall file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissuance of this permit and waste discharge requirements. The application shall be accompanied by a SWMP, and a summary of all available water quality data for the discharge and receiving waters, including conventional pollutant data from at least the most recent three years, and toxic pollutant data from at least the most recent five years, in the discharge and receiving water. Additionally, the Discharger shall include the final results of any studies that may have a bearing on the limits and requirements of the next permit.

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

FACT SHEET
FOR

ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

This Fact Sheet contains information regarding the waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit for the California State Department of Transportation (Department) for discharges of storm water and certain types of non-storm water. This Fact Sheet describes the factual, legal, and methodological basis for the permit conditions, provides supporting documentation, and explains the rationale and assumptions used in deriving the limits and requirements.

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act (CWA)) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the Clean Water Act added section 402(p). Section 402(p) establishes that storm water discharges are point source discharges and lays out a framework for regulating municipal and industrial storm water discharges under the NPDES program. On November 16, 1990, the United States Environmental Protection Agency (U.S. EPA) promulgated final regulations that establish the storm water permit requirements.

Pursuant to the 1990 regulations, storm water permits are required for discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. U.S. EPA defines an MS4 as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a State (40 Code of Federal Regulations

(C.F.R.), § 122.26(b)(8)). The regulations also require storm water permits for 11 categories of industry, including construction activities where the construction activity: (1) disturbs more than one (1) acre of land; (2) is part of a larger common plan of development; and/or (3) is found to be a significant threat to water quality.

Before July 1999, storm water discharges from Department storm water systems were regulated by individual NPDES permits issued by the Regional Water Quality Control Boards (Regional Water Boards). On July 15, 1999, the State Water Resources Control Board (State Water Board) issued a statewide permit (Order No. 99-06-DWQ), which regulated all storm water discharges from Department owned MS4s, maintenance facilities and construction activities. The existing permit (Order No. 99-06-DWQ) will be superseded by adoption of a new permit.

Industrial activities are covered by two General Permits that have been adopted by the State Water Board. The Department's construction activities are subject to the requirements under the NPDES General Permit for Construction Activities (CGP, NPDES Permit No. CAS000002) for construction activities that are equal to or greater than one (1) acre. The exception to this is in the Lake Tahoe area, where the Lahontan Regional Water Board adopted its own construction general permit (NPDES Permit No. CAG616002). The Department's industrial facility activities are subject to the requirements of the NPDES General Permit for Industrial Activities (IGP, NPDES Permit No. CAS000001).

The Department is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, the Department's facilities, and related properties. The Department's discharges consist of storm water and non-storm water discharges from State owned right-of-way (ROW).

Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. The State Water Board considers all storm water discharges from all MS4s and activities under the Department's jurisdiction as one system. Therefore, this Order is intended to cover all of the Department's municipal storm water activities.

This Order will be implemented by the Department and enforced by the State Water Board and nine Regional Water Boards.

The Department operates highways and highway-related properties and facilities that cross through local jurisdictions. Some storm water discharges from the Department's MS4 enter the MS4s owned and managed by these local jurisdictions. This Order does not supersede the authority of local agencies to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law. The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or state agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.

GENERAL DISCHARGE PROHIBITIONS

This Order authorizes storm water and conditionally exempt non-storm water discharges from the Department's properties, facilities and activities. This Order prohibits the discharge of material other than storm water, unless specifically authorized in this Order.

The Department owns and operates highway systems that are located adjacent to and discharge into many ASBS. This Order specifies that Department discharges to an ASBS are prohibited except in compliance with the conditions and special protections contained in the General Exception for Storm Water and Non-Point Source Discharges to ASBS, State Water Board Resolution 2012-0012. This State Water Board resolution is hereby incorporated by reference and the Department is required to comply with applicable requirements. Attachment III identifies 77 priority Department ASBS discharge locations. These locations represent sites having significant potential to impact the ASBS that are feasible to retrofit. The following locations are not included in the list:

1. Inland sites discharging indirectly to the ASBS;
2. Sites where the discharge is attenuated through vegetation;
3. Sites where it is infeasible to install a BMP, e.g. an overhanging outfall or where there is insufficient space to install a treatment control; and
4. Sites that would pose a safety hazard to motorists, or that would be unsafe to install or maintain.

Provision E.5 of the Order requires the Department to ensure that structural controls at these locations are operational within six (6) years of the effective date of the General Exception.

NON-STORM WATER

Non-storm water discharges are subject to different requirements under the Order depending on whether they are discharged to ASBS.

Non-storm water discharges outside ASBS:

Non-storm water discharges must be effectively prohibited unless they are authorized by a separate NPDES permit or are conditionally exempt under provisions of the Order consistent with 40 CFR, §122.26 (d)(2) (iv)(B). Non-storm water discharges that are not specifically or conditionally exempted by this Order are subject to the existing regulations for point source discharges. Conditionally exempt non-storm water discharges that are found to be significant sources of pollution are to be effectively prohibited.

Discussion of Agricultural Return Flows:
The Department (2007a) indicated in its Non-Storm Water Report that agricultural irrigation water return flows carrying pollutants pass under the Department's ROW in many locations and enter its MS4. Agricultural return flows are not prohibited or conditionally exempted non-

storm water discharges and are not subject to the non-storm water requirements of the Order.

The regulations conditionally exempt MS4s from the requirement to effectively prohibit "irrigation water" discharges to the MS4. The regulations also completely exempt MS4s from addressing non-storm water discharges (also called "illicit discharges") if they are regulated by an NPDES permit (40 C.F.R., §§ 122.26(b)(2); 122.26(d)(2)(iv)(B)). The term "irrigation water" is not defined and the regulations do not clarify whether that term is intended to encompass agricultural return flows that may run on to the Department's rights of way.

Because agricultural return flows cannot be regulated by an NPDES permit, it is unlikely that they were intended to be treated as "illicit discharges" under the federal MS4 regulations. In discussing illicit non-storm water discharges and the requirement to effectively prohibit such discharges, the preamble of the Phase I final regulations states: "The CWA prohibits the *point source* discharge of non-storm water not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal" (55 FR 47996) (emphasis added). Implicit in this statement is that illicit discharges do not include non-point source discharges, including agricultural return flows, which are statutorily excluded from the definition of a point-source discharge (C.W.A., § 502(14)).[13]

Clean Water Act Section 402(l)(1) states that an NPDES permitting agency "shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture." Accordingly, agricultural return flows co-mingling with an illicit discharge would be treated as a point source discharge. This fact, however, does not lead the State Water Board to find that agricultural return flows should be subject to the conditional prohibition on non-storm water discharges.

First, the illicit discharge prohibition acts to prevent non-storm water discharges "*into* the storm sewers" (C.W.A., § 402(p)(3)(B)(ii)) (emphasis added). Based on a plain reading of the statutory language,[14] a determination of what constitutes an illicit discharge should be made with reference to the nature of the discharge as it enters the MS4. Unless the agricultural return flow has co-mingled with a point source discharge prior to entering the MS4, it is not subject to the discharge prohibition. Further, since certain point source discharges are conditionally exempted from the requirement for effective prohibition under 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(*1*), the fact that the agricultural return flow may have co-mingled with such an exempted dry weather point source discharge prior to entering the MS4 does not render it an illicit discharge subject to the effective

[13] Elsewhere in the preamble, EPA refers to the conditionally exempted non-storm water discharges as "seemingly innocent flows that are characteristic of human existence *in urban environments* and which discharge to municipal separate storm sewers" (55 F.R.48037) (emphasis added). This language further suggests that the term "irrigation water" was not intended to encompass irrigation return flows characteristic of a rural area.

[14] 40 C.F.R. §122.26(d)(2)(iv)(B)(*1*) similarly states that the MS4 is to "prevent illicit discharges *to* the municipal separate storm sewer system." (Emphasis added.)

prohibition.[15] *See Fishermen Against the Destruction of the Environment, Inc. v. Closter Farms, Inc. (11th Cir. 2002)* 300 F.3d 1294.

Second, even assuming that the agricultural return flow mingling with a point source discharge *after* entering the MS4 would trigger the requirements related to non-storm water discharges, agricultural return flows are not expected to require an effective prohibition. Irrigation of agricultural fields typically occurs in dry weather, not wet weather, and therefore the State Water Board anticipates that irrigation return flows into the Department's MS4 would generally not co-mingle with discharges other than exempt non-storm water discharges.

Further, agricultural return flows entering an MS4, while not regulated by an NPDES permit, are through much of the State regulated under WDRs, waivers, and Basin Plan prohibitions. The regulations exempt MS4s from addressing non-storm water discharges that are regulated by an NPDES permit. Flows to the Department's MS4 regulated through state-law based permits are subject to regulatory oversight analogous to being subject to an NPDES permit. The appropriate regulatory mechanism for these discharges is the non-point source regulatory programs and not a municipal storm water permit.[16]

Non-Storm Water Discharges to ASBS:

Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally.

Discussion of Utility Vault Discharges:
In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that

[15] The Federal Register discussion clarifies that "irrigation return flows are excluded from regulation under the NPDES program," but that "joint discharges," i.e. discharges with a component "from activities unrelated to crop production" may be regulated (55 FR 47996).
[16] It should also be noted that the Department has limited control options since up gradient flows such as agricultural runoff must in many cases be allowed to flow under or alongside the roadway so as to not threaten roadway integrity.

discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to MS4s with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order. It should also be noted that, under the California Ocean Plan Section III.E.2 (Implementation Provisions for ASBS), limited-term activities that result in temporary and short-term changes in existing water quality in the ASBS may be permitted.

EFFLUENT LIMITS

The State of California Nonpoint Source Program Five-Year Implementation Plan (SWRCB, 2003) (the Plan) describes a variety of pollutants in urban storm water and non-storm water that are carried in MS4 discharges to receiving waters. These include oil, sand, de-icing chemicals, litter, bacteria, nutrients, toxic materials and general debris from urban and suburban areas. The Plan identifies construction as a major source of sediment erosion and automobiles as primary sources of petroleum hydrocarbons.

The Natural Resources Defense Council (NRDC) also identified two main causes of storm water pollution in urban areas (NRDC, 1999). Both identified causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious cover that increase the volume and velocity of runoff: (i) rooftops, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in urban runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

   As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

NPDES storm water permits must meet applicable provisions of sections 301 and 402 of the Clean Water Act. For discharges from an MS4, Clean Water Act section 402(p)(3)(B)(iii) requires control of pollutants to the maximum extent practicable (MEP). A permitting agency also has the discretion to require dischargers to implement more stringent controls, if

necessary, to meet water quality standards (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166.), (discussed below under Receiving Water Limitations).

MEP is the technology-based standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of storm water must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally achieved by emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate. The MEP approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP.

In a precedential order (State Water Board Order WQ 2000-11 (In the Matter of the petitions of the Cities of Bellflower et al.)), the State Water Board has stated as follows:

> While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. Probably the most comparable law that uses the term is the Superfund legislation, or CERCLA, at section 121(b). The legislative history of CERCLA indicates that the relevant factors, to determine whether MEP is met in choosing solutions and treatment technologies, include technical feasibility, cost, and state and public acceptance. Another example of a definition of MEP is found in a regulation adopted by the Department of Transportation for onshore oil pipelines. MEP is defined as to "the limits of available technology and the practical and technical limits on a pipeline operator . . . ."
>
> These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.

The final determination of whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the permitting agency, and not by the discharger.

Because of the numerous advances in storm water regulation and management and the size of the Department's MS4, this Order does not require the Department to fully incorporate and

implement all advances in a single permit term. The Order allows for prioritization of efforts to ensure the most effective use of available funds.

This Order will have an impact on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges. Recognizing that there are cost increases associated with the Order, the State Water Board has prepared a cost analysis to approximate the anticipated cost associated with implementing this permit. The resulting cost analysis is discussed later in this Fact Sheet under the section on "Cost of Compliance and Other MEP Considerations." The cost analysis has been prepared based on available data and is not a cost-benefit analysis.

The individual and collective activities required by this Order and contained in the Department's Storm Water Management Plan (SWMP) meet the MEP standard.

RECEIVING WATER LIMITATIONS

Under federal law, an MS4 permit must include "controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as . . . the State determines appropriate for the control of such pollutants." (Clean Water Act §402(p)(3)(B)(iii).) The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F3d 1159.). The Proposed Order accordingly prohibits discharges that cause or contribute to violations of water quality standards.

The Proposed Order further sets out that, upon determination that a Permittee is causing or contributing to an exceedance of applicable water quality standards, the Permittee must engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board precedential Order WQ 99-05 and required by that Order to be included in all municipal storm water permits.

The Ninth Circuit held in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State Water Board and Regional Water Boards that exceedances of water quality standards in an MS4 permit constitute violations of permit terms subject to enforcement by the Boards or through a citizen suit. While the Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the Board retains the discretion to

take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits.

The State Water Board has received multiple comments, from the Department and from other interested parties, expressing confusion and concern about the Order provisions regarding receiving water limitations and the iterative process. The Department has commented that the provisions as currently written do not provide the Department with a viable path to compliance with the proposed Order. Other commenters, including environmental parties, support the current language.

As stated above, the provisions in this Order regarding receiving water limitations and the iterative process are based on precedential Board orders. Accordingly, substantially identical provisions are found in the proposed statewide Phase II MS4 NPES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards. In the context of the proposed Phase II MS4 permit, similar comments have been received. Because of the broad applicability of any policy decisions regarding the receiving water limitations and iterative process provisions, the State Water Board has proposed a public workshop to consider this issue and seek public input.

Rather than delay consideration of adoption of the tentative Order in anticipation of any future changes to the receiving water limitations and iterative process provisions that may result from the public workshop and deliberation, the Board has added a specific reopener clause at Section 11.d. to facilitate any future revisions as necessary.

NUMERIC EFFLUENT LIMITATIONS AND BLUE RIBBON PANEL OF EXPERTS

Under 40 Code of Federal Regulations section 122.44(k)(2)&(3); the State Water Board may impose BMPs for control of storm water discharges in lieu of numeric effluent limitations.[17]

In 2005, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limitations in storm water permits, how such limitations should be established, and what data should be required (SWRCB, 2006).

[17] On November 12, 2010, U.S. EPA issued a revision to a November 22, 2002 memorandum in which it had "affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach" for improving storm water management over time. In the revisions, U.S. EPA recommended that, in the case the permitting authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality excursion, the permitting authority, where feasible, include numeric effluent limitations as necessary to meet water quality standards. However, the revisions recognized that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit. U.S. EPA has since invited comment on the revisions to the memorandum and will be making a determination as to whether to "either retain the memorandum without change, to reissue it with revisions, or to withdraw it." http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf

The report concluded that “It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target.”

Consistent with the findings of the Blue Ribbon Panel and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Department to implement BMPs to comply with the requirements of the Order.

In 1980, the State Water Resources Control Board adopted concentration-based numeric effluent limitations for total nitrogen, total phosphate, total iron, turbidity, and grease and oil for storm water discharges in the Lake Tahoe Basin. The Lahontan Regional Water Board included revised versions of those limitations in Table 5.6-1 of the Water Quality Control Plan for the Lahontan Region (Basin Plan). The numeric effluent limitations in Table 5.6-1 were included in previous iterations of the Department's MS4 permit. This Order does not include these referenced numeric effluent limitations. The TMDL for sediment and nutrients in Lake Tahoe, approved by U.S. EPA on August 16, 2011, removed statements from the Basin Plan requiring the effluent limitations in Table 5.6-1 to apply to municipal jurisdictions and the Department. The Lake Tahoe TMDL would constitute cause for permit revocation and reissuance in accordance with 40 Code of Federal Regulations section 122.62(a)(3), so the removal of the referenced numeric effluent limitations is consistent with 40 Code of Federal Regulations section 122.44(l)(1). Further, any water quality based effluent limitations in MS4 permits are imposed under section 402(p)(3)(B) of the Clean Water Act rather than under section 301(b)(1)(C), and are accordingly not subject to the antibacksliding requirements of section 402(o). The Order requires compliance with pollutant load reduction requirements established by the Lake Tahoe TMDL for total nitrogen, total phosphorus, and fine sediment particles.

OTHER PROVISIONS OF THIS ORDER

Storm Water Management Plan (SWMP)

The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management Practices (BMP) controls and many

other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007 (Department, 2007c). The 2004 and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

This Order requires the Department to update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order. Within one year of the effective date of the Order, the Department shall submit for Executive Director approval a SWMP consistent with the provisions and requirement of the Order. The SWMP is an integral and enforceable component of this Order and is required to be updated on an annual basis.

In ruling upon the adequacy of federal regulations for discharges from small municipal storm sewer systems, the court in *Environmental Defense Center v. United States EPA* (9th Cir. 2003) 344 F.3d 832 held that NPDES "notices of intent" that required the inclusion of a proposed storm water management program (SWMP) are subject to the public participation requirements of the federal Clean Water Act because they are functionally equivalent to NPDES permit applications and because they contain "substantive information" about how the operator will reduce its discharges to the maximum extent practicable. By implication, the public participation requirements of the Clean Water Act may also apply to proposals to revise the Department's SWMP. Although the Proposed Order contains significantly more detailed and prescriptive requirements for achievement of MEP than previously adopted orders for the Department, some of the substantive information about how MEP will be achieved is arguably still set out in the SWMP. This Order accordingly provides for public participation in the SWMP revision process. However, because there may be a need for numerous revisions to the SWMP during the term of this Order, a more streamlined approach to SWMP revisions is needed to provide opportunities for public hearings while preserving the State Water Board's ability to effectively administer its NPDES storm water permitting program. (See *Costle v. Pacific Legal Foundation* (1980) 445 U.S. 198, 216-221, *Natural Resources Defense Council v. Costle* (9th Cir. 1977) 568 F.2d 1369, 1382.)

This Order establishes that revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board's website (except as otherwise specified). During the public notice period, a member of the public may submit a written comment or request that a public hearing be conducted. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing to take place before approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director may approve the SWMP revision if it meets the conditions set forth in this Order.

Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.

The Department references various policies, manuals, and other guidance related to storm water in the SWMP. These documents are intended to facilitate implementation of the SWMP and must be consistent with all requirements of the Order.

In addition to the annual submittal of the proposed SWMP revisions, this Order also requires the Department to submit workplans that explain how the program will be implemented in each District. The purpose of the workplans is to bring the proposed statewide program of the SWMP to the practical and implementable level at the District, watershed, and water body level.

Legal Authority
The Department has submitted a certification of adequate legal authority to implement the program. Through implementation of the storm water program, the Department may find that the legal authority is, in fact, not adequate. This Order requires the Department to reevaluate the legal authority each year and recertify that it is adequate. The Department is required to submit the Certification of the Adequacy of Legal Authority as part of the Annual Report each year. If it becomes clear that the legal authority is not adequate to fully implement the SWMP and the requirements of this Order, the Department must seek the authority necessary for implementation of the program.

SWMP Implementation Requirements

Management and Organization
The Department must maintain adequate funding to implement an effective storm water program and must submit an analysis of the funding each year. This includes a report on the funding that is dedicated to storm water as well as an estimate of the funding that has been allocated to various program elements that are not included in the storm water program funding. An example of this would be to estimate the funding that has been made available to the Maintenance Program to implement the development of Maintenance Facility Pollution Prevention Plans (FPPP) and to implement the Best Management Practices (BMPs) that are necessary for water quality.

The Department's facilities and rights-of-way may cross or overlap other MS4s. The Department is required to coordinate their activities with other municipalities and local governments that have responsibility for storm water runoff. This Order requires the Department to prepare a Municipal Coordination Plan describing the approach that the Department will take in establishing communication, coordination, cooperation and collaboration with other storm water management programs.

Discharge Monitoring and Reporting Program
Since 1998, the Department has conducted monitoring of runoff from representative transportation facilities throughout California. The key objectives of the characterization

monitoring were to produce scientifically credible data on runoff from the Department's facilities, and to provide useful information in designing effective storm water management strategies. Between 2000 and 2003, the Department conducted a three-year characterization monitoring study (Department, 2003b). The study generated over 60,000 data points from over 180 monitoring sites. Results were compared with California Toxics Rule (CTR) objectives and other relevant receiving water quality objectives (U.S. EPA, 2000b). Copper, lead, and zinc were estimated to exceed the CTR objectives for dissolved and total fractions in greater than 50 percent of samples. Diazinon and chlorpyrifos were also found to exceed the California Department of Fish and Game recommended chronic criteria in a majority of samples.

The discharge monitoring program has been structured to focus on the highest priority water quality problems in order to ensure the most effective use of limited funds. A tiered approach is established that gives first priority to monitoring in ASBS and TMDL watersheds. Monitoring in these locations must be conducted pursuant to the applicable requirements of the ASBS Special Protections or TMDL, without limitation as to the number of sites. The second monitoring tier requires the Department to examine and prioritize existing monitoring locations where existing data show elevated levels of pollutants. Fifteen percent of the highest priority sites must be scheduled for retrofit, with a maximum of 100 sites per year.

Monitoring constituents were chosen by the State Water Board from the results of the Department's comprehensive, multi-component storm water characterization monitoring program conducted in 2002 and 2003 and various other characterization studies.

Toxicity in storm water discharges from the Department's rights-of-way has been reported in a number of studies. A 2005 report prepared for the Department by the University of California at Davis "Toxicity of Storm Water from Caltrans Facilities" reported significant occurrences of acute and chronic toxicity (Department, 2005). Toxicity Identification Evaluations showed toxicity from a number of compounds, including heavy metals, organic compounds, pesticides and surfactants. Toxicity testing is required under the Order, and a workplan for conducting Toxicity Reduction Evaluations is required to be included in the SWMP.

Monitoring data must be filed electronically in the Storm Water Multiple Application Report and Tracking System (SMARTS). Receiving water monitoring data must be comparable[18] with the Surface Water Ambient Monitoring Program (SWAMP), (SWAMP, 2010), and must be uploaded to the California Data Exchange Network (CEDEN).

[18] U.S. EPA defines comparability as the measure of confidence with which one data set, element, or method can be considered as similar to another. Functionally, SWAMP comparability is defined as adherence to the SWAMP Quality Assurance Program Plan and the Surface Water Ambient Monitoring Program Information Management Plan.

Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance
The Department may at times be out of compliance with the requirements of this Order. Incidents of non-compliance and potential or threatened non-compliance must be reported to the State and Regional Water Boards. This Order identifies the conditions under which non-compliance reporting will be required. This Order distinguishes between emergency, field, and administrative (procedural) incidents that require notification to the State and Regional Water Boards, and requires that a summary of non-compliance incidents and the subsequent actions taken by the Department to reduce, eliminate and prevent the reoccurrence of the non-compliance be included in the Annual Report.

Emergency, field and administrative incidents are defined in Attachment I and have separate reporting requirements. Generally, failure to meet any permit requirement that is local or regional in nature will be reported to the Regional Water Boards. Attachment I outlines the reporting timelines for the three categories. This reporting will be conducted through the Storm Water Multiple Application Report and Tracking System (SMARTS)[19]. Distribution of this report internally between the State Water Board and any Regional Water Boards will be conducted through this system.

Project Planning and Design
In Order WQ 2000-11, the State Water Board considered Standard Urban Storm Water Mitigation Plans (SUSMPs) related to new development and redevelopment. The SUSMPs include a list of BMPs for specific development categories, and a numeric design standard for structural or treatment control BMPs. The numeric design standard created objective and measurable criteria for the amount of runoff that must be treated or infiltrated by BMPs. While this Order does not regulate construction activities, it does regulate the post-construction storm water runoff pursuant to municipal storm water regulations. SUSMPs are addressed in this Order through the numeric sizing criteria that apply to treatment BMPs at specified new and redevelopment projects and through requirements to implement Low Impact Development through principles of source control, site design, and storm water treatment and infiltration.

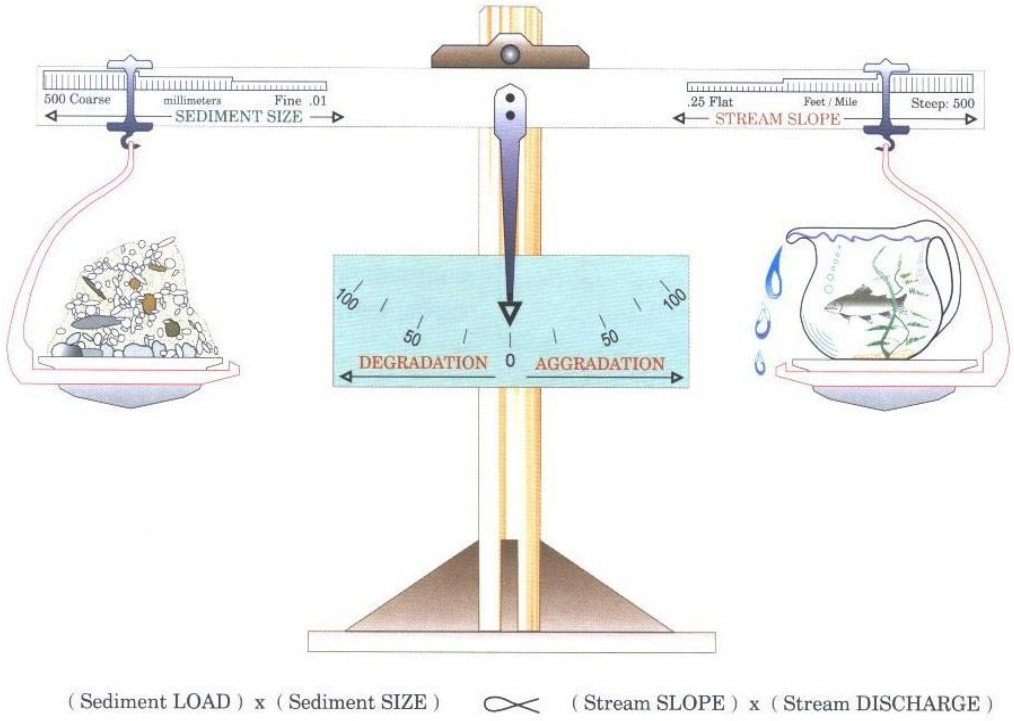
The Order provides the Department with an alternative compliance method for complying with the Treatment Control BMP numeric sizing criteria for projects where on-site treatment is infeasible. Under that method, the Department may propose complying with the requirements by installing and maintaining equivalent treatment BMPs at an offsite location (meaning outside of Project Limits) within the watershed, or by contributing funds to achieve the same amount of treatment at a regional project within the watershed. This compliance method will provide some flexibility to the Department in meeting the treatment control requirements.

[19] https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp

Hydromodification and Channel Protection
Department development and redevelopment projects have the potential to negatively impact stream channels and downstream receiving waters. The potential impacts of hydromodification by Department projects must be assessed in the project planning and design stage, and measures taken to mitigate them. This section describes the rationale and approach for the hydromodification and channel protection requirements.

A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and bankfull discharge. The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, and forming or changing bends and meanders, are doing work that results in the average morphologic characteristics of channels (Finkenbine, 2000). A.W. Lane showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope, as shown in Figure 1, (Rosgen, 1996). A change in any one of these variables sets up a series of mutual adjustments in the companion variables resulting in a direct change in the physical characteristics of the stream channel.

Figure 1 - Schematic of the Lane Relationship



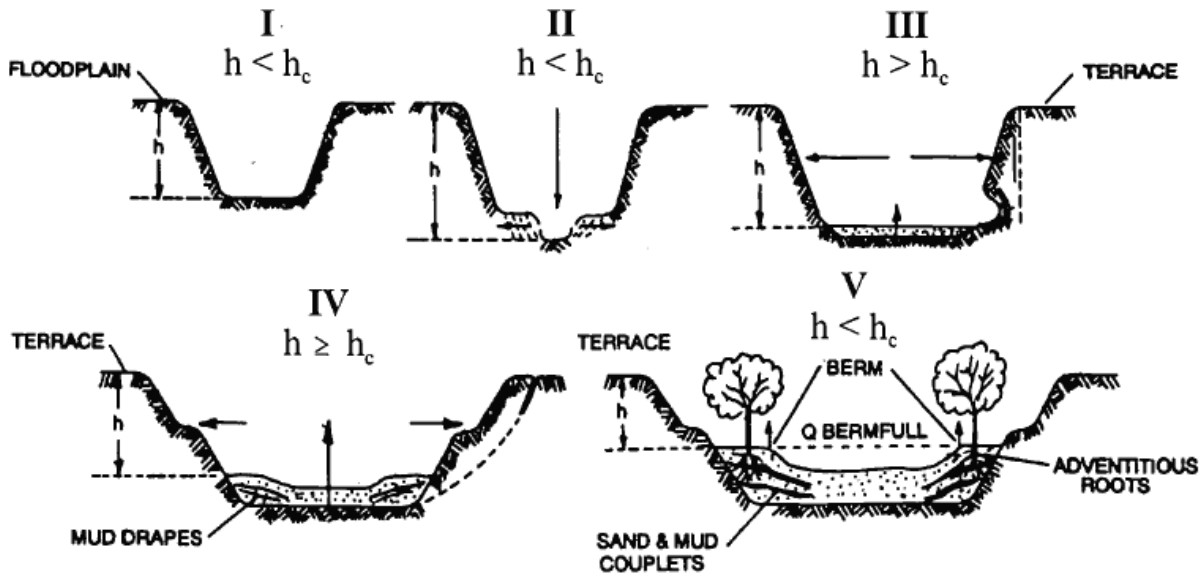
After Lane (1955) as cited in Rosgen (1996)

Stream slope times stream discharge (the right side of the scale) is an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe, 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (represented as sediment load and sediment size on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels (Goldman, 1986). Most of this sediment is delivered to stream channels during large, episodic rain events (Wolman, 2001). This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and an increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et al (Schumm, 1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 2).

Figure 2 - Channel Changes Associated with Urbanization



h = bank height
hc = critical bank height (the bank is susceptible to failure when bank heights are greater than critical bank height. Stable banks have low angles and heights)

After Incised Channel Evolution Sequence in Schumm et al. 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges (Stein, 2005; Booth, 1997), resulting in an increase in stream power. Increased drainage density (miles of stream length per square mile of watershed) also affects receiving channels (May, 1998; SCVURPPP, 2002). Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often “sediment starved” and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size, or d_{50}) decrease during urbanization (Finkenbine, 2000; Pizzuto, 2000). This means that even if pre- and post- development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant.

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power (Hammer, 1973; Booth, 1990) and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel (Trimble, 1997). After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening (Trimble, 1997). At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution (Trimble, 1997). Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein, 2005).

The hydromodification requirements in this Order are based on established Federal Highway Administration procedures for assessing stream stability at highway crossings. These procedures are geomorphically based and have historically been used to inform bridge and culvert design and to ensure that these structures are not impacted by decreased lateral and vertical stability (FHWA, 2001; FHWA, 2006). Maintaining lateral and vertical stability will not only protect highway structures but will serve the broader interest of maintaining stable stream form and function.

These hydromodification requirements are risk based and reflect the concept that stable channels (as determined from a Level 1 rapid analysis) do not have to undergo any further analysis and that hydrology-based design standards are protective.

If stream channels are determined to be laterally and or vertically unstable, the analysis procedures are much more rigorous and the mitigation measures are potentially more extensive. There is support in the literature for the type of tiered, risk-based approach taken in this Order (Booth, 1990; Watson, 2002; Bledsoe, 2002; Bledsoe et al., 2008).

California Senate Bill 857 (2006) amended Article 3.5 of the Streets and Highways Code to require the Department to assess and remediate barriers to passage of anadromous fish at stream crossings along the State Highway System. The bill also requires the Department to, among other things, prepare an annual report to the legislature on the status of the Department's efforts in locating, assessing, and remediating barriers to fish passage. Waters of the State supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes. Accordingly, this Order requires the Department to also submit the annual report required under SB 857 to the State Water Board.

Low Impact Development (LID)
On January 20, 2005, the State Water Board adopted sustainability as a core value for all California Water Boards' activities and programs, and directed State Water Board staff to consider sustainability in all future policies, guidelines, and regulatory actions. Sustainability can be achieved through appropriate implementation of the LID techniques required by this Order.

The proper implementation of LID techniques not only results in water quality protection benefits and a reduction of land development and construction costs, but also enhances property values, and improves habitat, aesthetic amenities, and quality of life (U.S. EPA, 2007). Further, properly implemented LID techniques reduce the volume of runoff leaving a newly developed or re-developed area thereby lowering the peak rate of runoff, and thus minimizing the adverse effects of hydromodification on stream habitat (SWRCB, 2007). The requirements of this Order facilitate the implementation of LID strategies to protect water quality, reduce runoff volume, and to promote sustainability.

Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

LID is a tool that can be used to better manage natural resources and limit the pollution delivered to waterways. To achieve optimal benefits, LID needs to be integrated with watershed planning and appropriate land use programs. LID by itself will not deliver all the water quality outcomes desired; however, it does provide enhanced storm water treatment and mitigates increased volume and flow rates (SWRCB, 2007).

This Order approaches LID through source control design principles, site design principles and storm water treatment and infiltration principles. Source control and site design principles are required as applicable to provide enough flexibility such that projects are not forced to include inappropriate or impractical measures. Not all of the storm water treatment

and infiltration principles identified in the Order are required to be implemented but are listed in order of preference with the most environmentally protective and effective alternatives listed first.

BMP Development and Implementation
The Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities. This BMP program includes development, construction, maintenance and evaluation of BMPs, and investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to the applicable standards.

While erosion control BMPs are typically used on construction sites, some are used as permanent, post-construction BMPs. Typical erosion control BMPs involve use of straw or fiber rolls and mats. These rolls and mats are often held together by synthetic mesh or netting. Synthetic materials are persistent in the environment and have been found to be a source of pollutants, trash (Brzozowski, 2009), and hazard to wildlife through entrapment (Brzozowski, 2009; Barton and Kinkead, 2005; Walley et al, 2005; Stuart et al, 2001). For erosion control products used as permanent, post-construction BMPs, this Order requires the use of biodegradable materials, and the removal of any temporary erosion control products containing synthetic materials when they are no longer needed. Biodegradable materials are required in erosion control products used by the Departments of Transportation in the states of Delaware and Iowa (Brzozowski, 2009). Use of synthetic (plastic) materials is also prohibited through a Standard Condition in Streambed Alteration Agreements by the California Department of Fish and Game, Region 1 (Van Hattem, personal communication, 2009).

Potential Unintended Public Health Concerns Associated with Structural BMPs
The Department worked collaboratively with the California Department of Public Health (CDPH) on a comprehensive, multi-component monitoring program of more than 120 structural BMPs for mosquito production (Department, 2004). The data revealed that certain BMPs may unintentionally create habitat suitable for mosquitoes and other vectors. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers. This Order requires the Department to comply with applicable provisions of the Health and Safety Code and to cooperate and coordinate with CDPH and local mosquito and vector control agencies on vector control issues in the Department's MS4.

Construction
The Department's construction activities were previously regulated under the MS4 permit (Order 99-06-DWQ), which required the Department to comply with the substantive provisions of the CGP but not the requirement to file separate notices of intent for each construction project. Some Regional Water Boards have had difficulty enforcing the provisions of the CGP when enrollment under that permit is not required. This Order requires the Department to file for separate coverage for each construction project under the

CGP. This change is expected to increase the Department's accountability for discharges from construction sites and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Though discharges from construction activities are not regulated under this Order, any discharges from a site occurring after completion of construction (i.e. post-construction discharges) are fully subject to the requirements of this Order.

Some Department construction-related activities such as roadway and parking lot repaving and resurfacing may mobilize pollutants, even though they may not trigger coverage under the CGP. Such activity may discharge pollutants to the environment, however. BMPs for the control of such discharges are specified in the Department's Project Planning and Design Guide and Construction Site BMP Field Manual and Trouble Shooting Guide, and in the California Stormwater Quality Association (CASQA) California Stormwater BMP Handbook (Department, 2010; Department, 2003a); (CASQA, 2009). The Department is required to implement BMPs to control such discharges.

Because some Department construction projects may not involve grading or land disturbance of one acre or more, these smaller projects do not trigger requirements to enroll under the Construction General Permit. This Order requires the Department to implement BMPs to control discharges from such projects to the MEP. Failure to implement appropriate BMPs is a violation of this Order.

Maintenance Program Activities
Preservation of vegetation is an effective method for the control of pollutants in runoff; however the Department must control vegetation in its rights-of-way for purposes of traffic safety and nuisance. The Department currently implements a vegetation control program with a stated purpose of minimizing the use of agricultural chemicals and maximizing the use of appropriate native and adapted vegetation for erosion control, filtering of runoff, and velocity control.

Notwithstanding the Department's commitment to reduce the use of agricultural chemicals, the Department reported a total amount of 208,549 pounds of herbicide used in the 2008-2009 Storm Water Management Program Annual Report (Department (2010a); CTSW-RT-10-182-32.1). Reported reasons for increased herbicide usage included:

1. Local weather conditions, such as increased rainfall, leading to increased weed production.
2. The need to address new mandates for fire suppression (fuel abatement) adjacent to roadways.
3. Requests from local cities and counties.
4. Increase in or outbreaks of noxious weeds in areas adjacent to farmland.

This Order contains detailed requirements for the control of vegetation and reporting requirements for the use of agricultural chemicals.

The Department's maintenance facilities discharge pollutants to the MS4. This Order requires the Department to prepare Facility Pollution Prevention Plans (FPPPs) for all maintenance facilities. The Department is also required to implement BMP programs at each facility as necessary and periodically inspect each facility.

Spill cleanup is part of the Department's maintenance program. This Order requires the Department to ensure that spills on its rights-of-way are fully and appropriately cleaned up, and to provide appropriate notifications to local municipalities which may be affected by the spill. The Department is also required to notify the appropriate Regional Water Board of any spill with the potential to impact receiving waters.

This Order requires the Department to monitor and clean storm drain inlets when they have reached 50 percent capacity. The Department must initiate procedures contained in an Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response Plan where storm water structures are found to contain excessive material resulting from illegal dumping, and it must determine if enhanced BMPs are needed at the site.

This Order requires the Department to implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs. It also requires the Department to prepare a Storm Drain System Survey Plan and an Illegal Dumping Response Plan.

Facilities Operations
There is potential for the discharge of pollutants from Department facilities during rain events. The discharge of pollutants from facilities not covered by the IGP will be reduced to the MEP through the appropriate implementation of BMPs.

This Order requires the Department to file an NOI for coverage under the IGP for industrial facilities as specified in Attachment 1 of the IGP. This requirement is expected to increase the Department's accountability for discharges from industrial facilities and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Department Activities Outside the Department's Right-of-Way
Facilities and operations outside the Department's ROW may support various Department activities. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads. Facilities may be operated by the Department or by a third party. The Department is required to include provisions in its contracts that require the contractor to obtain and comply with applicable permits for facilities and operations outside the Department's ROW when these facilities are active for the primary purpose of accommodating Department activities.

Non-Department Projects and Activities
Non-Department projects and activities include construction projects or other activities conducted by a third party within the Department's ROW. The Department is responsible for runoff from all non-Department projects and activities in its rights-of-way unless a separate

permit is issued to the other entity. At times, local municipalities or private developers may undertake construction projects or other activities within the Department's ROW. The Department may exercise control or oversight over these third party projects or activities through encroachment permits or other means. This Order sets project planning and design requirements for non-Department projects.

Management Activities for Non-Storm Water Discharges
Non-storm water discharges are dry weather flows that do not originate from precipitation events. Non-storm water discharges are illicit discharges and are prohibited by the federal regulations (40 C.F.R., § 122.26 (d)(2)(iv)(B)(*1*)) unless exempted or separately permitted. Procedures for prohibiting illicit discharges and illegal connections, and for responding to illegal dumping and spills are needed to prevent environmental damage and must be described in the SWMP.

Training and Public Education
Education is an important element of municipal storm water runoff management programs. U.S. EPA (2005) finds that "An informed and knowledgeable community is crucial to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."

U.S. EPA also states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children."

This Order requires the Department to implement a Training and Public Education program. The Training and Public Education program focuses on three audiences: Department employees, Department contractors, and the general public. The Department must implement programs for all three audiences. The Training and Public Education program is considered a BMP and an analysis of its effectiveness is needed.

Program Evaluation
This Order requires the Department to evaluate the effectiveness and adequacy of the storm water program on an annual basis. This includes both water quality monitoring and a self-audit of the program. The audit is intended to determine the effectiveness of the storm water and non-storm water programs through the evaluation of factors and program components such as:

1. Storm water and non-storm water discharges, including pollutant concentrations from locations representative of the Department's properties, facilities, and activities;
2. Maintenance activity control measures;
3. Facility pollution prevention plans;

4. Permanent control measures; and
5. Highway operation control measures.

In addition to water quality monitoring and the self-audit, the Department must perform an Overall Program Effectiveness Evaluation each year to determine the effectiveness of the program in achieving environmental and water quality objectives. The scope of the evaluation is expected to increase each year in response to the continuing collection of environmental monitoring data.

Reporting
Comprehensive reporting is needed to determine compliance with this Order and to track the effectiveness of the Department's storm water program over time. A summary of the reports required from the Department is presented in Attachment IX of the Order. The State Water Board and Regional Water Boards have the authority under various sections of the California Water Code to request additional information as needed.

The Department must track, assess and report on program implementation to ensure its effectiveness. In addition to the individual reports referenced above, the Department is required to submit an annual report to the State Water Board by October 1 of each year. The Annual Report must evaluate compliance with permit conditions, evaluate and assess the effectiveness of BMPs, summarize the results of the monitoring program, summarize the activities planned for the next reporting cycle, and, if necessary, propose changes to the SWMP.

Total Maximum Daily Loads (TMDL)

Section 303(d) of the Clean Water Act requires States to identify waters ("impaired" water bodies) that do not meet water quality standards after applying certain required technology-based effluent limits. States are required to compile this information in a list and submit the list to the U.S. EPA for review and approval. This list is known as the Section 303(d) list of impaired waters.

As part of the listing process, States are required to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations (WLAs) for point sources of pollution, plus the load allocations (LAs) for nonpoint sources of pollution, plus the contribution from background sources of pollution and a margin of safety. The State Water Board and Regional Water Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs.

TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to Section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Basin Plan amendments. TMDLs developed by U.S. EPA typically contain the total load and load allocations required by Section 303(d), but do not contain comprehensive implementation provisions. Subsequent

steps after Regional Water Board TMDL development are: approval by the State Water Board, approval by the Office of Administrative Law, and ultimately, approval by U.S. EPA.

The Department has been assigned mass based and concentration based WLAs for constituents contributing to a TMDL in specific regions. The Department is subject to TMDLs in the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego Regions. These TMDLs are summarized in Table 1 of this Fact Sheet below, and Table IV.2 of Attachment IV of this Order.

Table 1. Department Statewide TMDLs

Water Body	Pollutant	U.S. EPA Approved/Established
North Coast Region		
Albion River *	Sediment	December 2001
Big River *	Sediment	December 2001
Lower Eel River *	Temperature & Sediment	December 18, 2007
Middle Fork Eel River *	Temperature & Sediment	December 2003
South Fork Eel River *	Sediment & Temperature	December 16, 1999
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) *	Sediment & Temperature	December 29, 2004
Garcia River	Sediment	March 16, 1998
Gualala River *	Sediment	November 29, 2004
Klamath River	Temperature, Dissolved Oxygen, Nutrient, & Microcystin	December 28, 2010
Lost River	Nitrogen and Biochemical Oxygen Demand	December 30, 2008
Mad River *	Sediment & Turbidity	December 21, 2007
Navarro River *	Temperature & Sediment	December 27, 2000
Noyo River *	Sediment	December 16, 1999
Redwood Creek *	Sediment	December 30, 1998
Scott River	Sediment and Temperature	August 11, 2006
Shasta River	Dissolved Oxygen & Temperature	January 26, 2007
Ten Mile River *	Sediment	December 2000

Water Body	Pollutant	U.S. EPA Approved/Established
Trinity River *	Sediment	December 20, 2001
South Fork Trinity River and Hayfork Creek *	Sediment	December 1998
Van Duzen River & Yager Creek *	Sediment	December 16, 1999
San Francisco Bay Region		
Napa River	Sediment	January 20, 2011
Richardson Bay	Pathogens	December 18, 2009
San Francisco Bay	PCBs	March 29, 2010
San Francisco Bay	Mercury	February 12, 2008
San Pedro and Pacifica State Beach	Bacteria	August 1, 2013
San Francisco Bay Urban Creeks	Diazinon & Pesticide-Related Toxicity	May 16, 2007
Sonoma Creek	Sediment	September 8, 2010
Central Coast Region		
San Lorenzo River (*includes Carbonera Lompico, Shingle Mill Creeks)*	Sediment	February 19, 2004
Morro Bay *(includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)*	Sediment	January 20, 2004
Los Angeles Region		
Ballona Creek	Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium	December 22, 2005 and reaffirmed on October 29, 2008
Ballona Creek	Trash	August 1, 2002 and February 8, 2005
Ballona Creek Estuary	Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs)	December 22, 2005
Ballona Creek, Ballona Estuary and Sepulveda Channel	Bacteria	March 26, 2007
Ballona Creek Wetlands *	Sediment and Invasive Exotic Vegetation	March 26, 2012
Calleguas Creek and its Tributaries and Mugu	Metals and Selenium	March 26, 2007

Water Body	Pollutant	U.S. EPA Approved/Established
Lagoon		
Calleguas Creek its Tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation	March 14, 2006
Colorado Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals	June 14, 2011
Dominguez Channel, Greater Los Angeles and Long Beach Harbor Waters	Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs	March 23, 2012
Legg Lake	Trash	February 27, 2008
Long Beach City Beaches and Los Angeles & Long Beach Harbor Waters *	Indicator Bacteria	March 26, 2012
Los Angeles Area (Echo Park Lake) *	Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Lake Sherwood) *	Mercury	March 26, 2012
Los Angeles Area (North, Center, and Legg Lakes) *	Nitrogen and Phosphorus	March 26, 2012
Los Angeles Area (Peck Road Park Lake) *	Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Puddingstone Reservoir) *	Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin	March 26, 2012
Los Angeles River and Tributaries	Metals	December 22, 2005 and October 29, 2008 & Reopened and Modified on November 3, 2011
Los Angeles River	Trash	July 24, 2008
Los Angeles River Watershed	Bacteria	March 23, 2012
Los Cerritos *	Metals	March 17, 2010
Machado Lake	Pesticides and Polychlorinated Biphenyls	March 20, 2012
Machado Lake	Trash	February 27, 2008

Water Body	Pollutant	U.S. EPA Approved/Established
Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrient)	March 11, 2009
Malibu Creek Watershed	Bacteria	January 10, 2006, Revised November 8, 2013**
Malibu Creek and Lagoon *	Sedimentation and Nutrients to Address Benthic Community Impairments	July 2, 2013
Malibu Creek Watershed	Trash	June 26, 2009
Marina del Rey Harbor	Toxic Pollutants	March 16, 2006
Marina del Rey, Harbor Back Basins, Mothers' Beach	Bacteria	March 18, 2004, Revised November 7, 2013**
Revolon Slough and Beardsley Wash	Trash	August 1, 2002 and February 8, 2005
San Gabriel River *	Metals (Cu, Pb, & Zn) and Selenium	March 26, 2007
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	Coliform	January 13, 2012
Santa Clara River Reach 3 *	Chloride	June 18, 2003
Santa Monica Bay *	DDTs and PCBs	March 26, 2012
Santa Monica Bay Nearshore & Offshore	Debris (trash & plastic pellets)	March 20, 2012
Santa Monica Bay Beaches	Bacteria	June 19, 2003, Revised November 7, 2013**
Upper Santa Clara River	Chloride	April 6, 2010
Ventura River Estuary	Trash	February 27, 2008
Ventura River and its Tributaries	Algae, Eutrophic Conditions, and Nutrients	June 28, 2013
Central Valley Region		
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	Mercury	February 7, 2007
Clear Lake	Nutrients	September 21, 2007
Sacramento – San Joaquin Delta	Methylmercury	October 20, 2011
Lahontan Region		

Water Body	Pollutant	U.S. EPA Approved/Established
Lake Tahoe	Sediment and Nutrients	August 16, 2011
Truckee River	Sediment	September 16, 2009
Colorado River Region		
Coachella Valley Storm Water Channel	Bacterial Indicators	April 27, 2012
Santa Ana Region		
Big Bear Lake	Nutrients for Hydrological Conditions	September 25, 2007
Lake Elsinore and Canyon Lake	Nutrients	September 30, 2005
Rhine Channel Area of the Lower Newport Bay *	Chromium and Mercury	June 14, 2002
San Diego Creek and New Port Bay, including the Rhine Channel *	Metals (Cadmium, Copper, Lead, & Zinc)	June 14, 2002
San Diego Creek and Upper Newport *	Cadmium	June 14, 2002
San Diego Creek Watershed	Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene)	November 12, 2013
Upper & Lower Newport Bay	Organochlorine Compounds (DDT, Chlordane, & PCBs)	November 12, 2013
San Diego Region		
Chollas Creek	Diazinon	November 3, 2003
Chollas Creek	Dissolved Copper, Lead, and Zinc	December 18, 2008
Rainbow Creek	Total Nitrogen and Total Phosphorus	March 22, 2006
Project 1 – Revised Twenty Beaches and Creek in the San Diego Region (Including Tecolote Creek)	Indicator Bacteria	June 22, 2011
* U.S. EPA Established TMDL ** OAL Approved, U.S. EPA Approval Pending		

The TMDL-based requirements of this Order are not limited to the maximum extent practical (MEP) standard. The TMDL-based requirements have been imposed in accordance with 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B). Pursuant to 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the effluent limitations for NPDES permits must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and approved by EPA, or established by EPA. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement

any relevant water quality control plans (basin plans), including TMDL requirements that have been incorporated into the basin plans.

Effluent limitations for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs). (See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3).) Where effluent limitations are expressed as BMPs, there should be adequate demonstration in the administrative record of the permit, including in the Fact Sheet, that the BMPs will be sufficient to comply with the WLAs.[20] (See 40 C.F.R. §§ 124.8, 124.9 & 124.18.) The NPDES permit must also specify the monitoring necessary to determine compliance with permit limitations. (See 40 C.F.R. § 122.44(i).) Where effluent limitations are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data). The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.[21]

As detailed below, this Order establishes BMP-based requirements for TMDL implementation that are consistent with the requirements and assumptions of the relevant WLAs. This Order further requires implemented BMPs to be monitored for effectiveness and to be adaptively managed for modifications as necessary to achieve WLAs.

Overview

The State Water Board and Regional Water Boards have reviewed the WLAs, implementation requirements, and monitoring requirements specified in the adopted and approved Regional Water Board Basin Plans or in U.S. EPA-established TMDLs applicable to the Department. In most of the relevant TMDLs, the Department's contribution to impairment is a small portion of the overall contribution from multiple sources (less than five percent). While the Department is generally a small contributor to impairment, the statewide reach of its highway system means that it is a contributor in numerous impaired watersheds. The Department must comply with applicable TMDLs across the state.

The fact that one discharger – the Department – must implement requirements for over 84 TMDLs administered by nine Regional Water Boards poses a unique challenge in permitting. Many of the TMDLs are designed to address the same pollutants causing impairment, and progress in achievement of the WLA for these pollutant categories requires implementation of similar control measures coupled with monitoring and adaptive management. In past

[20] Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," Memorandum, U.S. EPA, November 22, 2002. On November 12, 2010, U.S. EPA issued a revision to the November 22, 2002, memorandum, recommending that "where the TMDL includes WLAs for storm water sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable storm water permits." The revision further stated, however, that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit.

[21] *Ibid.*

regulatory actions, however, the Department has been directed to comply with the TMDL requirements by reference to the sections of the relevant basin plan and through coordination with the relevant Regional Water Board. As a result, the Department has devoted significant effort to coordination and exercises to determine the next steps, with limited progress in installing on-the-ground control measures to achieve actual water quality improvements. This Order provides a focused and streamlined process for TMDL compliance so that the Department may proceed as quickly as possible to installation of control measures and monitoring, and adaptive management of those control measures to result in water quality improvements. The Order's TMDL requirements provide consistency in determining compliance requirements, where appropriate. To allow for consistency, with resulting time and cost-efficiency, in achieving compliance with the TMDL requirements applicable to the Department, the State Water Board has developed a set of pollutant category requirements to be implemented by the Department.

The pollutant categories are as follows:
1. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDLs
2. Metals/Toxics/Pesticides TMDLs
3. Trash TMDLs
4. Bacteria TMDLs
5. Diazinon TMDLs
6. Selenium TMDLs
7. Temperature TMDLs
8. Chloride TMDLs

Table IV.2 of Attachment IV of this Order lists all TMDLs applicable to the Department. For each TMDL, Table IV.2 cross-references one or more pollutant category. The Department must implement the cross-referenced pollutant category requirements to achieve compliance with the TMDL provisions of the Order. Where TMDL-specific, rather than, or in addition to, pollutant category-specific permit requirements are appropriate (because of the unique local conditions or specific requirements in the TMDL), those requirements are also noted in Table IV.2. In addition, Table IV.2 cross-references the monitoring, reporting and adaptive management requirements applicable to all pollutant categories.

Attachment IV of this Order recognizes that, because the Department must comply with numerous TMDLs, the Department must phase in implementation requirements for TMDLs over several years. To achieve the highest water quality benefit as quickly as feasible in the permit term, this phase-in must be accomplished in a manner that addresses discharges with the highest impact on water quality first. Accordingly, Attachment IV requires the Department, by October 1, 2014, to prepare and submit an inventory of all impaired reaches subject to TMDLs to which the Department discharges with prioritized implementation of controls for these reaches based on a set of qualitative criteria. In preparing the initial prioritization, the Department must consider the degree of impairment of the water body, measured by the percent pollution reduction needed to achieve the WLA, the contributing drainage area from the Department's right of way (ROW) relative to the watershed draining to the reach, and the relative proximity of the ROW to the receiving water.

The State Water Board will allow a 30-day public comment period on the Department's initial prioritization and will work with the Department and the Regional Water Boards to compile a final prioritization to be approved by the State Water Board Executive Director. Criteria for final prioritization to be considered by the Department, the State Water Board and Regional Water Boards include:

a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS.
b. Multiple TMDLs that can be addressed by a single BMP within a reach.
c. TMDL deadlines specified in a Basin Plan.
d. Regional Water Board and State Water Board priorities.
e. Accessibility for construction and/or maintenance (i.e. safety considerations).
f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

In finalizing the prioritization, the State Water Board and Regional Water Boards will consider the compliance date for attainment of the WLAs established in the Basin Plans and may adjust the prioritization accordingly. It is the intent of the State Water Board to have the Department meet listed TMDL deadlines where feasible.

Upon State Water Board Executive Director approval of final prioritization, the Department must implement control measures to achieve 1650 Compliance Units (CUs) per year. One CU is equivalent to one acre of the Department's ROW, from which the runoff is retained, treated, or otherwise controlled prior to discharge to the relevant reach. BMPs installed during construction activities in TMDL watersheds may receive CU credit for that portion of the treatment volume that exceeds the baseline treatment control requirements specified in the Order. A CU may be claimed when the BMP retrofit project enters the Project Initiation Document (PID) phase of implementation per the requirements of the Order. If a BMP retrofit project is not completed within the approved time schedule, the CU(s) will be revoked unless the Executive Director approves a delay.

The determination of the number of CUs the Department must complete each year is based on the objective of addressing every TMDL in Attachment IV within 20 years. A primary factor considered in the determination of the number of CUs to be completed each year is the compliance due date for the final WLA for many of the relevant TMDLs. The State Water Board considered two approaches in determining the annual number of CUs.

The first approach is based on a simple calculation of the number of acres of ROW that must be treated to ensure that all TMDL watersheds are addressed over a 20 year time frame. Data submitted by the Department indicate that there are 68,000 acres of ROW within TMDL watersheds.

It is not possible or necessary to treat 100 percent of the runoff from TMDL watersheds. In evaluating monitoring sites for discharges into ASBS, staff found that approximately 64

percent of the sites considered could not be addressed, either due to access limitations or safety considerations. Similar conditions are expected to exist in TMDL watersheds, although the percentage will not be as high because the terrain found along most of California's coastline is more difficult and rugged than the terrain that typically exists in the rest of the state. Accordingly, for purposes of this calculation based on the Department's preliminary estimates, the percentage of inaccessible/unsafe sites is reduced by one-half for TMDL watersheds, or 32 percent, translating into approximately 22,000 fewer acres (68,000 x 32 percent = 22,000) that must be treated. Therefore, the Department will have to address approximately 46,000 acres of ROW to comply with the TMDL requirements of Attachment IV. With the objective of addressing all TMDLs in Attachment IV within 20 years, the Department must treat or otherwise address 2300 acres per year (46,000/20 = 2300) throughout the state within the TMDL watersheds listed in Attachment IV.

The second approach for determination of CUs considered by the State Water Board is based on the Department's updated estimates of ROWs that must be treated. This proposal provided by the Department segregates the TMDLs into eight pollutant categories, similar to those presented in Attachment IV, including sediments, metals, trash and bacteria. The Department proposed annual CU commitments based upon the individual categories, with 600 CUs for sediments, a combined 710 CUs for metals and trash, and 340 CUs for bacteria, for an annual total of 1650 CUs. The proposal does not include other pollutant categories in which the acreage and controls for sediments, metals, trash, and bacteria would overlap with the acreage and controls for these other pollutants. This overlap of coverage was identified for the above categorical annual commitments so that the total ROW acreage requiring treatment equates to 33,000 acres.

Though the two approaches produce similar results, the State Water Board confirms that the second approach is sufficient for TMDL-implementation planning at the current stage of TMDL implementation; therefore the second compliance unit determination approach described above is implemented in this Order. The State Water Board believes that 1650 CUs represent a reasonable balance of resources and environmental protection, and will be sufficient to address the TMDLs in Attachment IV in the foreseeable future. The Department is ultimately responsible for demonstrating that it has complied with the TMDLs in Attachment IV by meeting the WLAs and other TMDL performance criteria, independent of its annual obligation to receive credit for compliance units. 1650 CUs per year may be more or less than is needed to comply with the TMDLs in Attachment IV within 20 years. This permit expires in 2018; therefore Attachment IV of this Order requires the Department to present to the State Water Board, at a public meeting to be scheduled approximately 180 days prior to the expiration of the Order, a TMDL Progress Report containing an evaluation of the progress achieved during this permit term. The State Water Board will then evaluate the compliance unit approach and the Department's progress in meeting the 20 year objective before consideration of subsequent requirements in a subsequently renewed permit.

Using an average cost $176,000 per BMP/acre[22], the proposed annual cost to meet this requirement relying solely on retrofits is approximately $290,000,000. The Department's contribution to impairment in any given TMDL is generally a small portion of the overall contribution from multiple sources. In many cases, synergistic effects can be achieved and water quality improvements are better served through coordinated efforts with other parties to the TMDL. To encourage collaborative implementation, Attachment IV of this Order allows CUs for collaborative efforts based on the amount of financial participation made by the Department. To determine an appropriate financial equivalence staff used the cost data submitted by the Department of $176,000 per BMP/acre or per CU. However, to encourage collaborative efforts, staff proposes a 50 percent discount for participation in these types of agreements. Attachment IV accordingly sets the CU equivalent at $88,000. Based on the same approach described above, and relying solely on contributions to collaborative efforts, the annual cost to the Department is approximately $145,000,000.

Attachment IV allows for two types of collaborative implementation: Cooperative Implementation Agreements between the Department and other responsible parties to conduct work to comply with a TMDL, and a Cooperative Implementation Grant Program funded by the Department and administered by the State Water Board. The grant program will be used to fund capital projects in impaired watersheds in which the Department has been assigned a WLA or otherwise has responsibility for implementation of the TMDL. Cooperative implementation will satisfy some or all of the Department's obligations under a TMDL, whether or not discharges from the Department's ROW are controlled or treated.

Cooperative implementation has the following advantages:

- Allows for retrofit projects off the ROW, at locations that may otherwise have space, access, or safety limitations within the ROW;
- Provides for the involvement of local watershed partners who have an interest and expertise in the best way to protect, manage, and enhance water quality in the watershed;
- Allows for implementation of BMPs and other creative solutions not typically available to the Department;
- Allows for larger watershed scale projects; and
- Leverages resources from other entities.

In addition, the Cooperative Implementation Grant Program eliminates the Department's complex budgeting and project approval process to expedite the implementation of BMPs in impaired watersheds.

If the Department elects to fund a Cooperative Implementation Grant Program, the Department and the State Water Board will enter into a formal agreement to specify the terms of the grant program and the commitments and responsibilities of the parties. The agreement will specify the following:

[22] Construction capital cost based on information provided by Department staff.

- The Department will pay all State Water Board costs in administering the grant program. No credit for compliance units will be given for administrative costs paid to the State Water Board.
- The Department will track and report on the projects funded under the grant program.
- Grantees will be responsible for the long term management, operation, and maintenance of BMPs.
- Grants are limited to other responsible parties named in the TMDL.
- Projects shall address storm water runoff and treat or control the same Pollutants of Concern that the Department is responsible for.
- Priority is given to projects that address impairments in the highest priority reaches identified in the prioritization process specified in Attachment IV, Section I.A.
- If the grant program is discontinued, any unexpended funds will be returned to the Department and the corresponding compliance units will be revoked and added to subsequent annual compliance unit totals.

Attachment IV reflects the State Water Board's commitment to streamlining TMDL compliance for the Department to proceed as quickly as feasible to implement on-the-ground control measures and obtain measurable improvement in water quality. In the prioritization process, the Department and the Water Boards will consider the final compliance deadlines under the TMDLs; however, the State Water Board recognizes that the requirements in Attachment IV do not mirror all specific interim deadlines for studies, reports, and pollutant reductions in the TMDLs included to demonstrate progress toward meeting the WLAs. The requirements in Attachment IV are general yet consistent with specific planning, study, and reporting requirements in the TMDLs.

The Department is required annually to include in the TMDL Status Review Report its proposal for reaches to be addressed in the upcoming year, with selected control measures and projected schedule for implementation. The Department is also required to report a set of information that encompasses updates on cooperative and individual implementation activities completed, as well as an analysis of the effectiveness of existing BMPs and activities in meeting the WLAs. This information will be reviewed by the State Water Board and will be publicly available. Control measures and implementation schedules proposed for the upcoming year are subject to the approval of the Executive Director, or designee.

Attachment IV does not list the final required WLAs for each TMDL. With few exceptions, the WLAs are to be achieved jointly by a number of storm water dischargers and accordingly are of limited use in determining and enforcing the Department's specific responsibilities under the TMDL. The State Water Board finds that effective implementation and enforcement of Attachment IV is better achieved through clear requirements for implementation of controls, and monitoring and adaptive management of such controls, than by implementation of joint WLAs into the permit requirements.

Nevertheless, the WLAs, both Department-specific and joint with other dischargers, are discussed in the sections below. While the WLAs are not incorporated into Attachment IV as permit requirements, the discussion establishes that Attachment IV is consistent with the

requirements and assumptions of the WLAs. In general, the Department is a relatively small contributor to the impairment to be addressed by the relevant TMDLs.[23] Attachment IV requires a focused effort to address the priority discharges through measurable and streamlined progress in implementation of controls, effectively addressing the relatively small contribution from the Department. The Department must verify progress through reporting of subsequent monitoring and adaptive management activities.

As an additional step in determining compliance toward achievement of WLAs, the Department must submit a TMDL Progress Report with its application for permit reissuance in January of 2018, analyzing the effectiveness of the control measures installed for each reach and whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final TMDL compliance deadlines. The TMDL Progress Report will be subject to public review and comment and will inform the State Water Board as it considers subsequent requirements in a subsequently reissued permit.

A. General Requirements for all TMDLs: Comprehensive TMDL Monitoring, Reporting, and Adaptive Management

As previously discussed, an NPDES permit must specify the monitoring necessary to determine compliance with effluent limitations. Where effluent limitations are specified as BMPs, the permit should specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved. The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance. Attachment IV requires continuation of existing monitoring plans as approved by the Regional Water Board Executive Officer. Where there is no approved monitoring plan in place for a TMDL, the Department is required to submit a plan to the State Water Board by January 1, 2015, with a time schedule to implement the plan. The submitted plan must be designed to assess the effectiveness of implemented BMPs and to inform BMP selection. The Department shall use the monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs and shall use the assessment to inform modifications to control measures to achieve WLAs and other applicable performance standards.

BMP effectiveness monitoring and the adaptive management strategy related to BMP implementation allows for flexibility in source control methods until the most appropriate BMPs are identified and installed for the control of a pollutant. The Department will evaluate the effectiveness of the controls that were implemented each year and submit the results of the evaluation in the TMDL Status Review Report, which is submitted as part of the Annual Report. If the controls implemented are shown to be ineffective, then the Department must either re-design the BMP or implement a new type of control measure to address the inadequacies of the current design. The process of assessing the performance and

[23] In the few instances where the Department's contribution is a relatively high percentage of the total contribution from identified sources, as identified in this Fact Sheet, the State Water Board would expect the Department to prioritize addressing such discharges and evaluating the performance and effectiveness of the selected BMPs.

effectiveness of BMPs and using that assessment to modify or replace inadequate BMPs ensures that the Department will make progress toward achieving the requirements of the TMDLs within the permit term.

The Department must also prepare and submit a TMDL Progress Report to the State Water Board as part of its permit reissuance application. That report must include: (1) a summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of BMP effectiveness assessment, (2) a determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines, (3) where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants, and (4) a summary of the estimated amount of pollutants that were prevented from entering into the receiving waters. The TMDL Progress Report will be subject to public review and comment and will inform the requirements of the reissued permit.

B. Sediments/Nutrients/Mercury/Siltation/Turbidity Pollutant Category

General Description of Pollutant Category

The TMDLs in this pollutant category identify sediment from roads as a significant or primary source of these pollutants. Excessive sediment loads have resulted in the non-attainment of water quality objectives for sediment, suspended material, and settleable material. Excess sediment delivery to stream channels is associated with several natural processes as well as anthropogenic sources.

Sources of Pollutant and How Pollutants Enters the Waterway

Natural sources include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Mercury is negatively impacting the beneficial uses of many waters of the state. As of 2010, more than 180 water bodies are designated as impaired by mercury, and fish in these waters can have mercury concentrations that pose a health risk for humans and wildlife that eat the fish, including threatened and endangered species. The beneficial uses impacted by

mercury include, but may not be limited to, COMM, WILD, and RARE beneficial uses. Also REC-1 has been used for many waters to indicate fish consumption as part of fishing. Sources of mercury include gold and mercury mines, naturally mercury enriched soils, atmospheric deposition, improper disposal of mercury containing items, such as batteries and dental amalgam. Mercury from many of these sources can end up in storm water and industrial and municipal wastewater.

Watershed Contribution
The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas and therefore, addressing the problem at the appropriate level for the Sediment, Nutrients, Mercury, Siltation and Turbidity TMDLs.

Control Measures
Attachment IV requires the Department to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

In addition to TMDL requirements, the Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities. This BMP program includes implementation, maintenance and evaluation of BMPs, and the investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to achieve the applicable standards. Erosion control BMPs are typically used on construction sites, although some are also used as permanent, post-construction BMPs.

Department's Contribution
The Department's discharge contribution is discussed under the individual TMDLs below. The TMDLs in this pollutant category attribute most anthropogenic sediment related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities routinely include extensive construction and maintenance of unpaved roads which range over large areas, whereas the Department maintains a network of paved highways which account for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

The requirements in Attachment IV are generally sufficient to address the sediment TMDLs that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

NORTH COAST REGION SEDIMENT TMDLS

As discussed under individual TMDLs below, the TMDLs in this pollutant category attribute most anthropogenic sediment-related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities in the North Coast region routinely include extensive construction and maintenance of unpaved roads which range over large areas of the Coast Range's vertical topography, whereas the Department maintains a network of paved highways which accounts for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

WLAS

The North Coast Regional Water Board has adopted the "Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region" on November 29, 2004. The goals of the Policy are to control sediment waste discharges to impaired water bodies so that the TMDLs are met, sediment water quality objectives are attained, and beneficial uses are no longer adversely affected by sediment. This policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards.

The sediment control requirements in Attachment IV (TMDL Requirements) of this Order are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges. The North Coast Regional Water Board's basin plan has the following narrative water quality objectives which apply to sediment-related discharges to receiving waterbodies:

Parameter	Water Quality Objectives
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Turbidity	Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

Department's Contribution:

The Department's specific discharge contribution is discussed under the individual TMDLs below.

Albion River Sediment TMDL, December 2001

Final WLA
U.S. EPA states that there are no significant individual point sources of sediment in the Albion River watershed.

Final WLA Specific to the Department
U.S. EPA states that there are no significant individual point sources of sediment in the Albion River watershed. As a consequence, its wasteload allocation is set to zero.

Final Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading)
Approximately five percent of the total miles of roads within the watershed are paved, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department's paved roadways thus constitute some undetermined fraction of the total paved road mileage: its wasteload allocation is set to zero.

Big River Sediment TMDL, December 2001

Final WLA
U.S. EPA states that there are no significant individual point sources of sediment in the Big River watershed, so the wasteload allocation is zero.

Final WLA Specific to the Department
U.S. EPA states that there are no significant individual point sources of sediment in the Big River watershed.

Final Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading**)**
Approximately three (3) percent of the miles of roadways within the watershed are paved, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department is not listed as a source of point source discharges of sediment.

Lower Eel River Sediment & Temperature TMDL, December 18, 2007

Final Sediment WLA
For the Department's facilities, construction sites, and municipalities, the wasteload allocation is expressed as equivalent to the load allocations, as specified in the following table:

Sediment Source		Average Daily		Average Daily		Percent Reduction 1955 -2003
		1955 – 2003 Loading	Load Allocation	1955 – 2003 Loading	Load Allocation	
		(tons/mi^2/yr)	(tons/mi^2/yr)	(tons/mi^2/day)	(tons/mi^2/day)	
Natural Load Allocation		718	718	2.0	2.0	0%
Roads	**Episodic**	43	9	0.1	0.02	80%
	Chronic	115	17	0.3	0.05	85%
Timber Harvest		590	147	1.6	0.4	75%
Skid Trail		7	1	0.02	0.5	90%
Bank Erosion		21	6	0.1	0.03	70%
Total Human-related Load Allocation		775	180	2.1	0.5	77%
Total Load Allocations Natural and Human-Related Sources		1,493	898	4.1	2.5	

Final WLA Specific to the Department
As stated above, U.S. EPA's wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Deadlines
As noted above, U.S. EPA did not set a specific sediment WLA for the Department.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative sediment contribution is not known.

Eel River (Middle-Fork) Eden Valley and Round Valley HSAs Temperature and Sediment TMDL, December 2003

Final Sediment WLA

U.S. EPA states that because discharge from point sources cannot be readily determined, and because possible loading from point sources is not distinguished from general management-related loading in the source analysis, U.S. EPA considers the rates set as load allocations (i.e., for nonpoint sources) to also represent wasteload allocations (i.e., for those point sources that would be covered by general NPDES permits).

Table 7: Sediment TMDLs and Allocation (t/mi^2/yr)

Source	Black Butte	Elk Creek	Round Valley	Upper MF	Williams Thatcher	BASINWIDE Load
TOTAL Natural	**724**	**1,059**	**374**	**410**	**417**	**574**
Percent Reduction over current	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
Subtotals Landslides	**9**	**12**	**10**	**2**	**2**	**6**
Percent Reduction over current	0%	5%	5%	0%	5%	5%
Subtotal Small Management Sources	**7**	**41**	**9**	**8**	**19**	**23**
Percent Reduction over current	0%	32%	95%	0%	89%	70%
Total Management-Related	**16**	**53**	**19**	**10**	**21**	**29**
Percent Reduction over current	0%	27%	91%	0%	88%	65%
TMDL – ALL SOURCES	**740**	**1,112**	**393**	**420**	**438**	**603**
Percent Reduction over current	0%	2%	32%	0%	26%	8%
Percent Natural	98%	95%	95%	98%	95%	95%
Percent Management	2%	5%	5%	2%	5%	5%

Final Sediment WLA Specific to the Department

As discussed above, U.S. EPA did not assign a specific sediment WLA to the Department.

Final Sediment Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)
U.S. EPA states that the Department's discharges of sediment, like other point sources of anthropogenic sediment discharges in this TMDL, are comparatively minor sources of this pollutant.

South Fork Eel River Temperature & Sediment TMDL, December 16, 1999

U.S. EPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does U.S. EPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, U.S. EPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in U.S. EPA's calculations for the margin of safety in this TMDL.

Final Sediment WLA
U.S. EPA set the wasteload allocation to zero because it found that there are no point sources of sediment in this watershed.

Final Sediment WLA Specific to the Department
As stated above, U.S. EPA states that there are no point source discharges of sediment within this TMDL, so the Department's wasteload allocation is set to zero.

Final Sediment Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)
U.S. EPA states that there are no discharges from point sources within this TMDL, and because of this finding, the Department's potential contribution to anthropogenic sediment loading is insignificant.

Upper Main Eel River Temperature & Sediment TMDL, December 29, 2004

Final Sediment WLA
For the sediment TMDL, U.S. EPA states that point sources are not significant, and sets the waste load allocation to zero.

Final Sediment WLA Specific to the Department
U.S. EPA views point source contributions to sediment loading in this TMDL, so the Department's wasteload allocation is set to zero.

Final Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)
U.S. EPA considers all point sources of anthropogenic sediment loading to be insignificant for purposes of this TMDL.

Garcia River Sediment & Temperature TMDL, March 16, 1998

Final Sediment WLA
The wasteload allocation is effectively set to zero for "controllable" anthropogenic discharges of sediment, including those associated with roads, since all controllable discharges of sediment from roadways are prohibited.

Final Sediment WLA Specific to the Department
Although not specifically included in this TMDL, the wasteload allocation for all "controllable" anthropogenic discharges of sediment from roadways is effectively set to zero.

Final Sediment Deadlines
The structure of this 2002 TMDL requires responsible parties to choose an option for controlling 'sediment delivery', and some 'due dates' have already passed, e.g., January 2005 was the deadline for the Long Term Road System Plan- it is unclear which option, if any, has been selected by the Department.

Department's Sediment Contribution (relative contribution to pollutant loading)
The Department's relative sediment pollutant loading is not known.

Gualala River Sediment &Temperature TMDL, November 29, 2004

Final Sediment WLA
U.S. EPA set the wasteload allocation for sediment discharges to zero, noting that point sources of sediment pollution are insignificant within the area described in this TMDL.

Final Sediment WLA Specific to the Department
There is no wasteload allocation specifically assigned to the Department, but as mentioned above, U.S. EPA set these to zero because of their comparative insignificance as sources.

Final Sediment Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading) Approximately three percent of the miles of roadways included within this TMDL are paved. The Department's potential contribution to pollutant loading is some unspecified fraction of the former, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. Due to its relative insignificance as a source of sediment pollution the Department's wasteload allocation is set to zero.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010

Final Nutrients WLA

Daily mass-based nutrient (total phosphorus and total nitrogen) and organic matter load allocations are assigned to segments of the Klamath River and its tributaries.

Source Area	Daily TP Load Allocations (lbs/day)	Daily TN Load Allocations (lbs/day)
Stateline	245+	3,139+
Upstream of Copco 1 Reservoir	(61)+	(330)+
Stateline to Iron Gate Dam inputs	22+	339+
Δ Iron Gate Hatchery	0+	0+
Tributaries between Iron Gate Dam and the Shasta River	49+	317+
Shasta River	75+	220+
Tributaries between Shasta River and Scott River	17+	97+
Scott River	87+	1,279+
Tributaries between Scott River and Salmon River	187+	1,050+
Salmon River	193+	1,583+
Tributaries between Salmon River and Trinity River	90+	504+
Trinity River	762+	5,783+
Tributaries between Trinity River and Turwar Creek	179+	1,004+
Total Maximum Daily Load	**1,845**	**14,985**

Final Nutrients WLA Specific to the Department

There are no WLAs that are assigned specifically to the Department. The Department is expected to address nutrient inputs into the Klamath River watershed through control of sediment from its road and highway facilities.

Final Nutrients Deadlines
There are no final deadlines for achievement of WLAs. However, the Department shall submit annual reports to the North Coast Regional Water Board documenting progress in implementing.

Department's Nutrients Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the nutrient pollutant loading is not known.

Lost River Nitrogen Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments December 30, 2008

The Lower Lost River TMDL was developed by the North Coast Regional Water Quality Control Board and approved by U.S. Environmental Protection Agency (U.S. EPA) (regional board resolution number R1-2010-0026). It established TMDLs for Nitrogen and Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments. The Lower Lost River TMDLs implementation plan which was established by U.S. EPA is included in the Klamath River TMDL. Both the Klamath River TMDL and the Lower Lost River TMDL were both approved on December 28, 2010.

Final Nitrogen WLAs

Segment	**Total Dissolved Inorganic Nitrogen WLA** (average kg/day)	**Total Carbonaceous Biochemical Oxygen Demand (CBOD)** (average kg/day)
Lost River from Border of Tule Lake Refuge	79.5	197.0
Tule Lake Refuge TMDLs	181.5	90.10
Lower Klamath Refuge TMDLs	76.2	889.9

Final Nitrogen WLAs Specific to the Department

Segment	**Dissolved inorganic nitrogen,** (average kg/day)	**Carbonaceous Biochemical Oxygen Demand (CBOD)** (average kg/day)
Lost River from border of Tule Lake Refuge	0.3	0.5
Tule Lake Refuge TMDLs	0.3	0.5
Lower Klamath Refuge TMDLs	0.3	0.5

Final Nitrogen Deadlines
There are no deadlines associated with these TMDLs.

Department's Nitrogen Contribution (relative contribution to pollutant loading)

Segment	Percentage of Total Dissolved Inorganic Nitrogen WLA	Percentage of Total Carbonaceous Biochemical Oxygen Demand (CBOD) WLA
Lost River from border of Tule Lake Refuge	100	100
Tule Lake Refuge TMDLs	3.0	10.1
Lower Klamath Refuge TMDLs	100	100

Mad River Sediment and Turbidity TMDL, December 21, 2007

U.S. EPA states that almost all sources of sediment in the Mad River watershed are from diffuse, nonpoint sources, including runoff from roads, timber operations, and natural background. In the Mad River basin, individual point sources are negligible sources of sediment and suspended sediment. To ensure protection of the cold water beneficial use, EPA has determined that it is appropriate to consider the rates set forth in these TMDLs as load allocations to also represent wasteload allocations for the *diffuse* discharges in the watershed that are subject to NPDES permits, as discussed below.

Final WLAs for Sediment and Turbidity

Wasteload allocations for diffuse, permitted point sources function similarly to and are represented by the nonpoint source load allocations, and wasteload allocations for permitted point sources are provided concentration-based wasteload allocations equivalent to what is included in the permits in order to account for incidental sediment and suspended sediment discharges. The TMDLs for sediment and turbidity include separate but identical load allocations for nonpoint sources and wasteload allocations for the diffuse point sources for each subarea. These WLAs are equivalent to and represented by the LAs, and the LAs are expressed on a unit loading basis (tons/mi2/year); therefore, they are not added to the LAs in the TMDL equation.

Table 20. Total Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source		Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
		1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	
Natural Load Allocation		**894**	**894**	**2.4**	**2.4**	**0%**
Roads	Landslides	1,298				
	Surface	242				
Roads Subtotal		**1,540**	**174**	**4.2**	**0.5**	**89%**
Harvest	Landslide	38				
	Surface	2				

Sediment Source	Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	
Harvest Subtotal	40	5	0.1	0.01	89%
Total Human-related Load	1,580	179	4.3	0.5	89%
Total Load: All Sources	**2,474**	**1,073**	**6.8**	**2.9**	**57%**
Note: values have been rounded.					

Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21 (below). The reductions reflect similar priorities as for the total sediment load. Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21. The reductions reflect similar priorities as for the total sediment load.

Table 21. Suspended Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source		Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
		1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	1976 – 2006 Loading (tons/mi^2/yr)	Load Allocation (tons/mi^2/yr)	
Natural Load Allocation		809	809	2.2	2.2	0 %
Road	**Landslides**	1,174				
	Surface	219				
Roads Subtotal		**1,393**	**158**	**3.8**	**0.4**	**89%**
Harvest	**Landslides**	34				
	Surface	2				
Harvest Subtotal		**36**	**4**	**0.1**	**0.01**	**89%**
Total Human-related Load		**1,430**	**162**	**3.9**	**0.4**	**89%**
Total Load: All Sources		**2,238**	**971**	**6.1**	**2.7**	**57%**

Final WLAs for Sediment and Turbidity Specific to the Department

U.S. EPA grouped the Department's discharges under its NPDES municipal storm water permit with other "diffuse" NPDES-permitted storm water discharges occurring in this TMDL. U.S. EPA's source analysis did not distinguish between land areas subject to NPDES regulation and nonpoint sources of sediment and turbidity. U.S. EPA's TMDLs thus include separate but identical load allocations (LAs) for nonpoint sources and wasteload allocations (WLAs) for the "diffuse" point sources for each subarea. These WLAs are equivalent to and

represented by the LAs, and the LAs are expressed on a unit loading basis (tons/mi2/year); therefore, they are not added to the LAs in the TMDL equation.

For the diffuse permitted sources such as the Department's discharges under its municipal storm water permit, the waste load allocation is expressed as equivalent to the load allocation for (all) roads. The load allocations for roads are listed in the tables given above.

U.S. EPA also states that the Regional Water Board may wish to refine these TMDLs and allocations further in the future.

Final Sediment and Turbidity Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Sediment and Turbidity Contribution
U.S. EPA states that non-NPDES nonpoint sources are responsible for nearly all sediment loading in the watershed, but does not estimate the Department's potential contribution to sediment and turbidity waste loading in this TMDL. Only six percent of the roads in this watershed are paved, and some unspecified portions of the latter are State highways.

Navarro River Sediment and Temperature TMDL, December 27, 2000

Final Sediment WLA
The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools, and to reduced wetted channel width/depth ratios.

Final Sediment WLA Specific to the Department
The Department is not specifically mentioned as a source of pollutant loading for temperature and sediment, nor are any other point sources of these pollutants. The wasteload allocation for the Department is therefore presumed to be set to zero.

Final Sediment Deadlines
U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution
As mentioned above, neither Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so U.S. EPA has determined that these potential sources are insignificant in this TMDL.

Noyo River Sediment TMDL, December 16, 1999

Final Sediment WLA
U.S. EPA apportioned the total load among several non-point sources of sediment, after accounting for background load. As a consequence, this TMDL does not include wasteload allocations for point sources.

Final Sediment WLA Specific to the Department
U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution (relative to pollutant loading)
As stated above, U.S. EPA did not establish wasteload allocations for point sources of sediment.

Redwood Creek Sediment TMDL, U.S. EPA Established December 30, 1998

Final Sediment WLA
U.S. EPA did not establish wasteload allocations for point sources in this TMDL.

Final WLA
U.S. EPA established this TMDL on December 30, 1998 and it became effective immediately.

Final WLA Specific to the Department and the Department's Contribution
As stated above, U.S. EPA did not establish wasteload allocations for point sources of sediment.

Final Deadlines
U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Contribution (relative to pollutant loading)
The Department's contribution relative sediment pollutant loading is not known.

Scott River Sediment and Temperature TMDL, August 11, 2006

Final Sediment WLA
U.S. EPA states that there are no point sources of sediment and/or temperature related discharges within the area encompassed by this TMDL, so the wasteload allocation is set to zero.

Final Sediment WLA Specific to the Department
None.

Final Sediment Deadlines
U.S. EPA directed Regional Water Board staff to evaluate the Department's state-wide NPDES permit in the North Coast Region by September 8, 2008. The purpose of the evaluation was to determine the adequacy and effectiveness of the Department's storm water program in preventing and reducing elevated water temperatures in the North Coast Region, including the Scott River watershed.

Department's Sediment Contribution (relative to pollutant loading)
As noted above, U.S. EPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero. The Department's point source contribution is therefore judged to be insignificant.

Ten Mile River Sediment TMDL, December 2000

Final Sediment WLA
U.S. EPA states that there are no point sources of sediment discharges within the area included within this TMDL: wasteload allocations are therefore set to zero.

Final Sediment WLA Specific to the Department
As stated above, U.S. EPA did not establish wasteload allocations for point sources such as the Department in this TMDL, so the wasteload allocations are set to zero.

Final Sediment Deadlines
U.S. EPA did not specify deadlines for implementation of this TMDL.
Department's Sediment Contribution (relative pollutant loading)
The Department's relative sediment contribution is judged to be insignificant.

Trinity River Sediment TMDL, December 20, 2001

Final Sediment WLA
U.S. EPA did not subdivide waste load and load allocations into specific sources such as roads and timber harvest, unlike several of its other sediment-related TMDLs in Region 1. U.S. EPA divided the basin into subareas because of the wide range of sediment delivery rates within each of the several subareas. U.S. EPA further states that although nonpoint sources are responsible for most sediment loading in the watershed, point sources also discharge some sediment.

The TMDL identified wasteload allocations for point sources and load allocations for nonpoint sources as pollutant loading rates (tons/square mile/year) for subareas within the Trinity Basin. The source analysis supporting these allocations evaluated sediment loading at a subarea scale, and did not attempt to distinguish sediment loading at the scale of specific land ownership, nor did the source analysis specifically distinguish between land areas subject to NPDES regulation and land areas not subject to NPDES regulation. As a

consequence, the TMDL includes separate but identical load allocations for nonpoint sources and wasteload allocations for point sources for each subarea. The joint LA/WLA's for each subarea are given in the following tables:

Table 5-2. TMDL and Allocations by Source Category for Upper Area

Source Categories		Subareas within the Upper Assessment Area				
		Reference Subwatersheds[1]	Westside Tributaries[2]	Upper Trinity[3]	East Fork Tributaries[4]	East Side Tributaries[5]
Current Sediment Delivery Rate						
Background (non-management)		1,125	421	2,759	258	241
Management	**Roads**	129	101	162	319	48
	Timber Harvest	240	31	1,084	46	22
	Legacy (Roads, Mining)	7	25	21	26	96
	Total Mgmt.	376	157	1,267	391	96
Total Sediment Delivery		1,051	578	4,026	649	337
Total as percent of background		133%	137%	146%	252%	140%
Loading Capacity (TMDL) and Allocations (tons/mi^2/yr)						
TMDL (= 1.25 X Background)		1,406	526	3,449	323	301
Background Allocation		1,125	421	2,759	258	241
Total Management Allocation (= TMDL – Background)		281	105	690	65	60
Percent reduction needed in management to attain TMDL		25%	33%	46%	83%	37%

1. Stuarts Fork, Swift Creek, Coffee Creek
2. Stuart Arm Area, Stoney Creek, Mule Creek, East Fork Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek;
3. Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstem Area, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowslide Gulch Area, Scorpion Creek
4. East Fork Trinity, Cedar Creek, Squirrel Gulch Area
5. East Side Tributaries, Trinity Lake

Table 5.3 TMDL and Allocations by Source Category for Upper Middle Area

Source Categories		Subareas within the Upper Assessment Area					
		Weaver and Rush Creeks (72 mi^2)	**Deadwood Creek, Hoadley Gulch and Poker Bar Area (47 mi^2)**	**Lewiston Lake Area (25 mi^2)**	**Grass Valley Creek[1] (37 mi^2)**	**Indian Creek (34 mi^2)**	**Reading and Brown Creek (104 mi^2)**
Current Sediment Delivery Rates (tons/mi^2/yr)							
Background (non-management)		675	273	195	175	324	263
Management	**Roads**	144	220	83	287	1.570	125
	Timber Harvest	61	280	37	1,136	330	204
	Legacy (Roads, Mining)	81	62	69	65	68	42
	Total Mgmt.	286	562	189	1,488	1,968	372
Total Sediment Delivery		961	835	384	1,663	2,292	635
Total as percent of background		142%	305%	197%	950%	707%	241%
Loading Capacity (TMDL) and Allocations (tons/mi^2/yr)							
TMDL (= 1.25 X Background)		844	341	244	219	405	329
Background Allocation		675	273	195	175	324	263
Total Management Allocation (= TMDL – Background)		169	68	49	44	81	66
Percent reduction needed in management to attain TMDL		41%	88%	74%	97%	96%	82%

1. The rates in Grass Valley Creek do not account for the amount of sediment trapped by Buckhorn Dam and Hamilton Ponds.

Table 5.4 TMDL and Allocations by Source Category for Lower Middle Assessment Area

Source Categories		Subareas within the Lower Middle Assessment Area				
		Reference Subwatersheds[1] (434 mi^2)	Canyon Creek (64 mi^2)	Upper Tributaries[2] (72 mi^2)	Middle Tributaries[3] (54 mi^2)	Lower Tributaries[2] (96 mi^2)
Current Sediment Delivery Rates (tons/mi^2/yr)						
Background (non-management)		1,568	1,302	268	210	221
Management	**Roads**	11	2,482	60	37	41
	Timber Harvest	4	4	29	16	20
	Legacy (Roads, mining)	9	17	46	28	29
	Total Mgmt.	24	2,503	135	81	90
Total Sediment Delivery		1,592	3,805	403	291	311
Total as percent of background		102%	292%	150%	139%	141%
Loading Capacity (TMDL) and Allocations (tons/mi^2/yr)						
TMDL (= 1.25 X Background)		1,592	1,628	335	263	276
Background Allocation		1,568	1,302	268	210	221
Total Management Allocation (= TMDL – Background)		24	326	67	53	55
Percent reduction needed in management to attain TMDL		0	87%	50%	35%	39%

1. New River, Big French, Manzanita, North Fork, East Fork North Fork.
2. Dutch, Soldier, Oregon Gulch, Conner Creek Area.
3. Big Bar Area, Prairie Creek, Little French Creek.
4. Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quinby Creek Area, Hawkins, Sharber.

Table 5.5. TMDL and Allocations by Source Category for Lower Assessment Area

Source Categories		Subareas within the Lower Assessment Area. Outside of Hoopa Valley Tribe Reservation Boundaries				
		Reference Subwatersheds Horse Linto Creek: 64 mi^2)	Mill Creek and Tish Tang (39mi^2)	Willow Creek (43 mi^2)	Campbell Creek and Supply Creek (11 mi^2)	Lower Mainstem Area and Coon Creek (32mi^2)
Current Sediment Delivery Rates (tons/mi^2/yr)						
Background (non-management)		2,110	839	374	7,845	252
Management	**Roads**	483	703	854	14,349	76
	Timber Harvest	87	83	201	785	15
	Legacy (Roads, Mining)	26	26	26	26	22
	Total Mgmt.	596	812	1,081	15,160	113
Total Sediment Delivery		2,706	1,651	1,455	23,005	365
Total as percent of background		128%	197%	389%	293%	145%
Loading Capacity (TMDL) and Allocations (tons/mi^2/yr)						
TMDL (= 1.25 X Background)		2,638	1,049	468	9,806	315
Background Allocation		2,110	839	374	7,845	245
Total Management Allocation (= TMDL – Background)		528	210	94	1,961	63
Percent reduction needed in management to attain TMDL		11%	74%	91%	87%	44%

Note:
Since Background rates for Lower Mainstem Area and Coon Creek were not available from GMA (2001), U.S. EPA used the same rate as was calculated for the Quinby Creek Area is comparable in size and underlain by the same geology type (Galice Formation).

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Final Sediment WLA Specific to the Department

U.S. EPA issued joint LAs and WLA's, as noted above, so source-specific wasteload allocations were not developed for this TMDL.

Department's Sediment Contribution (relative pollutant loading)

It is not possible to estimate the Department's point source contribution from the source analysis developed by U.S. EPA.

South Fork Trinity River Watershed Sediment Total Maximum Daily Load (U.S. EPA, 1998)

Final Sediment WLA
U.S. EPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department
There is no waste load allocation for the Department's discharges. In keeping with U.S. EPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Deadlines
No deadlines were specified.

Department's Pollutant Contribution
The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 36 and 101.

Van Duzen River Watershed Sediment Total Maximum Daily Load (U.S. EPA, 1999)

Final Sediment WLA
U.S. EPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department
There is no waste load allocation for the Department's discharges. In keeping with U.S. EPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Sediment TMDL Deadlines
No deadlines were specified.

Department's Pollutant Contribution
The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 3, 36, and 299.

Napa River Sediment TMDL, January 20, 2011

Final Sediment WLA

The wasteload allocations are listed in the following table:

Point Source Category	Current Load		Reduction Needed (percentage)	Wasteload Allocations	
	Metric (Tons/year)	**Percentage of Natural Background**		**Metric** (Tons/year)	**Percent of Natural Background**
Construction Storm Water Order No. 99-08-DWQ	500	0.3	0	500	.03
Municipal Storm Water NPDES Permit No. CAS000001	800	0.5	0	800	0.5
Industrial Storm Water NPDES Permit No. CAS000001	500	0.3	0	500	0.3
Department Storm Water-Order No. 99-06-DWQ	600	0.4	0	600	0.4
Wastewater Treatment Plant Discharges [a]					
City of St. Helena NPDES Permit No. CA0038016	30	<0.1	0	30	<0.1
Town of Yountville/CA Veteran's Home NPDES Permit No. CA0038121	30	<0.1	0	30	<0.1
City of Calistoga NPDES Permit No. CA0037966	40	<0.1	0	40	<0.1
TOTAL	**2,500**	**2**		**2,500**	**2**

a. For wastewater treatment plant discharges, compliance with existing permit effluent limit of 30 mg/L of TSS is consistent with these wasteload allocations.

Note: Above estimates for loads, percent reductions, and allocations are rounded to two significant figures.

Final Sediment WLA Specific to the Department

The Department's wasteload allocation is 600 metric tons/year.

Final Sediment Deadlines
The Department is deemed to be implementing appropriate control measures if it discharges in compliance with its municipal storm water permit, and if it conducts the monitoring program included in its storm water permit.

Department's Sediment Contribution (relative to pollutant loading)
The Regional Water Board indicates that the Department is a fairly minor anthropogenic source of sediment discharges, and attributes its current discharges to only 0.4% of natural background loading. As a consequence, the Regional Water Board has determined that compliance with its NPDES permit will enable the Department to meet its sediment wasteload allocation.

Sonoma Creek Sediment TMDL, September 8, 2010

Final WLA
Although roadways are cited as a major source of sediment loading in the Sonoma Creek watershed, the Regional Water Board has determined that compliance with its NPDES permit for storm water will enable the Department to meet its wasteload allocation for sediment.

Final Sediment WLA Specific to the Department
The Department's wasteload allocation is 100 tons/year, which is its current (2005) estimated annual discharge of sediment within the area encompassed by this TMDL.

Final Sediment Deadlines
In collaboration with stakeholders in the watershed, Water Board staff will develop a detailed monitoring program to assess progress of TMDL attainment and provide a basis for reviewing and revising TMDL elements or implementation actions. As an initial milestone, by fall 2011, the Regional Water Board and watershed partners were required to complete monitoring plans to evaluate: a) attainment of water quality targets; and b) suspended sediment and turbidity conditions. Initial data collection, based on the protocols established in these monitoring plans was anticipated to begin in the winter of 2011-2012.

Department's Sediment Contribution (relative to pollutant loading)
The Regional Water Board estimates that the Department's point source discharges of sediment constitute approximately 8% of total point sources discharges of sediment.

San Francisco Bay Mercury TMDL, February 12, 2008

The San Francisco Bay Mercury TMDL was adopted by the San Francisco Bay Regional Water Quality Control Board as Resolution Number R2-2006-0052 on August 9, 2006. It was approved by U.S. EPA on February 12, 2008.

Final Mercury WLA
There are no WLAs specific to the Department. Instead, the Department's WLA is an unspecified portion of the WLA assigned to the city or municipal NPDES permit in which the Department's roads or facilities reside.

Final Mercury WLA Specific to the Department
No deadlines specified.

Final Mercury Deadlines
The WLAs must be attained by February 12, 2028.

Department's Mercury Contribution (relative contribution to pollutant loading)
The Department's contribution is unknown.

CENTRAL COAST SEDIMENT TMDLS

Although roadways are cited as a major source of sediment loading in some Central Coast watersheds, the Central Coast Regional Water Board has determined that compliance with the Department's NPDES permit will meet the Department's wasteload allocation.

San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks) Sediment TMDL, February 19, 2004

Final Sediment WLA
The sediment load to the San Lorenzo River derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Sediment Source Category	Allocation (tons/year)			
	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
Upland Timber Harvest Plan (THP) Roads	0	419	362	25,215
Streamside THP Roads on Steep Slopes	0	182	164	10,949
Upland Public/ Private Roads	146	1,235	367	13,835
Streamside Public/Private Roads on Steep Slopes	77	135	239	6,178

Sediment Source Category	Allocation (tons/year)			
	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
THP Land	0	23	16	1,057
Other Urban and Rural Land	310	2,622	965	43,368
Mass Wasting	0	4,082	6,440	157,388
Channel/Bank Erosion	324	3,030	989	48,149
Total Allocation = TMDL[3]	857	11,728	9,542	306,139

Note:

3 The term "TMDL" is used here for familiarity. The allowable loads for the San Lorenzo River and its tributaries are actually expressed as a Total Annual Loads (tons/year). This expression of load accounts for seasonal variation in sediment loads explained by the seasonality of rainfall in this region of the Central Coast.

Final Sediment WLA Specific to the Department
As stated above, no specific waste load allocation was assigned to the Department.

Final Sediment Deadlines
Compliance with its municipal storm water permit is deemed to be sufficient to meet the Department's waste load allocation for sediment.

Department's Sediment Contribution (relative contribution to pollutant loading)
This TMDL does not estimate the relative contribution of the Department's roadways/facilities to sediment discharges, but this source appears to be moderate based on this TMDL's source analysis.

Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) Sediment TMDL, January 20, 2004

Final WLA
The sediment load to Morro Bay, Los Osos Creek and Chorro Creek derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Final Sediment WLA Specific to the Department

	Watershed	Total (Tons/Yr) Rounded to the nearest ton
Loading Allocations (TMDL expressed as annual load)	Chorro Creek at Reservoir	6,541
	Dairy Creek	440
	Pennington Creek	966
	San Luisito Creek	7,315
	San Bernardo Creek	10,269
	Minor Tributaries	4,489
	Chorro Creek (Subtotal)	**30,020**
	Los Osos Creek	3,052
	Warden Creek and Tributaries	1,812
	Los Osos Creek (Subtotal)	**4,864**
	Morro Bay Watershed (Total)	**34,885**

Final Sediment WLA Specific to the Department
Although no specific wasteload allocation was assigned to the Department, this TMDL states that discharges which are in compliance with their respective storm water (and other) NPDES permits are meeting their portion of shared responsibility for achieving sediment load reduction.

Final Sediment Deadlines
Implementation will rely on the State's Plan for NPS pollution control (CWC §13369) and continued implementation of existing regulatory controls as appropriate for point sources, including storm water pursuant to NPDES surface water discharge regulations and Waste Discharge Requirements under Porter-Cologne. Final compliance with sediment load reductions is scheduled to be achieved by 2054 (50 years from the adoption of the TMDL).

Department's Sediment Contribution (relative contribution to pollutant loading)
The Department's contribution to sediment loading was not estimated in this TMDL.

LOS ANGELES REGION SEDIMENT/NUTRIENTS/MERCURY TMDLS

Department's Pollution Contribution:
Although roadways are cited as a major source of sediment loading in some watersheds**,** for purposes of current sediment-related TMDLs, the Los Angeles Regional Water Board has determined that compliance with its NPDES permit will meet the Department's wasteload allocations for sediment.

Ballona Creek Wetlands Sediment and Invasive Exotic Vegetation TMDLs, March 26, 2012

Final Sediment WLA
U.S. EPA established wasteload allocations (WLAs) for sediment to address the impairments identified for the Ballona Creek Wetlands. WLAs are assigned to the Los Angeles County MS4 and their co-permittees, and the Department, who are responsible for the loading of sediment into Ballona Creek Wetlands. The WLAs are the total allowable sediment load that can be discharged into Ballona Creek Wetlands. This total sediment load includes both suspended sediment and sediment bed load that are transported from Ballona Creek Watershed into Ballona Creek Wetlands. Invasive exotic vegetation listed on the California Noxious Weed list are given a WLA and LA of zero.

Since the current existing discharge of sediment load is not contributing to the listed impairments or otherwise causing a negative impact to Ballona Creek Wetlands, this TMDL establishes joint WLAs based on existing conditions. The allowable WLA is set at 58,354 yd^3/yr (or 44,615 m^3/yr). The joint wasteload allocation is as follows:

Responsible Jurisdiction	Input	Sediment Wasteload Allocation[1] (yd^3/yr)	Existing Total Sediment Load (yd^3/yr)
Los Angeles County MS4 , Co-Permittees & Department	Ballona Creek Watershed	58,354	58,354

Final Sediment WLA Specific to the Department
As stated above, there is no WLA specific to the Department. The joint point source WLA is 58,354 cubic yards of sediment per year, which is equivalent to the current estimated total sediment loading contributed by these sources.

Final Sediment Deadlines
U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to anthropogenic sediment loading is not estimated or quantified in this TMDL. However, the joint WLAs are set to the current estimated sediment discharges, which the Department can meet through compliance with its NPDES municipal storm water permit.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals (including Mercury) and Selenium TMDL, March 26, 2007

Final Mercury WLA
The Department shares group mass-based WLAs for mercury for Calleguas Creek and Revolon Slough with other Permitted Storm water Dischargers (PSDs). Final WLAs are mass-based and are dependent upon annual flow ranges.

Final Mass-based WLAs for Annual Flow Ranges, Mercury in Suspended Sediment

Flow Range, Millions of Gallons per Year	**Calleguas Creek** (lbs/yr)	**Revolon Slough** (lbs/yr)
0-15,000 MGY	0.4	0.1
15,000-25,000 MGY	1.6	0.7
Above 25,000 MGY	9.3	1.8

Final Mercury WLA Specific to the Department
There is no specific allocation for the Department.

Final Mercury Deadlines
The final WLAs must be achieved within 15 years after the effective date of the amendment, or March 26, 2022.

Department's Mercury Contribution (relative contribution to pollutant loading)
The Department's areal proportion of the watershed is not known.

The Los Angeles Area Lakes and Reservoir

TMDLs specific to the Department include targets for the following lakes:
- Echo Park Lake: nitrogen phosphorus, chlordane, dieldrin, PCBs, and trash
- Lake Sherwood: mercury
- Legg Lakes (North, Center and Legg): nitrogen and phosphorus
- Peck Road Park Lake: nitrogen and phosphorus
- Puddingstone Reservoir: nitrogen, phosphorus, chlordane, DDT, PCBs, Hg, and Dieldrin

Wasteload allocations were assigned to responsible jurisdictions based on existing loading of nitrogen and phosphorus to each lake. To allow flexibility in implementing the nutrient TMDLs, responsible jurisdictions receiving required reductions have the option to submit a request to the Regional Board for alternative concentration-based wasteload allocations. These jurisdictions can receive alternative concentration-based wasteload allocations not to exceed 1.0 and 0.1 milligrams per liter total nitrogen and total phosphorus, respectively.

During wet weather, runoff from industrial sites has the potential to contribute pollutant loadings. During dry weather, the potential contribution of pollutant loadings from industrial storm water is low because non-storm water discharges are prohibited or authorized by the

permit only under the following circumstances: when they do not contain significant quantities of pollutants, where Best Management Practices are in place to minimize contact with significant materials and reduce flow, and when they are in compliance with Regional Board and local agency requirements.

Los Angeles Area (Echo Park Lake) Total Nitrogen, Total Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012)

Final Nutrient WLAs

	Total Phosphorus, (lbs/year)	**Total Nitrogen,** (lbs/year)
TOTAL	83.3	682

Final Nutrient WLAs Specific to the Department

Subwatershed	**Total Phosphorus,** (lbs/year)	**Total Nitrogen,** (lbs/year)
Northern	0.608	4.77
Southern	0.051	0.403

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contributions *(relative contribution to pollutant loading)*

Subwatershed	**Percentage of the Total Phosphorus Load**	**Percentage of the Total Nitrogen Load**
Northern	0.6 %	0.7 %
Southern	0.05 %	0.06 %

Los Angeles Area (North, Center & Legg Lakes) Nitrogen and Phosphorus, TMDLs, March 26, 2012

Final Nutrient WLA Nitrogen & Phosphorous TMDLs

	Total Phosphorus (lbs/year)	**Total Nitrogen** (lbs/year)
TOTAL	1,541	9,135

Final WLAs Specific to the Department

Subwatershed	**Total Phosphorus,** (lbs/year)	**Total Nitrogen,** (lbs/year)
Direct to Center Lake	4.6	15.5
Direct to Legg Lake	1.2	4.0
Direct to North Lake	19.1	64.1
Northwestern	9.4	29.3
Northeastern	10.9	34.0

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	**Maximum Allowable WLA for Total Phosphorus** (mg/L)	**Maximum Allowable WLA for Total Nitrogen** (mg/L)
Direct to Center Lake	0.1	1.0
Direct to Legg Lake	0.1	1.0
Direct to North Lake	0.1	1.0
Northwestern	0.1	1.0
Northeastern	0.1	1.0

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	**Percentage of the Total Phosphorus Load**	**Percentage of the Total Nitrogen Load**
Direct to Center Lake	0.2 %	0.2 %
Direct to Legg Lake	0.1 %	<0.1 %
Direct to North Lake	1.0 %	0.6 %
Northwestern	0.5 %	0.3 %
Northeastern	0.6 %	0.3 %

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012

Final Nutrient WLAs

	Total Phosphorus (lbs/year)	**Total Nitrogen** (lbs/year)
TOTAL	19,319	186,845

Final Nitrogen & Phosphorus WLA Specific to the Department

Subwatershed	**Total Phosphorus** (lbs/year)	**Total Nitrogen** (lbs/year)
Eastern	158	1,165
Western	34.2	251

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	**Percentage of the Total Phosphorus Load**	**Percentage of the Total Nitrogen Load**
Eastern	0.8 %	0.6 %
Western	0.2 %	0.1 %

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, March 26, 2012

Final Nutrient WLAs for Puddingstone Reservoir

Final Nitrogen and Phosphorus WLAs

	Total Phosphorus (lbs/year)	**Total Nitrogen** (lbs/year)
TOTAL	4,226	18,756

Final Nitrogen, Phosphorus WLAs Specific to the Department

Subwatershed	**Total Phosphorus** (lbs/year)	**Total Nitrogen** (lbs/year)
Northern	167	745
Southern	14.8	68.2

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	Maximum Allowable WLA for Total Phosphorus (mg/L)	Maximum Allowable WLA for Total Nitrogen (mg/L)
Northern	0.1	1.0
Direct Southern	0.1	1.0

Final Nutrient Deadlines
There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	3.6 %	3.4 %
Southern	0.3 %	0.3 %

Final Mercury WLA for Puddingstone Reservoir
Final Waste Load Allocations are assigned to the Department for sub-watersheds for Puddingstone Reservoir, and must be met at the Department's discharge points.

Final Mercury WLA for Puddingstone Reservoir Specific to the Department
Mercury WLAs for Puddingstone Reservoir

Subwatershed	Area (ac)	Existing Annual Hg Load (g/yr)	Percent of Load	Final Wasteload Allocation (g/yr)
Puddingstone-Northern	110	1.32	1.85	0.702
Puddingstone-Southern	11.6	0.0960	0.13	0.051

Fish Harbor is impaired for mercury in sediment. The Department is named as a responsible party for WLAs to Fish Harbor. The final concentration-based WLA for sediment in Fish Harbor is 0.15 mg per kilogram of dry sediment.

Final Mercury Deadlines for Puddingstone Reservoir
The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Mercury Contribution for Puddingstone Reservoir (relative contribution to pollutant loading)

Subwatershed	Annual Hg Load (g/yr)	Percent of Total Load
Northern	1.32	1.85
Southern	0.096	0.13
Total	**1.42**	**1.99**

Los Angeles Area (Lake Sherwood) Mercury TMDL, March 26, 2012

Final Mercury WLA

Final waste load allocations are assigned to the Department for one sub-watershed, Lake Sherwood, and must be met at the Department's discharge points.

Final Mercury WLA Specific to the Department

Mercury WLAs for Lake Sherwood

Subwatershed	Area (ac)	Existing Annual Hg Load (g/yr)	Percent of Load	Final Wasteload Allocation (g/yr)
Carlisle Canyon	2.75	0.049	0.12	0.014

Final Mercury Deadlines

There are no final deadlines specified for the Department.

Department's Mercury Contribution (relative contribution to pollutant loading)

Subwatershed	Annual Hg Load (g/yr)	Percent of Total Load
Carlisle Canyon	0.049	0.12
Entire Watershed	**0.049**	**0.001**

Machado Lake Eutrophic, Algae, Ammonia, and Odors (Nutrients), March 11, 2009

Final Nutrients WLA

Final concentration-based Waste Load Allocations are established for total phosphorus and total nitrogen (defined as the sum of the concentrations of Total Kjeldhal Nitrogen, Nitrate as N, and Nitrite as N). For most storm water permittees, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients WLA Specific to the Department

For the Department, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients Deadlines

The Department must achieve its final WLAs by September 11, 2018.

Department's Nutrients Contribution (relative contribution to pollutant loading)
The Department's contribution to the overall loading is not defined in the TMDL. The draft Machado Lake Nutrients TMDL Implementation Plan, submitted on March 11, 2011 by the Department states that the Department's roadways and facilities comprise approximately 1.2 percent of the Machado Lake Watershed.

Malibu Creek & Lagoon TMDL for Sedimentation and Nutrients, July 2, 2013

Sediment loading into Malibu Lagoon is much higher than naturally expected. The excess sediment accumulates in the Lagoon tidal channels and carries greater nutrient loads and cause algae blooms with likely adverse impacts on benthic macroinvertebrates.

Final Sedimentation WLA
Allocations for Sedimentation as listed in Table 10-2. (Based on SCAG 2008 land use and Jurisdictional maps provided by MS4 Co-permittees.)

Type of Allocation	Responsible Party	Impervious Area (total acres)	Pervious Area (acres)	Allocation Fraction	Sedimentation Allocation (tons/yr)
WLA	WLA Los Angeles Co. below	887	10.612	17.4%	1,012
WLA	Department below Malibou Lake	60	61	0.8%	44
LA	Unincorporated area draining to Las Virgenes Creek**	8	267	0.3%	16
LA	Protected land below Malibou Lake*	**253**	**16,820**	**13.7**	**796**
LA	Load Allocation at outlet of Malibou Lake	**3,669**	**37,550**	**67.9%**	**3,950**
Total		**4,878**	**65,310**	**100.0 %**	**5,817**

Final Sedimentation WLA Specific to the Department
See Table 10-2 above for the Department's below Malibou Lake.

Final Sedimentation Deadlines
U.S. EPA did not develop final deadlines for this TMDL.

Department's Sedimentation Contribution (relative contribution to pollutant loading)
See the Department's Nutrients Contribution below.

Final Nutrients WLA
There are no total final WLAs for Malibu Creek and Lagoon. Below are the concentration-based numeric targets as listed in Table 10-4 of this TMDL.

Season	Total Nitrogen (mg/l)	Total Phosphorus (mg/l)
Summer (Apr 15 – Nov 15)	0.65	0.1
Winter (Nov 16 - Apr 14)	1.0	0.2

Final Nutrients WLA Specific to the Department
Final WLAs are established Total Nitrogen (TN) and Total Phosphorus (TP) for summer and winter as listed in Table 10-4 of this TMDL.

Summer TN, mg/l (Apr 15 – Nov 15)	Winter TN, mg/l (Nov 16 – Apr 14)	Summer TP, mg/l (Apr 15 – Nov 15)	Winter TP, mg/l (Nov 16 – Apr 14)
1.0	4.0	0.1	0.2

Final Nutrients Deadlines
EPA did not develop final deadlines for this TMDL.

Department's Nutrients Contribution (relative contribution to pollutant loading)
The Department's total area within the watershed is 206 acres, of a total of 65,310 acres or 0.317% of the total watershed.

The Department's contribution to the nutrient loads is not specified in the TMDL, but it can be assumed that the contribution is nearly the same as the allocation fraction for sediment in Table 10-2, at 0.8%. Multiplying the monthly watershed loads for winter and summer from Tables 5-3 and 5-4, respectively, by the Department's allocation fraction provides an approximation of the Department's total contribution to the monthly load.

Source	Summer TN Load kg/mo (Apr 15 – Nov 15)	Winter TN Load kg/mo (Nov 16 – Apr 14)	Summer TP Load kg/mo (Apr 15 – Nov 15)	Winter TP Load kg/mo (Nov 16 – Apr 14)
Total Load	789	20,442	140	2,842
Department Runoff (estimate based on area)	6.31	164	1.12	22.7

Ventura River and its Tributaries Algae, Eutrophic Conditions, and Nutrients TMDL, June 28, 2013

This TMDL establishes dry-weather and wet-weather WLAs for nitrogen and a dry-weather TMDL for phosphorus.

Final Nutrients WLA
The final dry-weather Total Nitrogen and Total Phosphorus loads are not explicitly stated in the TMDL.

Final Nutrients WLA Specific to the Department
The final total dry-weather total nitrogen WLA for the Department is 1.1 pound/day. The final dry-weather total phosphorus WLA for the Department is 0.11 pound/day.

Wet-weather allocations for "nitrogen", defined as the sum of Nitrate-N and Nitrite-N, are the same for all storm water dischargers and are site-specific to the reaches of the watershed:

Reach	Nitrate-N + Nitrite-N (mg/L)
Estuary	7.4
Reach 1	7.4
Reach 2	10
Cañada Larga	10
Reach 3	5
San Antonio Creek	5
Reach 4	5
Reach 5	5

Final Nutrients Deadlines
Wet-weather WLAs for the Department apply on the effective date of the TMDL. Dry-weather WLAs for the Department must be achieved by June 28, 2019.

Department's Nutrients Contribution
The Department's proportional contributions to the final WLAs are estimated to be approximately 1 percent each.

CENTRAL VALLEY REGION NUTRIENTS AND MERCURY TMDLS

Clear Lake Nutrients TMDL, September 21, 2007

Final Nutrients WLA
The final WLA for phosphorus for Clear Lake is 2100 kg per year.

Final Nutrients WLA Specific to the Department
The Department is given a final WLA for phosphorus of 100 kg per year.

Final Nutrients Deadlines
The Department shall achieve its WLAs by September 21, 2017.

Department's Nutrients Contribution (relative contribution to pollutant loading**)**
The Department contributes 4.8 percent to the final phosphorus WLA.

Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch Mercury TMDL, February 7, 2011

Final Methylmercury WLA

Implementation Summary Cache Creek and Bear Creek Methylmercury Allocations

Source	**Acceptable Annual Load** (g/yr)
Cache Creek (Clear Lake to North Fork Confluence	11
North Fork Cache Creek	12.4
Harley Gulch	0.04
Davis Creek	0.7
Bear Creek @ Highway 20	3
In-channel production and un-gauged tributaries	32
Bear Creek @ Bear Valley Road	0.9
Sulphur Creek	0.8
In-channel production and un-gauged tributaries	1

Final Mercury WLA Specific to the Department

No specific WLA assigned to the Department.

Final Mercury Deadlines

None specified.

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pollutant loading is not known.

Sacramento-San Joaquin River Delta Estuary Methylmercury TMDL, October 20, 2011

Final Methylmercury WLA

Delta Methylmercury Allocations

Permittee	NPDES Permit	**Waste Load Allocation** (g/yr)
Central Delta		
County of Contra Costa	CAS083313	0.75
City of Lodi	CAS000004	0.053
Port of Stockton MS4	CAS084077	0.39
County of San Joaquin	CAS000004	0.57
Stockton Area MS4	CAS083470	3.6
SUBTOTAL		*5.4*
Marsh Creek		
County of Contra Costa	CAS083313	0.30
SUBTOTAL		*0.30*
Mokelumne River		

Permittee	NPDES Permit	Waste Load Allocation (g/yr)
County of San Joaquin	CAS000004	0.016
SUBTOTAL		*0.016*
Sacramento River		
City of Rio Vista	CAS000004	0.0078
Sacramento Area MS4	CAS082597	1.0
County of San Joaquin	CAS000004	0.11
County of Solano	CAS000004	0.041
City of West Sacramento	CAS000004	0.36
County of Yolo	CAS000004	0.041
SUBTOTAL		*1.6*
San Joaquin River		
City of Lathrop	CAS000004	0.097
Port of Stockton MS4	CAS084077	0.0036
County of San Joaquin	CAS000004	0.79
Stockton Area MS4	CAS083470	0.18
City of Tracy	CAS000004	0.65
SUBTOTAL		*1.7*
West Delta		
County of Contra Costa	CAS083313	3.2
SUBTOTAL		*3.2*
Yolo Bypass		
County of Solano	CAS00004	0.021
City of West Sacramento	CAS00004	0.28
County of Yolo	CAS00004	0.083
SUBTOTAL		*0.38*
TOTAL		***12.596***

Final Methylmercury WLA Specific to the Department
There are no WLAs specific to the Department. However, allocations for each of the defined municipal entities in the above table include all current and future permitted dischargers within the geographic boundaries of these municipalities and unincorporated areas, including the Department.

Final Methylmercury Deadlines
The final WLAs for dischargers in the Delta and Yolo bypass shall be met as soon as possible, but no later than January 1st, 2030.

Department's Methylmercury Contribution (relative contribution to pollutant loading)
The Department's contribution to the methylmercury load is not known.

LAHONTAN REGION SEDIMENT/NUTRIENTS TMDLS

Lake Tahoe Sediment and Nutrients TMDL, August 16, 2011

Attachment IV incorporates TMDL-specific permit requirements for the sediments and nutrients TMDL for Lake Tahoe. The TMDL requires the Department to meet pollutant load reduction requirements and to develop and implement a comprehensive Pollutant Load Reduction Plan (PLRP).

Final Sediment WLA
The pollutant load reduction requires the Department to reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by ten percent, seven percent and eight percent respectively by September 30, 2016. The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reductions.

Final Sediment Deadlines
This plan is to be submitted no later than July 15, 2013. By July 15, 2014, the Department shall submit a Progress Report documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011. The Department shall also prepare and submit a Storm Water Monitoring Plan for review and approval by the Regional Board by July 15, 2013 and implement the approved plan.

Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Sediment Contribution (relative contribution to pollutant loading)
Final Nutrient WLA

Constituent	Basin-Wide Load (MT/yr)	Urban Upland Load	Final Urban Upland Reduction %	Final WLA, (MT/yr)
Nitrogen	345	63	50	31.5
Phosphorus	38	18	46	8.28

Final Nutrient WLA Specific to the Department
The Department's specific contributions to the loads are not defined. The Department is part of a group of Urban Upland (storm water) dischargers. The Department was required to submit a 2004 baseline load estimate specific to its jurisdiction by August 16, 2013.

Final Nutrient Deadlines
Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Nutrient Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pollutant loading is not known.

Truckee River Sediment TMDL, September 16, 2009

TMDL attainment will be evaluated through the TMDL targets: these targets express desired conditions in the watershed, rather than sediment mass reductions. This was deemed to be appropriate because sediment mass reductions are not a practical indication of beneficial use protection due to the inherent natural variability of sediment delivery and the uncertainties associated with accurately measuring sediment loads and reductions.

Final Sediment WLA
For the most part, point source dischargers' compliance with their respective NPDES permits are deemed to be evidence of compliance with their respective responsibilities to help achieve desired watershed conditions, as described above.

Final Sediment WLA Specific to the Department
The Department's compliance with its storm water permit is deemed to be evidence of compliance with its responsibility to help achieve desired watershed conditions, as described above.

Final Sediment TMDL Deadlines
The Truckee River instream sediment targets are currently being met and will be further evaluated for TMDL attainment.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to sediment pollutant loading is not known.

SANTA ANA REGION NUTRIENTS AND MERCURY TMDLS

Big Bear Lake Nutrients for Dry Hydrological Conditions TMDL, September 25, 2007

This TMDL contains waste load allocations for phosphorus loads under dry hydrological conditions, defined as an average tributary inflow to Big Bear Lake ranging from 0 to 3,049 acre-feet, average lake levels ranging from 6,671 to 6,735 feet and annual precipitation ranging from 0 to 23 inches.

Final Nutrients WLA
The total Waste Load Allocation is 475 pounds/year.

Final Nutrients WLA Specific to the Department
There is no WLA specific to the Department.

Final Nutrients Deadlines
The WLA must be achieved by December 31, 2015.

Department's Nutrients Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to nutrient pollutant loading is not known.

Lake Elsinore and Canyon Lake Nutrients TMDL, September 30, 2005

The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. If the Department doesn't fulfill its Lake Elsinore/Canyon Lake Task Force obligations or if the Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies then the Department will have to implement the requirements listed in Table IV.2. of Attachment IV.

Final Nutrients WLA

Waterbody	Final Total Phosphorus Waste Load Allocation (kg/year)	Final Total Nitrogen Waste Load Allocation (kg/year)
Canyon Lake	487	6,248
Lake Elsinore	3,845	7,791

Final Nutrients WLA Specific to the Department
There are no WLAs specific to the Department.

Final Nutrients Deadlines
Final allocation compliance is to be achieved by December 31, 2020.
Department's Nutrient Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the nutrient pollutant loading is not available.

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, U.S. EPA Established on June 14, 2002

Mercury Final WLA
A WLA for mercury to Rhine Channel is 0.225 kilograms/year.

Mercury Final WLA Specific to the Department
The final mass-based Mercury WLA for the Department is 0.0027 kilograms/year.

Mercury Final Deadlines
The Santa Ana Regional Water Quality Control Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed

Department's Mercury Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the mercury loading is approximately three percent. This WLA was developed by taking the available load and dividing it roughly in proportion to the land areas associated with the remaining source categories (including the Department).

SAN DIEGO REGION SEDIMENT AND NUTRIENTS TMDLS

Historical loading of sediment to some coastal wetlands within Region 9 has resulted in impacts to natural wetland functions. The excess deposition and movement of sediment within remaining coastal wetlands has greatly altered the natural conditions. Urbanized development of the watershed and the channel straightening has modified both the sediment supply and the ability of flows to transport sediments. Additionally, channelization of streams has cut off the banks and floodplains of natural rivers within these watersheds. Sediments carried in flows are not stored within the banks but are rather transported to the outlet of coastal estuaries where they are deposited. Recurring dredging operations in coastal areas also affect sediment transport and deposition patterns in these watersheds. Wetland and estuarine habitats tend to be fragmented by existing roads, infrastructure, and surrounding urbanized development.

In some Region 9 watersheds, natural processes of erosion have been accelerated due to anthropogenic watershed disturbances, resulting in impairment of additional principally biological resources, but also recreational uses, including: RARE, MIGR, SPWN, WILD, EST, MAR, BIOL, REC1, REC2, NAV.

Rainbow Creek Total Nitrogen and Total Phosphorus TMDL, March 22, 2006

Final Nutrient WLA
The final WLA for nitrogen is 82 kilograms/year. The final WLA for phosphorus is eight kilograms/year.

Final Nutrient WLA Specific to the Department
The final WLA for nitrogen for the Department is 49 kilograms/year. The final WLA for phosphorus for the Department is five kilograms/year.

Final Nutrient Deadlines
The Department shall achieve the final WLA by December 31, 2021.

Department's Nutrient Contribution (relative contribution to pollutant loading)
The Department's contribution to the nitrogen and phosphorus WLAs is three percent of the total.

C. Metals/Toxics/Pesticides TMDL Pollutant Category

General Description of Pollutant Category
Toxic pollutants, including but not limited to Pesticides, Polycyclic Aromatic Hydrocarbons (PAHs) and Polychlorinated Biphenyls (PCBs), cause several impairments to California's water quality.

Sources of Pollutant & How it Enters the Waterway
The main transport mechanism for these pollutants is through fine sediment. Once the contaminated fine sediments wash of the roadways and into storm drains or nearby receiving waters they re-suspend in the water column and become bioavailable.

Metals including copper, zinc, lead, cadmium, nickel and chromium are toxic to aquatic life and cause impairments to California's waterbodies. Toxic metals are present in water as both dissolved and total recoverable fractions. During times of high precipitation (storm events), the primary transport mechanism for metals, especially in the total recoverable fraction, is again the mobilization of fine sediment. Accumulated contaminated fine sediment washes off roadways and into storm drains or nearby receiving waters. Metals in the sediment become bioavailable while suspended in the water column. During times of low precipitation, flows that reach storm drains or discharge points are typically insufficient to mobilize fine sediment, but dissolved metal ions are still bioavailable and reach discharge points.

Mechanical components of automobiles, especially those that are subjected to frictional stresses are either known or supposed sources of these metals (i.e., copper from brake pads and zinc from synthetic rubber tires). Some toxic metals are also present in petroleum-based lubricants and in gasoline and diesel fuel (i.e. cadmium).

Watershed Contribution
The Department is identified in many TMDLs as a source of toxic pollutants because they own and operate the roadways which act as conveyance systems of fine sediments. However, in most cases the Department makes up a relatively minor load for toxic pollutants because the models used to develop TMDLs rely on the percentage of land use to determine WLAs.

The Department is named in the TMDLs below as a source of metals in storm water because it owns, operates and maintains roadways and facilities present in these watersheds. As with toxics, in most cases, the Department is assigned a relatively minor proportion of the entire storm water WLA for each metal because its roadways and facilities comprise a small proportion of the total watershed area.

Control Measures
The requirements in Part C of Attachment IV of this permit address both dissolved and sediment-bound sources of toxics and metals. Section C.1 addresses treatment of the fine sediment fraction of toxics and metals and requires that the Department implement structural controls/BMPs.

Dissolved fraction metal impairments require an inventory of outfalls/discharge points to waterbodies within each prioritized reach impaired by dissolved fraction metals and to propose and implement appropriate controls consistent with the report.

The Reach Prioritization and Implementation Requirements in Section I.A. and I.B. of Attachment IV place a priority on identifying and addressing the highest source generating areas. This strategy will control the largest sources of fine sediment for a minor pollutant source and allow for attainment of the applicable WLAs consistent with the Toxic Pollutants and Metals TMDLs identified in Table IV.2 of Attachment IV.

In Section III.C.1, the options for controlling sediment-bound toxics and metals are essentially the same. The types of BMPs expected to be implemented to address fine sediment discharges under C.1 are those expected to be implemented to address sediment discharges for the sediment TMDLs discussed above.

Section III.C.2 explains that Dissolved Fraction Metals levels in storm water are reduced when contaminated sediment is removed or mitigated, but additional structural and non-structural BMPs may still be necessary to achieve compliance. In some cases, this may require building or instituting BMPs in addition to those used for metals in fine sediments for the same discharge points. Structural BMPS might include Infiltration or detention basins/trenches, filtration using metal-absorbing media, etc.

Section III.C.3. Pesticides. The Department is to comply with the Vegetation Control provision that specifies practices for the safe handling and use of pesticides, including compliance with federal, state and local regulations, and label directions.

SAN FRANCISCO BAY REGION TOXIC TMDLS

San Francisco Bay PCBs TMDL, March 29, 2010

The TMDL identifies storm water runoff as a major source for PCB transport and includes the Department's roadways, non-roadway facilities, and rights-of-way.

Final PCBs WLA
The total WLA for all storm water runoff sources is two kilograms/year.

Final PCBs WLA Specific to the Department
All storm water runoff sources share a two kilograms/year WLA.

Final PCBs Deadlines
The WLA of two kilograms/year is broken up by county and is to be achieved within 20 years or March 29, 2030.

Department's PCBs Contribution (relative contribution to pollutant loading**)**
The TMDL also directs the storm water sources to implement this TMDL through the applicable NPDES permits.

***San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity,* May 16, 2007**

Final Pesticide Toxicity WLA
The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The WLA for each storm water entity is 1 TUC_a (TUC_a = 100/No Observed Adverse Effect Concentration) and one TUC_c (TUC_c = 100/No Observed Effect Concentration) in water and sediment.

Final Pesticide Toxicity WLA Specific to the Department
The Department's level of responsibility is not identified.

Final Pesticide Toxicity Deadlines
The TMDL specifies that all NPDES permits for runoff management agencies, including the Department, require implementation of best management practices and control measures that reduce pesticides in urban runoff to the maximum extent practicable. No final compliance date is specified, however, the Regional Water Board may require additional control measures if the Department fails to meet the TMDL targets.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pesticide toxicity pollutant loading is not known.

LOS ANGELES REGION METALS AND TOXICITY TMDLS

Ballona Creek Metals & Selenium TMDL, December 22, 2005 and reaffirmed on December 29, 2008

The TMDL identifies storm water as a significant contributor to loadings of copper, lead and zinc (and selenium) to Ballona Creek and Sepulveda Canyon Channel in both dry weather and wet weather.

Final Metals WLA
Storm water allocations are divided among the MS4 and general permits named in the TMDL based on an areal weighting approach.

Final Metals WLA Specific to the Department
The Department is assigned separate dry-weather and wet-weather Waste Load Allocations (WLAs). Dry-weather conditions apply to days when the maximum daily flow in Ballona Creek is less than 40 cubic feet per second (cfs), and wet-weather conditions apply to days when the maximum daily flow in Ballona Creek is equal to or greater than 40 cfs. Both dry-weather and wet-weather WLAs are mass-based, although alternate concentration-based dry-weather WLAs are allowed due to the expense of obtaining accurate flow measurements.

Dry-weather WLAs g/day, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
Ballona Creek	11.2	6.0	143.1
Sepulveda Channel	5.1	2.7	64.7

*Wet-weather WLAs, g/day, Total Recoverable Metal; V is daily flow volume in liters***:**

Waterbody	Copper	Lead	Zinc
All	$2.37 * V * 10^{-7}$	$7.78 * V * 10^{-7}$	$1.57 * V * 10^{-6}$

Alternate dry-weather WLAs, µg/L, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
All	24	13	304

Final Metals Deadlines
The Department is responsible for meeting its assigned mass-based WLAs, but has the option to work with the other MS4 permittees. Each municipality and permittee is required to meet the storm water waste load allocation at designated TMDL effectiveness monitoring points. The MS4 permittees including the Department may use a combination of structural and non-structural BMPs to achieve compliance with the storm water WLAs. Total compliance is to be achieved by January 11, 2021.

Department's Metals Contribution (relative contribution to pollutant loading)
The Department's relative contribution to metals pollutant loading is not known.

Ballona Creek Estuary Toxic Pollutants TMDL, **December 22, 2005**

Final OC-Compounds & PAHs WLA
The storm water WLAs are apportioned between the MS4 permittees, the Department, the general construction, and the general industrial storm water permits based on an areal weighting approach.

Final WLA Specific to the Department
The Department is assigned the following WLAs based on the 1.3 percent land area associated with the Department:

Metals Storm Water WLAs Apportioned between Permits

Cadmium (kg/yr)	Copper (kg/yr)	Lead (kg/yr)	Silver (kg/yr)	Zinc (kg/yr)
0.11	3.2	4.4	0.09	14

Organics Storm Water WLAs Apportioned between Permits

Total Chlordane (g/yr)	Total DDTs (g/yr)	Total PCBs (g/yr)	Total PAHs (g/yr)
0.05	0.15	2	400

Final WLA Deadlines
The implementation schedule for the MS4 and the Department permittees consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed with total compliance to be achieved within 15 years of the TMDL effective date or December 22, 2020.

Department's WLA Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the pollutant loading is unknown.

Calleguas Creek OC Pesticides, PCBs, and Siltation TMDL, March 14, 2006

Final OC Pesticides & PCBs WLA
In accordance with current U.S. EPA practice, a group concentration-based WLA has been developed for MS4s, including the Department's MS4. The grouped allocation will apply to all NPDES-regulated municipal storm water discharges in the Calleguas Creek Watershed. Storm water WLAs will be incorporated into the NPDES permit as receiving water limits measured at the downstream points of each subwatershed and are expected to be achieved through the implementation of BMPs as outlined in the implementation plan.

Interim WLAs as an In-stream Annual Average (ng/g)

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total Chlordane	25.0	17.0	48.0	3.3	3.3	3.4
4,4-DDD	69.0	66.0	400.0	290.0	14.0	5.3
4,4-DDE	300.0	470.0	1,600.0	950.0	170.0	20.0
4,4-DDT	39.0	110.0	690.0	670.0	25.0	2.0
Dieldrin	19.0	3.0	5.7	1.1	1.1	3.0

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total PCBs	180.0	3,800.0	7,600.0	25,700.0	25,700.0	3,800.0
Toxaphene	22,900.0	260.0	790.0	230.0	230.0	260.0

Final WLAs as an In-stream Annual Average

Pollutant	Mugu Lagoon (ng/g)	Calleguas Creek (ng/g)	Revolon Slough (ng/g)	Arroyo Las Posas (ng/g)	Arroyo Simi (ng/g)	Conejo Creek (ng/g)
Total Chlordane	3.3	3.3	0.9	3.3	3.3	3.3
4,4-DDD	2.0	2.0	2.0	2.0	2.0	2.0
4,4-DDE	2.2	1.4	1.4	1.4	1.4	1.4
4,4-DDT	0.3	0.3	0.3	0.3	0.3	0.3
Dieldrin	4.3	0.2	0.1	0.2	0.2	0.2
Total PCBs	180.0	120.0	130.0	120.0	120.0	120.0
Toxaphene	360.0	0.6	1.0	0.6	0.6	0.6

Final OC Pesticides & PCBs WLA Specific to the Department
See Tables above.

Final OC Pesticides & PCBs Deadlines
The above Final WLAs (ng/g) as an in-stream annual average are to be achieved by March 24, 2026, but the schedule and allocations can be altered based on the results of several special studies required in the TMDL implementation plan.

Department's OC Pesticides & PCBs Contribution (relative contribution to pollutant loading)

The Department's relative pesticide and PCB contribution is not known.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Final Metals WLAs
Urban storm water runoff was identified as a source for metals pollution in the TMDL. The Department shares group WLAs for nickel, copper and selenium with other Permitted Storm water Dischargers (PSDs). Concentration-based interim limits for nickel, copper and selenium are effective from the date of the TMDL for all PSDs. Final WLAs are mass-based.

There are final WLAs for both dry-weather and wet-weather conditions. The dry-weather WLAs apply to days when flows in the stream are less than the 86th percentile flow rate for each reach. The wet-weather WLAs apply to days when flows in the stream exceed the 86th percentile flow rate for each reach. Dry weather limits are based on chronic California Toxics Rule (CTR) criteria. Wet weather limits are based on acute CTR criteria.

Interim Concentration-based Wet and Dry Weather Limits

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L
Copper	23	19	204	23	19	204
Nickel	15	13	*	15	13	*
* The current loads do not exceed the TMDL under wet conditions: interim limits not required						

Final Mass-based Dry-weather WLAs, lbs/day, Total Recoverable Metal in Water Column

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Low	Average	Elevated	Low	Average	Elevated
Copper (lbs/day)	0.04 * WER – 0.02	0.12 * WER – 0.02	0.18 * WER – 0.03	0.03 * WER – 0.01	0.06 * WER – 0.03	0.13 * WER – 0.02
Nickel (lbs/day)	0.100	0.120	0.440	0.050	0.069	0.116

Final Mass-based Wet-weather WLAs, lbs/day, total recoverable metal in water column

Metal	Calleguas Creek	Revolon Slough
Copper (lbs/day)	(0.00054*Q^2*0.032*Q -0.17)*WER – 0.06	(0.0002*Q^2 +0.0005*Q)*WER
Nickel (lbs/day)	0.014*Q^2 + 0.82*Q	0.027*Q^2 + 0.47*Q

A WER is applied to final numeric targets for copper for the Mugu Lagoon, Calleguas Creek 2, and Revolon/Beardsley reaches; the WER defaults to a value of one (1) unless a site-specific study is approved. The mass-based WLAs apply to the Permitted Storm water Dischargers as a group, and the Department has no specific proportional WLA.

Final Metals WLA Specific to the Department

The WLAs above apply to all permitted storm water dischargers, including the Department. The Department has no specific final WLAs.

Final Metals Deadlines

All PSDs have required interim reductions of 25 percent and 50 percent by March 26, 2012 and March 26, 2017, respectively. The final WLAs must be achieved within 15 years after the effective date of the amendment (March 26, 2022). Implementation shall be achieved through BMPs. The Department was originally tasked with submitting an Urban Water Quality Control Plan by March 26, 2012. Implementation is meant to be achieved using BMPs. The Department was required to conduct a source control study and submit an

Urban Water Quality Management Program for copper, nickel, selenium and mercury by March 26, 2009.

Department's Metals Contribution (relative contribution to pollutant loading**)**
The Department's contribution to the metal loads is unknown.

Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs and Metals TMDL, June 14, 2011

The TMDL identifies the point sources of OC pesticides, PCBs, PAHs, and metals discharged to Colorado Lagoon are urban runoff and storm water discharges from the MS4 and the Department. The Colorado Lagoon watershed is divided into five sub-basins that discharge storm water and urban dry weather runoff to Colorado Lagoon. Each of the sub-basins is served by a major storm sewer trunk line and supporting appurtenances that collect and transport storm water and urban dry weather runoff to Colorado Lagoon.

Final WLAS for OC Pesticides, PCBs, and PAHs
The Department and the City of Long Beach shall each be responsible for achieving the following final mass-based WLAs assigned to the Line I Storm Drain as it conveys storm water from both the Department's facilities and the City of Long Beach:

Final Mass-based WLA for MS4 Discharges

Total Chlordane	**Dieldrin** (mg/yr)	**Total PAHs** (mg/yr)	**Total PCBs** (mg/yr)	**Total DDTs** (mg/yr)
3.65	0.15	29,321.50	165.49	11.52

In addition, concentration-based WLAs for sediment are assigned to MS4 permittees including the City of Long Beach, LACFCD, and the Department. Concentration-based WLAs for sediment are applied as average monthly limits. Compliance with the concentration-based WLAs for sediment shall be determined by pollutant concentrations in the sediment in the lagoon at points in the West Arm, North Arm, and Central Arm that represent the cumulative inputs from the MS4 drainage system to the lagoon. Concentration-based interim WLAs for sediment are set to allow time for removal of contaminated sediment through proposed implementation actions. Interim WLAs are based on the 95th percentile value of sediment data collected from 2000-2008. The following interim and final WLAs will be included in MS4 permits in accordance with NPDES guidance and requirements:

Concentration-based WLAs

Pollutants	Interim WLAs (µg/dry kg)	Final WLAs (µg/dry kg)
Total Chlordane	129.65	0.50
Dieldrin	26.20	0.02
Total PAHs	4,022	4,022
Total PCBs	89.90	22.7
Total DDTs	149.80	1.58

Final WLAs for Metals

The Department is jointly responsible with the City of Long Beach in attaining final mass-based WLAs for lead and zinc in sediment and storm water conveyed to Colorado Lagoon via the Line I Storm Drain. In addition, concentration-based interim limits are established for all storm water dischargers, including the Department.

Interim Concentration-based WLAs for Metals in Sediment

Metal	Average Monthly Sediment	
	Interim WLA (µg/kg)	**Final WLA** (µg/kg)
Lead	399,500	46,700
Zinc	565,000	150,000

Final Mass-based WLAs for Metals in Line I Storm Drain

Metal	mg/yr
Lead	340,455.99
Zinc	1,093,541.72
Proposed BMPs that may apply to the Line I Storm Drain include: Low-flow diversion, trash separation devices, vegetated bioswales, cleaning of existing culverts, or direct removal of accumulated sediment	

Final OC Pesticides, PCBs & PAHs WLA Specific to the Department

See tables above.

Final OC Pesticides, PCBs & PAHs Deadlines

The Department is subject to the prescribed point source interim WLAs which are effective as of July 28, 2011. Compliance with all final WLAs is required by July 28, 2018.

The Department's OC Pesticides, PCBs & PAHs Contribution (*relative contribution to pollutant loading****)***

The Department's relative contribution to the OC Pesticides, PCBs, and PAHs pollutant loading is not known.

Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants TMDL, March 23, 2012

The toxic pollutants included in this TMDL include Copper, lead, zinc, DDT, PAHs, and PCBs.

Final WLAs for OC Pesticides PCBs, and PAHs

Interim and final WLA are assigned to storm water discharges including those from the Department's MS4. Dominguez Channel freshwater allocations are set for wet weather only because exceedances have only been observed in wet weather. Mass-based allocations have been set where sufficient data was available to calculate mass-based allocations; otherwise, concentration-based allocations have been set. Interim and final WLAs shall be included in permits in accordance with state and federal regulations and guidance.

An interim freshwater toxicity allocation of two chronic toxicity units (TUc) applies to all point sources to Dominguez Channel during wet weather including the Department. A final freshwater toxicity allocation of one (1) TUc applies to all point sources to Dominguez Channel during wet weather including the Department.

Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006. The final mass-based allocations for PAHs expressed as an annual loading (kilograms/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters. The final mass-based allocations for Total DDT and Total PCBs, expressed annual loading (grams/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters.

OC Pesticides PCBs, and PAHs Interim and Final WLAs

Interim Concentration-Based Sediment Allocations			
	Total PAHs (mg/kg)	**Total DDTs** (mg/kg)	**Total PCBs** (mg/kg)
Dominguez Channel Estuary	31.60	1.727	1.490
Long Beach Inner Harbor	4.58	0.070	0.060
Los Angeles Inner Harbor	90.30	0.341	2.107
Long Beach Outer Harbor	4,022	0.075	0.248
Los Angeles Outer Harbor	4,022	0.097	0.310
Los Angeles River Estuary	4.36	0.254	0.683
San Pedro Bay	4,022	0.057	0.193
Cabrillo Marina	36.12	0.186	0.199
Consolidated Slop	386.00	1.724	1.920
Cabrillo Beach Area	4,022	0.145	0.033
Fish Harbor	2102.7	40.5	36.6

Final Mass-Based Sediment Allocations for the Department			
	Total PAHs (kg/yr)	**Total DDTs** (g/yr)	**Total PCBs** (g/yr)
Dominguez Channel Estuary	0.0023	0.004	0.004
Consolidated Slip	0.00009	0.00014	0.00006
Inner Harbor	0.0017	0.0010	0.0011
Outer Harbor	0.00021	0.000010	0.00004
Fish Harbor	0.000021	0.0000010	0.000006
Cabrillo Marina	0.0000016	0.00000028	0.00000024
San Pedro Bay	0.077	0.002	0.019
LA River Estuary	0.333	0.014	0.047

Final Concentration-based Sediment WLAs for Other Bioaccumulative Compounds (dry sediment)		
Total Chlordane (µg/kg)	**Dieldrin** (µg/kg)	**Toxaphene** (µg/kg)
0.5	0.02	0.10

Final OC Pesticides PCBs, and PAHs WLAs for Metals

Interim and final WLAs for copper, lead and zinc are assigned to storm water discharges including those from the Department's MS4. Freshwater allocations for Dominguez Channel are set for wet weather only because exceedances have only been observed in wet weather. Wet weather conditions in Dominguez Channel and all of its upstream tributaries apply to any day when the maximum daily flow is greater than 62.7 cfs at any point in Dominguez Channel. Mass-based allocations have been set where sufficient data were available to calculate mass-based allocations; otherwise, WLAs are concentration-based.

Interim allocations for Dominguez Channel and Torrance Lateral are assigned to storm water dischargers, including the Department, and are based on the 95th percentile of total metals data collected from January 2006 to January 2010 using a log-normal distribution. Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006.

Interim Concentration-Based WLAs for Dominguez Channel and Torrance Lateral

Total Copper (µg/L)	**Total Lead** (µg/L)	**Total Zinc** (µg/L)
207.51	122.88	898.87

Interim Concentration-Based Sediment Allocations (mg/kg sediment)

Waterbody	Copper (mg/kg)	Lead (mg/kg)	Zinc (mg/kg)
Dominguez Channel Estuary	220.0	510.0	789.0
Long Beach Inner Harbor	142.3	50.4	240.6
Los Angeles Inner Harbor	154.1	145.5	362.0
Long Beach Outer Harbor	67.3	46.7	150
Los Angeles Outer Harbor	104.1	46.7	150
Los Angeles River Estuary	53.0	46.7	183.5
San Pedro Bay	76.9	66.6	263.1
Cabrillo Marina	367.6	72.6	281.8
Consolidated Slip	1470.0	1100.0	1705.0
Cabrillo Beach Area	129.7	46.7	163.1
Fish Harbor	558.6	116.5	430.5

Wet-weather freshwater metals allocations are assigned to Dominguez Channel and all of its upstream reaches and tributaries above Vermont Avenue. Mass-based (grams/day) WLAs are divided between the Department and other MS4 permittees by subtracting the other storm water or NPDES WLAs, air deposition and margin of safety from the total loading capacity. Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates for Dominguez Channel (62.7 cfs).

The Department's Final mass-based water WLAs for Dominguez Channel

Total Copper	Total Lead	Total Zinc
32.3 *(g/day)*	142.6 *(g/day)*	232.6 *(g/day)*

For the Torrance Lateral subwatershed, concentration-based freshwater WLAs for both water and sediment are assigned to all dischargers, including the Department. Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates.

The Department's Final concentration-based WLAs for Torrance Lateral

Media (units)	Total Copper	Total Lead	Total Zinc
Water (µg/L, unfiltered)	9.7	42.7	69.7
Sediment (mg/kg, dry)	31.6	35.8	121

The final mass-based allocations for metals are expressed as an annual loading (kilograms/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters. The Interim and Final WLAs are:

Reach	Total Copper (kg/yr)	Total Lead (kg/yr)	Total Zinc (kg/yr)
Dominguez Channel Estuary	0.384	0.93	4.7
Consolidated Slip	0.043	0.058	0.5

Reach	Total Copper (kg/yr)	Total Lead (kg/yr)	Total Zinc (kg/yr)
Inner Harbor	0.032	0.641	2.18
Outer Harbor	0.0018	0.052	0.162
Fish Harbor	0.0000005	0.00175	0.0053
Cabrillo Marina	0.00019	0.0028	0.007
San Pedro Bay	0.88	2.39	9.29
LA River Estuary	5.1	9.5	34.8

In addition to the above, Fish Harbor is impaired for mercury in sediments, Consolidated Slip is impaired for mercury, cadmium and chromium in sediments and Dominguez Channel Estuary is impaired for cadmium in sediments. These waterbodies are assigned no interim WLAs but are assigned final concentration-based WLAs. The Department is NOT named as a responsible party for WLAs to Consolidated Slip.

Final concentration-based sediment WLAs for other metals, dry sediment

Reach	Cadmium mg/kg	Chromium mg/kg	Mercury mg/kg
Dominguez Channel Estuary	1.2	-	-
Fish Harbor	-	-	0.15
Note: The Department is NOT specifically named as a responsible party for implementation actions to Dominguez Channel proper in the 1st Phase of implementation to reduce the amount of sediment transport from point sources that directly or indirectly discharge to the Dominquez Channel and the Harbor waters, even though it has specific WLAs.			

Final Toxic Pollutant WLA Specific to the Department
See tables above.

Final Toxic Pollutant Deadlines
The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Toxic Pollutant Contribution (relative contribution to pollutant *loading)*
The Department's relative contribution to the toxic pollutant loading is not known.

Los Angeles Area Lakes for Organochlorine Pesticides and PCBs

To assess compliance with the organochlorine (OC) compounds TMDLs, monitoring should include monitoring of fish tissue at least every three years as well as once yearly sediment and water column sampling. For the OC pesticides and PCBs TMDLs a demonstration that fish tissue targets have been met in any given year must at minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350mm in length. At a minimum, compliance monitoring should measure the following in-lake water quality parameters: total suspended sediments, total PCBs, total chlordane, dieldrin, and total DDTs; as well as the following in-lake sediment parameters: total organic carbon, total PCBs, total chlordane, dieldrin, and total DDTs. WLAs are assigned to storm water inputs.

These sources should be measured near the point where they enter the lakes once a year during a wet weather event. Sampling should be designed to collect sufficient volumes of suspended solids to allow for the analysis of at minimum: total organic carbon, total suspended solids, total PCBs, total chlordane, dieldrin, and total DDTs. Measurements of the temperature, dissolved oxygen, pH and electrical conductivity should also be taken.

U.S. EPA established TMDLs do not include implementation plans so all WLAs are considered in effect as of the approval date.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, and Trash TMDLs, U.S. EPA Established on March 26, 2012

The entire watershed of Echo Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department's areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, and Dieldrin, and each has specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final WLAs

PCBs WLA

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (µg/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.77	0.17
Southern	Department	State Highway Storm water	1.77	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	2.10	0.59
Southern	Department	State Highway Storm water	2.10	0.59

If Fish Tissue Targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.24	0.59
Southern	Department	State Highway Storm water	3.24	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.80	0.14
Southern	Department	State Highway Storm water	0.80	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department
See tables above.

Final OC Compounds Deadlines
U.S. EPA did not establish deadlines.

Department's OC Compounds Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the OC Pesticide pollutant loading is unknown.

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash

Final OC Compounds WLA
The entire watershed of Peck Road Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each has specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final OC Compounds WLA Specific to the Department

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.29	0.17
Western	Department	State Highway Storm water	1.29	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	59.8	0.17
Western	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.73	0.59
Western	Department	State Highway Storm water	1.73	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	3.24	0.59
Western	Department	State Highway Storm water	3.24	0.59

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	5.28	0.59
Western	Department	State Highway Storm water	5.28	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	0.43	0.14
Western	Department	State Highway Storm water	0.43	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.90	0.14
Western	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department
See tables above.

Final OC Compounds Deadlines
U.S. EPA did not establish deadlines.

Department's OC Compounds Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, U.S. EPA Established on March 26, 2012

Final OC Compounds WLA

In the Puddingstone Reservoir watershed, WLAs are required for all permittees in the northern subwatershed and the Department's areas in the southern subwatershed. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each has specific WLAs for the Department which are detailed below.

Final OC Compounds WLA Specific to the Department

The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Total PCBs TMDL

Subwatershed	**Responsible Jurisdiction**	**Input**	**Suspended Sediment WLAs** (ug/kg dry weight)	**Water Column WLAs** (ng/L)
Northern	Department	State Highway Storm water	0.59	0.17
Southern	Department	State Highway Storm water	0.59	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	**Responsible Jurisdiction**	**Input**	**Suspended Sediment WLAs** (ug/kg dry weight)	**Water Column WLAs** (ng/L)
Northern	Department	State Highway Storm water	0.75	0.57
Southern	Department	State Highway Storm water	0.75	0.57

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.24	0.57
Southern	Department	State Highway Storm water	3.24	0.57

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.94	0.59
Southern	Department	State Highway Storm water	3.94	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	5.28	0.59
Southern	Department	State Highway Storm water	5.28	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.22	0.14
Southern	Department	State Highway Storm water	0.22	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department
See tables above.

Final OC Compounds Deadlines
U.S. EPA did not establish deadlines.

Department's OC Compounds *Contribution* *(relative contribution to pollutant loading)*

The Department's relative contribution to pollutant loading is not known.

Los Angeles River Watershed Metals TMDL, September 6, 2007

Final Metals WLA
This TMDL includes wet-weather and dry-weather WLAs for copper, lead, and zinc. Wet-weather conditions are when the maximum daily flow of the Los Angeles River is greater than or equal to 500 cfs. Dry-weather conditions are where maximum daily flow is less than 500 cfs; critical flows are also listed for each of the reaches in this TMDL.

Final Metals WLA Specific to the Department
For dry-weather conditions, the Department is assigned grouped WLAs with other MS4 permittees.

WERs are explicitly included in these WLAs, but default to a value of 1 (unit less) unless site-specific values are approved by the Regional Water Board. Concentration-based limits are also allowed for dry weather due to the expense of obtaining accurate flow measurements; in this case, the concentration-based limits are equal to dry-weather reach-specific dry-weather numeric targets.

Final Mass-based Dry-weather WLAs for Storm water and MS4s, Total Recoverable Metals

Waterbody	Critical Flow (CFS)	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
LAR 6	7.20	0.53 x WER	0.33 x WER	-
LAR 5	0.75	0.05 x WER	0.03 x WER	-
LAR 4	5.13	0.32 x WER	0.12 x WER	-

Waterbody	Critical Flow (CFS)	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
LAR 3	4.84	0.06 x WER	0.03 x WER	-
LAR 2	3.86	0.13 x WER	0.07 x WER	-
LAR 1	2.58	0.14 x WER	0.07 x WER	-
Bell Creek	0.79	0.06 x WER	0.04 x WER	-
Tujunga Wash	0.03	0.001x WER	0.0002xWER	-
Burbank Channel	3.3	0.15 x WER	0.07 x WER	-
Verdugo Wash	3.3	0.18 x WER	0.10 x WER	-
Arroyo Seco	0.25	0.01 x WER	0.01 x WER	-
Rio Hondo Reach 1	0.50	0.01 x WER	0.006 x WER	0.16 x WER
Compton Creek	0.90	0.04 x WER	0.02 x WER	-
Note: All WERs are equal to 1 (unit less)				

Final Concentration-based reach-specific numeric targets, total recoverable metals

Waterbody	Copper (µg/L)	Lead (µg/L)	Zinc (µg/L)
LA River Reach 6	WER[1] * 30	WER[1] * 19	-
LA River Reach 5	WER[1] * 30	WER[1] * 19	-
LA River Reach 4	WER[2] * 26	WER[1] * 10	-
LA River Reach 3 above LA-Glendale WRP	WER[2] * 23	WER[1] * 12	-
LA River Reach 3 below LA-Glendale WRP	WER[2] * 26	WER[1] * 12	-
LA River Reach 2	WER[2] * 22	WER[1] * 11	-
LA River Reach 1	WER[2] * 23	WER[1] * 12	-
Bell Creek	WER[1] * 30	WER[1] * 19	-
Burbank Western Channel (above WRP)	WER[2] * 26	WER[1] * 14	-
Burbank Western Channel (below WRP)	WER[2] * 19	WER[1] * 9.1	-
Verdugo Wash	WER[2] * 23	WER[1] * 12	-
Compton Creek	WER[1] * 19	WER[1] * 8.9	-
Arroyo Seco	WER[2] * 22	WER[1] * 11	-
Rio Hondo Reach 1	WER[1] * 13	WER[1] * 5.0	WER[1] * 131
Monrovia Canyon	-	WER[1] * 8.2	-
Note: [1] WER is equal to 1 (unit less) [2] WER for this constituent in this reach is 3.96			

Wet-weather allocations are apportioned among storm water permit holders based on percent area of the watershed served by storm drains.

Final Mass-based wet-weather WLAs, Total Recoverable Metals

Metal	**Waste Load Allocation** (kg/day) **Total Recoverable**
Cadmium	WER * 5.3 * 10^{-11} * daily volume (L) – 0.03
Copper	WER * 2.9 *10^{-10} * daily volume (L) – 0.2
Lead	WER * 1.06 * 10^{-09} * daily volume (L) – 0.07
Zinc	WER * 2.7 * 10^{-09} * daily volume (L) – 1.6

Final Metals Deadlines
By January 11, 2024, the jurisdictional group shall demonstrate that 100 percent of the group's total drainage area served by the storm drain system is effectively meeting the dry-weather WLAs and 50 percent of the group's total drainage area served by the storm drain system is effectively meeting the wet-weather WLAs. By January 11, 2028, the jurisdictional group shall demonstrate that 100 percent of the group's total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs. MS4s and the Department may meet the TMDL using a phased implementation approach using a combination of structural and non-structural BMPs.

Department's Metals Contribution (relative contribution to pollutant loading)
Unknown

Los Cerritos Channel Metals TMDL, March 17, 2010

Final Metals WLA
This TMDL assigns the Department wet-weather WLAs for copper, lead and zinc and a dry-weather WLA for copper only. Wet weather is defined as where the maximum daily flow of Los Cerritos Channel is greater than 23 cfs, and dry weather is where the maximum daily flow of the Channel is less than 23 cfs. For dry-weather copper targets, a site-specific translator was used, defined as the median value of the ratio of direct measurements to CTR criteria. Only the Department and other MS4s have a mass-based WLA for copper for dry weather, and this is divided among permittees based on estimates of respective percentage of total watershed area.

Final mass-based wet-weather WLAs are divided among the Department, other MS4 permittees, General Construction permittees and General Industrial permittees based on an estimate of the percentage of land area covered under each permit. The Department's estimated percent area of the watershed is 0.8 percent.

Final Metals WLA Specific to the Department

Copper Dry-weather WLA, Total Recoverable Metal	
Copper	1.0 g/day

Metals Wet-weather WLAs, Total Recoverable Metal (V is daily flow volume in liters)		
Copper g/day	**Lead** g/day	**Zinc** g/day
$0.070 * V * 10^{-6}$	$0.397 * V * 10^{-6}$	$0.680 * V * 10^{-6}$

Final Metals Deadlines
U.S. EPA did not include implementation measures for the TMDL, and as such implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures for this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department's Metals Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the metals pollutant loading is not known.

Machado Lake Pesticides and PCBs TMDL, March 20, 2012

The point sources of pesticides and PCBs into Machado Lake are storm water and urban runoff discharges including those from the Department's MS4. Storm water and urban runoff dischargers to Machado Lake occur through the following sub-drainage systems: Wilmington Drain, Project 77 and Project 510.

Final Pesticides and PCBs WLA
The following WLAs apply to all point sources:

Pollutants	WLAs (ug/kg dry weight)
Total PCBs	59.8
DDT (all congeners)	4.16
DDE (all congeners)	3.16
DDD (all congeners)	4.88
Total DDT	5.28
Total Chlordane	3.24
Dieldrin	1.9

Final Pesticides and PCBs WLA Specific to the Department
See table above.

Final Pesticides and PCBs Deadlines
The TMDL WLAs are applied with a three-year averaging period and shall be incorporated into MS4 permits, including the Department's MS4 permit, and general construction and industrial storm water NPDES permits and any other non-storm water NPDES permits.

Storm water dischargers may coordinate compliance with the TMDL. Permitted storm water dischargers can implement a variety of implementation strategies to meet the required WLAs, such as non-structural and structural BMPs, and/or diversion and treatment to reduce sediment transport from the watershed to the lake. Compliance with the TMDL may be based on a coordinated Monitoring and Reporting Program. The Department is subject to the prescribed point source WLAs with a final compliance date of September 30, 2019.

Department's Pesticides and PCBs Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Marina Del Rey Harbor Toxics Pollutants TMDL, March 26, 2006

Final Toxic Pollutant WLAs
The Department is assigned mass-based WLAs for copper, lead and zinc along with other storm water permittees in the watershed. The Copper, Lead, and Zinc WLAs are apportioned between the permittees based on an estimate of the percentage of land area covered under each permit.

Total Mass-based Storm Water Metal WLAs:

Copper (kg/yr)	**Lead** (kg/yr)	**Zinc** (kg/year)
2.06	2.83	9.11

Total Mass-based Storm Water Organics WLAs:

Total Chlordane (g/yr)	**Total PCBs** (g/yr)
0.03	1.38

Final Toxic Pollutants WLAs Specific to the Department
Mass-based Metals WLAs for Caltrans

Copper (kg/yr)	**Lead** (kg/yr)	**Zinc** (kg/year)
0.022	0.03	0.096

Mass-based Organics WLAs for the Department:

Total Chlordane (g/yr)	**Total PCBs** (g/yr)
0.0003	0.015

Final Toxic Pollutant Deadlines
The implementation schedule for the MS4 permittees and the Department consists of a phased approach. A combination of non-structural and structural BMPs may be used to achieve compliance with the WLAs, with compliance to be achieved in prescribed percentages of the watershed. Total compliance is to be achieved within 10 years or March 22, 2016. However, the Regional Board may extend the implementation period up to 15 years or March 22, 2021, if an integrated water resources approach is employed.

Department Toxic Pollutant Contribution (relative contribution to pollutant loading)
The Department is assigned approximately one percent of the WLA for each pollutant, based on an estimate of area within the watershed.

San Gabriel River Metals & Selenium TMDL, U.S. EPA Established on March 26, 2007

Final Metals WLA
The Department is assigned WLAs for dry-weather and wet-weather for copper, lead and zinc (as well as selenium). For San Gabriel River Reach 2, the critical flow for wet weather is 260 cfs; for Coyote Creek, the critical flow is 156 cfs. The combined storm water WLA is allocated to individual permits based on percent area of the developed portion of the watershed.

For dry-weather copper, all MS4 storm water permittees, including the Department, are assigned concentration-based WLAs specific to San Gabriel River Reach 1, Coyote Creek, and the San Gabriel River Estuary.

Dry-weather Concentration-Based Copper WLAs for Storm water Permittees

Waterbody	Concentration-based WLA (µg/L)
Estuary	3.7
San Gabriel Reach 1	18
Coyote Creek	20

The TMDL establishes wet-weather WLAs to San Gabriel River Reach 2 for lead, and the Department is part of a grouped mass-based WLA. For Coyote Creek, mass-based WLAs are applied to copper, lead, and zinc. These WLAs are further divided among municipal storm water, industrial storm water, and construction storm water permits that are expressed as an area-based proportion of the total WLA. The Department and other MS4s share WLAs because there are not enough data on the relative reach-specific extent of these permittees' areas. The mass-based WLAs for the grouped Department's and MS4s are defined as the

daily storm volume times the numeric target of the metal for the waterbody times the estimated percentage of watershed covered by these permits.

WLAs for San Gabriel River Reach 2, Coyote Creek and to all of their respective Tributaries

Reach	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
San Gabriel Reach 2	--	Daily storm vol * 166 µg/L * 49%	--
Coyote Creek	Daily storm vol * 27 µg/L * 91.5%	Daily storm vol * 106 µg/L * 91.5%	Daily storm vol * 158 µg/L * 91.5%

Final Metals WLA Specific to the Department
No specific WLAs.

Final Metals Deadlines
U.S. EPA did not include implementation measures for the TMDL, and implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures or this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department's Metals Contribution (relative contribution to pollutant loading)
The Department's contribution to the metals loads is not known.

Santa Monica Bay PCBs and DDTs TMDLs, U.S. EPA Established on March 26, 2012

Final PCBs and DDTs WLA
The grouped WLAs are apportioned to the Los Angeles County MS4 permit, the Department's MS4 permit, and enrollees under the general construction and industrial storm water permits. Mass-based WLAs are to be partitioned among the four groups based on the percent area of each major group in the watersheds draining to Santa Monica Bay. Permittees covered under the general construction and storm water permittees are not expected to perform individual sampling; instead, monitoring should be conducted on a coordinated, watershed-wide basis consistent with the WLAs in the TMDL. The establishment of watershed efforts to identify and address sources of DDTs and PCBs within the watersheds and reporting of the total storm water loadings of DDT and PCB to Santa Monica Bay is encouraged.

The analysis of DDT and PCBs on suspended particle loadings from the mass emission stations will provide more robust measures of mass loadings. If additional data indicate that existing storm water loadings differ from the storm water WLAs defined in the TMDL, the Los Angeles Regional Water Board should consider re-opening the TMDL to better reflect actual loadings.

BMPs and pollutant removal are the most suitable courses of action to reduce DDT and PCBs in the Santa Monica Bay Watershed. Attention should be focused on those watersheds with the highest potential loadings to Santa Monica Bay, such as those that are more heavily urbanized. BMPs should also be targeted to reduce potential PCB loads from industrial and construction runoff as studies have shown that these may be a major source of PCBs. U.S. EPA also recommends implementation of a PCB Source Identification and Control program within storm water permits to evaluate and identify controllable sources of PCBs.

Final PCBs and DDT WLAs Specific to the Department

Final PCBs and DDTs WLAs

Total PCBs (g/yr)	**Total DDTs** (g/yr)
3.9	0.75

Final PCBs and DDTs Deadlines

U.S. EPA recommends that storm water WLAs be evaluated based on a three year averaging period. This will provide more robust assessment for compliance and should smooth out variability due to wet years. This is consistent with timeframes provided for the Los Angeles Harbor/Long Beach TMDL.

Department's PCBs and DDTs Contribution (relative contribution to pollutant loading)

The footprint of the Department's MS4 is 2.7 percent of the area within the Santa Monica Bay watersheds.

SANTA ANA REGION METALS/TOXICS/PESTICIDES TMDLS

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, U.S. EPA Established on June 14, 2002

Final Chromium WLA

For Rhine Channel, the final Chromium WLA is 7.44 kg/yr in sediment.

Final Chromium WLA Specific to the Department

The final mass-based Chromium WLA for the Department is 0.89 kilograms/year in sediment.

Final Chromium Deadlines

The Santa Ana Regional Water Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed.

Department's Chromium Contribution (relative contribution to pollutant loading**)**

The Department's relative contribution to the Chromium loading is approximately three percent of the total, based on area.

San Diego Creek and Newport Bay, including Rhine Channel Metals (Copper and Zinc) TMDL, U.S. EPA Established on June 14, 2002

Final Metals WLA

WLAs are established for cadmium, copper, lead and zinc in the San Diego Creek watershed, for cadmium, copper, lead and zinc in Newport Bay, and for cadmium, copper, lead, zinc and chromium (and mercury) in Rhine Channel. San Diego Creek is a fresh water stream, while Newport Bay and Rhine Channel are saltwater.

Final Metals WLA Specific to the Department

For San Diego Creek, the Department is assigned concentration-based WLAs for cadmium, copper, lead, and zinc. There are no wet-weather or dry-weather WLAs, but there are four sets of WLAs for each metal for four different flow tiers. All flow tiers have an acute and chronic WLA, except for the highest flow tier, which only has an acute WLA.

Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers, µg/L

Metal	< 20 cfs); H = 400 mg/L		21 – 181 cfs		182 - 815 cfs		> 815 cfs
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Cu	50	29.3	40	24.3	30.2	18.7	25.5
Pb	281	10.9	224	8.8	162	6.3	134
Zn	379	382	316	318	243	244	208
* Applies to Upper Newport Bay Only							

For Newport Bay, mass-based WLAs for cadmium, copper, lead and zinc were assigned to the Department. These WLAs were developed on estimates made using Best Professional Judgment because insufficient data were available to accurately estimate relative contributions to existing loads. The Department's share of the estimated loads is based on the relative proportion of watershed land area among the Department and adjacent permit-holders.

Final mass-based WLAs in Newport Bay, Dissolved Metals

Metal	Cu	Pb	Zn
Total	423 lbs/yr	2,171 lbs/yr	22,866 lbs/yr

Additional concentration-based limits apply only to sources which discharge directly to the Bay, including storm water dischargers from storm drains direction to Bay segments.

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	Dissolved saltwater Acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cu	4.8	3.1
Pb	210	8.1
Zn	90	81
* Applies to Upper Newport Bay Only		

Final Metals Deadlines
U.S. EPA did not include implementation measures for the TMDL.

Department's Metals Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to the metals pollutant loading is not known.

San Diego Creek and Upper Newport Bay Cadmium TMDL, U.S. EPA Established on June 14, 2002

Final Cadmium WLA
Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers

Metal	< 20 cfs); H = 400 mg/L		21 – 181 cfs		182 - 815 cfs		> 815 cfs
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Cd (µg/L)	19.1	6.2	15.1	5.3	10.8	4.2	8.9
* Applies to Upper Newport Bay Only							

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	Dissolved saltwater Acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cd	42	9.3
* Applies to Upper Newport Bay Only		

Final Cadmium WLA Specific to the Department
See Table above.

Final Cadmium Deadlines
U.S. EPA did not include implementation measures for the TMDL.

Department's Cadmium Contribution
The Department's relative contribution to the cadmium pollutant loading is not known.

San Diego Creek Watershed, Organochlorine Compounds and PCBs TMDLs, November 12, 2013

Final OC Compounds WLA

The Department is listed as a primary source of pollutant loads to the San Diego Creek watershed. The mass-based WLAs were expressed as both daily and annual values. Pollutants include Total DDT, Chlordane, Total PCBs and Toxaphene.

WLAs Expressed as a Daily Value (grams/day)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
San Diego Creek	Department (11%)	0.11	0.07	0.03	0.002
WLAs Expressed as a Annual Value (grams/year)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
San Diego Creek	Department (11%)	39.2	25.2	12.4	0.6

Final OC Compounds WLA Specific to the Department

See Tables above.

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department's OC Compounds Contribution (relative contribution to pollutant loading)

Based upon the percentage of the total urban land use comprised by Urban-Roads, Department's facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall WLAs accordingly.

Upper & Lower Newport Bay Organochlorine Compounds TMDL, November 12, 2013

Final OC Compounds WLA

Upper Newport Bay and Lower Newport Bay OC Compounds WLAs

WLAs Expressed as a Daily Value (grams/day)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
Upper Newport Bay	Department (11%)	0.04	0.03	0.02	-
Lower Newport Bay	Department (11%)	0.02	0.01	0.07	-

WLAs Expressed as a Annual Value (grams/year)					
Watershed	**Input**	**Total DDT**	**Chlordane**	**Total PCBs**	**Toxaphene**
Upper Newport Bay	Department (11%)	15.8	9.2	9.1	-
Lower Newport Bay	Department (11%)	5.8	3.4	23.9	-

Final OC Compounds WLA Specific to the Department

See Tables above.

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department's OC Compounds Contribution (relative contribution to pollutant loading)
Based upon the percentage of the total urban land use comprised by Urban-Roads, Department's facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall WLAs accordingly.

Chollas Creek Dissolved Copper, Lead and Zinc TMDLs, December 18, 2008

Final Metals WLA
WLAs are concentration-based and set as the acute and chronic limits in the California Toxics Rule times 90 percent for all permitted dischargers, in units of µg/L, as dissolved metals. The final WLAs are based on statistical measures of hardness used in calculating permit requirements.

Final Concentration-based WLAs
Chollas Creek, Copper, Lead, and Zinc WLAs, Dissolved Metal

Metal	Numeric Target for Acute Conditions: Criteria Maximum Concentration, (µg/L)	Numeric Target for Chronic Conditions: Criteria Continuous Concentration, (µg/L)
Copper	(1) * (0.96) * {e^ [0.9422 * ln (hardness) - 1.700]} * 0.9	(1) * (0.96) * {e^[0.8545 * ln (hardness) - 1.702]} * 0.9
Lead	(1) * {1.46203 – [0.145712 * ln (hardness)]} * {e^ [1.273 * ln (hardness) - 1.460]} * 0.9	(1) * {1.46203 – [0.145712 * ln (hardness)]} * {e^[1.273 * ln (hardness) - 4.705]} * 0.9
Zinc	(1) * (0.978) * {e^ [0.8473 * ln (hardness) + 0.884]} * 0.9	(1) * (0.986) * {e^[0.8473 * ln (hardness) + 0.884]} * 0.9

Final Metals WLA Specific to the Department
There are no WLAs specific to the Department.

Final Metals Deadlines
The Department along with other responsible parties must meet 100 percent of Chollas Creek Metals TMDL WLA reductions by December 18, 2028.

Department's Contribution *(relative contribution to pollutant loading)*
The Department's contribution to the metal loads is not known.

D. Trash TMDL Pollutant Category

General Description of Pollutant Category
As discussed under the ten individual TMDLs below, the TMDLs in the trash pollutant category establish that the Department varies in the significance of a source of trash and debris. The scale of the Department as a source depends on the magnitude and location of the impacted water body and corresponding land uses. For the individual TMDLs, the Department is not the sole responsible party for source of trash and debris. Other point source responsible parties include Los Angeles County MS4 permittees, Ventura County MS4 permittees, and industrial permittees.

Since trash generation rates are dependent on land use, the requirements for the Department in Attachment IV Section III.D.1 focus on significant trash generating areas. These areas include: highway on- and off-ramps in high density residential, commercial and industrial land uses, rest areas and park-and-rides, state highways in commercial and industrial land uses, and mainline highway segments to be identified by the Department through pilot studies and/or surveys. The requirements in Attachment IV are expected to address the highest source of trash from the Department by focusing management practices on the highest problem areas.

Attachment IV Section III.D.1 establishes a prohibition of discharge of trash to receiving waters. All of the individual TMDLs set a numeric target of zero trash, since the receiving water body lacks an assimilative capacity for any piece of the trash. Attaining the numeric target is difficult due to the transport mechanisms of the trash, specifically for the Department whose users are temporary and transitory. Attachment IV Section III.D.2 sets forth two compliance options to achieve the prohibition of discharge. The compliance options focus on implementation of management practices, treatment controls, and institutional controls in the significant trash generating areas and the coordination with neighboring municipalities to implement treatment and institutional controls in significant trash generating areas and priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations).

Sources of Pollutant & How it Enters the Waterway
Trash and debris are the man-made products that are improperly discarded and transported to surface water bodies. Trash is considered a 'gross pollutants' and excludes sediments, oil and grease, and vegetation. Trash can include cigarette butts, paper, fast food containers, plastic grocery bags, cans and bottles, used diapers, construction site debris, industrial plastic pellets, old tires and appliances. Trash and debris cause impairments to beneficial uses of surface water bodies, including rivers, lakes, enclosed bays and estuaries, and ocean waters.

Watershed Contribution
Trash impacts aquatic habitat and life. Mammals, turtles, birds, fish, and crustaceans are threatened following the ingestion or entanglement of trash. Ingestion and entanglement can be fatal for freshwater, estuarine, saline and marine aquatic life. Similarly, habitat alterations and degradations due to trash can make natural habitats unsuitable for spawning, migration, and preservation of aquatic life. These negative effects of trash to aquatic life can impact several beneficial uses. The aquatic life beneficial uses that can be impacted by negative effects of trash include: Warm Freshwater Habitat (WARM); Cold Freshwater habitat (COLD); Inland Saline Water Habitat (SAL); Estuarine Habitat (EST); Marine Habitat (MAR); Wildlife Habitat (WILD); Preservation of Biological Habitats (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and Wetland Habitat (WET).

Trash impacts human activity by means of jeopardizing public health and safety and posing harm and hindrance in recreational, navigational, and commercial activities. The human

beneficial uses impacted by trash and debris include: Navigation (NAV); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Aquaculture (AQUA); Shellfish Harvesting (SHELL); and Industrial Service Supply (IND).

Trash and debris, which is intentionally or accidentally discarded in watershed drainage areas, enter a water body through a transport mechanism. Transport mechanisms include the following:

1. Storm drains: trash is deposited throughout the watershed and is carried to a water body during and after significant rainstorms through storm drains.
2. Wind/wave action: trash can also blow into the waterways directly.
3. Direct disposal: direct dumping of trash to water body.

The amount and type of trash and debris that is washed into the storm drain system is generally a function of the surrounding land use. It is generally accepted that commercial, industrial, high density residential land use contribute larger loads of gross pollutants per area compared to low residential and open space and park land use areas.

Control Measures

Full capture system is a type of treatment control that is a device or series of devices that traps all particles that are 5 mm or greater and has a design treatment capacity that is not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the subdrainage area. For the Department, there are three types of full capture systems that fall under the category of Gross Solids Removal Devices (GSRDs). Gross Solids Removal Devices (GSRDs) were developed by the Department to be retrofitted into existing highway drainage systems or implemented in future highway drainage systems. GSRDs are structures that remove litter and solids five mm and larger from the storm water runoff using various screening technologies. Overflow devices are incorporated, and the usual design of the overflow release device is based upon the design storm for the roadway. Though designed to capture litter, the devices can also capture some of the vegetation debris. The devices shown below are generally limited to accept flows from pipes 30 inches in diameter and smaller.

The three types of potential GSRDs the Department could utilize are linear radial and two versions using an inclined screen. A linear radial device is relatively long and narrow, with flow entering one end and exiting the other end. It is suited for narrow and flat rights-of-way with limited space. It utilizes modular well screen casings with 5 mm louvers and is contained in a concrete vault, although it also could be attached to a headwall at a pipe outfall. While runoff flows enter into the screens, they pass radially through the louvers and trap litter in the casing. A smooth bottom to convey litter to the end of the screen sections is required, so a segment of the circumference of each screen is uncovered. The louvered sections have access doors for cleaning by vacuum truck or other equipment. Under most placement conditions the goal would be to capture within the casing one year’s volume of

litter. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged.

Two Inclined Screen Devices have also been developed. Each device requires about 1-meter of hydraulic head and is better suited for fill sections. In the Type 1 device, the storm water runoff flows over the weir and falls through the inclined bar rack. The screen has five-mm maximum spacing between the bars. Flow passes through the screen and exits via the discharge pipe. The trough distributes influent over the inclined screen. Storm water pushes captured litter toward the litter storage area. The gross solids storage area is sloped to drain to prevent standing water. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged. It has a goal of litter capture and storage for one year. The Type 2 Inclined Screen only comes in a sloped sidewall version.

Full capture devices and treatment controls are highly effective to capture and retain trash when properly maintained. However, there are locations that might be infeasible to install treatment controls. The Department may elect to employ institutional controls, which are non-structural best management practices that may include street sweeping and anti-litter education and outreach programs. Street sweeping minimizes trash loading to the river by removing trash from streets and curbs. Maintaining a regular street sweeping schedule reduces the buildup of trash on streets and prevents trash from entering catch basins and the storm drain system. Street sweeping can also improve the appearance of roadways. There are at least three types of street sweepers the Department may employ: 1) mechanical, 2) vacuum filter, and 3) regenerative air sweepers. Public education can be an effective implementation alternative to reduce the amount of trash entering water bodies. The public is often unaware that trash littered on the street ends up in receiving waters, much less the cost of abating it. The Department may elect to continue to participate in educational programs like ‘Adopt-A-Highway’ and ‘Don’t Trash California’.

As specified in Attachment IV Section III.D.3, the Department shall submit an annual status report of the selected treatment and institutional control measures implemented to comply with the prohibition of discharge of trash. In addition to the annual status report, the Department should conduct a pilot survey to further determine highway characteristics and sections that should be included in the category of significant trash generating areas. The pilot study will further assure compliance with the prohibition of discharge and reduction of trash to receiving water bodies from high trash generation areas from the Department’s jurisdiction.

Ballona Creek Trash TMDL, August 1, 2002 and February 8, 2005

Final WLA

The numeric target for this TMDL is zero trash in the water. Storm drains were identified as a major source of trash. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final WLA Specific to the Department

The Department is assigned the following baseline WLAs of trash.

Weight (lbs/mile^2)	**Volume** (ft^3/mile^2)
7479.36	892.64

Final Deadlines

The implementation schedule for the MS4 and the Department permittees consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within twelve years from the effective date of the TMDL (September 30, 2015).

Department's Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 13 percent.

Legg Lake Trash TMDL, February 27, 2008

Final WLA

The numeric target for this TMDL is zero trash in Legg Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Legg Lake. WLAs were assigned to the permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following baseline WLAs assuming a trash generation rate of 6677 (gallons of uncompressed litter per mile^2 per year).

Point Source Area (mile^2)	**Baseline WLA** (gal/yr)
0.09	586.92

Final Trash Deadlines
The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years from the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 7.9 percent.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA
The numeric target for this TMDL is zero trash in Echo Park Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

The Department is estimated to have the following baseline WLAs assuming a trash generation rate of 6,677 (gallons of uncompressed litter per mile^2 per year).

Point Source Area (mile^2)	**Current Point Source Trash Load** (gal/yr)
0.022	150

Final Trash WLA Specific to the Department
No WLAs were assigned to the Department.

Final Trash Deadlines
There is no compliance and implementation schedule for the Echo Park Lake Trash TMDL.

Department's Trash Contribution (relative contribution to pollutant loading**)**
As there is no assigned WLA, the Department's contribution to the estimated point source trash loads is 16.7 percent.

Los Angeles Area (Peck Road Park) Lake Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA
The numeric target for this TMDL is zero trash in Peck Road Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department
No WLAs were assigned to the Department.

Final Trash Deadlines
There is no compliance and implementation schedule for the Peck Road Park Lake Trash TMDL.

Department's Trash Contribution (relative contribution to pollutant loading**)**
As there are no assigned WLAs, the Department's contribution to the estimated point source trash loads is 3.9 percent or 950 gal/yr.

Los Angeles River Trash TMDL, December 24, 2008

Final Trash WLA
The numeric target for the Los Angeles River Watershed Trash TMDL is zero trash in the water. Storm drains were identified as a major source of trash in the Los Angeles River. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following baseline WLAs for trash.

WLA (gal)	**WLA** (lbs)
59421	66,566

Final Trash Deadlines
The implementation schedule for the MS4 and the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within seven years from the effective date of the TMDL (September 30, 2014).

Department's Trash Contribution (relative contribution to pollutant loading)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 11.8 percent.

Machado Lake Trash TMDL, February 27, 2008

Final Trash WLA
The numeric target for this TMDL is zero trash in Machado Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Machado Lake. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following baseline WLA assuming a trash generation rate of 5,334 (gallons of uncompressed litter per mile^2 per year).

Point Source Area (mile^2)	**Baseline WLA** (gal/yr)
0.63	4,215.84

Final Trash Deadlines
The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 6, 2016).
Department's Trash Contribution (relative contribution to pollutant loading)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 4.5 percent.

Malibu Creek Watershed Trash TMDL, June 26, 2009

Final Trash WLAs
The numeric target for the Malibu Creek Watershed Trash TMDL is zero trash in or on the water and on the shoreline. For point sources, zero means that no trash is discharged into the water body of concern, shoreline, and channels. Both point source and nonpoint sources of trash were identified in the water bodies in the Malibu Creek Watershed. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile^2)	**Baseline WLA** (gal/yr)
0.32	10,813

Final Trash Deadlines
The implementation schedule for the MS4 and the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (July 7, 2017).

Department's Trash Contribution (relative contribution to pollutant loading)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 65.5. percent.

Revolon Slough and Beardsley Wash Trash TMDL, August 1, 2002, February 8, 2005, and February 27, 2008

Final Trash WLA
The numeric target for the Revolon Slough and Beardsley Wash TMDL is zero trash within Revolon Slough, Beardsley Wash and their tributaries. Both point source and nonpoint sources of trash were identified in the Revolon Slough and Beardsley Wash. For point sources, WLAs were assigned to permittees of the Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Department is assigned the following WLA (gal/year) assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area ($mile^2$)	**Baseline WLA** (gal/yr)
1.68	11,215.45

Final Trash Deadlines
The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 64.1 percent.

Santa Monica Bay Nearshore & Offshore Debris (trash and plastic pellets), March 20, 2012

Final Trash WLA
The numeric target for the Santa Monica Bay Debris TMDL is zero trash in Santa Monica Bay. For point sources, zero trash is defined as no trash discharged into water bodies within the Santa Monica Bay Watershed and into Santa Monica Bay or on the shoreline of Santa Monica Bay. For nonpoint sources, zero trash is defined as no trash on the shoreline or beaches, or in harbors adjacent to Santa Monica Bay. The numeric target for plastic pellets in the Santa Monica Bay Debris TMDL is zero plastic pellets in Santa Monica Bay. Both point source and nonpoint sources of trash were identified in Santa Monica Bay Nearshore and Offshore areas. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department
The Baseline WLA for the Department was based on a trash generation rate of 33,452.8 gallons per mile^2 per year.

Point Source Area (mile^2)	Baseline WLA (gal/year)
1.08	36,129.0

Final Trash Deadlines
The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 12, 2020).

Department's Trash Contribution (relative contribution to pollutants)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 32.8 percent.

Ventura River Estuary Trash TMDL, February 27, 2008

Final Trash WLA
The numeric target for the Ventura River Estuary Trash TMDL is zero trash in or on the water and on the shoreline. Both point source and nonpoint sources of trash were identified in the Ventura River Estuary.

Final Trash WLA Specific to the Department
The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile^2)	Baseline WLA (gal/yr)
0.31	2,049.86

Final Trash Deadlines
The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 8, 2016).

Department's Trash Contribution (relative contribution to pollutants)
The Department's Baseline WLA relative to all other point sources (municipal permittees) is 34.8 percent.

E. Bacteria TMDL Pollutant Category

General Description of Pollutant Category

Receiving waters are often adversely affected by urban storm water runoff containing bacteria. Several reaches and tributaries have been impaired due to excessive amounts of coliform bacteria. There is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities. Fecal coliform bacteria may be introduced from a variety of sources including storm water runoff, dry-weather runoff, onsite wastewater and animal wastes. In addition, humans may be exposed to waterborne pathogens through recreation water use or by harvesting and consuming filter-feeding shellfish.

Attachment IV of this permit requires the Department to prioritize reaches, including those within watersheds under a bacteria TMDL, and then further to select each year the reaches for implementing control measures to address the highest priority reaches.

Sources of Pollutant & How it Enters the Waterway

Major contributors are flows and associated bacteria loading from storm water conveyance systems. The extent of bacteria loading from natural sources such as birds, waterfowl and other wildlife, however, are unknown as data does not exist to quantify the impact of wildlife on the waterbodies.

Watershed Contribution

The TMDLs in the Bacteria Pollutant Category show that the Department is a relatively minor source of pollutants.

Control Measures

This prioritization strategy will control the largest sources of bacteria first and allow for attainment of the applicable WLAs consistent with the bacteria TMDLs identified in Part E of Attachment IV. The Department must install structural and nonstructural controls utilizing BMPs to variously control dry weather discharges and wet weather discharges.

The Department has options that would be effective for controlling non-storm water runoff during dry weather. The Department is required to implement control measures to ensure that the effective prohibition of non-storm water discharges is implemented. This can be achieved through infiltration, diversion, or other methods. Generally, there should be no flow from areas during dry weather. Overwatering, broken sprinklers and irrigation pipes can be a source of dry weather flows. The Department can limit dry weather discharges by ensuring that broken sprinklers and irrigation pipes are fixed within 72 hours. To control overwatering and the resulting runoff, the Department could review watering schedules for irrigated areas on an annual basis.

To control runoff during wet weather, the Department should work with responsible agencies to jointly comply with the TMDL whenever possible. If the Department does not work with the other responsible agencies, non-structural and structural BMPs would be necessary.

Increasing infiltration through the slowing of runoff and improving soil structure and texture to encourage infiltration of storm water are non-structural ways to reduce runoff. In addition, structural BMPs like biofiltration strips, biofiltration swales and detention basis can work in concert with the non-structural BMPs to capture of the runoff.

Wet-weather flows for the most part impact water contact recreation beneficial uses (REC-1). The Department shall implement control measures to prevent or eliminate the discharge of bacteria from its ROW through a combination of source control and treatment BMPs. These treatment BMPs shall include retention/detention, infiltration, diversion of storm water or through preemptive activities such as sweeping, clean-up of illegal dumping, and public education on littering.

SAN FRANCISCO BAY BACTERIA TMDLS

Richardson Bay Pathogens TMDL, December 18, 2009

The TMDL identifies storm water runoff as a potential pathogen source, along with sanitary sewer systems and houseboats and vessel marinas. The Department is listed in the storm water runoff source category along with other implementing parties.

Final Pathogens WLA
The WLA for Fecal Coliform in the pollutant category of storm water runoff is a median of < 14 MPN/100 ml and a 90^{th} percentile limit of <43 MPN/100 ml (no more than 10 percent of total samples during any 30-day period may exceed this number)

The implementation plan for storm water runoff has the following actions:

1. Implement applicable storm water management plan.
2. Update/amend storm water management plan, as appropriate, to include specific measures to reduce pathogen loading, including additional education and outreach efforts, and installation of additional pet waste receptacles.
3. Report progress on implementation of pathogen reduction measures to the Water Board.

For most pollutants, TMDLs are expressed on a mass-load basis (e.g., kilograms per year). For pathogen indicators such as fecal coliform, however, it is the number of organisms in a given volume of water (i.e., their density), and not their total number (or mass) that is significant with respect to public health risk and protection of beneficial uses. The density of fecal coliform organisms in a discharge and/or in the receiving waters is the technically relevant criteria for assessing the impact of discharges, water quality, and public-health risk. U.S. EPA guidance recommends establishing density-based TMDLs for pollutants that are not readily controllable on a mass basis. Therefore, we propose density-based TMDLs and pollutant load allocations, expressed in terms of fecal coliform concentrations.

Establishment of a density-based, rather than a mass-based, TMDL carries the advantage of eliminating the need to conduct a complex and potentially error-prone analysis to link loads and projected densities. A load-based pathogens TMDL would require calculation of acceptable loads based on acceptable bacterial densities and anticipated discharge volumes, and then back-calculation of expected densities under various load reduction scenarios. Since discharge volumes in Richardson Bay are highly variable and difficult to measure, such an analysis would inevitably involve a great deal of uncertainty with no increased water quality benefit.

Pathogen WLA Specific to the Department
As stated in the TMDL, the Department's wasteload allocations for discharges from municipal separate storm sewers are set by NPDES permits No. CAS000004 [Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)] and CAS000003 (National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State Of California Department Of Transportation).

Final Pathogens Deadline
The completion date for these implementation actions is "as specified in approved storm water management plan and in applicable NPDES permit." Region 2 does not anticipate that the Department's storm water management plan will need to be revised because they believe that the source of bacteria in highway runoff is wildlife.

The TMDL also notes that in 2013, the Water Board will evaluate monitoring results and assess progress towards attaining TMDL targets and load allocations.

Department's Pathogens Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pathogen pollutant loading is not known.

San Pedro and Pacifica State Beach Bacteria TMDL, August 1, 2013

The San Pedro and Pacifica State Beach Bacteria TMDL was developed by the San Francisco Bay Regional Water Quality Control Board and approved by U.S. EPA on August 1, 2013. The TMDL identifies sanitary sewer systems, horse facilities and municipal storm water runoff and dry weather flows as sources that have the potential to discharge bacteria, if not properly managed, to San Pedro Creek and Pacifica State Beach.

Final Bacteria WLA
The TMDL established a desired, or target condition for the water contact recreation use in San Pedro Creek and at Pacifica State Beach based on the water quality objectives for indicator bacteria. The wasteload allocations are based on the water quality objectives shown in the table below:

Bacteriological Water Quality Objectives for San Pedro Creek and Pacifica State Beach		
Indicator Type	**Pacifica State Beach (Marine REC-1)** MPN/100 mL	**San Pedro Creek (Freshwater REC-1)** MPN/100 mL[1]
	Single Sample Maximum	**90th Percentile/No Sample Greater Than**
E. coli	NA	235
Fecal Coliform	400	400
Enterococcus	104	NA
Total Coliform	10,000[2]	10,000
	Geometric Mean[3]	**Geometric Mean/Log Mean/Median**
E. coli	NA	
Fecal Coliform	200	126
Enterococcus	35	200
Total Coliform	1,000	NA
		240

Notes:
1. Based on a minimum of five consecutive samples equally spaced over a 30-day period.
2. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
3. Calculated based on the five most recent samples from each site during a 30-day period.

NA: not applicable.

For this TMDL, a reference system and antidegradation approach has been incorporated the wasteload allocations as an allowable number of times that the water quality objectives can be exceeded. The following table lists the allowable exceedances:

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		**Pacifica State Beach**		
	Dry Weather	**Wet Weather[5]**	**Summer Dry Weather** (Apr. 1 - Oct. 31)	**Winter Dry Weather** (Nov. 1 - Mar. 31)	**Wet Weather[5]**
Allowable Exceedances of Single-Sample Objectives (assuming daily sampling is conducted) [1,2,3]	4	26	0	2	30
Allowable Exceedances of Single-Sample	1	4	0	1	5

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		Pacifica State Beach		
	Dry Weather	**Wet Weather[5]**	**Summer Dry Weather** (Apr. 1 - Oct. 31)	**Winter Dry Weather** (Nov. 1 - Mar. 31)	**Wet Weather[5]**
Objectives (assuming weekly sampling is conducted)[4]					

Notes:
1. Allowable exceedances are calculated by multiplying exceedance rates observed in the reference system(s) by the number of days during each respective period in the reference year (1994).
2. To end up with whole numbers, where the fractional remainder for the calculated allowable exceedance days exceeds 0.1, then the number of days is rounded up.
3. The calculated number of exceedance days assumes that daily sampling is conducted.
4. To determine the allowable number of exceedance events given a weekly sampling regime, as practiced for monitoring San Pedro Creek and Pacifica State Beach, the number of exceedance days was adjusted by solving for "X" in the following equation: X = (exceedance days x 52 weeks) / 365 days.
5. Wet weather is defined as any day with 0.1 inches of rain or more and the following three days.

Final Bacteria Deadlines

The TMDLs, load allocations and wasteload allocations for Pacifica State Beach shall be attained within eight years of the effective date of the TMDL (August 1, 2021). The TMDLs, load allocations and wasteload allocations to San Pedro Creek shall be attained within 15 years of the effective Date of the TMDL (August 1, 2028).

Storm water discharges from the Department's stretch of Highway 1 crossing the northwestern edge of the San Pedro Creek watershed are not a significant source of indicator bacteria because that section of the highway does not include any typical bacteria-generating sources such as homeless encampments, restroom facilities, garbage bins, etc. The Department's existing BMPs and storm water NPDES permit requirements, as of the effective date of the TMDL (August 1, 2013), are sufficient to attain and maintain its portion of the wasteload allocation.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is not known.

Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL, March 26, 2007

Final Bacteria WLA
The Department is noted as a source of storm water runoff. The Department and municipal storm water permittees and co-permittees are assigned waste load allocations (WLAs) expressed as the number of daily or weekly sample days that may exceed the single sample targets equal to the TMDLs established for the impaired reaches and WLA assigned to waters tributary to impaired reaches. The County of Los Angeles, the Department, and the Cities of Los Angeles, Culver City, Beverly Hills, Inglewood, West Hollywood, and Santa Monica are the responsible jurisdictions and responsible agencies for the Ballona Creek Watershed.

For the single sample objectives of the impaired REC-1 and LREC-1 reaches, the proposed WLA for summer dry-weather is zero (0) days of allowable exceedances, and those for winter dry-weather and wet-weather are three (3) days and seventeen (17) days of exceedance, respectively. In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

For the single sample objectives of the impaired REC-2 reach, the proposed WLA for all periods is a 10 percent exceedance frequency of the REC-2 single sample water quality objectives. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

In addition to assigning TMDLs for the impaired reaches, Waste Load Allocations and Load Allocations are assigned to the tributaries to these impaired reaches. These WLAs and LAs are to be met at the confluence of each tributary and its downstream reach (see Table 7.21.2b of Attachment A to Resolution No. 2006-011). See Chapter 3 of Region 4's Basin Plan for bacteriological objectives for Water Contact Recreation for Marine and Fresh Waters, for Limited Water Contact Recreation and for Non-contact Water Recreation.

Final Bacteria WLA Specific to the Department
There is no specific WLA assigned to the Department. The responsible jurisdictions and responsible agencies within the watershed are jointly responsible for complying with the waste load allocation in each reach.

Final Bacteria Deadlines
See Final WLA above.

Department's Bacteria Contribution (relative contribution to pollutant loading)
The Department's jurisdiction within the cities and unincorporated areas in the Ballona Creek Watershed totals 1206 acres. This equals 1.5 percent of the watershed.

Long Beach City Beaches Indicator Bacteria TMDL, March 26, 2012

The TMDL identifies storm water runoff from the Department's properties such as the highway system, park and ride facilities, and maintenance yards as a potential source of bacteria. The Department has jurisdiction of some areas in the Los Angeles River (LAR) Estuary direct drainage, but not in the Long Beach City beaches direct drainage.

Final Bacteria WLA
To implement the single sample bacteria water quality objectives (total coliform, fecal coliform, enterococcus, and fecal-to-total coliform ratio) for waters designated REC-1, an allowable number of exceedance days for three seasons (summer dry, winter dry and winter wet) is set for marine waters using a reference system/anti-degradation approach. This approach ensures that bacteriological water quality is at least as good as that of a reference system and that no degradation of the existing bacteriological water quality is permitted where the existing condition is better than that of the selected reference system(s). The exceedance days are used to set load allocations (LA) and waste load allocations (WLAs) in these TMDLs.

Storm water systems covered under the City of Long Beach, Los Angeles County and the Department's MS4 permits are assigned WLAs in the form of exceedance days. During summer dry conditions, reductions in exceedance days are estimated to be 13-120 days during a 120 day period (11 percent to 100 percent of the time), depending on the location of the monitoring site. During winter wet conditions, reductions in exceedance days are estimated to be 11-45 days during a 75-day period (15 percent to 60 percent of the time) depending on the location of the monitoring site. During winter dry conditions, reductions in exceedance days are estimated to be 0-11 days during an 80 day period (zero (0) percent to 14 percent of the time) depending on the location of the monitoring site.

Final Bacteria WLA Specific to the Department
See Final WLA above.

Final Bacteria Deadlines
As this TMDL was established by U.S. EPA, U.S. EPA only described recommendations to the Regional Board that could be used. No timelines were noted.

Department's Bacteria Contribution (relative contribution to pollutant loading)
The loading of bacteria specifically from the Department's properties has not been determined in the LAR Estuary direct drainage. However a conservative estimate of 128 acres or approximately two percent of the LAR Estuary drainage area is noted in the TMDL.

Los Angeles River Watershed Bacteria, March 23, 2012

Final Bacteria WLA

The Los Angeles River Watershed Bacteria TMDL was developed by the Los Angeles Regional Water Quality Control Board and approved by U.S. EPA. The TMDL identifies storm water from the MS4 Permittees (the Department along with the County of Los Angeles and the Incorporated Cities therein and the City of Long Beach) as the principal source of bacteria in both dry weather and wet weather.

Final Bacteria WLA Specific to the Department

This TMDL uses a "reference system/anti-degradation approach" to implement the water quality objectives per the implementation provisions in Chapter 3 of the Basin Plan. On the basis of the historical exceedance frequency at Southern California reference reaches, a certain number of daily exceedances of the single sample bacteria objectives are permitted. The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at the reference site(s) and (2) there is no degradation of existing bacteriological water quality. This approach recognizes that there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intent of the Regional Board to require treatment or diversion of natural coastal creeks or to require treatment of natural sources of bacteria from undeveloped areas.

For MS4 dischargers, the final dry-weather WLAs and wet-weather WLA for the single sample targets are listed below**:**

Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling
Dry Weather	5	1
Non-High Flow Suspension (HFS) Waterbodies Wet Weather	15	2
HFS Waterbodies Wet Weather	10 (not including HFS days)	2 (not including HFS days)

The final WLAs for the geometric mean target during any time at any river segment and tributary in the Los Angeles River Watershed is zero (0) days of allowable exceedances.

Final Bacteria Deadlines

The Department has from 8.5 to 25 years (September 23, 2020 to March 23, 2037) to achieve final WLAs depending on the segment of the waterbody. Table 7-39.3 in Attachment A to Resolution No. R10-007 lists other interim implementation compliance dates.

Department's Bacteria Contribution (relative contribution to pollutant loading)
The Department's MS4 permit covers approximately 6,950 acres, which is equivalent to around one percent of the urban watershed.

Malibu Creek and Lagoon Bacteria TMDL, June 7, 2012

The TMDL identifies on-site wastewater treatment plants, storm water runoff, dry weather runoff and wildlife (birds) as possible sources of bacterial contamination.

Final WLA
Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location

Compliance Deadline		January 24, 2012		July 15, 2021	
Station ID	Location Name	Dry Weather ^		Wet Weather ^	
		Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling
LA RWQCB	**Triunfo Creek**	5	1	15	2
LA RWQCB	**Lower Las Virgenes Creek**	5	1	15	2
LA RWQCB	**Lower Medea Creek**	5	1	15	2
LVMWD (R-9)	**Upper Malibu Creek, above Las Virgenes Creek**	5	1	15	2
LVMWD (R-2)	**Middle Malibu Creek, below Tapia discharge 001**	5	1	15	2
LVMWD (R-3)	**Lower Malibu Creek, 3 mi below Tapia**	5	1	15	2
LVMWD (R-4)	**Malibu Lagoon, above PCH**	5	1	15	2
LVMWD (R-11)	**Malibu Lagoon, below PCH**	9*	2*	17	3
	Other sampling stations as identified in the Compliance Monitoring Plan as approved by the Executive Officer including at least one sampling station in each subwatershed, and areas where frequent REC-1 use is known to occur.	5	1	15	2

Compliance Deadline		January 24, 2012		July 15, 2021	
Station ID	Location Name	Dry Weather ^		Wet Weather ^	
		Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling

Notes:
The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data.
The allowable number of exceedance days is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station.
^ A dry day is defined as a non-wet day.
A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.
* The number of allowable exceedance days is for the winter dry-weather period. No exceedance days are allowed for the summer dry-weather period.

Final Bacteria WLA Specific to the Department
No exceedances are allowed for the geometric mean limits. The allowable days of exceedance for the single sample limits differ depending on season, dry weather or wet weather, and by sampling locations as described in the Table above (Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location

Final Bacteria Deadlines
This TMDL will be implemented in two phases as outlined in the TMDL. By January 24, 2012, compliance with the allowable number of dry-weather exceedance days must be achieved. By July 15, 2021, compliance with the allowable number of wet-weather exceedance days and the geometric mean targets must be achieved.

Department's Bacteria Contribution (relative contribution to pollutant loading**)**
The Department's relative contribution to bacteria pollutant loading is not known.

Marina del Rey Harbor (MdRH) Mother's Beach and Back Basin Bacteria TMDL, March 18, 2004, revised November 7, 2013

The TMDL identifies dry-weather urban runoff and storm water conveyed by storm drains as the primary sources of elevated bacterial indicator densities to MdRH Mothers' Beach and back basins during dry and wet weather. Potential sources of bacterial contaminations at Mothers' Beach and the back basins of MdRH include marina activities such as waste disposal from boats, boat deck and slip washing, swimmer "wash-off," restaurant washouts and natural sources from birds, waterfowl and other wildlife.

Final Bacteria WLA
Implementation of the bacteria objectives and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" as set forth in Chapter 3 of

the Basin Plan. As required by the Clean Water Act and California Water Code, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region's standards.

The geometric mean targets may not be exceeded at any time. For purposes of this TMDL, the geometric means shall be calculated weekly as a rolling geometric mean using five or more samples, for six week periods starting all calculation weeks on Sunday. For the single sample targets, each existing monitoring site is assigned an allowable number of exceedance days for three time periods: (1) summer dry-weather (April 1 to October 31), (2) winter dry-weather (November 1 to March 31), and (3) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event).

The County of Los Angeles, Los Angeles County Flood Control District, City of Los Angeles, and Culver City are the Los Angeles County MS4 permittees identified as the responsible jurisdictions and responsible agencies for the Marina del Rey Watershed. All proposed WLAs for summer dry weather are zero (0) days of allowable exceedances.[24] The proposed WLAs for winter dry weather and wet weather vary by monitoring location as identified in the following table:

Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL: Final Allowable Exceedance Days by Sampling Location

Compliance Deadline		**March 18, 2007**		**March 18, 2007**		**July 15, 2021**	
		Summer Dry Weather ^		**Winter Dry Weather ^**		**Wet Weather ^**	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
Station ID	**Location Name**	**Daily sampling** (No. days)	**Weekly sampling** (No. Days)	**Daily sampling** (No. days)	**Weekly sampling** (No. days)	**Daily sampling** (No. days)	**Weekly sampling** (No. days)
MdRH-1	**Mothers' (Marina) Beach, at playground area**	0	0	9	2	17	3

[24] In order to fully protect public health, no exceedances are permitted at any monitoring location during summer dry-weather (April 1 to October 31). In addition to being consistent with the two criteria, waste load allocations of zero (0) days of allowable exceedances are further supported by the fact that the California Department of Public Health has established minimum protective bacteriological standards – the same as the numeric targets in this TMDL – which, when exceeded during the period April 1 to October 31, result in posting a beach with a health hazard warning (California Code of Regulations, Title 17, Section 7958).

Compliance Deadline		March 18, 2007		March 18, 2007		July 15, 2021	
		Summer Dry Weather ^		Winter Dry Weather ^		Wet Weather ^	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
MdRH-2	**Mothers' (Marina) Beach, at lifeguard tower**	0	0	9	2	17	3
MdRH-3	**Mothers' (Marina) Beach, between lifeguard tower and boat dock**	0	0	9	2	17	3
MdRH-4	**Basin D, near first slips outside swim area**	0	0	9	2	17	3
MdRH-5	**Basin E, in front of tide-gate from Oxford Basin**	0	0	9	2	17	3
MdRH-6	**Basin E, center of basin**	0	0	9	2	17	3
MdRH-7	**Basin E, in front of Boone-Olive Pump Outlet**	0	0	9	2	17	3
MdRH-8	**Back of Main Channel**	0	0	9	2	17	3
MdRH-9	**Basin F, center of basin**	0	0	9	2	8	1

Compliance Deadline	March 18, 2007	March 18, 2007	July 15, 2021
	Summer Dry Weather ^	Winter Dry Weather ^	Wet Weather ^
	Apr 1 – Oct 31	Nov 1 – Mar 31	Nov 1 – Oct 31

Notes:

The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data.

The allowable number of exceedance days during winter dry-weather is calculated based on the 10th percentile storm year in terms of dry days at the LAX meteorological station.

The allowable number of exceedance days during wet-weather is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station.

^ A dry day is defined as a non-wet day.

A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

This TMDL will be implemented over an 18-year period. By March 18, 2007, there shall be no allowable exceedances of the single sample limits at any location during summer dry weather (April 1 to October 31) or winter dry weather (November 1 to March 31). By July 15, 2021, compliance with the allowable number of wet weather exceedance days and the geometric mean targets must be achieved.

Department's Bacteria Contribution (relative contribution to pollutant loading**)**

The Department's jurisdiction covers one percent of the watershed.

Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL, January 13, 2012

The TMDL identifies dry- and wet-weather urban runoff discharges from the storm water conveyance systems as significant contributors of bacteria loading to the Santa Clara River and Estuary. Mass emission data collected by MS4 Permittees show elevated levels of bacteria in the river. Data from natural landscapes in the region indicate that open space loading is not a significant source of bacteria.

Final Bacteria WLA

The Statewide Storm Water Permit for Department Activities (CAS000003) are assigned WLAs of zero (0) allowable exceedance days of the single sample targets for both dry and wet weather and no exceedances of the geometric mean targets because they are not expected to be significant source of indicator bacteria. Compliance with an effluent limit based on the bacteria water quality objectives will be used to demonstrate compliance with the WLA.

Final Bacteria WLA Specific to the Department
See Final WLA above.

Final Deadlines
The TMDL states that WLAs assigned to the Department's permit must be attained on the effective date of the TMDL.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pollutant loading is unknown.

Santa Monica Bay Beaches Bacteria TMDL June 19, 2003, Revised November 7, 2013

Final WLA
With the exception of isolated sewage spills, dry weather urban runoff and storm water runoff conveyed by storm drains and creeks is the primary source of elevated bacterial indicator densities to Santa Monica Beaches (SMB). Limited natural runoff and groundwater may also potentially contribute to elevated bacterial indicator densities during winter dry weather. Because the bacterial indicators used as targets in the TMDL are not specific to human sewage, storm water runoff from undeveloped areas may also be a source of elevated bacterial indicator densities. For example, storm water runoff from natural areas may convey fecal matter from wildlife and birds or bacteria from soil. This is supported by the finding that, at the reference beach, the probability of exceedance of the single sample targets during wet weather is 0.22.

Implementation of the bacteria objectives in Chapter 3 of the Basin Plan and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" rather than the alternative "natural sources exclusion approach" or strict application of the single sample objectives. As required by the Clean Water Act and Porter-Cologne Water Quality Control Act, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region's standards.

The geometric mean targets may not be exceeded at any time. For the single sample targets, each existing shoreline monitoring site is assigned an allowable number of exceedance days during three time periods as defined in the table below (summer dry weather, winter dry weather, and wet weather [defined as days with 0.1 inch of rain or greater and the three days following the rain event]). The allowable exceedance days for each associated shoreline monitoring site are identified in the following table:

Allowable Number of Days that may Exceed any Single Sample Bacterial Indicator Target for Existing Shoreline Monitoring Stations

Compliance Deadline			15-Jul-06		1-Nov-09		15-Jul-21	
			Summer Dry Weather^		Winter Dry Weather^		Wet Weather Year-round	
Station ID	Location Name	Subwatershed	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
SMB 1-1	**Leo Carillo Beach (REFERENCE**	**Arroyo Sequit**	**0**	**0**	**9**	**2**	17	3
SMB 1-2	El Pescador State Beach	Los Alisos	0	0	1	1	5	1
SMB 1-3	El Matador State Beach	Encinal Canyon	0	0	1	1	3	1
SMB 1-4	Trancas Creek	Trancas Canyon	0	0	9	2	17	3
SMB 1-5	Zuma Creek	Zuma Canyon	0	0	9	2	17	3
SMB 1-6	Walnut Creek	Ramirez Canyon	0	0	9	2	17	3
SMB O-1#	Paradise Cove	Ramirez Canyon	0	0	9	2	15	3
SMB 1-7	Ramirez Creek	Ramirez Canyon	0	0	9	2	17	3
SMB 1-8	Escondido Creek	Escondido Canyon	0	0	9	2	17	3
SMB 1-9	Latigo Canyon Creek	Latigo Canyon	0	0	9	2	17	3
SMB 1-10	Solstice Creek	Solstice Canyon	0	0	5	1	17	3
SMB O-2#	Puerco Canyon storm drain	Corral Canyon	0	0	0	0	6	1
SMB 1-11	Wave wash of unnamed creek on Puerco Beach	Corral Canyon	0	0	9	2	17	3
SMB 1-12	Marie Canyon Storm Drain on	Corral Canyon	0	0	9	2	17	3
SMB 1-13	Sweetwater Creek on Carbon	Carbon Canyon	0	0	9	2	17	3
SMB 1-14	Las Flores Creek	Las Flores	0	0	6	1	17	3
SMB 1-15	Big Rock Beach at 19948 Pacific	Piedra Gorda	0	0	9	2	17	3
SMB 1-16	Pena Creek	Pena Canyon	0	0	3	1	14	2
SMB 1-17	Tuna Canyon Creek	Tuna Canyon	0	0	7	1	12	2
SMB 1-18	Topanga Creek	Topanga Canyon	0	0	9	2	17	3
SMB 4-1	San Nicholas Canyon Creek	Nicholas Canyon	0	0	4	1	14	2
SMB 2-1	Castlerock (Parker Mesa) Storm	Castlerock	0	0	9	2	17	3
SMB 2-2	Santa Ynez Storm Drain	Santa Ynez	0	0	9	2	17	3
SMB 2-3	Will Rogers State Beach at 17200	Santa Ynez	0	0	9	2	17	3
SMB 2-4	Pulga Canyon storm drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-5	Temescal Storm Drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-6	Bay Club Storm Drain	Santa Ynez	0	0	9	2	17	3
SMB 2-7	Santa Monica Canyon, Will	Santa Monica	0	0	9	2	17	3
SMB 2-8	Venice Pier, Venice	Ballona	0	0	9	2	17	3
SMB 2-9	Topsail Street extended	Ballona	0	0	9	2	17	3
SMB 2-10	Dockweiler State Beach at Culver	Dockweiler	0	0	9	2	17	3
SMB 2-11	North Westchester Storm Drain	Dockweiler	0	0	0	0	17	3
SMB 2-12	World Way extended	Dockweiler	0	0	9	2	17	3
SMB 2-13	Imperial Highway storm drain	Dockweiler	0	0	4	1	17	3
SMB 2-14	Opposite Hyperion Plant, 1 mile	Dockweiler	0	0	9	2	17	3
SMB 2-15	Grand Avenue Storm Drain	Dockweiler	0	0	9	2	17	3

Compliance Deadline			15-Jul-06		1-Nov-09		15-Jul-21	
			Summer Dry Weather^		Winter Dry Weather^		Wet Weather Year-round	
Station ID	Location Name	Subwatershed	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
SMB 3-1	Montana Ave. Storm Drain	Santa Monica	0	0	9	2	17	3
SMB 3-2	Wilshire Blvd., Santa Monica	Santa Monica	0	0	9	2	17	3
SMB 3-3	Santa Monica Municipal Pier at	Santa Monica	0	0	9	2	17	3
SMB 3-4	Santa Monica Beach at	Santa Monica	0	0	9	2	17	3
SMB 3-5	Ashland Av. storm drain (Venice)	Santa Monica	0	0	9	2	17	3
SMB 3-6	Rose Ave. Storm Drain on	Santa Monica	0	0	6	1	17	3
SMB 3-7	Venice City Beach at Brooks	Ballona	0	0	9	2	17	3
SMB 3-8	Venice Pavilion at projection of	Ballona	0	0	9	2	17	3
SMB 3-9	Strand Street extended	Santa Monica	0	0	9	2	17	3
SMB 5-1	Manhattan State Beach at 40th	Hermosa	0	0	1	1	4	1
SMB 5-2	Terminus of 28th Street Drain in	Hermosa	0	0	9	2	17	3
SMB 5-3	Manhattan Beach Pier	Hermosa	0	0	3	1	6	1
SMB 5-4	Near 26th Street on Hermosa	Hermosa	0	0	3	1	12	2
SMB 5-5	Hermosa Beach Pier	Hermosa	0	0	2	1	8	2
SMB 6-1	Herondo Storm Drain	Redondo	0	0	9	2	17	3
SMB 6-2	Redondo Municipal Pier - 100	Redondo	0	0	3	1	14	2
SMB 6-3	4' x 4' outlet at projection of	Redondo	0	0	5	1	17	3
SMB 6-4	120' north of Topaz groin	Redondo	0	0	9	2	17	3
SMB 6-5	Storm Drain at Projection of	Redondo	0	0	4	1	11	2
SMB 6-6	Malaga Cove, Palos Verdes	Redondo	0	0	1	1	3	1
SMB 7-1	Malaga Cove	Palos Verdes	0	0	1	1	14	2
SMB 7-2	Bluff Cove	Palos Verdes	0	0	1	1	0	0
SMB 7-3	Long Point	Palos Verdes	0	0	1	1	5	1
SMB 7-4	Abalone Cove	Palos Verdes	0	0	0	0	1	1
SMB 7-5	Portuguese Bend Cove	Palos Verdes	0	0	1	1	2	1
SMB 7-6	Royal Palms	Palos Verdes	0	0	1	1	6	1
SMB 7-8	Wilder Annex	Palos Verdes	0	0	1	1	2	1
SMB 7-9	Outer Cabrillo Beach	Palos Verdes	0	0	1	1	3	1
SMB MC-1	Malibu Point, Malibu Colony Dr.	Malibu Canyon	0	0	9	2	17	3
SMB MC-2	Surfrider Beach (breach point of	Malibu Canyon	0	0	9	2	17	3
SMB MC-3	Malibu Pier on Carbon Beach	Malibu Canyon	0	0	9	2	17	3

Notes: The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile year in terms of non-wet days at the LAX meteorological station.
The number of allowable exceedances during winter dry weather is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical shoreline data.
^Dry weather days are defined as those with <0.1 inch of rain and those days not less than 3 days after a rain day. Rain days are defined as those with >=0.1 inch of rain.
Detailed descriptions of the sampling locations are provided in the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan.
#Monitoring began in 2010 and data was examined from April 2010 to November 2011

Final Bacteria WLA Specific to the Department
See Final WLA above.

Final Bacteria Deadlines
The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than July 15, 2021.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to bacteria pollutant loading is not known.

COLORADO RIVER REGION BACTERIA TMDL

Coachella Valley Storm Water Channel (CVSC) Bacterial Indicators TMDL, April 27, 2012

The TMDL identifies flows from urban MS4s as violating applicable water quality objectives for REC l and REC II. Birds and other animals are possible sources of bacteria in the CVSC.

Final Bacterial Indicator WLA
Wasteload allocations (WLAs) for bacteria indicator dischargers into CVSC are described below:

Allocation Type	Discharger	E. Coli Allocations
Point Source (WLAs)	Department	A log mean (Geomean) of the MPN of ≤126/100ml (based on a minimum of not less than five samples during a 30-day period), or 400 MPN/100ml for a single sample.

Final Bacterial Indicator WLA Specific to the Department
See Final WLA above.

Final Bacterial Indicator Deadlines
The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than July 15, 2021.

Department's Bacterial Indicator Contribution (relative contribution to pollutant loading)
The Department's relative contribution to bacteria pollutant loading is not known.

Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) TMDL, June 22, 2011

The TMDL identifies dry and wet weather runoff as the source of bacterial loading.

Final Indicator Bacteria WLA
In general, controllable point and nonpoint sources generating less than five percent of the total loads (e.g., The Department and/or Agriculture) were assigned WLAs and LAs equal to their existing loads, resulting in no load reduction requirements.

The dry weather mass-load based TMDLs were assigned entirely to discharges from MS4 land uses because the runoff that transports bacteria to surface waters during dry weather is expected to occur in urban areas. The allocation of the dry weather mass-based TMDL assumes that no surface runoff discharge to receiving waters occurs from the Department, Agriculture, or Open Space land use categories (i.e., $WLA_{Caltrans} = 0$, $LA_{Agriculture} = 0$, and $LA_{OpenSpace} = 0$) , meaning the entire dry weather mass-based TMDL (i.e., allowable mass load) is allocated to Municipal MS4 land use categories (i.e., WLA_{MS4} = TMDL).

For the wet weather TMDLs, discharges of surface runoff are expected from all land use types, thus allocations were assigned to each land use category (i.e., Municipal MS4s, the Department, Agriculture, and Open Space). The Department's wet weather WLAs were set equal to existing loads, since the Department's discharges were found to account for less than 1 percent of the wet weather load. Allocations were assigned based on discharges of "existing" bacteria loads predicted with a wet weather watershed model. In general, the Department WLAs, Agriculture LAs (in all but four of the modeled watersheds), and Open Space LAs were set equal to the "existing" bacteria loads predicted by the wet weather watershed model. The remainder of allowable bacteria load that can be discharged to the receiving waters as part of the TMDL was assigned as the Municipal MS4s WLAs (or proportionally divided between the Municipal MS4s and Agriculture land use categories in four of the modeled watersheds).

Final Indicator Bacteria WLA Specific to Department
See Final WLA above.

Final Indicator Bacteria Deadlines
TMDL Compliance Schedule: Full implementation of the TMDLs for indicator bacteria shall be completed within 10 to 20 years (April 4, 2021 to April 4, 2031) from the effective date of the Basin Plan amendment. The compliance schedule for implementing the load and wasteload reductions required to achieve the wet weather and dry weather TMDLs is phased in over time.

The dry weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment

that establishes the TMDLs. For dischargers that undertake wet weather load reduction programs only for bacteria, the wet weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date.

For dischargers in watersheds that undertake concurrent wet weather load reduction programs for other pollutant constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with the bacteria load reduction requirements in these TMDLs, an alternative compliance schedule may be proposed and incorporated by the San Diego Water Board into the implementing orders. The wet weather TMDL compliance schedules may be extended, but no more than a total of 20 years (April 4, 2031) from the effective date of the Basin Plan amendment. The dry weather TMDL compliance schedule cannot be extended to be more than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment.

Department's Indicator Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is unknown.

F. Diazinon TMDL Pollutant Category

General Description of Pollutant Category
Diazinon is an organophosphate insecticide has been banned for residential use; it is still used in agriculture.

Sources of Pollutant & How it Enters the Waterway
It is a broad spectrum contact insecticide. Residential use was for general-purpose gardening use and indoor pest control of ants, fleas, cockroaches, silverfish, mosquitos and spiders in residential, non-food buildings.

Watershed Contribution
The Department does not use Diazinon. The Department is identified as a source of Diazinon because they own and operate storm water conveyance systems in association with roadways and facilities. In some areas the Department's storm water systems are connected to municipal storm water systems.

Control Measures
Attachment IV, Section III.F, prohibits the discharge of Diazinon. This prohibition is consistent with the TMDLs for Diazinon which generally limit the discharge of this pesticide to non-toxic levels. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge. Attachment IV, Part F does not require additional monitoring beyond what is specified in the permit.

SAN FRANCISCO BAY REGION DIAZINON TMDL

San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity May 16, 2007

The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The use of diazinon is prohibited in the Department's NPDES permit, and no additional measures are required.

Final Diazinon WLA
The WLA for each storm water entity is 100 ng/L as a one-hour average.

Final Diazinon WLA Specific to the Department
The Department's level of responsibility is not identified.

Final Diazinon Deadlines
The TMDL does not specify any interim or final compliance dates but states that the requirements included in the permits are inadequate to meet the targets the San Francisco Bay Water Board will require additional control measures or additional actions by others.

Department's Diazinon Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the diazinon pollutant loading is not known.

SAN DIEGO REGION DIAZINON TMDL

Chollas Creek Diazinon TMDL, November 3, 2003

Final Diazinon WLA
The below concentration-based waste load allocations are applied equally to all diazinon discharge sources in the Chollas Creek watershed:

Waterbody	Diazinon (ng/L)	
	Acute (1 hour ave)	Chronic (4 day ave)
Chollas Creek	72	45

Final Diazinon WLA Specific to the Department
The final WLA for the Department is noted above.

Final Diazinon Deadlines
The TMDL states that the phased compliance schedule will apply only to attainment of numeric limitations for diazinon and all other requirements of this TMDL will be immediately effective upon incorporation into applicable NPDES permits.

Department Diazinon Contribution
In the supporting technical documentation, the San Diego Regional Water Board stated that the Department is responsible for the major freeways and roadways making up approximately four percent of the land in the watershed; that the Department reports diazinon is not used; and that the Department has an integrated pest management plan. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge.

G. Selenium TMDL Pollutant Category

General Description of Pollutant Category

Sources of Pollutant & How it Enters the Waterway
Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as sources of selenium to surface waters in southern California. Generally, atmospheric deposition was determined to be a not significant source. Selenium bioaccumulates to levels that cause severe impacts on invertebrates, fish, birds that prey on fish, and humans.

Watershed Contribution
Selenium in soil may be a contributing source, and naturally occurring selenium in groundwater may be a significant source.

Control Measures
As discussed under the individual TMDLs below, the TMDLs in this pollutant category generally establish that the Department is a relatively minor source of selenium since the sources of selenium are not transportation related. The Department is expected to continue its current pollutant control activities in order to remain in compliance with the TMDLs.

LOS ANGELES REGION SELENIUM TMDL

Ballona Creek Metals and Selenium TMDL, December 22, 2005 and reaffirmed on October 29, 2008.

This TMDL addresses dry- and wet-weather discharges of metals and selenium in Ballona Creek and Sepulveda Canyon Channel. There are significant differences in the sources of metals and selenium loadings during dry and wet weather because hardness values and flow conditions in Ballona Creek and Sepulveda Canyon Channel vary between dry and wet weather. A grouped mass-based waste load allocation is developed for the storm water permittees that includes the Department.

Final Selenium WLA
The Department and MS4 storm water NPDES permittees will be found to be effectively meeting the dry-weather WLAs if the instream pollutant concentrations or load at the first downstream monitoring location is equal to or less than the corresponding concentration- or load based WLA.

Selenium Dry-weather Storm Water WLAs Apportioned between Storm Water Permits (grams total recoverable metals/day)

Permittee	Waste Load Allocation (grams/day)
Ballona Creek	
MS4 Permittees	169
Department	2
Sepulveda Channel	
MS4 Permittees	76
General Industrial	1

Selenium Wet-weather Storm Water WLAs Apportioned between Storm Water Permits (total recoverable metals)

Permittee	Waste Load Allocation (grams/day)
MS4 Permittees	4.73E-06 x Daily storm volume (L)
Department	6.59E-08 x Daily Storm Volume (L)
General Construction	1.37E-07 x Daily storm volume (L)
General Industrial	3.44E-08 x Daily storm volume (L)

The Department and MS4 NPDES permittees will be found to be effectively meeting the wet-weather WLAs if the loading at the most downstream monitoring location is equal to or less than the wet-weather WLA.

Final Selenium WLA Specific to the Department
See Tables above for specific Department WLAs.

Final Deadlines
The implementation schedule for the MS4 permittees and the Department consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed, with total compliance to be achieved within 15 years. The Department shall demonstrate that 100 percent of the total drainage area served by the MS4 system is effectively meeting the dry-weather and wet-weather WLAs.

Whereas the Department is responsible for meeting their mass-based waste load allocations they may choose to work with the MS4 Permittees.

Department's Selenium Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the selenium loading is not known.

Calleguas Creek, its Tributaries and Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Significant sources were identified as urban runoff, agricultural runoff, groundwater seepage and POTW effluent. The Department is a participant in the watershed-wide water monitoring program.

Final Selenium WLA
Dry-weather is defined as days when flows in the stream are less than the 86th percentile flow rate for each reach; wet weather is defined as flows greater than 86th percentile. The daily maximum interim limit is set equal to the 99th percentile of available discharge data, the monthly average interim limit is set equal to the 95th percentile. The interim WLAs for dry-weather in Revolon Slough are 14 μg/L criteria maximum concentration (CMC), and 13 μg/L criteria continuous concentration (CCC) for wet-weather. There is no interim wet-weather WLA because current loads do not exceed the TMDL. In this TMDL interim limits and WLAs are applied to receiving waters.

Final Selenium WLA Specific to the Department
Final WLAs for selenium in Revolon Slough are:
Dry weather: In lbs/day are 0.004 low flow, 0.003 average flow, 0.004 elevated flow.
Wet weather: In lbs/day is 0.027*Q^2+0.47*Q, where Q equals the daily storm volume.
Current loads do not exceed the loading capacity during wet weather, therefore no additional action by the Department is needed during wet weather.

Final Deadlines
The TMDL states that storm water dischargers are expected to achieve compliance through implementation of BMPs. A group watershed monitoring plan was required and receiving water monitoring compliance points are specified for all dischargers subject to the TMDL. A 25 percent reduction was required by March 2012, and a 50 percent reduction is required by March 2017. Final compliance is required by March 2022. The TMDL states that achievement of required reductions will be evaluated based on progress towards BMP implementation as outlined in the UWQMPs and in consideration of background loading information. The requirements of Attachment IV, Section III.G are consistent with the requirements of the TMDL.

Department's Selenium Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the selenium pollutant loading is not known.

San Gabriel River and Impaired Tributaries Metals and Selenium TMDL, March 26, 2007

The San Gabriel River and impaired tributaries metals and selenium TMDL was established by U.S. EPA (and therefore there are no milestones, compliance schedule, or monitoring requirements) and includes a dry-weather TMDL for selenium in San Jose Creek Reach 1.

The TMDL notes that selenium is present in local marine sedimentary rocks and presumes that much of the selenium in San Jose Creek results from natural soils, and that this assumption is corroborated by the fact that many of the impairments in San Jose Creek occur after the channel becomes soft-bottomed. Other potential sources were identified as mobilization of groundwater, such as by dewatering, irrigation of soils naturally high in selenium, and discharges from petroleum-related activities.

The requirements of Attachment IV, Section III.G are consistent with the requirements of the TMDL.

Final WLA for Selenium
The TMDL sets a dry-weather selenium WLA of five (5) μg/L for all storm water discharges to San Jose Creek. The TMDL states that a review of the storm water permits indicates that the Department discharges entirely to municipal storm water systems.

Final Selenium WLA Specific to the Department
No specific selenium WLAs are assigned to the Department. The dry-weather WLAs for the storm water permittees are shared by the MS4 permittees and the Department because there is not enough data on the relative extent of MS4 and the Department's areas.

Final Deadlines for Selenium
The MS4 permittees and the Department shall demonstrate that 100 percent of the total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs and attaining water quality standards for metals and selenium.

Department's Selenium Contribution (relative contribution to pollutant loading)
The Department's relative contribution to selenium pollutant loading is not known.

H. Temperature TMDL Pollutant Category

General Description of Pollutant Category
The North Coast Region Basin Plan defines the water quality objective for temperature as follows:

(1) For estuaries, the Basin Plan incorporates by reference the statewide plan entitled "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California."

(2) The following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any COLD water be increased by more than five degrees Fahrenheit

above natural receiving water temperature. At no time or place shall the temperature of WARM intrastate waters be increased more than five degrees Fahrenheit above natural receiving water temperature.

The designated beneficial uses affected by thermal pollution of receiving waters include: cold freshwater habitat (COLD); rare, threatened, and endangered species (RARE); migration of aquatic organisms (MIGR); and spawning, reproduction, and/or early development of fish (SPWN); commercial and sport fishing (COMM); and contact and non-contact water recreation (REC-1 and REC-2).

Sources of Pollutant & How it Enters the Waterway

Anthropogenic processes that influence water temperature include changes to stream shade, stream flow via changes in groundwater accretion, streamflow via surface water use, changes to local microclimates, and channel geometry. Road construction and maintenance can, for example, involve the removal of some riparian vegetation, thus increasing ambient water temperature along the affected segment of a surface water body unless this impact is minimized via re-planting and/or by reducing the amount of vegetation removed.

Natural sources of sediment which can increase receiving water temperatures include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Watershed Contribution

The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas soonest and therefore address the problem at the appropriate level for the temperature and sediment TMDLs.

Control Measures

Dischargers responsible for vegetation removal are encouraged (and sometimes required) to preserve and restore such vegetation where possible. This may include planting riparian trees, minimizing the removal of vegetation that provides shade to a water body, and minimizing activities that might suppress the growth of new or existing vegetation. Reductions in sediment loads are expected to increase the number and depth of pools in

streams and rivers, and to reduce wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.

The Department is required to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in reducing thermal pollution in receiving waters. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and avoidance of alterations of natural runoff flow patterns.

The sediment control requirements in Attachment IV are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges.

The Sediment TMDL Implementation Policy also directs staff to develop: (1) the Work Plan, which describes how and when permitting and enforcement tools are to be used; (2) the Guidance Document on Sediment Waste Discharge Control; (3) the Sediment TMDL Implementation Monitoring Strategy; and (4) the Desired Conditions Report. Of these items, the Guidance Document on Sediment Waste Discharge Control and the Sediment TMDL Implementation Monitoring Strategy are still under development by the North Coast Region. At present, the requirements in Attachment IV are generally sufficient to address the sediment/temperature TMDLs in the North Coast Region that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

Attachment IV requires continuation of existing monitoring plans, or monitoring consistent with the TMDLs' requirements as approved by the Regional Water Board Executive Officer. A primary focus of the monitoring required by Attachment IV is management practice effectiveness monitoring and "Adaptive Management" for BMP implementation requirements ensures compliance with the sediment/temperature TMDLs.

The North Coast Regional Water Board is also in the process of amending its basin plan for the control of thermal pollution. These revisions will add a policy for implementing the water quality objective for temperature. The amendment will also add additional action plans to implement total maximum daily loads for temperature in the Navarro, and Eel, and Mattole watersheds.

The proposed revisions to the Basin Plan include changes to Chapter 4 –Implementation Plans. The Regional Water Board directed staff to prepare an amendment incorporating a temperature implementation policy into the Basin Plan by adoption of resolution R1-2012-0013.The proposed Basin Plan amendment will describe the approach to implementing the interstate water quality objective for temperature in one cohesive policy. It will identify the

regulatory mechanisms staff will employ to ensure achievement of the water quality objective for temperature, it will describe the significance of stream shade as a factor determining stream temperatures, and it will direct staff to address temperature concerns through existing authorities and processes.

The proposed Basin Plan amendment will also establish implementation plans for the Navarro, Mattole, Upper Main Eel, Middle Main Eel, Lower Eel, Middle Fork Eel, North Fork Eel, and South Fork Eel River temperature TMDLs.

NORTH COAST REGION TEMPERATURE TMDLS

Eel River (Lower HA) Temperature and Sediment TMDL, U.S. EPA Established on December 18, 2007

Final Temperature WLA
For the diffuse permitted sources, such as municipal and industrial storm water discharges, the Department's facilities, construction sites, and municipalities, as well as for discharges that are subject to NPDES permits but are not currently permitted, the waste load allocation (WLA) is expressed as follows: zero net increase in receiving water temperature.

Final Temperature WLA Specific to the Department
As stated above, U.S. EPA's wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Temperature Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading**)**
U.S. EPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (Middle-Fork) Eden Valley, and Round Valley HSAs Temperature and Sediment TMDL, U.S. EPA Established on December 2003

Final Temperature WLA
Although U.S. EPA states that because appropriate heat loads, water temperatures and tree heights cannot be generalized on a basin-wide scale, this reduction is best achieved by allowing trees to grow so as to provide the equivalent amount of shade that would be provided under natural conditions. In addition, measures to reduce sediment discharge and promote establishment or protection of additional refugia pool areas will facilitate attainment of water quality standards. In this sense, the temperature and sediment TMDLs overlap to some degree.

Final Temperature WLA Specific to the Department
Please see above discussion of the temperature WLA.

Final Temperature Deadlines
U.S. EPA did not specify deadlines for implementation.
Department's Temperature Contribution (relative contribution to pollutant loading)
U.S. EPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (South Fork) HA Temperature and Sediment TMDL, U.S. EPA Established on December 16, 1999

U.S. EPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does U.S. EPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, U.S. EPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in U.S. EPA's calculations for the margin of safety in this TMDL.

Final Temperature WLAs
As stated above, there is no wasteload allocation for point sources.

Final Temperature WLA Specific to the Department
As stated above, there is no specific wasteload allocation for the Department.

Final Temperature Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Temperature Contribution to Thermal Loading (relative contribution to pollutant loading)

U.S. EPA attributes most sediment and thermal pollutant loading in the TMDL to nonpoint sources, and considers the Department's and other point source contributions to be comparatively minor.

Eel River (Upper Main HA) Temperature and Sediment TMDL, U.S. EPA Established on December 29, 2004

Final Temperature WLA
U.S. EPA states that there are no point source discharges included in the temperature TMDL for purposes of attaining temperature reductions via "shade allocation," so the waste load allocation is set to zero. U.S. EPA states that permitted sources of increased water temperatures and sediment loading, if they occur in the future, will be attributable only to construction-related storm water discharges.

Final Temperature WLA Specific to the Department
As stated above, U.S. EPA stated that there are no point source discharges for thermal pollution, so the wasteload allocation for all point source discharges (including the Department) is set to zero.

Final Temperature Deadlines
U.S. EPA did not specify deadlines for implementation.

Department's Temperature Contribution (relative contribution to pollutant loading)
U.S. EPA considers all point sources of temperature pollution to be insignificant for purposes of this TMDL.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010

Final Temperature WLA
The Iron Gate Fish Hatchery was identified as the only point-source heat load in the Klamath River watershed: The interstate water quality objective for temperature prohibits the discharge of thermal waste to the Klamath River, and therefore the waste load allocation for Iron Gate Hatchery is set to zero, as monthly average temperatures. The TMDL addresses elevated temperatures from natural and non-point anthropogenic sources. The non-point sources include: (1) excess solar radiation, expressed as its inverse, shade; (2) heat loads associated with increased sediment loads; (3) heat loading from impoundments; and (4) heat loads from Oregon. The assigned load allocations for temperature are expressed as follows (as adapted from Table 4-15 in the basin plan):

Source	Allocation
Excess Solar Radiation (expressed as effective shade)	The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations.
Impoundment Discharges	Zero temperature increase above natural temperatures[1]
Excess Solar Radiation	The shade provided by topography and full potential

Source	Allocation
(expressed as effective shade)	vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations.[2]
Impoundment Discharges	Zero temperature increase above natural temperatures

1. Natural temperatures are those water temperatures that exist in the absence of anthropogenic influences, and are equal to natural background.
2. Substantial human-caused sediment-related channel alteration: "A human-caused alteration of stream channel dimensions that increases channel width, decreases depth, or removes riparian vegetation to a degree that alters stream temperature dynamics and is caused by increased sediment loading."

Final Temperature WLA Specific to the Department
The Department was not assigned a waste load allocation for temperature.

Final Deadlines
No deadlines were specified.

Department's Pollutant Contribution (relative contribution to pollutant loading)
The Department is listed as a source of thermal pollution: however, the relative magnitude of the Department's contribution to thermal pollution was not specified or estimated.

Navarro River Sediment and Temperature TMDL, U.S. EPA Established on December 27, 2000

Final Temperature WLA
U.S. EPA states that there are no known point sources of heat to the Navarro or its tributaries. The source analysis therefore focused on non-point sources. The wasteload allocation any for point sources which might be present is thus presumed to set to zero.

The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools and to reduced wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.

Improvements in stream temperature that may result from reduced sedimentation were not considered in the analysis.

Final Temperature WLA Specific to the Department
The Department is not specifically mentioned as a source of pollutant loading for temperature, therefore the wasteload allocation for the Department is presumed to be set to zero.

Final Temperature Deadlines
U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Temperature Contribution (relative contribution to pollutant loading**)**

As mentioned above, neither the Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so U.S. EPA has determined that these potential sources are insignificant in this TMDL.

Scott River Sediment and Temperature TMDL, August 11, 2006

Final Temperature WLA
U.S. EPA states that there are no point sources for temperature related discharges within the area encompassed by this TMDL, so the waste load allocation is set to zero.

Final Temperature WLA Specific to the Department
U.S. EPA directed Regional Water Board staff shall evaluate the effects of the Department's state-wide NPDES permit, storm water permit, and waste discharge requirements (collectively known as the Department's Storm Water Program) by September 8, 2008. The evaluation shall determine the adequacy and effectiveness of the Department's Storm Water Program in preventing, reducing, and controlling sediment waste discharges and elevated water temperatures in the North Coast Region, including the Scott River watershed.

Final Temperature Deadlines
U.S. EPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero.

Department's Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the temperature pollutant loading is not known.

Shasta River Dissolved Oxygen and Temperature TMDL, U.S. EPA Established on December 26, 2007

Final Temperature WLA
There are no point source heat loads in the Shasta River watershed, and therefore no waste load allocations apply.

Final Temperature WLA Specific to the Department
The Department was not assigned a waste load allocation for temperature: as stated above, there are no point sources of heat loads in the Shasta River watershed.

Final Deadlines
No deadlines were specified.

Department's Pollutant Contribution
The Department's relative contribution to the temperature pollutant loading in Shasta River Watershed is not known.

I. Chloride Pollutant Category

General Description of Pollutant Category
The Department is named as a responsible party in the Santa Clara River watershed chloride TMDL.

Sources of Pollutant & How it Enters the Waterway
Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners.

Watershed Contribution
The Department does not import water and does not use self-generating water softeners.

Control Measures
The Department is expected to be in compliance with the chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

LOS ANGELES REGION CHLORIDE TMDLS

Santa Clara River Reach 3 Chloride TMDL, U.S. EPA Established on June 18, 2003

There are two major sources that discharge into Reach 3, the Santa Paula and Fillmore WRPs, that comprise approximately 80 percent of the total estimated load under flow conditions.

The Department is one of five minor point sources that discharge to Reach 3. Although the Department is a minor source, the minor discharges to the Santa Clara River are typically related to dewatering and construction projects that are covered by other NPDES permits.

Final Chloride WLA

Estimated Chloride Loads to Reach 3 Under Low Flow Conditions

Point Sources	Waste Load Allocation (mg/L)
Fillmore WRP	80
Santa Paula WRP	80
MS4 Stormwater	80

Point Sources	Waste Load Allocation (mg/L)
Construction General Permit	80
Department	80
Other Minor Permits	80
NonPoint Sources	**Load Allocation** (mg/L)
Other Tributaries to Reach 3*	80
Sespe Creek	40
Santa Clara Reach 4	100
Total	**80**
***** Although other tributaries to Reach 3 were not included in the linkage analysis above, their contributions to Reach 3 chloride loads and flows are believed to be insignificant.	

Final Chloride WLA Specific to the Department
Specific WLA for the Department is 80 mg/L.

Final Chloride Deadlines
U.S. EPA established this TMDL and it became effective on June 18, 2003. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

Department's Chloride Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the chloride pollutant loading in the Santa Clara River Reach 3 is not known.

Upper Santa Clara River Chloride TMDL, April 6, 2010
The principal source of chloride in the Upper Santa Clara River is discharges from the Saugus WRP and Valencia WRP, which are estimated to contribute 70 percent. These sources of chloride accumulate and degrade groundwater in the lower area east of Piru Creek in the basin.

Final Chloride WLA
Other minor NPDES discharges receive conditional WLAs shown below.

Reach	Concentration-based Conditional WLA for Chloride (mg/L)
6	150 (12-month Average)
	230 (Daily Maximum)
5	150 (12-month Average)
	230 (Daily Maximum)
4B	117 (3-month Average)
	230 (Daily Maximum)

Final Chloride WLA Specific to the Department
The Department is assigned the above concentration based WLAs.

Final Chloride Deadlines
The interim and final WLAs for TDS and sulfate contained in the Basin Plan Amendment are essentially established for the principal sources. The Department does not import water and does not use self-generating water softeners. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

Department's Chloride Contribution (relative contribution to pollutant loading)
The Department's relative contribution to the chloride pollutant loading in the Upper Santa Clara River is not known.

Region Specific Requirements

The Regional Water Boards have identified specific areas within their Regions requiring special conditions (Attachment V). These special conditions are needed to account for the unique value of the resource(s) within the Region, special pollutant or pollution control issues within the Region, or storm water management and compliance issues applicable to the Region. These special requirements need not be applied statewide but are applicable only to Department discharges within the Regions as specified in Attachment V. Region specific requirements are included for the North Coast, San Francisco Bay, and Lahontan Regional Water Boards.

North Coast Region

1. Sediment. Region specific requirements addressing sediment discharges in sediment-impaired watersheds in the North Coast Region are based on the "Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region," as included in the Basin Plan and Resolution No. R1-2004-0087. The Policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards. The requirements in Attachment V to systematically inventory, prioritize, control, monitor, and adapt, as well as to include a time schedule in the annual District Workplan, are consistent with region-wide excess sediment control regulations.

   The sediment requirements are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonid fishery are often the most sensitive to sediment discharges. Risks to salmonids from excessive sediment are well documented in scientific literature and include:

   - the filling of pools and subsequent reduction in available in-stream salmonid habitat;
   - burial of spawning gravels;
   - gill abrasion and death due to extremely high turbidity levels;
   - reduction in macroinvertebrate populations available as food for salmonids; and

- alterations in channel geometry to a wider, shallower channel which is subject to increases in solar heating.

2. Riparian Vegetation Requirements. Region specific requirements to protect and restore riparian vegetation are based on the Water Quality Objective for temperature. The temperature objective states, in part, that the natural receiving water temperature shall not be altered unless it can be demonstrated that such alteration does not adversely affect beneficial uses. Removal of riparian vegetation associated with Department activities has the potential to decrease shade, increase solar radiation, and raise water temperatures, and may therefore cause an exceedance of the temperature objective.

   The requirements in Attachment V direct the Department to protect and restore riparian vegetation to the greatest extent feasible. In many cases, activities involving the removal of riparian vegetation will require a 401 water quality certification, which will contain more specific conditions regarding the removal and/or establishment of vegetation.

   These requirements are intended to prevent alterations to natural receiving water temperature from Department activities. The primary mechanism in which riparian vegetation influences water temperature is through the shade. Loss of riparian vegetation and the shade that it provides can lead to increased solar radiation, hotter water temperatures, and adverse impacts to beneficial uses. The beneficial uses most sensitive to increases in water temperature are often those associated with the cold water salmonid fishery. Risks to salmonids are well documented in scientific literature and include:

   - reduced feeding rates and growth rates;
   - impaired development of embryos and alevins;
   - changes in the timing of life history events, such as upstream migration, spawning, and seaward migration;
   - increased disease infection rates and disease mortality; and
   - direct mortality.

San Francisco Bay Region

The Urban Runoff Management, Comprehensive Control Program section of the Basin Plan (Chapter 4.14) requires municipalities and local agencies, including the Department, to address existing water quality problems and prevent new problems associated with urban runoff through the development and implementation of a comprehensive control program focused on reducing current levels of pollutant loading to storm drains to the maximum extent practicable.

The Highway Runoff Control Program section of the Basin Plan (Chapter 4.14.2) requires the Department to manage and monitor pollutant sources from its ROW through development and implementation of a highway runoff management plan.

The Basin Plan comprehensive and highway runoff program requirements are designed to be consistent with federal regulations (40 C.F.R., §§ 122-124) and are implemented through issuance of NPDES permits to owners and operators of MS4s. A summary of the regulatory provisions is contained in Title 23 of the California Code of Regulations at section 3912. The Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses. The region-specific requirements in Attachment V of this Order implement the plans, policies, and provisions of the Regional Water Board's Basin Plan.

1. Trash Load Reduction.

    a. Legal Authority. The following legal authorities apply to the trash load reduction requirements specified in Attachment V:

        - Clean Water Act sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 Code of Federal Regulations sections 122.26(d)(2)(i)(B, C, D, E, and F) and 40 Code of Federal Regulations section 122.26(d)(2)(iv).
        - Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B) requires, "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."
        - Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(2) requires, "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."
        - Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(3) requires, "a description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."
        - Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(4) requires, "a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer."
        - San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board's Enclosed Bays and Estuaries Policy, Resolution 95-84, prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. This prohibition was adopted by the Regional Water Board in the 1975 Basin Plan, primarily to protect recreational uses such as boating.

b. Extent, Impacts, and Conclusions. Trash[25] and litter are a pervasive problem near and in creeks and in San Francisco Bay having major impacts on the environment, including aquatic life and habitat in those waters. Ubiquitous, unacceptable levels of trash in waters of the San Francisco Bay Region warrant a comprehensive and progressive program of education, warning, and enforcement, and certain areas warrant consideration of structural controls and treatment. Trash in urban waterways of coastal areas can become *marine debris*, known to harm fish and wildlife and cause adverse economic impacts.[26] It accumulates in streams, rivers, bays, and ocean beaches throughout the San Francisco Bay Region, particularly in urban areas.

Trash adversely affects numerous beneficial uses of waters, particularly recreation and aquatic habitat. Not all litter and debris delivered to streams are of equal concern with regard to water quality. Besides the obvious negative aesthetic effects, most of the harm of trash in surface waters is to wildlife in the form of entanglement or ingestion.[27,28] Some elements of trash exhibit significant threats to human health, such as discarded medical waste, human or pet waste, and broken glass.[29] Also, some household and industrial wastes can contain toxic batteries, pesticide containers, and fluorescent light bulbs containing mercury. Large trash items such as discarded appliances can present physical barriers to natural stream flow, causing physical impacts such as bank erosion. From a management perspective, the persistent accumulation of trash in a waterbody is of particular concern, and signifies a priority for prevention of trash discharges. Also of concern are trash *hotspots* where illegal dumping, littering, and/or accumulation of trash occur.

The narrative water quality objectives applicable to trash are Floating Material (Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses), Settleable Material (Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses), and Suspended Material (Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses).

[25] For the purposes of this provision, trash is defined to consist of litter and particles of litter. Man-made litter is defined in California Government Code section 68055.1 (g): *Litter* means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

[26] Moore, S.L., and M.J. Allen. 2000. Distribution of anthropogenic and natural debris on the mainland shelf of the Southern California Bight. *Mar. Poll. Bull*. 40:83-88.

[27] Laist, D. W. and M. Liffmann. 2000. *Impacts of marine debris: research and management needs*. Issue papers of the International Marine Debris Conference, Aug. 6-11, 2000. Honolulu, HI, pp. 16–29.

[28] McCauley, S.J. and K.A. Bjorndahl. 1998. Conservation implications of dietary dilution from debris ingestion: sublethal effects in post-hatchling loggerhead sea turtles. *Conserv. Biol*. 13(4):925-929.

[29] Sheavly, S.B. 2004. *Marine Debris: an Overview of a Critical Issue for our Oceans*. 2004 International Coastal Cleanup Conference, San Juan, Puerto Rico. The Ocean Conservancy.

The Regional Water Board, at its February 11, 2009 hearing, adopted a resolution proposing that 26 waterbodies be added to the 303(d) list for trash. The adopted Resolution and supporting documents are contained in Attachment 10.1 – 303(d) Trash Resolution and Staff Report, February 2009.

Data collected by Regional Water Board staff using the SWAMP Rapid Trash Assessment (RTA) Protocol,[30] over the 2003–2005 period,[31] suggest that the current approach to managing trash in waterbodies is not reducing the adverse impact on beneficial uses. The levels of trash in the waters of the San Francisco Bay Region are high, even with the Basin Plan prohibitions and potentially large fines. During dry weather conditions, a significant quantity of trash, particularly plastic, is making its way into storm drains and being transported downstream to San Francisco Bay and the Pacific Ocean. On the basis of 85 surveys conducted at 26 sites throughout the Bay Area, staff have found an average of 2.93 pieces of trash for every foot of stream, and all the trash was removed when it was surveyed, indicating high return rates of trash over the 2003–2005 study period.

A number of key conclusions can be made from the RTA study:

- Lower watershed sites have higher densities of trash.
- All watersheds studied in the San Francisco Bay Region have high levels of trash.
- There are trash source hotspots, usually associated with parks, schools, or poorly kept commercial facilities.
- Dry season deposition of trash, associated with wind and dry season runoff, contributes measurable levels of trash to downstream locations.
- The majority of trash is plastic at lower watershed sites where trash accumulates in the wet season. This suggests that urban runoff is a major source of floatable plastic found in the ocean and on beaches as marine debris.
- Parks that have more evident management of trash by city staff and local volunteers, including cleanup within the creek channel, have measurably less trash and higher RTA scores.

c. Trash Reduction measures shall demonstrate compliance through timely implementation of controls in all high trash generating areas for the prohibition of discharge of trash and include the following:

- Implementation of full capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchment that service the significant trash generating areas.
- Coordinate with neighboring MS4 permittees to construct, operate and maintain those controls listed above.

[30] SWAMP Rapid Trash Assessment Protocol, Version 8
[31] SWAMP S.F. Bay Region Trash Report, January 23, 2007

- Assess for the effectiveness of enhanced maintenance controls implemented in high generating trash areas, as well as coordination with local municipalities.
- Abate trash from construction and reconstruction projects.
- Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.
- Report in each Annual Report, as part of the TMDL STATUS REVIEW REPORT a per District summary of trash reduction controls and their effectiveness.

d. Costs of Trash Control. Costs for either enhanced trash management measure implementation or installation and maintenance of trash capture devices are significant, but when spread over several years, and when viewed on a per-capita basis, are reasonable. To meet Basin Plan and local MS4 requirements, trash capture devices have already been installed by other municipalities in the Bay Area.

   Cost information on various trash capture devices is included in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) BMP Trash Toolbox (July 2007). The Toolbox contains cost information for both trash capture devices and enhanced trash management measure implementation, covers a broad range of options, and also discusses operation and maintenance costs.

2. Storm Water Pump Stations. In late 2005, Regional Water Board staff investigated an occurrence of low salinity and dissolved oxygen conditions in Old Alameda Creek (Alameda County) and Alviso Slough (Santa Clara County). In the case of Old Alameda Creek, discharge of black-colored water from the Alvarado pump station to the slough was observed at the time of the data collection on September 7, 2005, confirming dry weather urban runoff as the source of the violations of the five (5) mg/L dissolved oxygen water quality objective. Such conditions were measured again on September 21, 2005.

   On October 17, 2005, waters in Alviso Slough were much less saline than the salt ponds and had the lowest documented dissolved oxygen of the summer, suggesting a dry weather urban runoff source. The dissolved oxygen sag was detected surface to bottom at 2.3 mg/L at a salinity of less than one part per thousand (ppt), mid-day, when oxygen levels should be high at the surface. The sloughs have a typical depth of six feet.

   Board staff's investigations of these incidents, documented in a memorandum,[32] found that "storm water pump stations, universally operated by automatic float triggers, have been confirmed as the cause in at least one instance, and may represent an overlooked source of controllable pollution to the San Francisco Bay Estuary and its tidal sloughs... [that] discharges of dry weather urban runoff from these pump stations are not being managed to protect water quality, and [that] surveillance monitoring has detected measurable negative water quality consequences of this current state of pump station management."

[32] Internal Water Board Memo dated December 2, 2005: "Dry Weather Urban Weather Urban Runoff Causing or Contributing to Water Quality Violations: Low Dissolved Oxygen (DO) in Old Alameda Creek and Alviso Slough."

Pump station discharges of dry weather urban runoff can cause violations of water quality objectives. These discharges are controllable point sources of pollution that are virtually unregulated. The Regional Water Board has determined that the measures included in Attachment V are necessary to address these discharges and water quality problems.

Lahontan Region

1. The Lahontan Basin Plan encourages the infiltration of storm water runoff to treat pollutants in discharges and mitigate the effects of increased runoff to surface waters from the addition of impervious surfaces. The 20-year, one-hour design storm has been historically applied and accepted as an effective requirement to mitigate discharges of storm water to surface waters in the sensitive high mountain watersheds of the Lahontan Region. Water Board staff has estimated that facilities designed to treat or infiltrate the 20-year, one-hour storm event effectively capture approximately 85 percent of the average annual runoff volume in the Lake Tahoe Basin. However, it is recognized that the natural environment provides adequate infiltration and/or treatment in areas where there is little or no connectively to surface waters. Therefore the Lahontan Water Board encourages the Department to focus implementation of storm water treatment facilities in those areas that discharge directly to surface waters to maximize water quality benefits. This requirement is applicable to existing highways and facilities in the Mammoth Lakes Area Hydrologic Unit.

2. The Natural Environment as Treatment (NEAT) study has helped identify the priority areas within the Lake Tahoe Hydrologic Unit where storm water treatment and control measure implementation has the most benefit for water quality protection. Similarly, the NEAT study has helped identify those areas where there may be limited water quality benefits associated with implementing structural treatment and control measures. The NEAT approach is also applicable in other areas. This provision is needed to focus available resources on the areas where the most water quality benefit can be achieved.

3. The October 15 to May 1 grading prohibition is necessary to reduce erosion and sedimentation from disturbed areas within the sensitive high elevation areas within the Lahontan Region. These are areas where snow fall restricts the ability to control storm water pollution through the winter months. This requirement mitigates winter erosion issues by requiring disturbed soil areas to be winterized prior to the onset of snow, and allows for exceptions where there is a compelling need.

Regional Water Board Authorities

Regional Water Boards and their staff will oversee implementation and compliance with this Order. As appropriate, they will review reports, conduct inspections, and take enforcement actions on violations of this Order.

Cost of Compliance and Other MEP Considerations

General Cost Considerations in Storm Water Regulation and Management

The Department will incur incremental costs in implementing this Order, such as the cost of complying with the Order's storm water treatment BMP, post-construction, hydromodification, Low Impact Development, and monitoring and reporting requirements. The Department will also incur additional costs in following the iterative process as required by the Order. The cost of complying with TMDL waste load allocations is not considered since TMDLs are not subject to the MEP standard.

In adopting Order WQ 2000-11, the State Water Board found that cost is a relevant factor, among others such as feasibility and public acceptance that should be considered in determining MEP. The State Water Board considered the costs in preparing this Order and has determined that the costs reflect the MEP standard. The State Water Board further found in adopting Order WQ 2000-11 that in considering the cost of compliance, it is also important to consider the costs of impairment; that is, the negative impact of pollution on the economy and the positive impact of improved water quality. So, while it is appropriate and necessary to consider the cost of compliance, it is also important to consider the larger economic impacts of implementation of the storm water management program.

Many studies have been undertaken to assess the cost of compliance with storm water permits. Most studies have focused on municipal programs as opposed to "linear MS4s" or Departments of Transportation. A study by the Los Angeles Regional Water Board reported wide variability in the cost of compliance among municipal permit holders which was not easily explained (LARWQCB, 2003).

In 1999, U.S. EPA reported on multiple studies it conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be $9.16 per household. U.S. EPA also studied 35 Phase I municipalities, finding costs to be similar to those anticipated for Phase II municipalities, at $9.08 per household annually (U.S. EPA, 1999a).

A program cost study was also conducted by the Los Angeles Regional Water Board, where program costs reported in the municipalities' annual reports were assessed. The Water Board estimated the average per household cost to implement the MS4 program in Los Angeles County was $12.50.

The State Water Board also commissioned a study by California State University, Sacramento to assess costs of the Phase I MS4 program. This study is current and includes an assessment of costs incurred by the City of Encinitas in implementing its program. Annual cost per household ranged from $18-46, with the City of Encinitas representing the upper end of the range (SWRCB, 2005). The cost of the City of Encinitas' program is understandable, given the city's coastal location, reliance on tourism, and additional costs resulting from a consent decree with environmental groups regarding its program. For these reasons, as well as the general recognition the city receives for implementing a superior program, the city's program cost can be considered as the high end of the spectrum for municipal storm water management program costs.

The California Department of Finance (Finance, 2003) conducted a comprehensive review of the Department's storm water program. Finance noted widely divergent compliance cost estimates produced by regulators and environmental organizations versus consultant's estimates. Finance also had difficulty identifying compliance costs because of the way storm water activities are integrated with other functions and allocated among the different divisions within the Department, and because they are funded from different sources. Finance made three findings related to cost:

- The projected costs of compliance are escalating.
- Storm water compliance costs are integrated into many of the Department's business processes and are not accurately tracked.
- As storm water compliance costs increase, the amount of funding available for highway projects decreases, which reduces the number of projects that can be constructed.

The review concluded that balancing costs and benefits is a difficult policy decision and there should be a recognition of the trade-offs associated with resource allocation decisions given the Department's limited resources.

It is important to note that storm water program costs are not all attributable to compliance with MS4 permits. Many program components and their associated costs existed before any MS4 permits were issued. For example, for the Department, storm drain maintenance, street sweeping and trash/litter collection costs cannot be solely or even principally attributable to MS4 permit compliance since these practices have long been implemented before the MS4 permit was issued. Even many structural BMPs (erosion protection, energy dissipation devices, detention basins etc.) are standard engineering practice for many projects and are not implemented solely to comply with permit provisions. Therefore, the true cost resulting from MS4 permit requirements is some fraction of the cost to operate and maintain the highway system.

The California State University, Sacramento study found that only 38 percent of program costs are new costs fully attributable to MS4 permits. The remainder of program costs was either pre-existing or resulted from enhancement of pre-exiting programs (SWRCB, 2005). The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement its Drainage Area Management Plan is less than 20 percent of the total budget. The remaining 80 percent is attributable to pre-existing programs (County of Orange, 2007). Any increase in cost to the Department by the requirements of this Order will be incremental in nature.

Storm water management programs cannot be considered solely in terms of their costs. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by U.S. EPA to be $158-210 per household (U.S. EPA, 1999a). This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates U.S. EPA's estimates, reporting annual

household willingness to pay for statewide clean water to be $180 (SWRCB, 2005). Though these costs may be assessed differently at the state level (for the Department) than at the municipal level, the results indicate that there is public support for storm water management programs and that costs incurred by the Department to implement its storm water management program remain reasonable.

It is also important to consider the cost of not implementing a storm water management program. Urban runoff in southern California has been found to cause illness in people bathing near storm drains (Haile et al.,1996). A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8 percent among bathers at those beaches resulted in about $3 million annually in health-related expenses (Lin, 2005). Extrapolation of such numbers to the beaches and other water contact recreation areas in the state would increase these numbers significantly.

Storm water runoff and its impact on receiving waters also impacts the tourism industry. The California Travel and Tourism Commission (2009) estimated that in 2008 direct travel spending in California was $97.6 billion directly supporting 924,000 jobs, with earnings of $30.6 billion. Travel spending in 2008 generated $1.6 billion in local taxes and $2.8 billion in state taxes. Impacts on tourism from storm water runoff (e.g. beach closures) can have a significant impact on the economy. The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately eight miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

Cost Considerations Relative to the Department
In written comments and before the Board, the Department has stated that the requirements of the first public drafts would impose prohibitive costs on the Department at a time of economic difficulty and limited resources. State Water Board staff has carefully considered the Department's comments and revised the draft Tentative Order to continue to address critical water quality problems in consideration of the cost of compliance.

State Water Board staff completed a Draft Tentative Order and submitted it to the Department, U.S. EPA, and the Natural Resources Defense Council for informal stakeholder review in the fall of 2010. Further review was provided by the Regional Water Boards. Staff revised the Draft Tentative Order to address the informal comments received and released it for public review on January 7, 2011 (Draft Tentative Order). Approximately 330 comments from 16 commenters were received on the Draft Tentative Order, and a public hearing was held on July 19, 2011. Staff further revised the Draft Tentative Order and released a Revised Draft Tentative Order on August 18, 2011 (Revised Draft Tentative Order). Approximately 220 comments from 33 commenters were received on the Revised Draft Tentative Order, and a State Water Board workshop was held on September 21, 2011. In each set of comments and before the Board, the Department expressed significant concerns with the cost of compliance with the Tentative Orders.

On October 6, 2011, the California Senate Select Committee on California Job Creation and Retention held a hearing on the economic impacts of the State Water Board's three general or statewide storm water permits that were under renewal: the Phase II Small MS4 permit, the Industrial General Permit, and the Department's MS4 permit. The Executive Director of the State Water Board testified at the hearing that the comments regarding cost of compliance with the permits were being considered carefully and that the three permits required substantial revision to address the comments. State Water Board staff held bi-weekly meetings with the Department in October through December 2011 to discuss their concerns. Revisions resulting from these meetings are contained in the Second Revised Draft Tentative Order which was released for public review on April 27, 2012 (Second Revised Draft Tentative Order).

This section is a general discussion of the cost of compliance with the Second Revised Draft Tentative Order and of current expenditures by the Department to comply with the existing permit (Order 99-06-DWQ) (Existing Permit). It also discusses the more significant changes between the Revised Draft and Second Revised Draft Tentative Orders.

It is very difficult to precisely determine the true cost of implementation of the Department's storm water management program as affected by this Order. Due to the extensive, distributed nature of the Department's MS4, permit requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined, and the difficulty in isolating program costs attributable to permit compliance, only general conclusions can be drawn from this information.

The Department has made a number of estimates of the cost of complying with the Draft and Revised Draft Tentative Orders. Generally, the Department's estimates are based on worst-case scenarios or the most restrictive interpretation of the Tentative Orders. In a presentation to a meeting of the American Association of State Highway and Transportation Officials (AASHTO) on June 22, 2011,[33] the Department's Chief Environmental Engineer, Scott McGowen estimated the annual cost of compliance at $281million. This estimate was based on the January 7, 2011 Draft Tentative Order. At the July 19, 2011 public hearing, the Department estimated the annual compliance cost at approximately $450 million, based on the same January 7, 2011 Draft Tentative Order. At the September 21, 2011 State Water Board workshop, the Department estimated an annual compliance cost of $904 million, based on the requirements of the August 18, 2011 Revised Draft Tentative Order. It should be noted that the August 18 draft removed or modified a number of provisions that were expected to reduce the cost of compliance.

Annual expenditures for the Department's storm water management program under the Existing Permit (DWQ 99-06) are provided in the Department's annual reports. For fiscal years 2007-08 through 2010-11, the Department reported annual personal services and

[33] Caltrans NPDES Tentative Order, Natural Systems and Ecological Communities Subcommittee at the National Planning and Environmental Practitioners Meeting. AASHTO, June 22, 2011.

operating expenses of $93.8 million, $93.6 million, $75.2 million, and $89.2 million. These figures do not include the cost of capital improvements needed to comply with the permit.

State Water Board staff estimated the capital expenditures for the Existing Permit in two ways. First, the Department provided the number of post-construction storm water treatment BMPs installed in 2009-10 and 2010-11 along with typical unit costs for each BMP. In 2007-08, the Department spent approximately $74.7 million for 396 treatment BMPs, $104.5 million in 2009-10 for 667 treatment BMPs, and $75.7 million in 2010-11 for 506 treatment BMPs. The Department indicated that anomalies in the data for 2008-09 make them unreliable and they are therefore not included. The Department also indicated that the unit cost factors do not include costs for design, ROW and other related elements. The estimates therefore can be considered on the low side.

Second, capital expenditures were estimated from budget appropriations from the Department's State Highway Operation and Protection Program (SHOPP) as reported in the 2008-09 annual report. The SHOPP account is the primary source of funding for storm water-related capital expenses. Storm water compliance costs are not consistently reported in the annual reports; however, the 2008-09 annual report contains sufficient information to make an estimate. The capital value of the SHOPP "storm water mitigation element" for fiscal years 2009-10 through 2012-13 is $640 million, including capital outlay support, or about $160 million per year.

Using average personal services and operating expenses for the last four years ($88 million) and average annual programmed SHOPP funding, the Department's expenditures to comply with the Existing Permit amount to approximately $248 million.

As stated above, the Department has estimated cost of compliance with the Draft Tentative and Revised Draft Tentative Orders variously at $281 to $904 million. These estimates are based on "worst case scenarios" and on the most restrictive interpretations of the Orders' requirements. In preparing the Second Revised Tentative Order, staff worked to provide greater clarity and certainty to the Department on the scope of permit obligations and to eliminate compliance costs that were not expected to yield significant water quality benefits. With the exception of a lowering of the post-construction treatment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to 5,000 square feet[34], no requirements have been added to the Second Revised Draft Tentative Order that would materially increase the cost of compliance over the Revised Draft Tentative Order. In contrast, a number of substantive requirements have been removed, replaced or modified from the Revised Draft Tentative Order with the goal of focusing the Department's limited resources on the most significant water quality issues. These changes are expected to result in a lower cost of compliance with the Second Revised Draft Tentative Order as compared to the Revised Tentative Order. These include:

[34] The threshold was lowered for consistency with the draft statewide Phase II Small MS4 General Permit and with regional MS4 permits.

1. Water quality monitoring program.
   a. Replaced random compliance-driven monitoring approach with a tiered approach focusing on ASBS and TMDL watersheds, and deferring to the monitoring requirements specified in the ASBS Special Protections and TMDLs.
   b. Deleted sampling pool, water quality action levels, and response process flow chart.
   c. Removed 29 constituents from the monitoring constituent list.
   d. Limited the monitoring for new constituents to TMDL watersheds.
   e. For sites with existing monitoring data, limited BMP retrofits to 15 percent of the highest priority sites.
   f. Deleted the long-term monitoring program.
   g. Deleted maintenance facility compliance monitoring.

2. Project Planning and Design.
   a. Raised the treatment threshold for highway projects from 5,000 square feet of new impervious surface to one acre.
   b. Deleted the requirement for pilot Low Impact Development retrofits and effectiveness evaluations.

3. Hydromodification.
   a. Removed requirement for programmatic stream stability assessments and a retrofit implementation schedule.
   b. Raised the risk assessment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to one acre.

4. Region Specific Requirements – removed, modified or scaled back requirements for the San Francisco Bay, Los Angeles, Central Valley, Lahontan, and San Diego Regional Water Boards with the goal of maximizing statewide consistency of requirements for the Department.

5. Construction Program – replaced requirement to inspect contractor operations outside the ROW with a requirement to include compliance language in its construction contracts.

6. TMDLs – Revised Attachment IV to more precisely identify the TMDLs applicable to the Department and shifted responsibility to prepare TMDL implementation plans from the Department to the Regional Water Boards.

7. ASBS – Added Attachment III to identify priority Department ASBS outfalls for installation of controls.

8. Maintenance Program.
   a. Deleted the requirement to report the amount of waste and debris removed from drainage inlets.
   b. Replaced the site-by-site characterization of waste management sites with a programmatic characterization.
   c. Deleted the requirement to prepare and implement a storm drain system survey plan.

d. Replaced quantitative measurements of trash and litter removal with estimated annual volumes.

9. Non-Storm Water.
   a. Deleted surveillance monitoring of agricultural return flows.
   b. Deleted characterization monitoring of slope lateral drains.

Though no firm conclusions or precise estimates can be drawn from this analysis, it is expected that the revisions to the Revised Draft Tentative Order will significantly reduce the cost of compliance.

ATTACHMENT I
Incident Report Form

Type of incident: ☐ **Field** ☐ **Administrative**	
Name of person completing this form:	Person's agency name and address:
_____	Person's phone and e-mail:

For Field incidents complete Sections 1 and 3. For Administrative incidents complete Section 2. See Non-Compliance Notification Schedule on Page 2.

SECTION 1: Field incidents

Date(s) and time(s) of incident:	1. Start date / time:
	2. End date / time:
Location of Incident:	3. Nearest city / town:
	4. Street address / nearest cross street:
	5. Latitude / Longitude:
County: _____	6. Additional location detail:
Materials involved in the incident: (use Comments Section below if necessary):	6. Name(s) of material(s) discharged:
	7. Approximate quantity discharged (specify units):
	8. Approximate concentration of material:
Discharge to surface water? ☐ **No** ☐ **Yes** If yes, answer questions 9-11	9. Name of waterbody:
	10. Apparent effects (if any) on waterbody:
	11. Estimated extent of impacts to waterbody:
Was CalEMA notified? ☐ **No** ☐ **Yes** If yes, answer questions12-14	12. Date and time of notification:
	13. Name of person making the notification:
	14. Phone number of person making the notification:
Was the Regional Water Board (RWB) notified? ☐ **No** ☐ **Yes** If yes, answer questions 15-17	15. Name of RWB contact:
	16. RWB contact's phone / e-mail:
	17. Name of person making the notification:
Were downgradient communities / people notified? ☐ **No** ☐ **Yes** If yes, answer questions 18 - 20	18. Date and time of notification:
	19. Name of person making the notification:
	20. Phone number of person making the notification:
	21. Name of downgradient community/ person:

Field Non-Compliance (check all that apply**)**	
	Lack of BMP(s), ineffective implementation of BMP(s), or failure of BMP(s) resulted in a discharge of pollutants to surface water.
	Monitoring data indicates an exceedance of a defined standard. Defined standards include TMDL Waste Load Allocations, and water quality standards in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, including California Ocean Plan limitations and prohibitions.
	Discharge of prohibited non-storm water.
	Failure to comply with Facility Pollution Prevention Plan (FPPP) requirements.
	Failure to comply with inspection, monitoring, and reporting requirements and protocols.
	Other (describe - use Comments Section below if needed):

SECTION 2: Administrative Non-Compliance (check all that apply**)**

	Failure to submit reports or documents required by the Permit and/or SWMP, failure of timely submittal, and/or failure to submit required information.
	Failure to develop and/or maintain a site-specific FPPP or to implement any other procedural requirement of the Permit.
	Other (describe - use Comments Section below if needed):

SECTION 3: Description of Incident

Activities in the area prior to the incident (If any):
Initial assessment of any impact caused by the discharge (If any):
Samples collected and analyses requested (If any):
Steps taken to mitigate damage and prevent reoccurrence (If any):
Current Status:
Schedule for proposed mitigation/abatement (If any):
Other Comments:

Non-Compliance Notification Schedule

Type of Incident	Within 5 Working Days (Verbal)	Within 10 Working Days (Written)	Within 30 Calendar Days (Written)	In Annual Report
Emergency Incidents[1]	–	–	–	Chronological summary and status of all incidents
Field[2]	Notify RWB Executive Officer	To RWB Executive Officer and copies to Dept. HQ	–	Chronological summary and status of all incidents
Administrative[3]	Notify RWB Executive Officer or SWB Contact[3]	–	To RWB Executive Officer, SWB Executive Director, and copies to Dept. HQ.	Chronological summary and status of all incidents

[1] Sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.

[2] Failure to meet any non-administrative requirement of the SWMP or Permit or to meet any applicable water quality standard. This includes failure to install required BMPs or conduct required monitoring or maintenance. It also includes discharges or prohibited non-storm water that do not meet the definition of emergency incidents. It does not include determinations by the Department or a Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS. See provision E.2.c.6)c).

[3] Failure to meet any administrative or procedural requirement of the SWMP or Permit including submission of required reports, notifications and certifications. The report of non-compliance shall be submitted to the same organization (State or Regional Water Board) to which the required report was originally due.

Certification – I certify that under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Contractor (if applicable)	Title	Telephone	Date:
Signature of Department Representative	Title	Telephone	Date:

ATTACHMENT II

Monitoring Constituent List
(Not Applicable to ASBS Discharges)

Constituent	Analytical Method	Reporting Limit[35]	Units
WATER COLUMN CHEMISTRY			
Conventional Pollutants			
Hardness as CaCO3	SM 2340 B or C	5	mg/L
pH	Calibrated Field Instrument		pH Units
Temperature	Calibrated Field Instrument		C +/-
Flow Rate	Calibrated Field Instrument		ft^3/s
Total Dissolved Solids	EPA 160.1	1	mg/L
Total Suspended Solids	EPA 160.2	1	mg/L
Hydrocarbons			
Oil & Grease	EPA 1664B	1.4	mg/L
Polycyclic Aromatic Hydrocarbons (Total)	EPA 8310	0.05	µg/L
Nutrients			
Total Kjeldahl Nitrogen (TKN)	EPA 351.3	100	µg/L
Nitrate as Nitrogen (NO_3-N)	EPA 300.0	100	µg/L
Phosphorous (Total)	EPA 365.2	30	µg/L
Metals			
Aluminum (Total)	EPA 200.8	25	µg/L
Chromium (Total)	EPA 200.8	1	µg/L
Copper (Total)	EPA 200.8	1	µg/L
Iron (Total)	EPA 200.8	1	µg/L
Lead (Total)	EPA 200.8	1	µg/L
Zinc (Total)	EPA 200.8	5	µg/L
Microbiological			
Fecal Coliform	SM 9221 C E	2	MPN/100 mL
Enterococcus[36]	EPA 1600	2	CFU/100 mL
WATER COLUMN TOXICITY			
Chronic[37]	EPA 821-R-02-013	Pass/Fail	

[35] Reporting limits should be sufficient enough to detect the presence of a constituent based on the applicable Regional Water Board Basin Plan. If no limit is specified in the Basin Plan, the reporting limit specified in this table will be used. If no limit is specified in this table, then the Regional Boards shall be consulted.
[36] Only applicable for direct discharges to marine waters. See definition of direct discharges and indirect discharges in Attachment VIII (glossary).
[37] To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used.

ATTACHMENT II

ASBS Monitoring

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

TABLE B
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	µg/L
Cadmium	µg/L
Chromium	µg/L
Copper	µg/L
Lead	µg/L
Mercury	µg/L
Nickel	µg/L
Selenium	µg/L
Silver	µg/L
Zinc	µg/L
Cyanide	µg/L
Total Chlorine Residual	µg/L
Ammonia (as N)	µg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	µg/L
Chlorinated Phenolics	µg/L
Endosulfan	µg/L
Endrin	µg/L
HCH	µg/L

Analytical Chemistry Methods: All constituents shall be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, shall be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

ATTACHMENT III

ASBS PRIORITY DISCHARGE LOCATIONS

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
SAU020A	1	Saunders Reef	-123.65273	38.85916
SAU019A	1	Saunders Reef	-123.6528	38.86067
SAU016A	1	Saunders Reef	-123.65237	38.85849
SAU015	1	Saunders Reef	-123.65178	38.85612
SAU013A	1	Saunders Reef	-123.6514	38.85451
SAU014	1	Saunders Reef	-123.6517	38.8551
SAU011A	1	Saunders Reef	-123.64853	38.8527
SAU008	1	Saunders Reef	-123.6478	38.8521
SAU006A	1	Saunders Reef	-123.64777	38.85186
SAU009A	1	Saunders Reef	-123.64809	38.85254
RED023	1	Redwoods National Park	-124.1017	41.60527
RED027	1	Redwoods National Park	-124.10126	41.59657
RED028	1	Redwoods National Park	-124.10101	41.59729
RED018A	1	Redwoods National Park	-124.1061	41.613
RED015	1	Redwoods National Park	-124.11257	41.62928
RED014	1	Redwoods National Park	-124.11296	41.63059
RED017A	1	Redwoods National Park	-124.10571	41.61195
FIT012	2	James V. Fitzgerald	-122.516861	37.531406
ANO030	3	Ano Nuevo	-122.30121	37.11334
ANO033	3	Ano Nuevo	-122.29881	37.11202
ANO001	3	Ano Nuevo	-122.306364	37.121672
ANO002	3	Ano Nuevo	-122.30534	37.11987
ANO035	3	Ano Nuevo	-122.29297	37.10714
ALT004	4	Laguna Point to Latigo Point	-119.059097	34.08609
MUG005	4	Laguna Point to Latigo Point	-119.03821	34.083896
ALT005	4	Laguna Point to Latigo Point	-119.054291	34.085415
ALT006	4	Laguna Point to Latigo Point	-119.048653	34.085361
MUG008	4	Laguna Point to Latigo Point	-119.036389	34.083644
MUG010	4	Laguna Point to Latigo Point	-119.014826	34.070804
MUG013	4	Laguna Point to Latigo Point	-118.993551	34.065445
MUG016	4	Laguna Point to Latigo Point	-118.987069	34.062852
ALT008	4	Laguna Point to Latigo Point	-118.985931	34.062325

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
MUG028	4	Laguna Point to Latigo Point	-118.974165	34.058928
ALT009	4	Laguna Point to Latigo Point	-118.975975	34.059978
MUG031	4	Laguna Point to Latigo Point	-118.968706	34.056265
MUG041	4	Laguna Point to Latigo Point	-118.964271	34.053461
MUG046	4	Laguna Point to Latigo Point	-118.960862	34.052112
MUG048	4	Laguna Point to Latigo Point	-118.9594833	34.05172
MUG049	4	Laguna Point to Latigo Point	-118.9594333	34.05165
MUG051	4	Laguna Point to Latigo Point	-118.957316	34.050937
ALT011	4	Laguna Point to Latigo Point	-118.939404	34.045355
MUG053	4	Laguna Point to Latigo Point	-118.95539	34.050248
MUG059	4	Laguna Point to Latigo Point	-118.9515	34.048835
MUG058	4	Laguna Point to Latigo Point	-118.95042	34.048355
ALT010	4	Laguna Point to Latigo Point	-118.948184	34.047873
MUG061	4	Laguna Point to Latigo Point	-118.94834	34.047675
MUG077	4	Laguna Point to Latigo Point	-118.9345833	34.04513
MUG078	4	Laguna Point to Latigo Point	-118.934358	34.045431
MUG070	4	Laguna Point to Latigo Point	-118.9320000	34.04600
MUG066	4	Laguna Point to Latigo Point	-118.924654	34.04714
MUG073	4	Laguna Point to Latigo Point	-118.922723	34.046418
MUG135	4	Laguna Point to Latigo Point	-118.897426	34.041983
MUG147	4	Laguna Point to Latigo Point	-118.894154	34.041553
MUG150	4	Laguna Point to Latigo Point	-118.889212	34.040872
MUG187	4	Laguna Point to Latigo Point	-118.869505	34.039285
SAD0950	4	Laguna Point to Latigo Point	-118.8385500	34.02699
SAD0960	4	Laguna Point to Latigo Point	-118.8375000	34.02619
SAD0970	4	Laguna Point to Latigo Point	-118.8364600	34.02535
SAD0980	4	Laguna Point to Latigo Point	-118.8348600	34.02435
MUG318	4	Laguna Point to Latigo Point	-118.834316	34.023879
SAD0990	4	Laguna Point to Latigo Point	-118.8326600	34.02302
SAD1000	4	Laguna Point to Latigo Point	-118.8303400	34.02123
MUG355	4	Laguna Point to Latigo Point	-118.829258	34.02122

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
SAD1030	4	Laguna Point to Latigo Point	-118.827049	34.018711
SAD1040	4	Laguna Point to Latigo Point	-118.8256600	34.01748
SAD1050	4	Laguna Point to Latigo Point	-118.8249200	34.01700
SAD1060	4	Laguna Point to Latigo Point	-118.8225400	34.01559
ALT017	4	Laguna Point to Latigo Point	-118.777059	34.025805
MUG346	4	Laguna Point to Latigo Point	-118.783588	34.02508
MUG283	4	Laguna Point to Latigo Point	-118.765915	34.02589
IRV020	8	Irvine Coast	-117.840190	33.576001
IRV009	8	Irvine Coast	-117.830393	33.566251
IRV007	8	Irvine Coast	-117.828078	33.565343
IRV001	8	Irvine Coast	-117.81858	33.558
IRV002	8	Irvine Coast	-117.821484	33.560705
CAR007B	3	Carmel Bay	-121.923798	36.52499
CAR006	3	Carmel Bay	-121.92457	36.52469

Total Maximum Daily Load Requirements

Attachment IV prescribes the implementation requirements for the Total Maximum Daily Loads (TMDLs) in which the Department of Transportation (Department) has been identified as a responsible party. The TMDLs in this attachment have been (1) adopted by the Regional Water Quality Control Boards (Regional Water Boards) and approved by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law or the United States Environmental Protection Agency (U.S. EPA), or (2) established by U.S. EPA.

Section I of this attachment provides directions and general guidance on development of a prioritized list of reaches for implementation actions. Section II identifies the applicable TMDLs and implementation requirements. Section II also contains TMDL-specific permit requirements for the Lake Tahoe Sediment/Nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. Section III prescribes the general implementation requirements applicable to all TMDLs, and the specific requirements applicable to each pollutant category.

The TMDLs addressed in this attachment were developed by numerous parties over many years, and vary widely in their implementation requirements. As explained in further detail in the Fact Sheet for this Order, Attachment IV establishes consistent implementation requirements among the TMDLs by separating them into one of eight categories by pollutant type, based upon the common treatment and control actions associated with each pollutant type. Each impaired waterbody will be prioritized for implementation by reach, with a fixed number of "compliance units" that must be achieved each year so that all TMDLs are addressed in 20 years. Effectiveness monitoring of the treatment and control actions is required to inform an adaptive management process.

The following eight TMDL pollutant categories have been established for TMDL implementation[38]:

1. Sediment/Nutrients/Mercury/Siltation/Turbidity
2. Metals/Toxics/Pesticides
3. Trash
4. Bacteria
5. Diazinon
6. Selenium
7. Temperature
8. Chloride

The Department shall comply with the requirements of Attachment IV. These requirements are directly enforceable through Order 2012-0011-DWQ (Order).

[38] Some TMDLs containing multiple pollutants have been separated according to the categories that best address the individual pollutants.

Section I. TMDL Prioritization and Implementation

A. Reach Prioritization for Pollutant Categories

The Department shall prioritize all TMDLs for implementation of source control measures and best management practices (BMPs). Prioritization shall be consistent with the final TMDL deadlines to the extent feasible. Prioritization shall be conducted separately for each pollutant category and shall be based on an evaluation of each reach of applicable receiving waters within the watershed with a TMDL. The Department shall conduct the prioritization using the following five steps:

1. Complete an inventory of reaches. If reaches are defined in a TMDL, the Department may use that delineation for developing the inventory. If no reaches are specified in the TMDL, the Department shall delineate the receiving water into reaches.

2. Segregate the inventory of reaches according to the pollutant categories listed below in Section III, B through I (Categorical Inventories of Reaches). Individual reaches may be present in multiple pollutant categories.

3. Rank the reaches in each TMDL category in accordance with a procedure similar to that presented in Table IV.1. below.

4. Submit the prioritized Categorical Inventories of Reaches to the State Water Board **by October 1, 2014**, for Regional Water Board and State Water Board consideration. The State Water Board will provide public notice of the submission and the submission will be subject to a 30-day public comment period.

5. The Department shall collaborate with the State Water Board and Regional Water Boards on a final prioritization for each of the Categorical Inventories of Reaches. Factors that may be considered in the final prioritization will include, but not be limited to:

    a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS,
    b. Multiple TMDLs that can be addressed by a single BMP or a suite of BMPs within a reach,
    c. TMDL deadlines specified in a Basin Plan,
    d. Regional Water Board and State Water Board priorities,
    e. Accessibility for construction and/or maintenance (e.g., safety considerations), and
    f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

B. Implementation

Following completion of the process described in Section I.A, the State Water Board Executive Director will approve, with any changes, the final prioritized Categorical Inventories of Reaches. The Department shall then select and begin implementation actions, as specified in Sections II and III, within the highest priority reaches to achieve at least the minimum number of compliance units as described below.

1. The Department shall include the following information regarding implementation of control measures in the selected reaches for the upcoming reporting period in the ***TMDL STATUS REVIEW REPORT***, as required in Section E.4.b. of the Order:
   a. Name of the waterbody,
   b. Associated TMDL(s),
   c. Proposed control measures,
   d. Proposed number of compliance units per control measure, and
   e. Projected schedule for installation of control measures with anticipated beginning and ending dates***.***

2. The Department shall also include in the ***TMDL STATUS REVIEW REPORT***[39] a discussion of previous years' activities including:
   a. The status of implementation activities,
   b. The location of the control measures,
   c. The size and type of BMPs that were installed,
   d. The effectiveness of the BMPs installed, including any pertinent monitoring data (e.g., influent vs. effluent data),
   e. A summary update of any cooperative implementation agreements (see Attachment IV, section II.B.1), including those that are solely for each TMDL,
   f. A summary update of activities and/or actions that have been completed for any cooperative implementation agreement for each TMDL,
   g. A summary update of projects initiated under the cooperative implementation grant program (see Attachment IV, section II.B.2),
   h. A summary update of activities and/or actions that have been completed for any projects under the cooperative implementation grant program,
   i. A summary of institutional control measures implemented to comply with Attachment IV,
   j. A summary of TMDLs adopted during the past year where the Department is assigned a WLA or the Department is identified as a responsible party in the implementation plan,
   k. A discussion, supported by data and analysis, of whether the Department considers work in the reach complete because it has met WLAs and other TMDL performance criteria, and

[39] Per section III.A.3.a of this attachment, by January 1, 2015, the Department shall submit the required information regarding planned implementation of control measures for the first upcoming reporting period (after permit amendment per Order WQ 2014-0077-DWQ) of January 1, 2015 – October 1, 2015.

l. Any other information requested by the State Water Board Executive Director or designee.

Control measures and implementation schedules proposed for the upcoming year are subject to the approval of the Executive Director of the State Water Board or designee.

3. Each year the Department shall select and begin implementation activities within the highest priority reaches to achieve a minimum of 1650 compliance units. A compliance unit is defined as one acre of the Department's Right-of-Way (ROW) from which the runoff is retained, treated, and/or otherwise controlled prior to discharge to the relevant reach. Compliance units may be credited to the Department for the following actions:

   - stand-alone BMP retrofits,
   - cooperative implementation,
   - monitoring program-related retrofits,
   - post-construction treatment beyond permit requirements, and
   - other pollution reduction practices necessary to comply with the TMDL.

   Compliance units, unless specifically stated below, are credited only when the Department begins implementation of an action listed above.[40] Once compliance units have been credited for a site, the Department may not receive credit for additional compliance units at that location for additional activities or corrective measures needed to bring the site into compliance. See Section III.A.2. Credit may be received, however, for new activities within the same reach that do not treat the runoff from a site that has already received treatment.

4. The Department may receive credit for compliance units by contributing funds to Cooperative Implementation Agreements and/or the Cooperative Implementation Grant Program (see Section II.B. below). The Department may receive credit for one compliance unit for each $88,000 that it contributes. For Cooperative Implementation Agreements, the credit will be received when the Department transfers the funds to a responsible party. For the Cooperative Implementation Grant Program, the credit will be received when the Department transfers the funds to the State Water Board.

5. No credit will be given to post-construction BMPs that only meet the minimum requirements of this Order (Section E.2.d.2)a)). Other projects within a TMDL watershed where treatment is provided above and beyond the post-construction requirements in this Order, may receive compliance units according to the following formula:

[40] For purposes of Section I.B of this attachment, implementation means that a project has entered the Project Initiation Document (PID) phase, the process used by the Department to explain the scope, funding commitment, and approval of a transportation project (http://www.dot.ca.gov/hq/oppd/pdpm/other/PDPM-Chapters.pdf).

$[(V_t-V_o)/p_{85}]*12$ = acres treated (compliance units calculated to the nearest 0.1)
Where, V_t = Planned volume of runoff to be treated (acre-ft.),
V_o = Volume of runoff from 85th percentile, 24-hour storm event (acre-ft.),
p_{85} = depth of the 85th percentile, 24-hour storm event (inches).

Table IV.1 – Reach Prioritization Scoring Matrix
The rating factors in this table are intended as guidance. Each pollutant category will be ranked separately.

Rating Factor	Criteria		
	High	**Medium**	**Low**
Impairment Status: Percent reduction needed	Over 75%	25% - 75%	Below 25%
Department's Drainage Area Contributing to the Reach	Over 5% of drainage area	Between 1% and 5% of drainage area	Less than 1% of drainage area
Proximity to Receiving Waters	Over 75% of ROW within 0.25 miles of reach	Between 25% and 75% of ROW within 0.25 miles of reach	Less than 25% of ROW within 0.25 miles of reach
Community Environmental Health Impact	Top 3 categories	Middle 4 categories	Lower 3 categories

Impairment Status
The degree of impairment of the waterbody, measured by the percent pollution reduction needed to achieve the WLA. Reaches with higher degrees of impairment will be given higher priority. Consider all sources of impairment when making this determination.

Department's Contributing Drainage Area
The contributing drainage area from the Department's ROW is relative to the watershed draining to the reach.

Proximity to Receiving Waters
This rating factor measures the relative proximity of the Department's ROW to the reach of the water that receives runoff from the Department's ROW. Sites discharging through conveyances within 0.25 miles of the pertinent reach are considered to have greater potential to contribute pollutants and receive a higher rating.

Community Environmental Health Impact
This rating factor requires use of the California Office of Health Hazard Assessment (OEHHA) evaluation tool "Enviroscreen" which can be found at http://oehha.ca.gov/ej/ces11.html. This tool should be used to assess environmental justice issues. Outcomes are segregated into 10 categories ranging from low to high environmental justice scores. Higher scores indicate that there is a higher potential for environmental justice issues to be present at a site.

Section II. Applicable TMDLs and Implementation Requirements

A. For each reach for which the Department has committed to begin implementation actions in accordance with Section I of this attachment, the Department shall do one of the following:

1. Implement the requirements in Table IV.2 applicable to that reach ensuring that all BMPs installed meet the minimum requirements specified in the following permit sections:
   - E.2.d.1) (Design Pollution Prevention Best Management Practices),
   - E.2.d.2)b) (Numeric Sizing Criteria for Storm Water Treatment Control BMPs),
   - E.2.e.1) (BMP Development and Implementation, Vector Control),
   - E.2.e.2) (BMP Development and Implementation , Storm Water Treatment BMPs),
   - E.2.e.3) (BMP Development and Implementation, Wildlife), and
   - E.2.e.4) (BMP Development and Implementation, Biodegradable Materials) of this Order.

In addition, the Department shall ensure that all BMPs installed do not cause a decrease in lateral (bank) or vertical (channel bed) stability in receiving stream channels.

2. Demonstrate that it has entered into or intends to enter into a Cooperative Implementation Agreement with other parties having responsibility for the TMDL, as specified below under Cooperative Implementation Agreements.

3. Identify cooperative implementation grants that have been awarded to other parties having responsibility for the TMDL, as specified below under Cooperative Implementation Grant Program.

B. Cooperative Implementation

1. Cooperative Implementation Agreements

a. The Department is encouraged to establish agreements for cooperative implementation efforts, such as joint implementation actions and/or special implementation studies with other parties that have responsibility for the TMDL, except where precluded by a TMDL or where specific implementation requirements are prescribed in Table IV.2. Cooperative agreements that only involve monitoring are not eligible for compliance units.

b. Where the Department has existing cooperative implementation agreements with other responsible parties, it shall fulfill the commitments and requirements of those agreements.

c. Where the Department has not yet committed to cooperative implementation efforts, but intends to do so, the Department must provide written notification,

including the anticipated date of commitment, to the State Water Board in its ***TMDL STATUS REVIEW REPORT***.

d. Cooperative agreements relative to the TMDL implementation activity are subject to approval by the applicable Regional Water Board Executive Officer. Cooperative agreements shall describe the terms of the mutually agreed activities to be performed, and at a minimum shall include:

   i. The date the cooperative agreement was approved by the Regional Water Board,
   ii. A map showing the location of work to be performed in the reach,
   iii. Any monitoring program parameters and responsibilities,
   iv. Any implementation responsibilities, including BMP Operation and Maintenance,
   v. Any funding commitments that correspond with the implementation responsibilities, and
   vi. A termination clause upon failure to comply with the terms and conditions of the agreement, as applicable.

e. The Department shall submit sufficient information to document the progress in achieving the requirements of the TMDL for each cooperative implementation agreement in its annual ***TMDL STATUS REVIEW REPORT***. (See Section I.B.2.)

f. If the Department is not participating or has not given notice of its intent to participate in cooperative implementation efforts, or the Department is not fulfilling its cooperative implementation responsibilities under an agreement, it shall immediately comply with applicable TMDL Control Requirements listed in Table IV-2 below and report the corresponding status in the ***TMDL STATUS REVIEW REPORT***.

2. **Cooperative Implementation Grant Program**

a. The Department may establish a cooperative implementation grant program to be administered by the State Water Board for TMDL watersheds.

b. If the Department elects to establish a grant program, the Department and State Water Board will prepare an agreement specifying the terms of the grant program and the commitments and responsibilities of the parties. The Department will be responsible for paying the State Water Boards' cost of administering the grant program.

c. Cooperative implementation grants will be used to fund capital projects undertaken by other responsible parties in impaired watersheds in which the Department has been assigned a WLA or otherwise has responsibility for implementation of the TMDL. Cooperative implementation grant applications that are consistent with the final prioritized Categorical Inventories of Reaches

(Section I.A.5) will be given a higher priority for funding. Cooperative implementation grants will not be awarded for projects that only involve monitoring, where precluded by a TMDL, or where specific implementation requirements are prescribed in Table IV.2.

C. Consideration for Factors Affecting Implementation

Implementation may require environmental approvals and permitting from local, State, and/or federal resource agencies (e.g., California Coastal Commission, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, local Flood Control agencies, local County, etc.). Other factors such as safety concerns and technical infeasibility may affect project implementation. Delays or cancellations due to environmental or permitting factors beyond the Department's control must be reported in its annual ***TMDL STATUS REVIEW REPORT***.

The State Water Board will revoke compliance units for projects not completed within the implementation schedule approved under Section I.B.1 of this attachment, unless the delay in the implementation schedule is additionally approved by the Executive Director. Partial credit may be allowed if a portion of the project is completed and functioning.

The State Water Board will revoke compliance units for unrecovered grant funds for projects that are not completed under Section II.B.2 of this attachment. Partial credit may be allowed if a portion of the project is completed and functioning. If the grant program is discontinued, any unexpended funds will be returned to the Department and the corresponding compliance units will be revoked.

Compliance units revoked shall be added to the total number of the required compliance units in following years. For example, if a project which claimed 20 compliance units is cancelled, 1670 compliance units (1650 + 20) are required to be implemented in the following year. If the grant program is discontinued, additional time may be allowed for the Department to implement the corresponding compliance units.

Table IV.2. TMDL Summary Table and Control Requirements

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R1 - North Coast Regional Water Board			
Albion River	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Big River	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Lower Eel River	**Temperature and Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 18, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Middle Fork Eel River	**Temperature and Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 2003 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
South Fork Eel River	**Sediment and Temperature**	***U.S. EPA Established TMDL*** Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	**Temperature and Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Garcia River	**Sediment**	Effective Date: March 16, 1998 BPA: 4-37.00 Action Plan for the Garcia River Watershed Resolution:	Implement Section III.A. and Section III.B.
Gualala River	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: November 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Klamath River in California	**Temperature, Dissolved Oxygen, Nutrients, and Microcystin**	Effective Date: December 28, 2010 BPA: Action Plan for Klamath River TMDLs Resolution: R1-2010-0026	Implement, Section III.A., Section III.B., Section III.H. In addition, the Department shall refer to the Section E.2.d.4) of this Order for locating, assessing, and remediating barriers to fish passage.
Lost River	**Nitrogen, Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments**	Effective Date: December 30, 2008 BPA: Action Plan for Lost River TMDL Resolution: R1-2010-0026	Implement Section III.A. and Section III.B.
Mad River	**Sediment and Turbidity**	***U.S. EPA Established TMDL*** Effective Date: December 21, 2007 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Navarro River	**Sediment and Temperature**	***U.S. EPA Established TMDL*** Effective Date: December 27, 2000 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Noyo River	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Redwood Creek	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 30, 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Scott River	**Sediment and Temperature**	Effective Date: August 11, 2006 BPA: Action Plan for Scott River. Resolutions: R1-2005-0113 &R-2010-0026	Implement Section III.A., Section III.B., and Section III.H.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Shasta River	**Dissolved Oxygen and Temperature**	Effective Date: January 26, 2007 BPA: Action Plan for the Shasta River Watershed Resolution: R1-2006-0052	Implement Section III.A., Section III.B., and Section III.H.
Ten Mile River	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 2000 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Trinity River	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 20, 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
South Fork Trinity River and Hayfork Creek	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Van Duzen River and Yager Creek	**Sediment**	***U.S. EPA Established TMDL*** Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
R2 - San Francisco Bay Regional Water Board			
Napa River	**Sediment**	Effective Date: January 20, 2011 BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs Resolution: R2-2009-0064	Implement Section III.A., Section III.B., and the following: • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
			TMDL STATUS REVIEW REPORT in accordance with Section I.B. above. • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with ***TMDL STATUS REVIEW REPORT*** in accordance with Section I.B. above.
Richardson Bay	**Pathogens**	Effective Date: December 18, 2009 BPA: Pathogens in Richardson Bay Resolution: R2-2008-0061	Implement Section III.A. and Section III.E.
San Francisco Bay	**PCBs**	Effective Date: March 29, 2010 BPA: Exhibit A & TMDL & Implementation Plan for PCBs Resolution: R1-2008-0012	Implement Section III.A. and Section III.C.
San Francisco Bay	**Mercury**	Effective Date: February 12, 2008 BPA : Chapter 7, SF Bay Mercury TMDL Resolution: R2-2006-0052	Implement Section III.A, Section III.B., and the following: The Department shall work out an equitable mercury WLA scheme in consultation with the San Francisco Bay Area Urban Runoff Management Agencies.
San Pedro and Pacifica State Beach	**Bacteria**	Effective Date: August 1, 2013 BPA – Chapter 3, Section 3.3.1 Bacteria Resolution: R2-2012-0089	Implement Section III.A. and Section III.E.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Sonoma Creek	**Sediment**	Effective Date: September 8, 2010 BPA: Exhibit A & Implementation Plan Resolution: R2-2008-0103	Implement Section III.A., Section III.B, and the following: • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with ***TMDL STATUS REVIEW REPORT*** in accordance with Section I.B. above. • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with ***TMDL STATUS REVIEW REPORT*** in accordance with Section I.B. above.
San Francisco Bay Urban Creeks	**Diazinon & Pesticide-Related Toxicity**	Effective Date: May 16, 2007 BPA: Chapter 3, Toxicity Resolution: R2-2005-0063	Implement Section III.A., Section III.C., and Section III.F.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R3 - Central Coast Regional Water Board			
San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks)	**Sediment**	Effective Date: February 19, 2004 BPA: Attachment to R3-2002-0063 Resolution: R3-2002-0063	Implement Section III.A. and Section III.B.
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)	**Sediment**	Effective Date: January 20, 2004 BPA: Attachment A to R3-2002-0051 Resolution: R3-2003-0051	Implement Section III.A. and Section III.B.
R4 - Los Angeles Regional Water Board			
Ballona Creek	**Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium**	Effective Date: December 22, 2005 and reaffirmed on October 29, 2008 BPA: Attachment A, Chapter 7-12 Resolution: R2007-015	Implement Section III.A., Section III.C., and Section III.G.
Ballona Creek	**Trash**	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3. Resolution: 2004-0023	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Ballona Creek Trash TMDL.
Ballona Creek Estuary	**Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, & Total PAHs)**	Effective Date: December 22, 2005 BPA: Attachment A, Chapter 7-14 Resolution: R4-2005-008	Implement Section III.A. and Section III.C.
Ballona Creek, Ballona Estuary, and Sepulveda Channel	**Bacteria**	Effective Date: March 26, 2007 and November 18, 2013 BPA: Attachment A, Chapter 7-21 Resolution: R4-2006-011	Implement Section III.A. and Section III.E.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ballona Creek Wetlands	**Sediment and Invasive Exotic Vegetation**	***U.S. EPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Calleguas Creeks, its Tributaries and Mugu Lagoon	**Metals and Selenium**	Effective Date: March 26, 2007 BPA: Attachment A, Chapter 7-19 Resolution: R4-2006-012	Implement Section III.A., Section III.C., and Section III.G.
Calleguas Creeks its Tributaries and Mugu Lagoon	**Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation**	Effective Date: March 14, 2006 BPA: Attachment A, Chapter 7-17 Resolution: R4-2005-010	Implement Section III.A., Section III.B, and Section III.C.
Colorado Lagoon	**Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals (Pb & Zn)**	Effective Date: June 14, 2011 BPA: Attachment K, Chapter 7-38 Resolution: R09-005	Implement Section III.A. and Section III.C.
Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters	**Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs**	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-40 Resolution: R11-008	Implement Section III.A. and Section III.C.
Legg Lake	**Trash**	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-27 Resolution: R4-2007-10	Implement Section III.A. and Section III.D.
Long Beach City Beaches and Los Angeles River Estuary	**Indicator Bacteria**	***U.S. EPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., and Section III.E.
Los Angeles Area (Echo Park Lake)	**Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, & Trash**	***U.S. EPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C., and Section III.D.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Angeles Area (Lake Sherwood)	**Mercury**	***U.S. EPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (North, Center, & Legg Lakes)	**Nitrogen & Phosphorus**	***U.S. EPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (Peck Road Park Lake)	**Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash**	***U.S. EPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C, and Section III.D.
Los Angeles Area (Puddingstone Reservoir)	**Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin**	***U.S. EPA Established*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
Los Angeles River and Tributaries	**Metals**	Effective Date: December 22, 2005, October 29, 2008, & Reopened and Modified on November 3, 2011 BPA: Attachment A, Chapter 7-13 to 7-13 and Attachment B Resolution: R2007-014 & R10-003	Implement Section III.A. and Section III.C.
Los Angeles River	**Trash**	Effective Date: December 24, 2008 BPA: Attachment A, Chapter 7-2 Resolution: R4-2007-012	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Los Angeles River Watershed Trash TMDL.
Los Angeles River Watershed	**Bacteria**	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-39 Resolution: R10- 007	Implement Section III.A and Section III.E.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Cerritos	**Metals**	***U.S. EPA Established*** Effective Date: March 17, 2010 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Machado Lake	**Eutrophic, Algae, Ammonia, and Odors (Nutrients)**	Effective Date: March 11, 2009 BPA: Attachment A, to R09-006 Resolution: R08-006	Implement Section III.A. and Section III.B.
Machado Lake	**Pesticides and PCBs**	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7-38 Resolution: R10- 008	Implement Section III.A. and Section III.C.
Machado Lake	**Trash**	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-26 Resolution: R4-2007-06	Implement Section III.A. and Section III.D.
Malibu Creek Watershed	**Bacteria**	Effective Date: January 10, 2006, Revised on November 8, 2013 ** BPA: Attachment A, Chapter 7-10 Resolution: 2004-019R & R12-009	Implement Section III.A. and Section III.E.
Malibu Creek and Lagoon	**Sedimentation and Nutrients to address Benthic Community Impairments**	***U.S. EPA Established TMDL*** Effective Date: July 2, 2013 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Malibu Creek Watershed	**Trash**	Effective Date: June 26, 2009 BPA: Attachment A, Chapter 7-31 Resolution: R4-2008-007	Implement Section III.A. and Section III.D.
Marina del Rey Harbor	**Toxic Pollutants (Cu, Pb, Zn, Chlordane, and Total PCBs)**	Effective Date: March 16, 2006 BPA: Attachment A, Chapter 7-18 Resolution: R4-2005-012	Implement Section III.A. and Section III.C.
Marina del Rey Harbor Mothers' Beach and Back Basins	**Bacteria**	Effective Date: March 18, 2004, Revised on November 7, 2013 ** BPA: Attachment A, Chapter 7-5 Resolution: 2003-012, R12-007	Implement Section III.A. and Section III.E.

ATTACHMENT IV

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Revolon Slough and Beardsley Wash	**Trash**	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3 Resolution: 2004-0023	Implement Section III.A. and Section III.D.
San Gabriel River	**Metals (Cu, Pb, Zn) and Selenium**	***U.S. EPA Established TMDL*** Effective Date: March 26, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.C., and Section III.G.
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	**Coliform**	Effective Date: January 13, 2012 BPA: Attachment A, Chapter 7-36 Resolution: R10-006	Implement Section III.A. and Section III.E.
Santa Clara River Reach 3	**Chloride**	Effective Date: December 11, 2008 BPA: Attachment B to Resolution No. R4-2008-012 & R4-2008-012	Implement Section III.A. and Section III.I.
Santa Monica Bay Beaches	**Bacteria**	Effective Date: June 19, 2003, Revised November 7, 2013 ** BPA: Attachment A, Revised in Chapter 7-4 Resolution: 2003-012, R12-007	Implement Section III.A. and Section III.E.
Santa Monica Bay	**DDTs and PCBs**	***U.S. EPA Established TMDL*** Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Santa Monica Bay Nearshore & Offshore	**Debris (trash & plastic pellets)**	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7 Resolution:	Implement Section III.A. and Section III.D.
Upper Santa Clara River	**Chloride**	Effective Date: April 6, 2010 BPA: Attachment B. Chapter 7-6 Resolution: R4-2008-012	Implement Section III.A. and Section III.I.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ventura River Estuary	**Trash**	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-25 Resolution: R4-2007-008	Implement Section III.A. and Section III.D.
Ventura River and its Tributaries	**Algae, Eutrophic Conditions, and Nutrients**	Effective Date: June 28, 2013 BPA: Attachment A, Chapter 7-35 Resolution: R12-011	Implement Section III.A. and Section III.B.
R5 - Central Valley Regional Water Board			
Clear Lake	**Nutrients**	Effective Date: September 21, 2007 BPA: Attachment 1 to R5-2006-0060 Resolution No.: R5-2006-0060	Implement Section III.A. and Section III.B.
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	**Mercury**	Effective Date: February 7, 2007 BPA: Attachment 1 to R5-2005-0146 Resolution: R5-2005-0146	Implement Section III.A. and Section III.B.
Sacramento-San Joaquín River Delta Estuary	**Methyl mercury**	Effective Date: October 20, 2011 BPA: Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento – San Joaquin River Delta Estuary Resolution: R5-2010-0043.	Implement Section III.A. and Section III.B.
R6 - Lahontan Regional Water Board			
Lake Tahoe Sediment and Nutrients TMDL Effective Date: August 16, 2011 BPA: WQ Amendment May 2008 Resolution: 2009-0028 **Lake Tahoe Sediment Requirements** A. Pollutant Load Reduction Requirements The Department must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016.			

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements

Pollutant load reductions shall be measured in accordance with the processes outlined in the most recent version of Lake Clarity Crediting Program Handbook. To demonstrate compliance with the average annual fine sediment particle pollutant load reduction requirements, the Department must earn and maintain 298 Lake Clarity Credits for the water year October 1, 2015 to September 30, 2016, and for subsequent water years.

B. Pollutant Load Reduction Plans

The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reduction requirements described in Section A above. The Department shall submit a plan no later than July 15, 2014 that shall include, at a minimum, the following elements:

1. *Catchment registration schedule*
   The PLRP shall include a list of catchments that the Department plans to register pursuant to the approved Lake Clarity Crediting Program to meet load reduction requirements. The list shall include catchments where capital improvement projects have been constructed since May 1, 2004 that the Department expects to claim credit for, and catchments where projects will be constructed and other load reduction activities (capital improvements, institutional controls, and other measures/practices implement) taken during the term of this Order.

2. *Proposed pollutant control measures*
   The PLRP shall generally describe storm water program activities to reduce fine sediment particle, total phosphorus, and total nitrogen loading that the Department will implement in identified catchments.

3. *Pollutant load reduction estimates*
   The Department shall conduct pollutant load reduction analyses on a representative catchment subset to demonstrate that proposed implementation actions are expected to achieve the pollutant load reduction requirements specified in Section A. above. For representative catchments, the analysis shall include detailed estimates of both baseline pollutant loading and expected pollutant loading resulting from implementation actions and provide justification why the conducted load reduction analysis is adequate for extrapolation to other catchments.

   The pollutant loading estimates shall differentiate between estimates of pollutant load reductions achieved since May 1, 2004 and pollutant load reductions from actions not yet taken.

4. *Load reduction schedule*
   The PLRP shall describe a schedule for achieving the pollutant load reduction requirements described in the

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Lake Tahoe Sediment TMDL Section A above. The schedule shall include an estimate of expected pollutant load reductions for each year of this Permit term based on preliminary numeric modeling results. The schedule shall also describe which catchments the Department anticipates it will register for each year of this Permit term. 5. *Annual adaptive management* The PLRP shall include a description of the processes and procedures to annually assess storm water management activities and associated load reduction progress. The plan shall describe how the Department will use information from the monitoring and implementation or other efforts to improve operational effectiveness and for achieving the pollutant load reduction requirements specified in Section A. 6. *Pollutant Load Reduction Plan Update* By March 15, 2017, the Department shall update its Pollutant Load Reduction Plan to describe how it will achieve the pollutant load reduction requirements for the second five-year TMDL implementation period, defined as the ten-year load reduction milestone in the Lake Tahoe TMDL. Specifically, the updated Pollutant Load Reduction Plan shall demonstrate how the Department will reduce baseline fine sediment particle, total nitrogen, and total phosphorus loads by 21 percent, 14 percent, and 14 percent, respectively, by water year 2021. C. Pollutant Load Reduction Progress To demonstrate pollutant load reduction progress, the Department shall submit a Progress Report by July 15, 2014 documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011. D. Pollutant Load Reduction Monitoring and Water Quality Monitoring Requirements The Department shall prepare and submit a Storm water Monitoring Plan for review and approval by the Regional Water Board by July 15, 2013 and implement the approved plan.			
Truckee River	**Sediment**	Effective Date: September 16, 2009 BPA: WQ Amendment May 2008 Resolution: 2009-0028	Implement Sections III.A. and Section III.B.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R7 - Colorado River Regional Water Board			
Coachella Valley Storm Water Channel	**Bacterial Indicators**	Effective Date: April 27, 2012 BPA: Attachment 1: Final CVSC Bacteria TMDL Resolution: R7-2010-0028	Implement Section III.A. and Section III.E.
R8 - Santa Ana Regional Water Board			
Big Bear Lake	**Nutrients for Dry Hydrological Conditions**	Effective Date: September 25, 2007 BPA: Attachment to R8-2006-0023 Resolutions: R8-2006-0023, and R8-2008-0070	Implement Section III.A. and Section III.B.

Lake Elsinore and Canyon Lake Nutrients TMDL
Effective Date: September 30, 2005
BPA: Attachment to R8-2004-0037 &
R8-2006- 0031
Resolution: R8-2007-0083
Implement Section III.A., Section III.B., and the following:

Lake Elsinore/Canyon Lake Nutrient TMDL Joint Responsibility Options

a. The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. The Department shall continue with those actions and remain an active paying Task Force member.

b. If the State Water Board is notified that the Department is not fulfilling its Lake Elsinore/Canyon Lake Task Force obligations or if Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies the Department shall make a formal decision six months after the adoption of the Permit Amendment. These decisions must be approved/adopted by the State Board. The Department will then be required to conduct the following activities:
   1) Within 30 days of such notification, implement a Lake Elsinore and Canyon Lake in-lake monitoring consistent with the TMDL Task Force monitoring program.
   2) Within 30 days of such notification, submit a proposed Department facilities monitoring program to evaluate nutrient discharges from the Department's facilities in the Lake Elsinore/Canyon Lake watershed.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
3) Within 30 days of notification, develop and implement a Lake Elsinore in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented. 4) Within 60 days of notification, develop and implement a Canyon Lake in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented. 5) Within 60 days of notification, submit an annual monitoring report by August 15th of each year. 6) Submit an annual in-lake nutrient reduction program status report by August 15th of each year			
Rhine Channel Area of Lower Newport Bay	**Chromium and Mercury**	***U.S. EPA Established TMDL*** Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
San Diego Creek and Newport Bay, including Rhine Channel	**Metals (Copper, Lead, & Zinc)**	***U.S. EPA Established TMDL*** Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
San Diego Creek and Upper Newport Bay	**Cadmium**	***U.S. EPA Established TMDL*** Effective Date: June 14, 2002 BPA: N/A	Implement Section III.A. and Section III.C
San Diego Creek Watershed	**Organochlorine Compounds (DDT, Chlordane, PCBs, & Toxaphene)**	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.
Upper & Lower Newport Bay	**Organochlorine Compounds (DDT, Chlordane & PCBs)**	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R9 - San Diego Regional Water Board			
Chollas Creek	**Diazinon**	Effective Date: November 3, 2003 BPA: Attachment A to Resolution: R9-2002-0123	Implement Section III.A. and Section III.F.
Chollas Creek	**Dissolved Copper, Lead and Zinc**	Effective Date: December 18, 2008 BPA: Attachment A Resolution: R9-2007-0043	Implement Section III.A and Section III.C.
Rainbow Creek	**Total Nitrogen and Total Phosphorus**	Effective Date: March 22, 2006 BPA: Attachment A Resolution: R9-2005-0036	Implement Section III.A. and Section III.B.
Project 1- Revised Twenty Beaches & Creeks in the San Diego Region (including Tecolote Creek)	**Indicator Bacteria**	Effective Date: June 22, 2011 BPA: Attachment A Resolution: R9-2010-001	Implement Section III.A. and Section III.E.
** OAL Approved, U.S. EPA Approval Pending			

Section III. General and Categorical Requirements

A. General Requirements for All TMDLs:

1. **Comprehensive TMDL Monitoring Plan**

   a. The Department shall continue to implement existing TMDL water quality monitoring plans, including cooperative water quality monitoring plans that the Department is party to that have already received approval from the Regional Water Board Executive Officer.

   b. The Department shall develop and implement a comprehensive TMDL monitoring plan to be submitted to the State Water Board by January 1, 2015. The comprehensive TMDL monitoring plan shall include existing approved water quality monitoring plans as described in Section III.A.1.a. above, and shall also include monitoring for all TMDLs that do not have existing approved

water quality monitoring plans. The proposed comprehensive TMDL monitoring plan shall be designed to inform selection of BMPs, to inform future reach prioritization submittals, and to assess the effectiveness of BMP implementation. The Department may propose monitoring by pollutant category and may rely on representative monitoring for BMP effectiveness assessment. The comprehensive TMDL monitoring plan shall include a time-schedule for the implementation of the monitoring plan. The comprehensive TMDL monitoring plan is subject to approval by the Executive Director of the State Water Board.

2**. Adaptive Management**

The Department shall use monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs. The assessment shall include necessary modifications to control measures to achieve WLAs and other applicable performance standards. Where an assessment indicates that control measures are inadequate to achieve WLAs and other performance standards in a reach, the Department must implement improved control measures/BMPs.

3. **Reporting**

a. By January 1, 2015, the Department shall submit the required information in section I.B. of this attachment regarding planned implementation of control measures for the upcoming reporting period (January 1, 2015 – October 1, 2015).

b. The Department shall summarize the previous year's TMDL monitoring results, deliverables and other actions as specified in its annual ***TMDL STATUS REVIEW REPORT***.

c. The Department shall prepare and submit a ***TMDL PROGRESS REPORT*** by January 1, 2018, to the State Water Board as part of its report of waste discharge under Provision E.13.c. The ***TMDL PROGRESS REPORT*** shall be presented to the State Water Board as an informational item and include the following information:

i. A summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of the BMP effectiveness assessment,

ii. A determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines,

iii. Where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants,

iv. A summary of the estimated quantified amount of pollutants prevented from entering into the receiving waters as a result of BMPs, cooperative agreements, or other source control measures taken, and

v. An analysis demonstrating that the level of effort (1650 compliance units/year) during the present permit cycle will be sufficient to achieve WLAs and other performance standards for all TMDLs listed in Table IV.2 by 2034. The analysis must utilize monitoring data if available, pertinent analytical tools, including modeling where appropriate, and provide a reasonable assurance that applicable WLAs and performance criteria will be met.

The ***TMDL PROGRESS REPORT*** will be subject to public review and comment and will be used in the development of the reissued permit.

B. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDL Control Requirements

Sediment, nutrient and mercury TMDLs identify sediment from roads as a significant or primary source of these pollutants. Measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. Therefore, the Department shall implement control measures to prevent or minimize erosion and sediment discharge. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

C. Metals/Toxics/Pesticides TMDL Control Requirements

1. **Fine Particulates**

Toxic pollutants and/or heavy metals have a high affinity for adherence to fine sediment, such as particles from tires, brake parts, and the road surfaces. Therefore, the appropriate control measures for metals and toxics are to control erosion and prevent or minimize the discharge of fine sediment. The Department shall implement control measures to prevent the discharge of fine sediment. This can be achieved by intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying runoff flow patterns.

2. **Dissolved Fraction Metals**

The fraction of metals that are not bound to particulates exists in a dissolved state as free metal ions, as inorganic complexes, or bound to dissolved organic chemicals. Although fine particulate removal also reduces dissolved fraction metals, additional control measures may be necessary for the control of dissolved metals. Typically, treatment for dissolved fraction metals requires physical structures that prevent contaminated runoff from reaching receiving waters, such as infiltration systems that allow runoff water to percolate into soil.

The Department shall propose and implement appropriate control measures to reduce the discharge of dissolved fraction metals to comply with this Order.

3**. Pesticides**

The Department shall comply with Provision E.2.h.3)b) of this Order which specifies practices for the safe handling and use of pesticides, including

compliance with federal, State and local regulations, and label directions. This provision also requires site assessments, applicator training, and implementation of integrated pest and vegetation management practices in its vegetation control program.

D. Trash TMDL Control Requirements

Trash in waterbodies reduces habitat for aquatic life, directly impacts wildlife from ingestion or entanglement, impacts human health from pathogens, and impacts the aesthetics of waterbodies.

1. The discharge of trash to receiving waters is prohibited. The Department shall comply with this prohibition in all significant trash generating areas in the watersheds subject to trash TMDL controls, identified as the following:
   a. Highway on-ramps and off-ramps in high density residential, commercial, and industrial land use areas.
   b. Rest area and park-and-ride facilities.
   c. State highways in commercial and industrial land use areas.
   d. Mainline highway segments identified through pilot studies and/or surveys.

2. The Department shall comply with the discharge prohibition of trash through one of the following control measures:
   a. Install, operate, and maintain a full capture system, treatment controls, and/or institutional controls for storm drains that service the significant trash generating areas; or
   b. Coordinate with neighboring municipalities that have jurisdiction over significant trash generating areas and/or priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations) to implement Section III.D.2.a above.

3. The Department shall submit as part of its ***TMDL STATUS REVIEW REPORT*** a determination of the highway characteristics that may qualify as significant trash generating areas by October 1, 2015, and

4. The Department shall submit as part of its ***TMDL STATUS REVIEW REPORT*** the status of each of the applicable control measures specified in Section III.D.2 above.

   The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for trash impairments.

E. Bacteria TMDL Control Requirements

The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for bacteria impairments.

1. Dry-Weather Flows

Dry weather non-storm water discharges may significantly increase bacteria loading to receiving waters. Therefore, the Department shall implement control measures to ensure that the effective prohibition of non-storm water discharges (Provision B.2. of this Order) is implemented according to the prioritized work schedule specified in Section I of this attachment. The prohibition of non-storm water discharges can be achieved through infiltration, diversion, or other methods.

2. Wet-Weather Flows
   Wet weather storm water discharges also contribute significant bacteria loads to receiving waters. The principal impact is to the water contact recreation beneficial use (REC-1). The Department shall implement control measures/BMPs to prevent or eliminate the discharge of bacteria from its ROW. Source control and preemptive activities such as street sweeping, clean-up of illegal dumping, public education on littering; and BMPs such as retention/detention, infiltration, diversion of storm water prevent or eliminate the discharge of bacteria to receiving waters.

F. Diazinon TMDL Control Requirements

Diazinon is an organophosphate pesticide used in agriculture. It is no longer registered by the California Department of Pesticide Regulation for non-agricultural uses. The Department does not use diazinon on its ROW. The discharge of diazinon is prohibited.

G. Selenium TMDL Control Requirements

Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as significant sources of selenium. The Department shall implement control measures to control the discharge of selenium, unless the Department can demonstrate one of the following:

1. There is no exceedance of an applicable receiving water limitation for selenium in the receiving water(s) at, or immediately downstream of, the Department's outfall(s), or
2. There is no direct or indirect discharge from the Department's outfall(s) to the receiving water during the time period subject to the WLA.

The Department does not have to comply with the monitoring requirements of Attachment II in demonstrating non-exceedance or no discharge of selenium.

H. Temperature TMDL Control Requirements

Maintenance activities may increase receiving water temperatures as a result of vegetation removal and/or erosion and sedimentation. Sedimentation and erosion control measures for temperature impairments are being required in accordance with Section III.B. Therefore, the Department shall:

1. Preserve existing riparian biotic conditions immediately adjacent to receiving waters susceptible to temperature increases,

2. Provide effective shade near receiving waters susceptible to temperature increases, and
3. Maintain site potential effective shade near receiving waters susceptible to temperature increases.

Alteration of riparian biotic conditions that may increase sedimentation or reduce effective shade shall receive prior written authorization by the applicable Regional Water Board Executive Officer or designee.

Site-specific Potential Effective Shade is defined as the shade equivalent to that provided by topography and potential vegetation conditions at a site. Effective shade is the percentage of direct beam solar radiation that attenuated and scattered before reaching the ground or stream surface from topographic and vegetation conditions. The term “site-specific potential” is defined as the vegetation conditions possible at a location, considering the vegetation species present, and any natural factors that limit vegetation size and density.

I. Chloride TMDL Control Requirements

Elevated levels of chloride in receiving waters affect their beneficial use for agricultural irrigation. Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners. The Department does not discharge significant amounts of chloride and any minimal discharges are expected to be addressed under the requirements of this Order. No additional TMDL implementation actions for control of chloride are required in this attachment.

REGIONAL WATER BOARD SPECIFIC REQUIREMENTS

PART 1
NORTH COAST REGION

1. North Coast Regional Water Board Resolution R1-2004-0087 directs its staff to utilize existing regulatory programs to address sources of sediment within sediment impaired watersheds. The Department owns road right-of-way and other property within watersheds that are listed as impaired for sediment. Some of these facilities have sources of sediment (eroding shoulders, failed culverts, unstabilized cut and fill slopes, etc) that discharge into sediment impaired waterbodies. Consistent with Resolution R1-2004-0087 and the Water Quality Control Plan for the North Coast Region, the Department shall take the following steps in watersheds listed for sediment to identify, prioritize and control sources of sediment that discharge anthropogenic amounts of sediment into impaired waters. These requirements are in addition to any watershed-specific TMDL implementation requirements listed in Attachment IV of this Order. Steps to be taken include:

    a. Inventory: Identify sources of excess sediment or threatened discharge, and quantify the discharge or threatened discharges from the source(s).

    b. Prioritize: Prioritize efforts to control discharge of excess sediment based on, but not limited to, severity of threat to water quality and beneficial uses, the feasibility of source control, and source site accessibility. The inventory and prioritized steps shall be completed within two (2) years of the adoption of this Order and updated annually. This step is not required if the Department is implementing the requirements of Attachment IV for sediment TMDLs as the given reaches have already been prioritized within the context of statewide implementation.

    c. Implement: Develop and implement feasible sediment control practices to prevent, minimize, and control the discharge.

    d. Monitor and Adapt: Use monitoring results to direct adaptive management measures in order to refine and adjust erosion control practices and implementation schedules, until sediment discharge is reduced and no longer causes a violation of any sediment related narrative or numeric objective.

    Each District within the North Coast Region shall include a time schedule for the above-referenced activities within the District Workplan for Regional Water Board approval. The time schedule shall implement the required activities as quickly as feasible. An annual update on activities and compliance with the projected time schedule shall be included in each subsequent annual report.

2. Removal of riparian vegetation may result in a threatened discharge or an exceedance of a water quality objective. The North Coast Region has many

watersheds that are impaired for excess sediment and temperature. Riparian vegetation shall be protected and restored to the greatest extent feasible and removal may require permitting by the Regional Water Board.

PART 2
SAN FRANCISCO BAY REGION

1. High Trash Generation Areas

The Department shall demonstrate compliance with Discharge Prohibition 7, Table 4-1 of the San Francisco Bay Regional Water Board Basin Plan through the timely implementation of control measures in all high trash generating areas in the San Francisco Bay Region, identified as the following:

a. Freeway on- and off-ramps in high density residential, commercial and industrial land uses.
b. Rest areas and park-and-rides.
c. State highways in commercial and industrial land use areas.
d. Other freeway segments as identified by maintenance staff and/or trash surveys.

2. Control Measures

The Department shall comply with the prohibition of discharge for trash through implementation of the following control measures:

a. Install, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchments that service the significant trash generating areas.
b. Coordinate with neighboring MS4 permittees to construct, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls in high trash generating areas and/or priority land use areas (high density residential, industrial, commercial, and public transportation stations).

All installed devices that meet the full trash capture definition (See “Full Capture System”, Attachment VIII) may be counted toward this requirement regardless of date of installation.

3. Coordination with Local Entities

The Department may choose to establish a municipal coordination plan to design, build, operate, and/or maintain controls in conjunction with other watershed stakeholders. The Minimum Full Trash Capture requirement may be met with the Department specific activities and devices, or from load reduction resulting from municipal coordination implementation, or any combination thereof, so long as the municipal coordination activities meet the full trash capture standard.

4. Assessment

The Department shall assess the effectiveness of enhanced maintenance controls implemented in high trash generation areas. This assessment will include controls implemented in coordination with local municipalities.

5. Additional

a. Abate trash from construction and reconstruction projects.
b. Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.

6. Reporting

In each Annual Report, as part of the ***TMDL STATUS REVIEW REPORT,*** the Department shall provide a per District summary of the following:

a. Trash load reduction actions.
b. Full trash capture installation and maintenance.
c. Implementation of enhanced maintenance controls.
d. A map and list of high trash generation areas and the installed controls addressing each area.
e. The reporting of trash load shall be in a manner approved by the Executive Officer.
f. Municipal coordination implementation.

7. **Storm Water Pump Stations**

The Department shall comply with the following implementation measures to reduce polluted water discharges from its pump stations:

a. Complete an inventory of pump stations within the Department's jurisdiction in the San Francisco Bay Region, including locations and key characteristics[41] and submit to the Regional Water Board by October 1, 2015.

b. Inspect and collect dissolved oxygen (DO) data from 20 percent of the pump stations once a year (100 percent in five years) after a minimum of a two week antecedent period with no precipitation. DO monitoring is exempted where all discharge from a pump station remains in the storm water collection system or infiltrates into a dry creek immediately downstream.
c. If DO levels are at or below three milligrams per liter (3 mg/L), apply corrective actions, such as continuous pumping at a low flow rate, aeration, or other appropriate methods to maintain DO concentrations of the discharge above 3 mg/L.

d. Report inspection and monitoring results in the Annual Report.

[41] Characteristics include name of pump station, latitude and longitude in NAD83, number of pumps, drainage area in acres, dominant land use(s), first receiving water body, maximum pumping capacity of station in gallons per minute (gpm), flow measurement capability (Y or N), flow measurement method, average wet season discharge rate in gpm, dry season discharge (Y, N, or unknown), nearest municipal wastewater treatment plant, wet well storage capacity in gallons, trash control (Y or N), trash control measure, and date built or last updated.

PART 3
LAHONTAN REGION

The Water Quality Control Plan for the Lahontan Region (Basin Plan) has additional requirements which have been historically applied to the Department's permits and which apply to this NPDES Permit in the Lahontan Region. These requirements include:

1. For projects meeting the criteria specified in Provision E.2.d.of the permit (Project Planning and Design), the following numeric sizing criteria for storm water treatment control BMPs apply:

   Where storm water runoff is determined to have connectivity to surface waters and/or is not adequately infiltrated or treated by the natural environment, storm water/urban runoff collection, treatment, and/or infiltration disposal facilities shall be designed, installed, and maintained for the discharge of storm water runoff from all impervious surfaces generated by the 20-year, one-hour design storm (1) within the Truckee River Hydrologic Unit (3/4- inch of rain), (2) within the East Fork Carson River and West Fork Carson River Hydrologic Units (one inch of rain), and (3) within the Mammoth Creek Hydrologic Unit above 7,000-foot elevation (one inch of rain). Hydrologic evaluations may be required or may be conducted consistent with the NEAT study described in item No. 2 below to help determine areas where infiltration of the 20-year, one-hour storm is required.

2. In 2009, the Department completed the Natural Environment as Treatment (NEAT) study and report for 38 miles of roadway within the Lake Tahoe Hydrologic Unit. The NEAT approach is consistent with the strategic approach required by this permit. Projects developed within the NEAT study area shall be designed and constructed based on the priority areas identified by the study.

3. Unless granted a variance by the Lahontan Regional Water Board Executive Officer, there shall be neither removal of vegetation nor disturbance of existing ground surface conditions between October 15 of any year and May 1 of the following year, except when there is an emergency situation that threatens the public health or welfare. This prohibition period applies to the Lake Tahoe, Truckee River, East Fork Carson River, and West Fork Carson River Hydrologic Units and above the 5,000-foot elevation in the portions of Mono and Inyo Counties within the Lahontan Region.

4. Project Review Requirements
   a. The Department shall participate in early project design consultation for all projects within the Lake Tahoe, Truckee River, East and West Forks Carson River and Mammoth Creek Hydrologic Units.

   b. The Department must solicit Lahontan Regional Water Board staff review when project development/design is at the 20 to 30 percent design level (prior to Project "Approval" and Environmental Document), 60 percent design level, and 90 percent design level (Plans, "Specifications" and Estimates).

ATTACHMENT VI — STANDARD PROVISIONS

1. **Duty to Comply.** The Department shall comply with all of the conditions of this Order. Any permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act, which may be grounds for enforcement action or denial of permit coverage. [40 C.F.R. § 122.41(a)]

   The Department shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. [40 C.F.R. § 122.41(a)(1)]

2. **Modification, Revocation and Reissuance, or Termination.** This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Department for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any General Permit condition.

3. **Enforcement**
   a. The provision contained in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the State and Regional Water Board.

   b. Any violation of the Order constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.

   c. The State and Regional Water Boards may impose administrative civil liability may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law.

   d. All applications, reports, or information submitted to the State Water Board or Regional Water Boards shall be signed and certified. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 C.F.R. § 122.41(k)]

4. **Need to Halt or Reduce Activity not a Defense.** It shall not be a defense for the Department in an enforcement action that it would have been necessary to halt or

reduce the permitted activity in order to maintain compliance with the conditions of this Order. [40 C.F.R. § 122.41(c)]

5. **Duty to Mitigate.** The Department shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. [40 C.F.R. § 122.41(d)]

6. **Proper Operation and Maintenance.** The Department at all times shall properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Department to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems installed by the Department only when necessary to achieve compliance with the conditions of this Order. [40 C.F.R. § 122.41(e)]

7. **Property Rights.** This Order does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations. [40 C.F.R. § 122.41(g)]

8. **Duty to Provide Information.** Within a reasonable time specified by the State Water Board, Regional Water Boards, or U.S. EPA, the Department shall furnish records, reports, or information required to be kept by this Order, and shall furnish any information requested to determine whether cause exists for modifying, revoking, and reissuing, or terminating this Order or to determine compliance with this Order. [40 C.F.R. § 122.41(h)]

9. **Inspection and Entry.** [40 C.F.R. § 122.41(i)] Upon the presentation of credentials and other documents as may be required by law, the Department shall allow the State and Regional Water Boards, or U.S. EPA to:

    a. Enter upon the Department's premises where a regulated facility or activity is located or conducted or where records are required to be kept under the conditions of this Order;

    b. Have access to and copy at reasonable times any records that must be kept under the conditions of this Order;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

    d. Sample or monitor at reasonable times for the purposes of assuring ensuring permit compliance, or as otherwise authorized by the Clean Water Act.

10. **Monitoring and Records.** [40 C.F.R. § 122.41(j)]
    a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

    b. The Department shall retain records of all monitoring information for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the State Water Board's Executive Director or Regional Water Board's Executive Officer at any time.

    c. Records of monitoring information shall include:

        i. The date, exact place, and time of sampling or measurements;
        ii. The individual(s) who performed the sampling or measurements;
        iii. The date(s) analyses were performed;
        iv. The individual(s) who performed the analyses;
        v. The analytical techniques or methods used; and
        vi. The results of such analyses.

    d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. subchapters N or O.

    e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

11. **Signatory Requirements.** All reports, certifications, and records required by this Order or requested by the State Water Board and Regional Water Boards or U.S. EPA shall be signed by either a principal executive officer or by a duly authorized representative. A person is a duly authorized representative only if [40 C.F.R. §§ 122.22 & 122.41(k)]:

    a. The authorization is made in writing by the principal executive officer; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the Department. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, the Department shall provide a new authorization prior to submittal of any reports, certifications, or records signed by the newly authorized representative.

12. **Certification.** Any person signing documents under Provision 11 above shall make the following certification [40 C.F.R. § 122.22(d)]:

    "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

13. **Reporting Requirements.**

    a. *Planned changes*. The Department shall give advance notice to the State Water Board and the appropriate Regional Water Board of any planned physical alteration or additions to the permitted facility. Notice is required under this provision only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; [40 C.F.R. § 122.41(l)(1)]

    b. *Anticipated noncompliance*. The Department shall give advance notice to the appropriate Regional Water Board of any planned changes at the permitted facility or activity which may result in noncompliance with Permit requirements; [40 C.F.R. § 122.41(l)(2)]

    c. *Compliance Schedules*. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each scheduled date; [40 C.F.R. § 122.41(l)(5)]

    d. *Other Information*. Where the Department becomes aware that it failed to submit any relevant facts, or submitted incorrect information in a permit application or in any required report, it shall promptly submit such facts or information [40 C.F.R. § 122.41(l)(8)].

    e. The Department shall submit, except for the Annual Report, one copy of each report required by the permit to the State Water Board. The Department shall also submit one copy to each of the appropriate Regional Water Boards. The Department may choose to submit its properly signed reports electronically

into SMARTS in the Portable Document Format (PDF) and submit hard copies only upon request of the State or Regional Water Board staff.

14. **Oil and Hazardous Substance Liability.** Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Department from any responsibilities, liabilities, or penalties to which the Department is or may be subject to under Section 311 of the CWA.

15. **Severability.** The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

16. **Availability.** A copy of this Order shall be maintained at the facility and be available at all times to the appropriate facility personnel and to representatives of the Regional Water Boards, State Water Board, or U.S. EPA.

17. **Education.** The Department shall ensure that all personnel whose decisions or activities could affect storm water quality are familiar with the requirements of this NPDES Permit.

ATTACHMENT VII — LIST OF ACRONYMS & ABBREVIATIONS

ASBS	Areas of Special Biological Significance
BAT	Best Available Technology Economically Achievable
Basin Plans	Regional Water Quality Control Plans
BCT	Best Conventional Pollutant Control Technology
BMPs	Best Management Practices
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit - NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
Department	California Department of Transportation (Caltrans)
EC	Electrical Conductivity
EMA	Emergency Management Agency
ESA	Environmentally Sensitive Area
FPPP	Facility Pollution Prevention Plan
GPS	Global Positioning System
Hydromodification	Hydrograph Modification
IC/ID	Illegal Connection/ Illicit Discharge
IGP	Industrial General Permit - NPDES General Permit for Discharges Associated with Industrial Activities Excluding Construction Activities
LA	Load Allocation
LID	Low Impact Development
MEP	Maximum Extent Practicable
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
NCIR	Non-Compliance Incident Report
NOI	Notice of Intent
NPDES	National Polluant Discharge Elimination System
Ocean Plan	California Ocean Plan
PAHs	Polycyclic Aromatic Hydrocarbons
POTW	Publicly Owned Treatment Works
Regional Water Board	Regional Water Quality Control Board
ROW	Department Right-of-Way
State Water Board	State Water Resources Control Board
SUSMP	Standard Urban Storm Water Mitigation Plan
SWAMP	Surface Water Ambient Monitoring Program
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TCGP	Tahoe Construction General Permit
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TPH	Total Petroleum Hydrocarbon
TSS	Total Suspended Solids
U.S. EPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WLA	Waste Load Allocation
WQBEL	Water Quality-Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard
Workplans	District Workplans

ATTACHMENT VIII - GLOSSARY

Acute Toxicity. A chemical stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute. When expressed as toxic units acute (TUa), TUa=100/96-hour LC 50 percent. Acute toxicity can also be expressed as lethal concentration 50 percent (LC 50).

Administrative Noncompliance. Failure to comply with the procedural requirements of this Order. Examples include but are not limited to: failure to submit required reports or documents required by the Permit and/or SWMP, missed deadlines or late submittal, and/or failure to submit required information, failure to develop and/or maintain site-specific FPPP or to implement any other procedural requirement of the Permit.

Areas of Special Biological Significance (ASBS). Ocean or estuarine areas designated by the State Water Board that require special protection of species or biological communities to the extent where alteration of natural water quality is undesirable. The California Ocean Plan describes ASBSs as “those areas containing biological communities of such extraordinary value that no risk of change in their environment as the result of man's activities can be entertained". ASBSs are a subset of State Water Quality Protection Areas.

Basin Plans. Basin Plans (regional water quality control plans) are the principal regulatory mechanisms for protection of water quality in California. Basin plans describe the beneficial uses that each water body supports, e.g. drinking, swimming, fishing, and agricultural irrigation; the water quality objectives necessary to protect those uses; and the program implementation needed to achieve the objectives, such as waste discharge permits and enforcement actions.

Batch Plant. A processing plant where concrete or asphalt is mixed before transport to a construction site. Batch plants are considered to be industrial activities as defined in 40 CFR 122.26(b)(14) (iii) and are regulated under the Industrial General Permit.

Beneficial Uses. The uses of the water protected against degradation including, but not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT). Technology-based compliance standard established by the Clean Water Act. BAT is based on consideration of the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors as deemed appropriate. BAT effluent

limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT). Technology-based compliance standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, oil and grease. BCT is established by a two-part "cost reasonableness" test, which compares the cost for an industry to reduce its pollutant discharge with the cost to a POTW for similar levels of reduction of a pollutant loading. The second test examines the cost-effectiveness of additional industrial treatment beyond BCT. Limits must be reasonable under both tests.

Best Management Practices (BMPs). Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs include structural and nonstructural controls, treatment requirements, operation and maintenance procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Non-Approved BMP. Any BMP for maintenance, construction, design pollution prevention, and treatment that are not in the Department's SWMP (CTSW-RT-02-008) or Statewide Storm Water Quality Practice Guidelines (CTSW-RT-02-009) approved for statewide use.

Post-Construction BMPs. Any structural or non-structural controls that detain, retain, or filter storm water to prevent the release of pollutants to receiving waters after final site stabilization is attained.

Structural BMPs. Any structural facility designed and constructed to mitigate the adverse impacts of storm water runoff (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

Source Control BMPs. Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source. Examples include treatment techniques that use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by controlling the pollutant source.

Treatment Control BMPs. Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

California Ocean Plan (Ocean Plan). The water quality control plan for California near-coastal waters, first adopted by the State Water Resources Control Board in 1972.

The purpose of the Ocean Plan is to protect the beneficial uses of the State's ocean waters by identifying water quality objectives, setting general waste discharge requirements, and listing discharge prohibitions. In addition, the Ocean Plan is used to develop and update statewide water quality control plans, policies, and standards involving marine waters.

California Toxics Rule. The Federal regulation, found at 40 CFR § 131.38. Establishes water quality criteria (limits) for heavy metals and other toxic compounds for the protection of beneficial uses of surface waters in California.

Catch Basins. A storm drain inlet having a sump below the outlet to capture settled solids, debris, sediment, and prevent clogging.

Chronic Toxicity. The ability of a substance or a mixture of substances to cause harmful effects over an extended period of time. Expressed as toxic units chronic (TUc), TUc=100/NOEL, where NOEL is the No Observed Effect Level.

Construction Activity. Any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction does not include emergency construction activities required to immediately protect public health and safety or routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Cut and Fill. The process of moving earth by excavating part of an area and using the excavated material for adjacent embankment of fill areas.

Department Airspaces. Any area within the Department's operating right-of-way that can safely accommodate a privately managed use such as: parking lots, self storage units, commercial businesses, light industry, and cellular telephone towers. The Department executes airspace leases with third parties for these uses.

Department Facility. A Maintenance Facility, Non-maintenance Facility, Highway Facility, Industrial Facility, or Vehicle Maintenance.

Maintenance Facility. A facility under Department ownership or control that contains fueling areas, maintenance stations/yards, waste storage or disposal facilities, wash racks, equipment or vehicle storage and materials storage areas.

***Non-maintenance Facility*.** Laboratories or office buildings used exclusively for administrative functions.

Highway Facility. Highways are linear facilities designed to carry vehicular and pedestrian traffic. These include freeways, highways, and expressways as designated by the California Streets and Highway Code and the California legislature. These facilities also include all support infrastructure associated with these freeways, including bridges, toll plazas, inspection and weigh stations, sound walls, retaining

walls, culverts, vegetated slopes, shoulders, intersections, off ramps, on ramps, over passes, lights, signal lights, gutter, guard rail, and other support

facilities. The support infrastructure is considered a Highway Facility only when accompanied by an increase in highway impervious surface. Otherwise, it is considered a non-highway .

***Industrial Facility*.** A collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit.

Non-Highway Facility. For purposes of this permit, a Non-Highway Facility is any facility not meeting the definition of a Highway Facility, including but not limited to rest stops, park and ride facilities, maintenance stations, vista points, warehouses, laboratories, and office buildings.

Discharge*.* When used without qualification means the discharge of a pollutant.

Direct Discharge. Any discharge from the MS4 that does not meet the definition of an indirect discharge.

Indirect Discharge. Any discharge from the MS4 that is conveyed to the receiving water through 300 feet or more of an unlined ditch or channel as measured between the discharge point from the MS4 and the receiving water.

Discharge of a Pollutant. The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

District Workplans (DWPs). Annual workplans prepared by each District containing descriptions of all activities and projects to be undertaken in the District that are necessary to implement the SWMP and comply with the requirements of this Order. DWPs are submitted annually with the Annual Report. Formerly known as the Regional Work Plans.

Drainage Inlet. A location where water runoff enters a storm water drainage system that includes streets, gutters, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained and used for the purpose of collecting, storing, transporting or disposing of storm water

Effluent. Any discharge from the MS4.

Emergency. Any sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage.

Erosion. The diminishing or wearing away of land due to wind, or water. Often the eroded material (silt or sediment) becomes a pollutant via stormwater runoff.

Erosion occurs naturally, but can be intensified by land disturbing and grading activities such as farming, development, road building, and timber harvesting.

Facility Pollution Prevention Plan (**FPPP**)**.** A plan that identifies the functional activities specific to the maintenance facility and the applicable BMPs and other procedures utilized by facility personnel to control the discharge of pollutants in storm water. Facilities subject to FPPPs include: maintenance yards/stations; material storage facilities/permanent stockpile locations (if not totally enclosed); equipment storage and repair facilities, roadside rest areas, agricultural and highway patrol weigh stations, decant storage or disposal locations, and permanent and temporary solid and liquid waste management sites.

FPPPs are not required for temporary stockpile locations (in continuous use for less than one year). All temporary stockpile locations shall implement the applicable best management practices defined in the Caltrans Stormwater Quality Handbook Maintenance Staff guide. Any stockpile location in continuous use for more than one year is deemed permanent and requires a Facility Pollution Prevention Plan.

Full Capture System. A full capture system is any single device or series of devices that traps all particles retained by a five (5) mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area.

Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$
Where Q = design flow rate (cubic feet per second, cfs);
C = runoff coefficient (dimensionless);
I = design rainfall intensity (inches per hour, as determined per a rainfall isohyetal map), and
A= subdrainage area (acres).

Hydrograph Modification (Hydromodification). The alteration of the hydrologic characteristics of surface waters through watershed development. Under past practices, new and re-development construction activities resulted in urbanization, which in turn modified natural watershed and stream processes. The impacts of hydromodification include, but are not limited to, increased bed and bank erosion,

loss of habitat, increased sediment transport and deposition, and increased flooding. Urbanization does this by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, and altering the condition of stream channels through straightening, deepening, and armoring. These changes affect hydrologic characteristics in the watershed and affect the supply and transport of sediment in the stream system.

Hydromodification Management Plan. A plan to control and reduce the impacts of hydrograph modification from development activities in a watershed.

Illegal Connection/Illicit Discharge (IC/ID).

Illegal Connection. An engineered conveyance that is connected to an MS4 without authorization by local, state, or federal statutes, ordinances, codes, or regulations.

Illicit Discharge. Any discharge to an MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. It includes all non-storm water discharges except conditionally exempt non-storm water discharges.

Illegal Dumping**.** Discarding or disposal within the Department's right-of-way, properties or facilities, either intentionally or unintentionally, of trash and other wastes in non-designated areas that may contribute to storm water pollution.

Impervious Cover. Any surface in the landscape that cannot effectively absorb or infiltrate rainfall; for example, sidewalks, rooftops, roads, and parking lots.

Incidental Runoff. Unintended small amounts (volume) of runoff from landscape irrigation, such as minimal over-spray from sprinklers that escapes the irrigated area. Water leaving an irrigated area is not considered incidental if it is due to improper (e.g. during a precipitation event) or excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Leaks and other discharges (e.g. broken sprinkler heads) are not considered incidental if not corrected within 72 hours of learning of the discharge or if the discharge exceeds 1000 gallons.

Land Use. How land is managed or used by humans (e.g., residential and industrial development, roads, mining, timber harvesting, agriculture, grazing, etc.). Land use is generally regulated at the local level in the U.S. based on zoning and other regulations. Land use mapping differs from land cover mapping in that it is not always obvious what the land use is from visual inspection.

Load Allocation. The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading (40 CFR 130.2(g)).

Low Impact Development (LID). An approach to land development with the goal of mimicking or replicating the pre-project hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of runoff flow paths and flow time. Other strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, mature trees, flood plains, woodlands, and highly permeable soils.

Maximum Extent Practicable (MEP). The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. Clean Water Act § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible and are not cost-prohibitive. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the costs would be prohibitive. A final determination of whether a municipality has reduced pollutants to the MEP can only be made by the State or Regional Water Boards.

Municipal Separate Storm Sewer System (MS4). A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is: (1) Owned or operated by a state, city, town, village, or other public entity that discharges to waters of the U.S.; (2) Designed or used to collect or convey storm water; (3) Not a combined sewer; and (4) Not part of a Publicly Owned Treatment Works.

Natural Ocean Water Quality. The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, i.e., an absence of significant amounts of: (a) man-made constituents (e.g., DDT); (b) other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "shall not alter natural ocean water quality" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional

monitoring program(s). If monitoring information indicates that natural ocean water quality is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

New Development. Any newly constructed facility, street, road, highway or contiguous road surface installed as part of a street, road or highway project within the Department's right-of-way.

Non-Department Activities. Third party activities that are primarily controlled by encroachment permits, leases, and rental agreements. They include both construction activities and non-construction activities.

Non-Department Projects. Same as Non-Department Activities.

Non-storm Water. Discharges that are not induced by precipitation events and are not composed entirely of storm water. These discharges include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, concrete washout water, paint wash water, irrigation water, pipe testing water, lawn watering overspray, hydrant flushing, and fire fighting activities.

Nonpoint Source. Pollution that is not released through a discrete conveyance but rather originates from multiple sources over a relatively large area. Nonpoint sources can be divided into source activities related to either land or water use, including failing septic tanks, animal agriculture, forest practices, and urban and rural runoff.

Nuisance. Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Perennial Stream. Any stream shown as a solid blue line on the latest version of the U.S. Geological Survey (USGS) 7.5 minute series quadrangle map (sometimes referred to as a blue-line stream). Where 7.5 minute series maps have not been prepared by USGS, 15 minute series maps are used.

Pesticide. Substances intended to repel, kill, or control any species designated a "pest" including weeds, insects, rodents, fungi, bacteria, or other organisms. The family of pesticides includes herbicides, insecticides, rodenticides, fungicides, algicides, and bactericides.

Algicide. A pesticide that controls algae in swimming pools and water tanks.

***Herbicide*.** A pesticide designed to control or kill plants, weeds, or grasses.

***Insecticide*.** A pesticide compound specifically used to kill or prevent the growth of insects.

Rodenticide. A pesticide or other agent used to kill rats and other rodents or to prevent them from damaging food, crops, or forage.

Fungicide. A pesticide used to control or destroy fungi on food or grain crops.

***Bactericide*.** A pesticide used to control or destroy bacteria, typically in the home, schools, or on hospital equipment.

pH. A measure of the degree of acidity or alkalinity in a water sample. The pH of natural waters tends to range between six (6) and nine (9), with neutral being seven (7). Extremes of pH can have deleterious effects on aquatic systems.

Point source. Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

Pollutant. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollutants of Concern. Pollutants in a discharge with potential to cause a condition of pollution or nuisance due to the discharge of excessive amounts, proximity to receiving waters, or the properties of the pollutant. Pollutants that impair waterbodies listed under CWA section 303(d) are also Pollutants of Concern. Pollutants in the Department's discharge that may be Pollutants of Concern include, but are not limited to, total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (e.g., decaying vegetation and animal waste), and litter and trash.

Pollution. An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses (Porter-Cologne Water Quality Control Act, section 13050(l)(1)).

Redevelopment. The creation, addition, and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that removes impervious materials and exposes the underlying soil or pervious subgrade. Redevelopment does not include trenching and resurfacing associated with utility work; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway. Redevelopment does include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed during construction. Replaced impervious surfaces of this type shall be considered "new impervious surfaces" for purposes of determining the applicability of post-construction treatment controls as provided in provision E.2.d.2).

Roadway. Any road within the Department's right-of-way.

Routine Maintenance. Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility. Routine maintenance does not include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed.

Right-of-Way (ROW). Real property that is either owned or controlled by the Department or subject to a property right of the Department. Right-of-way that is in current use is referred to as operating ROW.

Sediment. Soil, sand, and minerals washed from land into water, usually after rain.

Slope Lateral Drainage. Horizontal drains placed in hillside embankments to intercept groundwater and direct it away from slopes to provide stability.

Spill. The sudden release of a potential pollutant to the environment.

Storm Water. Storm water runoff, snowmelt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26 (b)(13).

Storm Water Runoff. The portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes.

Standard Urban Storm Water Mitigation Plan (SUSMP). Plans designating the Best Management Practices that must be used in specified categories of development and redevelopment. The State Water Board adopted a precedential decision (Order WQ 2000-11) upholding a SUSMP requirement imposed under a Phase I MS4 permit and requiring SUSMPs in all MS4 permits.

Storm Water Management Plan (SWMP). Description of the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drain systems and receiving waters.

Surface Water Ambient Monitoring Program (SWAMP). The State Water Board's monitoring, assessment, and reporting program for ambient surface water.

Threshold Drainage Area (TDA). The area draining to a location 20 channel widths downstream (representative reach) of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits.

Threatened Non-compliance. Any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Total Dissolved Solids (TDS). A quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution and used to evaluate the quality of freshwater systems.

Total Kjeldahl Nitrogen (TKN). The sum of organic nitrogen and total ammonia nitrogen.

Total Maximum Daily Load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs (40 CFR 130.2(i)).

Total Petroleum Hydrocarbon (TPH). A measure of the concentration or mass of petroleum hydrocarbons in a given amount of soil or water. TPH is a mixture of different compounds from different sources.

Total Suspended Solids (TSS). Suspended particulate matter: Fine material or soil particles that remain suspended by the water column. They create turbidity and, when deposited, can smother fish eggs or alevins.

Toxicity. The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Trash. All improperly discarded waste material associated with human habitation, of human origin; or from any producing, manufacturing, or processing operation including, but not limited to, product packaging or containers constructed of steel,

aluminum, glass, paper, plastic, and other natural and synthetic materials that are thrown or deposited in waters or where it could be transported, as floating, suspended, and/or settleable materials, to waters of the State, including watersheds. (SWRCB Trash Policy).

Turbidity. Murkiness or cloudiness of water, indicating the presence of suspended solids.

United States Environmental Protection Agency (U.S. EPA). U.S. EPA works to develop and enforce regulations that implement environmental laws enacted by the United States Congress. U.S. EPA is responsible for researching and setting national standards for the Storm Water Program.

Waste. Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Wasteload Allocation (WLA). The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

Water Quality Objectives (WQO). The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent nuisance within a specific area. Water quality objectives may be numeric or narrative.

Water Quality Standards (WQS). State-adopted and U.S. EPA-approved water quality standards for surface water bodies. The standards prescribe the beneficial uses (swimmable, fishable, drinkable, etc.) of the water body and establish the WQOs that must be met to protect designated uses.

Waters of the State. Any surface water or groundwater, including saline waters, within boundaries of the state, as defined in CWC 13050(e). This Order contains requirements to protect the beneficial uses of waters of the State.

Waters of the United States. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States [as defined in 40 CFR 230.3(s)] include all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use of which would affect or could affect interstate or foreign commerce. The definition also applies to tributaries of the aforementioned waters. See 40 CFR 122.2 for the complete definition, which is hereby incorporated by reference.

Watershed. A drainage area or basin in which all water drains or flows toward a central collector such as a stream, river, or lake at a lower elevation.

Wetlands. Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Workplans. See District Workplans.

Attachment IX: Reporting Requirements

Reporting Requirement	Permit Section	Due Date	Frequency
Annual Report	E.3.	October 1, 2013	Annually
Draft ASBS Compliance Plan	E.5.c.2)	September 20, 2013	18 months after the General Exception effective date
Final ASBS Compliance Plan	E.5.c.2)	September 20, 2015	30 months after the General Exception effective date
Budget Analysis	E.2.b.3)c)	October 1, 2017	Year 4 of Permit Cycle
Certification of the Adequacy of Legal Authority	E.2.b.2)b)	October 1, 2013	Annually as part of the Annual Report
District Workplans	E.3.b.	October 1, 2013	Annually as part of the Annual Report
Facility Pollution Prevention Plan (FPPP)	E.2.h.2)	October 1, 2013	Annually as part of the Annual Report and as required by the Regional Water Board
Fiscal Analysis	E.2.b.3)b)	October 1, 2013	Annually as part of the Annual Report
IC/ID & Illegal Dumping Response Plan	E.2.h.4)b)ii)	December 31, 2013	Update as needed annually
Incident Report Form	E.2.b.6)and Attachment I	October 1, 2013	As Needed
Landslide Management Plan	E.2.h.3)d)	October 1, 2013	Year 1 Annual Report
Monitoring Results Report (MRR)	E.2.c.5)	October 1, 2013	Annually
Monitoring Site Prioritization (Tier 2)	E.2.c.1)	March 1, 2014	Within 8 months of the effective date
Municipal Coordination Plan	E.2.b.1)b)	October 1, 2013	To be Included in the SWMP and Progress Report as part of the Annual Report
Overall Program Effectiveness Evaluation	E.2.m.3)	October 1, 2013	Annually as part of the Annual Report
Public Education Program Progress Report	E.2.l.2)	October 1, 2013	Annually as part of the Annual Report
Self-Audit - (includes construction activities)	E.2.m.2)	October 1, 2013	Annually as part of the Annual Report
Stormwater Monitoring & BMP Development Status Report	E.2.e.	October 1, 2013	Annually as part of the Annual Report
Stormwater Treatment BMP Technology Report	E.2.e.	October 1, 2013	Annually as part of the Annual Report
TMDL Status Review Report	E.4.b.	October 1, 2015	Annually as part of the Annual Report
Updated Stormwater Management Plan (SWMP)	E.1.a.	October 1, 2013	Revisions as part of the Annual Report
Waste Management Plan	E.2.h.3)c)iii)	July 1, 2014	Within 1 year of the Effective Date

Note: This table is a partial list of reporting requirements. The Department shall submit all required reports as provided in the Order. Any discrepancy between the text of the NPDES Permit and this table will be resolved in favor of the Permit.

Effective Date of this Order is July 1, 2013
Effective Date of the ASBS Special Protections (General Exception) is March 20, 2012

ATTACHMENT X — REFERENCES

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ATTACHMENT G-1

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

Ada County Highway District,
Boise State University,
City of Boise,
City of Garden City.
Drainage District #3,
and the Idaho Transportation Department District #3,

(hereinafter "the Permittees")

are authorized to discharge from all municipal separate storm sewer system (MS4) outfalls existing as of the effective date of this Permit to waters of the United States, including the Boise River and its tributaries, in accordance with the conditions set forth herein.

This Permit will become effective February 1, 2013.

This Permit, and the authorization to discharge, expires at midnight, January 30, 2018.

Permittees must reapply for permit reissuance on or before August 3, 2017, 180 days before the expiration of this Permit, if the Permittees intend to continue operations and discharges from the MS4s beyond the term of this Permit.

Signed this 12th day of December, 2012.

Daniel D. Opalski, Director
Office of Water and Watersheds, Region 10
U.S. Environmental Protection Agency

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I. Applicability

A. Permit Area. This Permit covers all areas within the corporate boundary of the City of Boise and Garden City, Idaho, which are served by the municipal separate storm sewer systems (MS4s) owned or operated by the Ada County Highway District, Boise State University, City of Boise, City of Garden City, Drainage District #3, and/or the Idaho Transportation Department District #3 (the Permittees).

B. Discharges Authorized Under This Permit. Subject to the conditions set forth herein, the Permittees are authorized to discharge storm water to waters of the United States from the MS4s identified in Part I.A.

As provided in Part I.D, this Permit also authorizes the discharge of flows from the MS4s which are categorized as allowable non-storm water discharge, storm water discharge associated with industrial activity, and storm water discharge associated with construction activity.

C. Permittees' Responsibilities

1. **Individual Responsibility**. Each Permittee is individually responsible for Permit compliance related only to portions of the MS4 owned or operated solely by that Permittee, or where this Permit requires a specific Permittee to take an action.
2. **Joint Responsibility.** Each Permittee is jointly responsible for Permit compliance:
   a) related to portions of the MS4 where operational or storm water management program (SWMP) implementation authority has been transferred to all of the Permittees in accordance with an intergovernmental agreement or agreement between the Permittees;
   b) related to portions of the MS4 where Permittees jointly own or operate a portion of the MS4;
   c) related to the submission of reports or other documents required by Parts II and IV of this Permit; and
   d) Where this Permit requires the Permittees to take an action and a specific Permittee is not named.
3. **Intergovernmental Agreement.** The Permittees must maintain an intergovernmental agreement describing each organization's respective roles and responsibilities related to this Permit. Any previously signed agreement may be updated, as necessary, to comply with this requirement. An updated intergovernmental agreement must be completed no later than July 1, 2013. A copy of the updated intergovernmental agreement must be submitted to the Environmental Protection Agency (EPA) with the 1st Year Annual Report.

D. Limitations on Permit Coverage

1. **Non-Storm Water Discharges**. Permittees are not authorized to discharge non-storm water from the MS4, except where such discharges satisfy one of the following three conditions:

   a) The non-storm water discharges are in compliance with a separate NPDES permit;

   b) The non-storm water discharges result from a spill and:

      (i) are the result of an unusual and severe weather event where reasonable and prudent measures have been taken to prevent and minimize the impact of such discharge; or

      (ii) consist of emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to prevent and minimize the impact of such discharges;

   or

   c) The non-storm water discharges satisfy each of the following two conditions:

      (i) The discharges consist of uncontaminated water line flushing; potable water sources; landscape irrigation (provided all pesticides, herbicides and fertilizer have been applied in accordance with manufacturer's instructions); lawn watering; irrigation water; flows from riparian habitats and wetlands; diverted stream flows; springs; rising ground waters; uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20)) to separate storm sewers; uncontaminated pumped ground water or spring water; foundation and footing drains (where flows are not contaminated with process materials such as solvents); uncontaminated air conditioning or compressor condensate; water from crawlspace pumps; individual residential car washing; dechlorinated swimming pool discharges; routine external building wash down which does not use detergents; street and pavement wash waters, where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed); fire hydrant flushing; or flows from emergency firefighting activities; and

      (ii) The discharges are not sources of pollution to waters of the United States. A discharge is considered a source of pollution to waters of the United States if it:

         1) Contains hazardous materials in concentrations found to be of public health significance or to impair beneficial uses in receiving waters. (Hazardous materials are those

that are harmful to humans and animals from exposure, but not necessarily ingestion);

2) Contains toxic substances in concentrations that impair designated beneficial uses in receiving waters. (Toxic substances are those that can cause disease, malignancy, genetic mutation, death, or similar consequences);

3) Contains deleterious materials in concentrations that impair designated beneficial uses in receiving waters. (Deleterious materials are generally substances that taint edible species of fish, cause taste in drinking waters, or cause harm to fish or other aquatic life);

4) Contains radioactive materials or radioactivity at levels exceeding the values listed in 10 CFR Part 20 in receiving waters;

5) Contains floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or in concentrations that may impair designated beneficial uses in receiving waters;

6) Contains excessive nutrients that can cause visible slime growths or other nuisance aquatic growths that impair designated beneficial uses in receiving waters;

7) Contains oxygen-demanding materials in concentrations that would result in anaerobic water conditions in receiving waters; or

8) Contains sediment above quantities specified in IDAPA 58.01.02.250.02.e or in the absence of specific sediment criteria, above quantities that impair beneficial uses in receiving waters; or

9) Contains material in concentrations that exceed applicable natural background conditions in receiving waters (IDAPA 58.01.02.200. 09). Temperature levels may be increased above natural background conditions when allowed under IDAPA 58.01.02.401.

2. **Discharges Threatening Water Quality.** Permittees are not authorized to discharge storm water that will cause, or have the reasonable potential to cause or contribute to, an excursion above the Idaho water quality standards.

3. **Snow Disposal to Receiving Waters**. Permittees are not authorized to push or dispose of snow plowed within the Permit area directly into waters of the United States, or directly into the MS4(s). Discharges from any Permittee's snow disposal and snow management practices are authorized under this Permit only when such sites and practices are designed, conducted, operated, and maintained to prevent and reduce pollutants in the discharges to the maximum

extent practicable so as to avoid excursions above the Idaho water quality standards.

4. **Storm Water Discharge Associated with Industrial and Construction Activity.** Permittees are authorized to discharge storm water associated with industrial activity (as defined in 40 CFR 122.26(b)(14)), and storm water associated with construction activity (as defined in 40 CFR 122.26(b)(14)(x) and (b)(15)), from their MS4s, only when such discharges are otherwise authorized under an appropriate NPDES permit.

II. Storm Water Management Program (SWMP) Requirements

A. General Requirements

1. **Reduce pollutants to the maximum extent practicable.** The Permittees must implement and enforce a SWMP designed to reduce the discharge of pollutants from their MS4 to the maximum extent practicable (MEP), and to protect water quality in receiving waters. The SWMP as defined in this Permit must include best management practices (BMPs), controls, system design, engineering methods, and other provisions appropriate to control and minimize the discharge of pollutants from the MS4s.

   a) **SWMP Elements**. The required SWMP control measures are outlined in Part II.SWMP assessment/monitoring requirements are described in Part IV. Each Permittee must use practices that are selected, implemented, maintained, and updated to ensure that storm water discharges do not cause or contribute to an exceedance of an applicable Idaho water quality standard.

   b) **SWMP Documentation.** Each Permittee must prepare written documentation of the SWMP as implemented within their jurisdiction. The SWMP documentation must be organized according to the program components in Parts II and IV of this Permit, and must provide a current narrative physical description of the Permittee's MS4, illustrative maps or graphics, and all related ordinances, policies and activities as implemented within their jurisdiction. Each Permittee's SWMP documentation must be submitted to EPA with the 1st Year Annual Report.

      (i) Each Permittee must provide an opportunity for public review and comment on their SWMP documentation, consistent with applicable state or local requirements and Part II.B.6 of this Permit.

      (ii) Each Permittee's SWMP documentation must be updated at least annually and submitted as part of each subsequent Annual Report. (The document format used for Annual Report(s) submitted to EPA by the Permittees' prior to the effective date of this Permit may be modified to meet this requirement.)

   c) **SWMP Information.** The SWMP must include an ongoing program for gathering, tracking, maintaining, and using information to set priorities, evaluate SWMP implementation and Permit compliance.

d) **SWMP Statistics**. Permittees must track the number of inspections, official enforcement actions and types of public education activities and outcomes as stipulated by the respective program component. This information must be included in the Annual Report.

2. **Shared Implementation with outside entities.** Implementation of one or more of the SWMP minimum control measures may be shared with or delegated to another entity other than the Permittee(s). A Permittee may rely on another entity only if:

   a) The other entity, in fact, implements the minimum control measure;

   b) The action, or component thereof , is at least as stringent as the corresponding Permit requirement; and

   c) The other entity agrees to implement the minimum control measure on the Permittee's behalf. A binding written acceptance of this obligation is required. Each Permittee must maintain and record this obligation as part of the SWMP documentation. If the other entity agrees to report on the minimum control measure, the Permittees must supply the other entity with the reporting requirements in Part IV.C of this Permit. The Permittees remain responsible for compliance with the Permit obligation if the other entity fails to implement the required minimum control measure.

3. **Modification of the SWMP**. Minor modifications to the SWMP may be made in accordance with Part II.E of this Permit.

4. **Subwatershed Planning.** No later than September 30, 2016, the Permittees must jointly complete at least two individual sub-watershed plans for areas served by the MS4s within the Permit area. For the purposes of this Permit, the terms "subwatershed" and "storm sewershed" are defined as in Part VII. For each plan document, the subwatershed planning area must drain to at least one of the water bodies listed in Table II.C.

   Selected subwatersheds must be identified in the 1st Year Annual Report. Two completed subwatershed plan documents must be submitted to EPA as part of the 4th Year Annual Report.

   a) The Permittees must actively engage stakeholders in the development of each plan, and must provide opportunities for public input, consistent with Part II.B.6.

   b) The Permittees may modify and update any existing watershed planning document(s) to address the requirements of this Part.

   c) Each subwatershed plan must describe the extent and nature of the existing storm sewershed, and identify priority aquatic resources and beneficial uses to be protected or restored within the subwatershed planning area. Each subwatershed plan must contain a prioritized list of potential locations or opportunities for protecting or restoring such resources or beneficial uses through storm water infiltration, evapotranspiration or rainfall

harvesting/reuse, or other site-based low impact development (LID) practices. See Parts II.B.2.a, and II.B.2.c.

d) Each subwatershed plan must include consideration and discussion of how the Permittees will provide incentives, or enforce requirements, through their respective Stormwater Management Programs to address the following principles:

(i) Minimize the amount of impervious surfaces (roads, parking lots, roofs) within each watershed, by minimizing the creation, extension and widening of roads and associated development.

(ii) Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.

(iii) Prevent or reduce thermal impacts to water bodies, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.

(iv) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.

(v) Preserve and protect trees, and other vegetation with important evapotranspirative qualities.

(vi) Preserve and protect native soils, prevent topsoil stripping, and prevent compaction of soils.

B. Minimum Control Measures. The following minimum control measures must be accomplished through each Permittee's Storm Water Management Program:

1. **Construction Site Runoff Control Program.** The Permittees must implement a construction site runoff control program to reduce discharges of pollutants from public and private construction activity within its jurisdiction.

The Permittees' construction site management program must include the requirements described below:

a) **Ordinance and/or other regulatory mechanism**. To the extent allowable under local or state law, Permittees must adopt, implement, and enforce requirements for erosion controls, sediment controls, and materials management techniques to be employed and maintained at each construction project from initial clearing through final stabilization. Each Permittee must require construction site operators to maintain adequate and effective controls to reduce pollutants in storm water discharges from construction sites. The Permittees must use enforcement actions (such as, written warnings, stop work orders or fines) to ensure compliance.

No later than September 30, 2015, each Permittee must update their ordinances or other regulatory mechanisms, as necessary, to be consistent with this Permit and with the current version of the *NPDES General Permit for Storm Water Discharges from Construction Activities*, Permit #IDR12-0000 (NPDES Construction General Permit or CGP).

b) **Manuals Describing Construction Storm Water Management Controls and Specifications.** The Permittees must require construction site operators within their jurisdiction to use construction site management controls and specifications as defined within manuals adopted by the Permittees.

No later than September 30, 2015, the Permittees must update their respective manuals, as necessary, to include requirements for the proper installation and maintenance of erosion controls, sediment controls, and material containment/pollution prevention controls during all phases of construction activity. The manual(s) must include all acceptable control practices, selection and sizing criteria, illustrations, and design examples, as well as recommended operation and maintenance of each practice. At a minimum, the manual(s) must include requirements for erosion control, sediment control, and pollution prevention which complement and do not conflict with the current version of the CGP. If the manuals previously adopted by the individual Permittee do not meet these requirements, the Permittee may create supplemental provisions to include as part of the adopted manual in order to comply with this Permit.

c) **Plan Review and Approval.** The Permittees must review and approve preconstruction site plans from construction site operators within their jurisdictions. Permittees must ensure that the construction site operator is prohibited from commencing construction activity prior to receipt of written approval.

(i) The Permittees must not approve any erosion and sediment control (ESC) plan or Storm Water Pollution Prevention Plan (SWPPP) unless it contains appropriate site-specific construction site control measures meeting the Permittee's requirements as outlined in Part II.B.1.b.

(ii) Prior to the start of a construction project disturbing one or more acres, or disturbing less than one acre but is part of a larger common plan of development, the Permittees must advise the construction site operator(s) to seek or obtain necessary coverage under the NPDES Construction General Permit.

(iii) Permittees must use qualified individuals, knowledgeable in the technical review of ESC plans/SWPPPs, to conduct such reviews.

(iv) Permittees must document the review of each ESC plan and/or SWPPP using a checklist or similar process.

d) **Construction Site Inspections**. The Permittees must inspect construction sites occurring within their jurisdictions to ensure compliance with their

applicable requirements. The Permittees may establish an inspection prioritization system to identify the frequency and type of inspection based upon such factors as project type, total area of disturbance, location, and potential threat to water quality. If a prioritization system is used, the Permittee must include a description of the current inspection prioritization in the SWMP document required in Part II.A, and summarize the nature and number of inspections conducted during the previous reporting period in each Annual Report.

(i) Inspections of construction sites must include, but not be limited to:

- As applicable, a check for coverage under the Construction General Permit by reviewing any authorization letter or Notice of Intent (NOI) during initial inspections;
- Review the applicable ESC plan/SWPPP to determine if control measures have been installed, implemented, and maintained as approved;
- Assessment of compliance with the Permittees' ordinances/requirements related to storm water runoff, including the implementation and maintenance of required control measures;
- Assessment of the appropriateness of planned control measures and their effectiveness;
- Visual observation of non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
- Education or instruction related to on storm water pollution prevention practices, as needed or appropriate; and
- A written or electronic inspection report.

(ii) The Permittees must track the number of construction site inspections conducted throughout the reporting period, and verify that the sites are inspected at the minimum frequencies required by the inspection prioritization system. Construction site inspections must be tracked and reported with each Annual Report.

(iii) Based on site inspection findings, each Permittee must take all necessary follow-up actions (i.e., re-inspection, enforcement) to ensure compliance. Follow-up and enforcement actions must be tracked and reported with each Annual Report.

e) **Enforcement Response Policy for Construction Site Management Program**. No later than September 30, 2016, each Permittee must develop and implement a written escalating enforcement response policy (ERP) appropriate to their organization. Upon implementation of the policy in its jurisdiction, each Permittee must submit its completed ERP to EPA with the 4th Year Annual Report. The ERP for City of Boise, City of Garden City, and Ada County Highway District must address enforcement of construction site runoff controls for all currently regulated construction projects within their jurisdictions. The ERP for Idaho Transportation Department District 3, Drainage District 3, and Boise State University must address contractual enforcement of construction site runoff controls at construction sites within their jurisdictions. Each ERP must describe the Permittee's potential responses to violations with an appropriate educational or enforcement response. The ERP must address repeat violations through progressively stricter responses as needed to achieve compliance. Each ERP must describe how the Permittee will use the following types of enforcement response, as available, based on the type of violation:

(i) Verbal Warnings: Verbal warnings are primarily consultative in nature. At a minimum, verbal warnings must specify the nature of violation and required corrective action.

(ii) Written Notices: Written notices must stipulate the nature of the violation and the required corrective action, with deadlines for taking such action.

(iii) Escalated Enforcement Measures: The Permittees must have the legal ability to employ any combination of the enforcement actions below (or their functional equivalent):

- The ERP must indicate when the Permittees will initiate a Stop Work Order. Stop work orders must require that construction activities be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate control measures.
- The Permittees must also use other escalating measures provided under local or state legal authorities, such as assessing monetary penalties. The Permittees may perform work necessary to improve erosion control measures and collect the funds from the responsible party in an appropriate manner, such as collecting against the project's bond, or directly billing the responsible party to pay for work and materials.

f) **Construction General Permit Violation Referrals.** For those construction projects which are subject to the NPDES Construction General Permit and do not respond to Permittee educational efforts, the Permittee may provide to EPA information regarding construction project operators which cannot demonstrate that they have appropriate NPDES Permit

coverage and/or site operators deemed by the Permittee as not complying with the NPDES Construction General Permit. Permittees may submit such information to the EPA NPDES Compliance Hotline in Seattle, Washington, by telephone, at (206) 553-1846, and include, at a minimum, the following information:

- Construction project location and description;
- Name and contact information of project owner/ operator;
- Estimated construction project disturbance size; and
- An account of information provided by the Permittee to the project owner/ operator regarding NPDES filing requirements.

(i) **Enforcement Tracking.** Permittees must track instances of non-compliance either in hard-copy files or electronically. The enforcement case documentation must include, at a minimum, the following:

- Name of owner/operator;
- Location of construction project;
- Description of violation;
- Required schedule for returning to compliance;
- Description of enforcement response used, including escalated responses if repeat violations occur;
- Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations, etc.); and
- Any referrals to different departments or agencies.

g) **Construction Program Education and Training.** Throughout the Permit term, the Permittees must ensure that all staff whose primary job duties are related to implementing the construction program (including permitting, plan review, construction site inspections, and enforcement) are trained to conduct such activities. The education program must also provide regular training opportunities for construction site operators. This training must include, at a minimum:

(i) *Erosion and Sediment Control/Storm Water Inspectors*:

- Initial training regarding proper control measure selection, installation and maintenance as well as administrative requirements such as inspection reporting/tracking and the implementation of the enforcement response policy; and

- Annual refresher training for existing inspection staff to update them on preferred BMPs, regulation changes, Permit updates, and policy or standards updates.

(ii) *Other Construction Inspectors*: Initial training on general storm water issues, basic control measure implementation information, and procedures for notifying the appropriate personnel of noncompliance.

(iii) *Plan Reviewers*:

- Initial training regarding control measure selection, design standards, review procedures;

- Annual training regarding new control measures, innovative approaches, Permit updates, regulation changes and policy or standard updates.

(iv) *Third-Party Inspectors and Plan Reviewers*. If the Permittee utilizes outside parties to either conduct inspections and or review plans, these outside staff must be trained per the requirements listed in Part II.B.1.f.i.-iii above.

(v) *Construction Operator Education*. At a minimum, the Permittees must educate construction site operators within the Permit area as follows:

- At least once per year, the Permittees must either provide information to all construction companies on existing training opportunities or develop new training for construction operators regarding appropriate selection, installation, and use of required construction site control measures at sites within the Permit area.

- The Permittees must require construction site operators to have at least one person on-site during construction that is appropriately trained in erosion and sediment control.

- The Permittees must require construction operators to attend training at least once every three years.

- The Permittees must provide appropriate information and outreach materials to all construction operators who may disturb land within their jurisdiction.

2. Storm Water Management for Areas of New Development and Redevelopment. At a minimum, the Permittees must implement and enforce a program to control storm water runoff from new development and redevelopment projects that result in land disturbance of 5,000 square feet or more, excluding individual one or two family dwelling development or redevelopment. This program must apply to private and public sector development, including roads and streets. The program implemented by the Permittees must ensure that permanent controls or practices are utilized at each new development and redevelopment site to protect water quality. The program must include, at a minimum, the elements described below:

a) **Ordinance or other regulatory mechanisms**. No later than the expiration date of this Permit, each Permittee must update its applicable ordinance or regulatory mechanism which requires the installation and long-term maintenance of permanent storm water management controls at new development and redevelopment projects. Each Permittee must update their ordinance/regulatory mechanism to the extent allowed by local and state law, consistent with the individual Permittee's respective legal authority. Permittees must submit their revised ordinance/regulatory mechanism as part of the 5th Year Annual Report.

(i) The ordinance/regulatory mechanism must include site design standards for all new and redevelopment that require, in combination or alone, storm water management measures that keep and manage onsite the runoff generated from the first 0.6 inches of rainfall from a 24-hour event preceded by 48 hours of no measureable precipitation. Runoff volume reduction can be achieved by canopy interception, soil amendments, bioretention, evapotranspiration, rainfall harvesting, engineered infiltration, extended filtration, and/or any combination of such practices that will capture the first 0.6 inches of rainfall. An Underground Injection Control permit may be required when certain conditions are met. The ordinance or regulatory mechanism must require that the first 0.6 inches of rainfall be 100% managed with no discharge to surface waters, except when the Permittee chooses to implement the conditions of II.B.2.a.ii below.

(ii) For projects that cannot meet 100% infiltration/evapotranspiration/reuse requirements onsite, the Permittees' program may allow offsite mitigation within the same subwatershed, subject to siting restrictions established by the Permittee. The Permittee allowing this option must develop and apply criteria for determining the circumstances under which offsite mitigation may be allowed. A determination that the onsite retention requirement cannot be met must be based on multiple factors, including but not limited to technical feasibility or logistic practicality (e.g. lack of available space, high groundwater, groundwater contamination, poorly infiltrating soils, shallow bedrock, and/or a land use that is inconsistent with

capture and reuse or infiltration of storm water). Determinations may not be based solely on the difficulty and/or cost of implementing such measures. The Permittee(s) allowing this option must create an inventory of appropriate mitigation projects and develop appropriate institutional standards and management systems to value, estimate and track these situations. Using completed subwatershed plans or other mechanisms, the Permittee(s) must identify priority areas within subwatersheds in which off-site mitigation may be conducted.

(iii) The ordinance or regulatory mechanism must include the following water quality requirements:

- Projects with potential for excessive pollutant loading(s) must provide water quality treatment for associated pollutants before infiltration.
- Projects with potential for excessive pollutant loading(s) that cannot implement adequate preventive or water quality treatment measures to ensure compliance with Idaho surface water standards must properly convey storm water to a NPDES permitted wastewater treatment facility or via a licensed waste hauler to a permitted treatment and disposal facility.

(iv) The ordinance or other regulatory mechanism must include procedures for the Permittee's review and approval of permanent storm water management plans for new development and redevelopment projects consistent with Part II.B.1.d.

(v) The ordinance or other regulatory mechanism must include sanctions (including fines) to ensure compliance, as allowed under state or local law.

b) **Storm Water Design Criteria Manual.** No later than September 30, 2015, each Permittee must update as necessary their existing Storm Water Design Criteria Manual specifying acceptable permanent storm water management and control practices. The manual must contain design criteria for each practice. In lieu of updating a manual, a Permittee may adopt a manual created by another entity which complies with this section. The manual must include:

(i) Specifications and incentives for the use of site-based practices appropriate to local soils and hydrologic conditions;

(ii) A list of acceptable practices, including sizing criteria, performance criteria, design examples, and guidance on selection and location of practices; and

(iii) Specifications for proper long term operation and maintenance, including appropriate inspection interval and self-inspection checklists for responsible parties.

c) **Green Infrastructure/Low Impact Development (LID) Incentive Strategy and Pilot Projects**. No later than September 30, 2015, the Permittees must develop a strategy to provide incentives for the increased use of LID techniques in private and public sector development projects within each Permittee's jurisdiction. Permittees must comply with applicable State and local public notice requirements when developing this Strategy. Pursuant to Part IV.A.2.a, the Strategy must reference methods of evaluating at least three (3) Green Infrastructure/LID pilot projects as described below. Permittees must implement the Green Infrastructure/LID Incentive Strategy, and complete an effectiveness evaluation of at least three pilot projects, prior to the expiration date of this Permit.

(i) As part of the 3rd Year Annual Report, the Permittees must submit the written Green Infrastructure /LID Incentive Strategy; the Strategy must include a description of at least three selected pilot projects, and a narrative report on the progress to evaluate the effectiveness of each selected LID technique or practice included in the pilot project. Each pilot project must include an evaluation of the effectiveness of LID technique(s) or practice(s) used for on-site control of water quality and/or quantity. Each Pilot Project must involve at least one or more of the following characteristics:

- The project manages runoff from at least 3,000 square feet of impervious surface;
- The project involves transportation related location(s) (including parking lots);
- The drainage area of the project is greater than five acres in size; and/or
- The project involves mitigation of existing storm water discharges to one or more of the water bodies listed in Table II.C.

(ii) Consistent with Part IV.A.10, the Permittees must evaluate the performance of LID technique(s) or practice(s) in each pilot project, and include a progress report on overall strategy implementation in the 4th Annual Report. Final pilot project evaluations must be submitted in the 5th Year Annual Report. The Permittees must monitor, calculate or model changes in runoff quantities for each of the pilot project sites in the following manner:

- For retrofit projects, changes in runoff quantities shall be calculated as a percentage of 100% pervious surface before and after implementation of the LID technique(s) or practice(s).
- For new construction projects, changes in runoff quantities shall be calculated for development scenarios both with LID technique(s) or practice(s) and without LID technique(s) or practice(s).

- The Permittees must measure runoff flow rate and subsequently prepare runoff hydrographs to characterize peak runoff rates and volumes, discharge rates and volumes, and duration of discharge volumes. The evaluation must include quantification and description of each type of land cover contributing to surface runoff for each pilot project, including area, slope, vegetation type and condition for pervious surfaces, and the nature of impervious surfaces.
- The Permittees must use these runoff values to evaluate the overall effectiveness of various LID technique(s) or practice(s) and to develop recommendations for future adoption of LID technique(s) or practice(s) that address appropriate use, design, type, size, soil type and operation and maintenance practices.

(iii) **Riparian Zone Management and Outfall Disconnection.** No later than September 30, 2015, the Permittees must identify and prioritize riparian areas appropriate for Permittee acquisition and protection. Prior to the expiration date of this Permit, the Permittees must undertake and complete at least one project designed to reduce the flow of untreated urban storm water discharging through the MS4 system through the use of vegetated swales, storm water treatment wetlands and/or other appropriate techniques. The Permittees must submit the list of prioritized riparian protection areas, and a status report on the planning and implementation of the outfall disconnection project, as part of the 3rd Year Annual Report. Documentation of the completed outfall disconnection project must be included in the 5th Year Annual Report.

(iv) **Repair of Public Streets, Roads and Parking Lots.** When public streets, roads or parking lots are repaired (as defined in Part VII), the Permittees performing these repairs must evaluate the feasibility of incorporating runoff reduction techniques into the repair by using canopy interception, bioretention, soil amendments, evaporation, rainfall harvesting, engineered infiltration, rain gardens, infiltration trenches, extended filtration and/or evapotranspiration and/or any combination of the aforementioned practices. Where such practices are found to be technically feasible, the Permittee performing the repair must use such practices in the design and repair. These requirements apply only to projects whose design process is started after the effective date of this Permit. As part of the 5th Year Annual Report, the Permittees must list the locations of street, road and parking lot repair work completed since the effective date of the Permit that have incorporated such runoff reduction practices, and the receiving water body(s) benefitting from such practices. This documentation must include a general description of the project design, estimated total cost, and estimates of total flow

volume and pollutant reduction achieved compared to traditional design practices.

d) **Plan Review and Approval.** The Permittees must review and approve pre-construction plans for permanent storm water management. The Permittees must review plans for consistency with the ordinance/regulatory mechanism and Storm Water Design Criteria Manual required by this Part. The Permittees must ensure that the project operator is prohibited from commencing construction activity prior to receipt of written approval from the Permittee.

(i) The Permittees must not approve or recommend for approval any plans for permanent storm water controls that do not contain appropriate permanent storm water management practices that meet the minimum requirements specified in this Part.

(ii) Permittees must use qualified individuals, knowledgeable in the technical review of plans for permanent storm water controls to conduct such reviews.

(iii) Permittees must document the review of each plan using a checklist or similar process.

e) **Operation and Maintenance (O&M) of Permanent Storm Water Management Controls.**

(i) **Inventory and Tracking.** The Permittees must maintain a database tracking all new public and private sector permanent storm water controls. No later than January 30, 2018, all of the available data on existing permanent storm water controls known to the Permittees must be included in the inventory database. For the purposes of this Part, new permanent controls are those installed after February 1, 2013; existing permanent controls are those installed prior to February 1, 2013. The tracking must begin in the plan review stage with a database that incorporates geographic information system (GIS) information. The tracking system must also include, at a minimum: type and number of practices; O&M requirements, activity and schedule; responsible party; and self-inspection schedule.

(ii) **O&M Agreements.** Where parties other than the Permittees are responsible for operation and maintenance of permanent storm water controls, the Permittees must require a legally enforceable and transferable O&M agreement with the responsible party, or other mechanism, that assigns permanent responsibility for maintenance of structural or treatment control storm water management practices.

f) **Inspection and Enforcement of Permanent Storm Water Management Controls.** The Permittees must ensure proper long term operation and

maintenance of all permanent storm water management practices within the Permittees' respective jurisdiction. The Permittees must implement an inspection program, and define and prioritize new development and redevelopment sites for inspections of permanent storm water management controls. Factors used to prioritize sites must include, but not be limited to: size of new development or redevelopment area; sensitivity and/or impaired status of receiving water(s); and, history of non-compliance at the site during the construction phase.

(i) No later than September 30, 2017, all high priority locations must be inventoried and associated inspections must be scheduled to occur at least once annually. The inspections must determine whether storm water management or treatment practices have been properly installed (i.e., an "as built" verification). The inspections must evaluate the operation and maintenance of such practices, identify deficiencies and potential solutions, and assess potential impacts to receiving waters.

(ii) No later than September 30, 2017, the Permittees must develop checklists to be used by inspectors during these inspections, and must maintain records of all inspections conducted on new development and redevelopment sites.

(iii) No later than September 30, 2017, the Permittees must develop and implement an enforcement strategy similar to that required in Section II.B.1.e to maintain the integrity of permanent storm water management and treatment practices.

g) **Education and Training on Permanent Storm Water Controls**. No later than September 30, 2015, the Permittees must begin a training program for appropriate audiences regarding the selection, design, installation, operation and maintenance of permanent storm water controls. The training program and materials must be updated as necessary to include information on updated or revised storm water treatment standards, design manual specifications, Low Impact Development techniques or practices, and proper operation and maintenance requirements.

(i) No later than September 30, 2016, and annually thereafter, all persons responsible for reviewing plans for new development and redevelopment and/or inspecting storm water management practices and treatment controls must receive training sufficient to determine the adequacy of storm water management and treatment controls at proposed new development and redevelopment sites.

(ii) No later than September 30, 2016, and at least annually thereafter, Permittees must provide training to local audiences on the storm water management requirements described in this Part.

3. Industrial and Commercial Storm Water Discharge Management. The Permittees must implement a program to reduce to the MEP the discharge of pollutants from industrial and commercial operations within their jurisdiction. Throughout the Permit term, the Permittees must conduct educational and/or enforcement efforts to reduce the discharge of pollutants from those industrial and commercial locations which are considered to be significant contributors of phosphorus, bacteria, temperature, and/or sediment to receiving waters. At a minimum, the program must include the following elements:

a) **Inventory of Industrial and Commercial Facilities/Activities**. No later than September 30, 2016, the Permittees must update the inventory and map of facilities and activities discharging directly to their MS4s.

(i) At a minimum, the inventory must include information listing the watershed/receiving water body, facility name, address, nature of business or activity, and North American or Standard Industrial Classification code(s) that best reflect the facility's product or service;

(ii) The inventory must include the following types of facilities: municipal landfills (open and closed); Permittee-owned maintenance yards and facilities; hazardous waste recovery, treatment, storage and disposal facilities; facilities subject to Section 313 of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. 11023; all industrial sectors listed in 40 CFR §122.26(b)(14); vehicle or equipment wash systems; commercial animal facilities, including kennels, race tracks, show facilities, stables, or other similar commercial locations where improper management of domestic animal waste may contribute pollutants to receiving waters or to the MS4; urban agricultural activities; and other industrial or commercial facility that the Permittees determine is contributing a substantial pollutant loading to the MS4 and associated receiving waters.

(iii) The Permittees must collectively identify at least two specific industrial/commercial activities or sectors operating within the Permit area for which storm water discharges are not being adequately addressed through existing programs. No later than September 30, 2016, the Permittees must develop best management practices for each activity, and educate the selected industrial/commercial audiences regarding these performance expectations. Example activities for consideration include, but are not limited to: landscaping businesses; wholesale or retail agricultural and construction supply businesses; urban agricultural activities; power washers; commercial animal facilities; commercial car/truck washing operations; and automobile repair shops.

b) **Inspection of Industrial and Commercial Facilities/Activities**. The Permittees must work cooperatively throughout the Permit term to prioritize

and inspect selected industrial and commercial facilities/activities which discharge to receiving waters or to the MS4. No later than September 30, 2016, any existing agreements between the Permittees to accomplish such inspections must be updated as necessary to comply with this permit. At a minimum, the industrial and commercial facility inspection program must include:

(i) Priorities and procedures for inspections, including inspector training, and compliance assistance or education materials to inform targeted facility/activity operators of applicable requirements;

(ii) Provisions to record observations of a facility or activity;

(iii) Procedures to report findings to the inspected facility or activity, and to follow-up with the facility/activity operator as necessary;

(iv) A monitoring (or self monitoring) program for facilities that assesses the type and quantity of pollutants discharging to the MS4s;

(v) Procedures to exercise legal authorities to ensure compliance with applicable local storm water ordinances.

c) **Maintain Industrial and Commercial Facility/Activity Inventory**. The industrial and commercial facility/activity inventory must be updated at least annually. The updated inventory and a summary of the compliance assistance and inspection activities conducted, as well as any follow-up actions, must be submitted to EPA with each Annual Report.

4. Storm Water Infrastructure and Street Management. The Permittees must maintain their MS4 and related facilities to reduce the discharge of pollutants from the MS4 to the MEP. All Permittee-owned and operated facilities must be properly operated and maintained. This maintenance requirement includes, but is not limited to, structural storm water treatment controls, storm sewer systems, streets, roads, parking lots, snow disposal sites, waste facilities, and street maintenance and material storage facilities. The program must include the following:

a) **Storm Sewer System Inventory and Mapping**. No later than January 30, 2018, the Permittees must update current records to develop a comprehensive inventory and map of the MS4s and associated outfall locations. The inventory must identify all areas over which each Permittee has responsibility. The inventory must include:

(i) the location of all inlets, catch basins and outfalls owned/operated by the Permittee;

(ii) the location of all MS4 collection system pipes (laterals, mains, etc.) owned/operated by the Permittee, including locations where the MS4 is physically interconnected to the MS4 of another operator ;

(iii) the location of all structural flood control devices, if different from the characteristics listed above;

(iv) the names and locations of receiving waters of the U.S. that receive discharges from the outfalls;

(v) the location of all existing structural storm water treatment controls;

(vi) identification of subwatersheds, associated land uses, and approximate acreage draining into each MS4 outfall; and

(vii) the location of Permittee-owned vehicle maintenance facilities, material storage facilities, maintenance yards, and snow disposal sites; Permittee-owned or operated parking lots and roadways.

A summary description of the Permittees' storm sewer system inventory and a map must be submitted to EPA as part of the reapplication package required by Part VI.B

b) **Catch Basin and Inlet Cleaning.** No later than September 30, 2016, the Permittees must initiate an inspection program to inspect all Permittee-owned or operated catch basins and inlets at least every two years and take appropriate maintenance action based on those inspections. Inspection records must be maintained and summarized in each Annual Report.

c) **Street and Road Maintenance.** No later than September 30, 2015, the Permittees responsible for road and street maintenance must update any standard operating procedures for storm water controls to ensure the use of BMPs that, when applied to the Permittee's activity or facility, will protect water quality, and reduce the discharge of pollutants to the MEP. The operating procedures must contain, for each activity or facility, inspection and maintenance schedules specific to the activity, and appropriate pollution prevention/good housekeeping procedures for all of the following types of facilities and/or activities listed below. Water conservation measures should be considered for all landscaped areas.

(i) **Streets, roads, and parking lots**. The procedures must address, but are not limited to: road deicing, anti-icing, and snow removal practices; snow disposal areas; street/road material (e.g. salt, sand, or other chemical) storage areas; maintenance of green infrastructure/low impact development practices; and BMPs to reduce road and parking lot debris and other pollutants from entering the MS4. Within four years of the effective date of this permit, the Permittees must implement all of the pollution prevention/good housekeeping practices established in the SOPs for all streets, roads, highways, and parking lots with more than 3,000 square feet of impervious surface that are owned, operated, or maintained by the Permittees.

(ii) **Inventory of Street Maintenance Materials.** Throughout the Permit term, all Permittees with street maintenance

responsibilities must maintain an inventory of street /road maintenance materials, including use of sand and salt, and document the inventory in the corresponding Annual Reports.

(iii) **Manage Sand with Salt and Salt Storage Areas.** No later than September 30, 2017, the Permittees must address any sand, salt, or sand with salt material stockpiles at each of their materials storage locations to prevent pollutants in stormwater runoff from discharging to the MS4 or into any receiving waterbody. Examples how the Permittee may choose to address runoff from their material storage areas include, but are not limited to: building covered storage areas; fully containing the material stockpile area in a manner that prevents runoff from discharging to the MS4 or a receiving waterbody; relocating and/or otherwise consolidating material storage piles to alternative locations which prevents discharges to the MS4 or a receiving waterbody. The Permittees must identify their material storage locations in the SWMP documentation submitted to EPA with the 1st year Annual Report and reference the average quantity of material stored at each location in the inventory required in Part II.B.4.c.ii. Permittees must document in the 5th Year Annual Report how their material stockpiles have been addressed to prevent runoff from discharging to the MS4 or a receiving waterbody.

d) **Street, Road and Parking Lot Sweeping**. Each Permittee with street, road, and/or public parking lot maintenance responsibilities must update their respective sweepings management plans no later than September 30, 2015. Each updated plan must designate all streets, roads, and/or public parking lots which are owned, operated or maintained by that Permittee to fit within one of the following categories for sweeping frequency based on land use, traffic volumes or other factors:

- Residential – Streets and road segments that include, but are not limited to, light traffic zones and residential zones.
- Arterial and all other – Streets and road segments with high traffic volumes serving commercial or industrial districts.
- Public Parking Lots – large lots serving schools and cultural facilities, plazas, sports and event venues or similar facilities.

(i) No later than September 30, 2014, each Permittee with street, road, and/or public parking lot maintenance responsibilities must inventory and map all of their designated streets, roads, and public parking lots for sweeping frequency. The resulting inventory and map must be submitted as part of the 2nd Year Annual Report.

(ii) No later than September 30, 2015, Permittees with street, road, and/or public parking lot maintenance responsibilities must

sweep all streets, roads, and public parking lots that are owned, operated or maintained by that Permittee according to the following schedule:

Table II.B-2

Roadway Type	Sweeping Schedule			
	Two Times Per Month	**Every Six Weeks**	**Four Times Per Year**	**One Time Per Year**
Downtown Areas of Boise and Garden City	**X**			
Arterial and Collector Roadways (non-downtown)		**X**		
Residential Roadways			**X**	
Paved Alleys and Public Parking Lots				**X**

(iii) If a Permittee's existing overall street/road/parking lot sweeping program provides equivalent or greater street sweeping frequency to the requirements above, the Permittee must continue to implement its existing street/road/parking lot sweeping program.

(iv) For areas where sweeping is technically infeasible, the Permittees with street, road, and/or public parking lot maintenance responsibilities must document in the 1st Year Annual Report each area and indicate why sweeping is infeasible. The Permittee must document what alternative sweeping schedule will be used, or how the Permittee will increase implementation of other trash/litter control procedures to minimize pollutant discharges to the MS4 and to receiving waters.

(v) The Permittees with street, road, and/or public parking lot maintenance responsibilities must estimate the effectiveness of their street sweeping activities to minimize pollutant discharges to the MS4 and receiving waters, and document the following in each Annual Report:

- Identify any significant changes to the designated road/street/parking lot inventory and map, and the basis for those changes;
- Report annually on types of sweepers used, swept curb and/or lane miles, dates of sweeping by general location and frequency category, volume or weight of materials removed and a representative sample of the particle size distribution of swept material;
- Report annually on any public outreach efforts or other means to address excess leaves and other material as well as areas that are infeasible to sweep.

e) **Implement appropriate requirements for pesticide, herbicide, and fertilizer applications**. Permittees must continue to implement practices to reduce the discharge of pollutants to the MS4 associated with the application, storage and disposal of pesticides, herbicides and fertilizers from municipal areas and activities. Municipal areas and activities include, at a minimum, municipal facilities, public right-of-ways, parks, recreational facilities, golf courses, and landscaped areas. All employees or contractors of the Permittees applying restricted use pesticides must be registered as certified applicators.

f) **Develop and implement Storm Water Pollution Prevention Plans.** No later than September 30, 2015, the Permittees must develop and implement SWPPPs for all Permittee-owned material storage facilities, and maintenance yards located within the Permit area and identified in the inventory required in Parts II.B.3.a and II.B.4.a.viii. Permittee-owned facilities discharging storm water associated with industrial activity as defined in 40 CFR 122.26(b)(14) must obtain separate NPDES permit coverage as required in Part I.D.4 of this permit.

g) **Storm Water Management.** Each Permittee must ensure that any storm water management projects it undertakes after the effective date of this Permit are designed and implemented to prevent adverse impacts on water quality.

(i) Permittees must evaluate the feasibility of retrofitting existing storm water control devices to provide additional pollutant removal from collected storm water.

(ii) No later than the expiration date of this Permit, Permittees must identify and define all locations where such retrofit project opportunities are feasible, identify appropriate funding sources, and outline project timelines or schedule(s) for retrofit projects designed to better control the discharge of pollutants of concern to the Boise River and its tributaries.

h) **Litter Control.** Throughout the Permit term, each Permittee must continue to implement effective methods to reduce litter within their jurisdiction. Permittees must work with others as appropriate to control litter on a

regular basis and after major public events to reduce the discharge of pollutants to receiving waters.

i) **Training.** The Permittees must provide regular training to appropriate Permittee staff on all operations and maintenance procedures designed to prevent pollutants from entering the MS4 and receiving waters. Appropriate Permittee staff must receive training no later than September 30, 2015, and annually thereafter.

5. Illicit Discharge Management. An illicit discharge is any discharge to an MS4 that is not composed entirely of storm water. Exceptions are described in Part I.D. of this permit. The Permittees must continue to implement their illicit discharge management program to reduce to the MEP the unauthorized and illegal discharge of pollutants to the MS4. The program must include:

a) **Ordinance or other regulatory mechanisms.** Upon the effective date of this Permit, the Permittees must effectively prohibit non-storm water discharges to the MS4 (except those identified in Part 1.D of this permit) through enforcement of relevant ordinances or other regulatory mechanisms. Such ordinances/regulatory mechanisms must be updated prior to the expiration date of this Permit as necessary to provide adequate controls. To be considered adequate, an ordinance or regulatory mechanism must:

(i) Authorize the Permittee to prohibit, at a minimum, the following discharges to the MS4, unless otherwise authorized in Part 1.D:

- Sewage;
- Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
- Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
- Discharges of wash water from mobile operations, such as mobile automobile or truck washing, steam cleaning, power washing, and carpet cleaning, etc.;
- Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas - including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc. - where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
- Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;

- Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
- Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
- Discharges of food-related wastes (grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

(ii) Prohibit and eliminate illicit connections to the MS4;

(iii) Control the discharge of spills, and prohibit dumping or disposal of materials other than storm water into the MS4.

b) **Illicit Discharge Complaint Reporting and Response Program.** At a minimum, Permittees must respond to reports of illicit discharges from the public in the following manner:

(i) **Complaint/ReportingHotline.** The Permittees must maintain the dedicated telephone number and email address, or other publicly available and accessible means in addition to the website required in Part II.B.6, for use by the public to report illicit discharges. This complaint hotline must be answered by trained staff during normal business hours. During non-business hours, a system must be in place to record incoming calls to the hotline and a system must be in place to guarantee timely response. The telephone number must be printed on appropriate education, training, and public participation materials produced under Part II.B.6, and clearly listed in the local telephone book as appropriate.

(ii) **Response to Complaints/Reports.** The Permittees must respond to all complaints or reports of illicit discharges as soon as possible, but no later than within two working days.

(iii) **Maintain log of complaints/reports received and actions taken.** The Permittees must maintain a record documenting all complaints or reports of illicit discharges and responses taken by the Permittees.

c) **Illicit Discharge Mapping.** No later than September 30, 2014, the Permittees must develop a map of reported and documented illicit discharges or illicit connections to identify priority areas. The map must identify, at a minimum, the location, type and relative quantity or severity of the known, recurrent or ongoing non-storm water discharges to the MS4. This map must be updated annually and used to target the specific outfall locations for that field screening season.

d) **Dry Weather Outfall Screening Program.** Permittees must implement, and update as necessary, a dry weather analytical and field screening monitoring program. This dry weather outfall screening program must emphasize frequent, geographically widespread monitoring to detect illicit discharges and illegal connections, and to reinvestigate potentially

problematic outfalls. At a minimum, the procedures must be based on the following guidelines and criteria:

(i) **Outfall Identification.** The Permittees must update as necessary the storm water outfall identification and screening plan, describing the reconnaissance activities that must be performed and information used to prioritize targeted outfalls and associated land uses.. The plan must discuss how chemical and microbiological analysis will be conducted on any flows identified during dry weather screening, including field screening methodologies and associated trigger thresholds to be used for determining follow-up action.

(ii) **Monitoring Illicit Discharges.** No later than September 30, 2015, dry weather analytical and field screening monitoring must be conducted at least once annually (or more often if the Permittees deem necessary). One third of the outfalls to be screened annually must be conducted within the June 1 and September 30th timeframe.

- Upon the effective date of the Permit, the Permittees must conduct visual dry weather screening of at least 20% of their total outfalls per year.
- The outfalls must be geographically dispersed across the MS4 and must represent all major land uses in the Permit area. In addition, the Permittees must ensure that dry weather screening includes, but is not limited to, screening of 20% outfalls discharging to impaired waters listed in Table II.C.
- When flows during dry weather are identified the Permittees must collect grab samples of the discharge for in-field analysis of the following indicator constituents: pH; total chlorine; detergents as surfactants; total copper; total phenols; *E. coli*; total phosphorus; turbidity; temperature; and suspended solids concentrations (to be measured in mg/L).
- Photos may be used to document conditions.
- Results of field sampling must be compared to established trigger threshold levels and/or existing state water quality standards. If the outfall is dry (no flowing or ponded runoff), the Permittees must make and record all applicable visual observations.
- All dry weather flows previously identified or documented by the Permittees to be associated with irrigation flows or ground water seepage must be sampled to assess pollutant loading associated with such flows. The results must be evaluated to identify feasible actions necessary to eliminate such flows and ensure compliance with Part I.D of this Permit. If field sample

results of such irrigation or groundwater seepage comply with Part I.D of this permit, annual sampling of that dry weather flow at that outfall is no longer required. Permittees must document in the SWMP document the specific location(s) of outfalls associated with these results as well as the Permittee's rationale for the conclusion to discontinue future dry weather screening at that location..

(iii) **Maintain Records of Dry Weather Screening.** The Permittees must keep detailed records of the dry weather screening with the following information at a minimum: time since last rain event; quantity of last rain event; site description (e.g., conveyance type, dominant watershed land uses); flow estimation (e.g., width of water surface, approximate depth of water, approximate flow velocity, flow rate); visual observations (e.g., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology); results of any in field sampling; and recommendations for follow-up actions to address identified problems, and documentation of completed follow-up actions.

e) **Follow-up.** The Permittees must investigate recurring illicit discharges identified as a result of complaints or as a result of dry weather screening inspections and sampling within fifteen (15) days of its detection to determine the source. Permittees must take appropriate action to address the source of the ongoing illicit discharge within 45 days of its detection.

f) **Prevent and Respond to Spills to the MS4.** Throughout the Permit term, the Permittees must coordinate appropriate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times. The Permittees must respond to, contain and clean up all sewage and other spills that may discharge into the MS4 from any source (including private laterals and failing septic systems).

g) **Facilitate Disposal of Used Oil and Toxic Materials.** The Permittees must continue to coordinate with appropriate agencies to ensure the proper management and disposal or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes by their employees and the public. Such a program must include educational activities, public information activities, and establishment of collection sites operated by the Permittees or other entity. The program must be implemented throughout the Permit term.

h) **Training.** No later than September 30, 2014, and annually thereafter, the Permittees must develop and provide training to staff on identifying and eliminating illicit discharges, spill, and illicit connections to the MS4. At a minimum, the Permittee's construction inspectors, maintenance field staff, and code compliance officers must be sufficiently trained to respond to illicit discharges and spills to the MS4.

6. Education, Outreach and Public Involvement.

a) **Comply with Applicable Requirements.** The Permittees must comply with applicable State and local public notice requirements when implementing their SWMP public involvement activities.

b) **Implement an Ongoing Education Outreach and Involvement Program.** The Permittees must conduct, or contract with other entities to conduct, an ongoing joint education, outreach and public involvement program aimed at residents, businesses, industries, elected officials, policy makers, and Permittee planning staff /other employees.

The goal of the education and outreach program is to reduce or eliminate behaviors and practices that cause or contribute to adverse storm water impacts. The goal of the public involvement program is to engage interested stakeholders in the development and implementation of the Permittees' SWMP activities to the extent allowable pursuant to the respective authority granted individual Permittees under Idaho law.

The Permittees' joint education and public involvement program must be designed to improve each target audience's understanding of the selected storm water issues, engage stakeholders, and help target audiences understand what they can do to positively impact water quality by preventing pollutants from entering the MS4.

(i) No later than September 30, 2014, the Permittees must implement or participate in an education, outreach and public involvement program using a variety of methods to target each of the audiences and at least one or more of the topics listed below:

1) General Public

- Watershed characteristics and subwatershed planning efforts as required in Part II.A.4;
- General impacts of storm water flows into surface water;
- Impacts from impervious surfaces;
- Source control best management practices and environmental stewardship, actions and opportunities for pet waste control/disposal, vehicle maintenance, landscaping and vegetative buffers;
- Water wise landscaping, water conservation, water efficiency.

2) General public and businesses, including home based and mobile businesses

- Best management practices for use and storage of automotive chemicals, hazardous cleaning supplies, vehicle wash soaps and other hazardous materials;

- Proper use and application of pesticides, herbicides and fertilizers;
- Impacts of illicit discharges and how to report them;
- Water wise landscaping, water conservation, water efficiency.

3) Homeowners, homeowner's associations, landscapers, and property managers
   - Yard care techniques protective of water quality, such as composting;
   - Best management practices for use and storage of pesticides, herbicides, and fertilizers;
   - Litter and trash control and recycling programs;
   - Best management practices for power washing, carpet cleaning and auto repair and maintenance;
   - Low Impact Development techniques, including site design, pervious paving, retention of mature trees and other vegetation;
   - Storm water treatment and flow/volume control practices;
   - Water wise landscaping, water conservation, water efficiency.
4) Engineers, contractors, developers, review staff, and land use planners
   - Technical standards for storm water site plans;
   - Low Impact Development techniques, including site design, pervious paving, retention of mature trees and other vegetation;
   - Storm water treatment and flow/volume control practices;
   - Water wise landscaping, water conservation, water efficiency.
5) Urban farmers and managers of public and private community gardens
   - Water wise landscaping, water conservation, and water efficiency.

(ii) The Permittees must assess, or participate in an effort to assess understanding and adoption of behaviors by the target audiences.

The resulting assessments must be used to direct storm water education and outreach resources most effectively.

(iii) The Permittees must track and maintain records of public education, outreach and public involvement activities.

c) **Targeted Education and Training.** For the specific topics identified in the Permit sections listed below, the Permittees must develop and implement, or contract with other entities to implement, targeted training programs to educate appropriate Permittee staff or other audiences within their jurisdiction. Where joint, cooperative education efforts to address these topics are not feasible, the individual Permitttee must ensure that the necessary education and training occurs for the following topics:

(i) II.B.1.f - Construction Storm Water Management Training for construction site operators and Permittee staff;

(ii) II.B.2.g – Permanent Storm Water Control Training for project operators and Permittee staff;

(iii) II.B.4.i– Storm Water Infrastructure and Street Management/ Maintenance training for the Permittee staff; and

(iv) II.B.5.h – Illicit Discharge Management Training for Permittee staff.

d) **Storm Water Website.** The Permittees must maintain and promote at least one publicly-accessible website that identifies each Permittee's SWMP activities and seeks to educate the audiences listed in Part II.B.6.b.i. The website(s) must describe and provide relevant information regarding the activities of all Permittees. The website must be updated no later than February 1, 2014, and updated at least quarterly thereafter as new material is available. The website must incorporate the following features:

(i) All reports, plans, or documents generated by each Permittee in compliance with this Permit must be posted on the website in draft form when input from the public is being solicited, and in final form when the document is completed.

(ii) Information and/or links to key sites that provide education, training, licensing, and permitting related to construction and post-construction storm water management controls and requirements for each jurisdiction. The website must include links to all applicable ordinances, policies and/or guidance documents related to the Permittees' construction and post-construction stormwater management control programs.

(iii) Information and/or links to appropriate controls for industrial and commercial activities,

(iv) Information and/or links to assist the public to report illicit connections and illegal dumping activity;

(v) Appropriate Permittee contact information, including phone numbers for relevant staff and telephone hotline, mailing addresses, and electronic mail addresses.

C. Discharges to Water Quality Impaired Receiving Waters.

1. The Permittees must conduct a storm water discharge monitoring program as required in Part IV.
2. For the purposes of this Permit and as listed in Table II.C, the Clean Water Act §303 (d) listed water bodies are those cited in the IDEQ 2010 Integrated Report including, but not limited to the Lower Boise River, and its associated tributaries. "Pollutant(s) of concern" refer to the pollutant(s) identified as causing or contributing to the water quality impairment. Pollutants of concern for the purposes of this Permit are: total phosphorus, sediment, temperature, and *E. coli*.
3. Each Permittees' SWMP documentation must include a description of how the activities of each minimum control measure in Part II.B are implemented by the Permittee to control the discharge of pollutants of concern and ensure that the MS4 discharges will not cause or contribute to an excursion above the applicable Idaho water quality standards. This discussion must specifically identify how the Permittee evaluates and measures the effectiveness of the SWMP to control the pollutants of concern. For those activities identified in Part II.B requiring multiple years to develop and implement, the Permittee must provide interim updates on progress to date. Consistent with Part II.A.1.b, each Permittee must submit this description of the SWMP implementation to EPA and IDEQ as part of the 1st Year Annual Report required in Part IV.C, and must update its description annually in subsequent Annual Reports.

Table II.C

Clean Water Act §303 (d) listed Water Bodies and Pollutants of Concern

Receiving Water Body Assessment Unit/ Description	Pollutants of Concern Causing Impairment
ID17050114SW011a_06 ***Boise River – Diversion Dam to River Mile 50***	Temperature
ID17050114SW005_06 ***Boise River – River Mile 50 to Star Bridge***	Temperature, Sediment, *E. coli.*
ID17050114SW005_06a ***Boise River – Star to Middleton***	Temperature, Sediment, *E. coli.*
ID17050114SW005_06b ***Boise River- Middleton to Indian Creek***	Temperature, Total phosphorus, Sediment, *E. coli.*
ID17050114SW001_06 ***Boise River- Indian Creek to the mouth***	Temperature, Total phosphorus, Sediment, *E. coli.*
ID17050114SW008_03 ***Tenmile Creek - 3rd order below Blacks Creek Reservoir***	Sediment, *E. coli.*
ID17050114SW010_02 ***Fivemile Creek - 1st & 2nd order tributaries***	*E. coli.*
ID17050114SW010_03 ***Fivemile Creek - 3rd order tributaries***	Sediment, *E. coli.*

D. Reviewing and Updating the SWMP.

1. Permittees must annually review their SWMP actions and activities for compliance with this Permit as part of the preparation of the Annual Report required under Part IV.C.2.

2. Permittees may request changes to any SWMP action or activity specified in this Permit in accordance with the following procedures:
   a) Changes to delete or replace an action or activity specifically identified in this Permit with an alternate action or activity may be requested by the Permittees at any time. Modification requests to EPA must include:
      (i) An analysis of why the original action or activity is ineffective, infeasible, or cost prohibitive;
      (ii) Expectations on the effectiveness of the replacement action or activity; and
      (iii) An analysis of why the replacement action or activity is expected to better achieve the Permit requirements.
   b) Change requests must be made in writing and signed by the Permittees in accordance with Part VI.E.
   c) Documentation of any of the actions or activities required by this Permit must be submitted to EPA upon request.
   d) EPA may review Annual Reports or other such documentation and subsequently notify the Permittees that changes to the SWMP actions and activities are necessary to:
      (i) Address discharges from the MS4 that are causing or contributing to water quality impacts;
      (ii) Include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; or
      (iii) Include other conditions deemed necessary by EPA to comply with water quality standards, and/or other goals and requirements of the CWA.
   e) If EPA notifies the Permittees that changes are necessary pursuant to Parts II.D.2.a or II.D.2.d, the notification will offer the Permittees an opportunity to propose alternative program changes to meet the objectives of the requested modification. Following this opportunity, the Permittees must implement any required changes according to the schedule set by EPA.

4. Any modifications to this Permit will be accomplished according to Part VI.A of this Permit.

E. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation. The Permittees must implement the actions and activities of the SWMP in all new areas added or transferred to the Permittee's MS4 (or for which a Permittee becomes responsible for implementation of storm water quality controls) as expeditiously as practicable, but not later than one year from the date upon which the new areas were added. Such additions and schedules for implementation must be documented in the next Annual Report following the transfer.

F. SWMP Resources. The Permittees must continue to provide adequate finances, staff, equipment and other support capabilities to implement their SWMP actions and activities outlined in this permit. The Permittees must report on total costs associated with SWMP implementation over the prior 12 month reporting period in each Annual Report. Permittees are encouraged to consider establishing consistent funding sources for continued program implementation.

G. Legal Authority. To the extent allowable pursuant to the respective authority granted individual Permittees under Idaho law, each Permittee must operate to, at a minimum:

- Prohibit and eliminate, through statute, ordinance, policy, permit, contract, court or administrative order or other similar means, the contribution of pollutants to the MS4 by illicit connections and discharges to the MS4. Illicit connections include pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4. Illicit discharges include all non-storm water discharges not otherwise authorized under Part I.D. of this Permit;
- Control through statute, ordinance, policy, permit, contract, court or administrative order, or other similar means, the discharge to the MS4 of spills, dumping or disposal of materials other than storm water;
- Control through interagency agreements among the Permittees the contribution of pollutants from one portion of the MS4 to another portion of the MS4;
- Require compliance with conditions in statutes, ordinances, policy, permits, contracts, or court or administrative orders; and
- Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with Permit conditions including the prohibition on illicit discharges to the MS4.

No later than January 30, 2014, each Permittee must review and revise its relevant ordinances or other regulatory mechanisms, (or adopt new ordinances or regulatory mechanisms that provide it with adequate legal authority as allowed and authorized pursuant to applicable Idaho law), to control pollutant discharges into and from its MS4 and to meet the requirements of this permit. As part of the SWMP documentation that accompanies the 1st Year Annual Report, each Permittee must summarize all of its unique legal authorities which satisfy the five criteria listed above.

III. Schedule for Implementation and Required Submissions

The Permittees must complete SWMP actions, and/or submit documentation, to EPA and IDEQ as summarized below. Unless otherwise noted, Annual Reports must include the interim or completed status of required SWMP activities occurring during the corresponding reporting period as specified in Part IV.C.3, and include program summary statistics, copies of interim or final documents, and/or other supporting information.

Table III. Schedule for Implementation and Required Submissions

Permit Part	Item/Action	Due Date
I.C.3	Update intergovernmental agreement no later than July 1, 2013.	Submit updated intergovernmental agreement with the 1st Year Annual Report.
II.A.1.b, II.C.3	SWMP documentation	Submit SWMP documentation with the 1st Year Annual Report. Include updated documentation in each subsequent Annual Report.
II.A.4	Complete two subwatershed planning documents	Identify subwatersheds in 1st Year Annual Report; Submit two completed planning documents with the 4rd Year Annual Report.
II.B.1.a	Update construction runoff control ordinances/ regulatory mechanisms, if necessary	September 30, 2015; submit any updated ordinances etc w/ 3rd Year Annual Report.
II.B.1.b	Update Construction Stormwater Management Manual(s)	September 30, 2015; submit any updated documents with 3rd Year Annual Report.
II.B.1.e	Develop & Implement Enforcement Response Policy (ERP)	September 30, 2016; submit final ERPs w/ 4th Year Annual Report
II.B.2.a	Update ordinance or regulatory mechanism requiring long term onsite stormwater management controls	January 30, 2018; submit ordinance or regulatory mechanism with 5th Year Annual Report.
II.B.2.b	Update Stormwater Design Criteria Manual(s)	September 30, 2015; submit any updated ordinances etc w/ 3rd Year Annual Report
II.B.2.c	Develop & Implement Green Infrastructure/Low Impact Development (LID) Incentive Strategy;	September 30, 2015;
II.B.2.c.i	Evaluate Effectiveness of LID Practices via three Pilot Projects;	Submit strategy document, identify 3 pilot projects in the 3rd Year Annual Report.
II.B.2.c.ii, IV.A.10	Identify recommendations for specific LID practices to be adopted within the Permit area	Progress report on strategy implementation/ Pilot Project evaluations w/4rd Year Annual Report. Submit final evaluations & recommendations with the 5th Year Annual Report.
II.B.2.c.iii	Develop Priority Riparian Area List	September 30, 2015; Submit priority area list with the 3rd Year Annual Report.
II.B.2.c.iii	Complete Outfall Disconnection Project	Document progress on outfall disconnection project w/3rd Year Annual Report. Complete outfall disconnection project by January 30, 2018; document completed project in 5th Year Annual Report.

Table III. Schedule for Implementation and Required Submissions, continued

Permit Part	Item/Action	Due Date
II.B.2.c.iv	Consider/install stormwater runoff reduction techniques for streets, roads & parking lot repair work entering design phase after February 1, 2013 where feasible	Document all locations of street/road/parking lot repair projects where runoff reduction techniques were installed w/5th Year Annual Report.
II.B.2.e.i	O&M Database of new permanent stormwater controls; Incorporate all existing controls into database	Include new controls beginning February 1, 2013; Existing controls, no later than January 30, 2018.
II.B.2.f.i	Identify high priority locations; annual inspections	September 30, 2017
II.B.2.f.ii	Develop inspection checklists	September 30, 2017
II.B.2.f.iii	Enforcement Response Policy for SW controls	September 30, 2017
II.B.2.g	Conduct Education/Training on Permanent SW Controls	September 30, 2015; staff training & training for local audiences, September 30, 2016.
II.B.3.a	Inventory Industrial & Commercial facilities/activities	September 30, 2016
II.B.3.a.iii	Identify two specific activities, develop BMPs, and begin compliance assistance education program	September 30, 2016
II.B.3.b	Update Permittee agreements; inspect selected industrial & commercial facilities/activities	September 30, 2016
II.B.3.c	Document industrial & commercial inspection and compliance assistance activities	Annually
II.B.4.a	Update MS4 system inventory & map	No later than January 30, 2018; include w/5th Year Annual Report
II.B.4.b	Inspect of catch basins at least every two years	September 30, 2016
II.B.4.c	Update SOPs for Street & Road Maintenance	September 30, 2015
II.B.4.c.iii	Cover storage facilities for sand/salt storage areas	September 30, 2017; Identify locations in SWMP w/1st year Annual Report; Final documentation w/5th Year Annual Report
II.B.4.d	Update Street/Road/Parking Lot Sweeping Plans	September 30, 2015
II.B.4.d.i	Inventory/map designated areas	September 30, 2014; submit w/2st Year Annual Report
II.B.4.d.ii	Sweep according to schedule	September 30, 2015
II.B.4.d.iv,	Identify infeasible sweeping areas, alternative schedule or other program	Document in 1st Year Annual Report
II.B.4.d.v	Estimate sweeping effectiveness	Document in each Annual Report
II.B.4.f	Develop facility& maintenance yards SWPPPs	September 30, 2015
II.B.4.i	Train Permittee staff	September 30, 2016; annually thereafter
II.B.4.g	Evaluate the feasibility of retrofitting existing control devices	January 30, 2018; submit evaluation with 5th Year Annual Report

Table III. Schedule for Implementation and Required Submissions, continued

Permit Part	Item/Action	Due Date
II.B.5.c	Inventory/Map Illicit Discharge Reports	September 30, 2014, update annually
II.B.5.d.ii, IV.A.11	Conduct dry weather outfall screening; update screening plan; inspect 20% of outfalls per year	September 30, 2015; inspect 20% annual ly
II.B.6.b	Conduct public education & assess understanding to specific audiences	September 30, 2014; ongoing
II.B.6.d	Maintain, Promote, and Update Storm water Website	September 30, 2014, quarterly thereafter
II.C.3, II.A.1.b	Identify how Permittee controls are implemented to reduce discharge of pollutants of concern, measure SWMP effectiveness	Include discussion in SWMP documentation submitted with 1st Year Annual Report
II.E	Implement SWMP in all geographic areas newly added or annexed by Permittee	No later than one year from date new areas are added to Permittee's jurisdiction
II.F	Report SWMP implementation costs for the corresponding 12 month reporting period	Within each Annual Report
II.G	Review & Summarize legal authorities or regulatory mechanisms used by Permittee to implement & enforce SWMP & Permit requirements	No later than January 30, 2014, summarize legal authorities within the required SWMP documentation submitted with 1st Annual Report
IV.A.1	Assess & Document Permit Compliance	Annually; submit with Annual Reports
IV.A.2	Develop & Complete Stormwater Monitoring & Evaluation Plan	September 30, 2014; Submit Completed Plan with 2nd Year Annual Report
IV.A.7.a	Update *Boise NPDES Municipal SW Monitoring Plan*	September 30, 2015
IV.A.7.b	Monitor Five Representative Outfalls During Wet Weather; sample three times per year thereafter	No later than September 30, 2014
IV.A.8	If Applicable: update SW Monitoring & Evaluation Plan to include WQ Monitoring and/or Fish Tissue Sampling	If applicable: Update SW Monitoring & Evaluation Plan by September 30, 2014 to include WQ Monitoring and/or Fish Tissue Sampling; submit with 2nd Year Annual Report
IV.A.9	Evaluate Effectiveness of 2 Structural Control Techniques Currently Required by the Permittees	Begin evaluations no later than September 30, 2015; document in Annual Report(s)
IV.C.1	Submit Stormwater Outfall Discharge Data	2nd Year Annual Report, annually thereafter
IV.C.2	Submit WQ Monitoring or Fish Tissue Sampling Data Report (if applicable)	2nd Year Annual Report, annually thereafter
IV.C.3	Submit Annual Reports	1st Year Annual Report due January 30, 2014; all subsequent Annual Reports are due annually no later than January 30th; See Table IV.C.
VI.B	Submit Permit Renewal Application	No later than 180 days prior to Permit Expiration Date; see cover page. Alternatively, Renewal Application may be submitted as part of the 4th Year Annual Report.

IV. Monitoring, Recordkeeping and Reporting Requirements.

A. Monitoring

1. **Assess Permit Compliance.** At least once per year, each Permittee must individually evaluate their respective organization's compliance with these Permit conditions, and progress toward implementing each of the control measures defined in Part II. The compliance evaluation must be documented in each Annual Report required in Part IV.C.2.

2. **Stormwater Monitoring and Evaluation Program Plan and Objectives.** The Permittees must conduct a wet weather monitoring and evaluation program, or contract with another entity to implement such a program. This stormwater monitoring and evaluation program must be designed to characterize the quality of storm water discharges from the MS4, and to evaluate overall effectiveness of selected storm water management practices.

   a) No later than September 30, 2014, the Permittees must develop a stormwater monitoring and evaluation plan that includes the quality assurance requirements, outfall monitoring, in-stream and/or fish tissue monitoring (as appropriate), evaluation of permanent storm water controls and evaluation of LID pilot project effectiveness as described later in this Part. In general, the Permittees must develop and conduct a stormwater monitoring and evaluation program to:

      (i) Broadly estimate reductions in annual pollutant loads of sediment, bacteria, phosphorus and temperature discharged to impaired receiving waters from the MS4s, occurring as a result of the implementation of SWMP activities;

      (ii) Assess the effectiveness and adequacy of the permanent storm water controls and LID techniques or controls selected for evaluation by the Permittees and which are intended to reduce the total volume of storm water discharging from impervious surfaces and/or improve overall pollutant reduction in stormwater discharges; and

      (iii) Identify and prioritize those portions of each Permittee's MS4 where additional controls can be accomplished to further reduce total volume of storm water discharged and/or reduce pollutants in storm water discharges to waters of the U.S.

   b) The final, updated stormwater monitoring and evaluation plan must be submitted to EPA with the 2nd Year Annual Report.

3. **Representative Sampling.** Samples and measurements must be representative of the nature of the monitored discharge or activity**.**

4. **Analytical Methods.** Sample collection, preservation, and analysis must be conducted according to sufficiently sensitive methods/test procedures approved under 40 CFR Part 136, unless otherwise approved by EPA. Where an approved 40 CFR Part 136 method does not exist, and other test procedures

have not been specified, any available method may be used after approval from EPA**.**

5. **Quality Assurance Requirements.** The Permittees must develop or update a quality assurance plan (QAP) for all analytical monitoring conducted in accordance with this Part. The QAP must be developed concurrently as part of the stormwater monitoring and evaluation plan. The Permittees must submit the QAP as part of the stormwater monitoring and evaluation plan to EPA and IDEQ in the 2nd Year Annual Report. Any existing QAP may be modified for the requirements under this section**.**

   a) The QAP must be designed to assist in the collection and analysis of storm water discharges in support of this Permit and in explaining data anomalies when they occur.

   b) Throughout all sample collection, analysis and evaluation activities, Permittees must use the EPA-approved QA/QC and chain-of-custody procedures described in the most current version of the following documents:

      (i) *EPA Requirements for Quality Assurance Project Plans EPA-QA/R-5* (EPA/240/B-01/003, March 2001). A copy of this document can be found electronically at: http://www.epa.gov/quality/qs-docs/r5-final.pdf;

      (ii) *Guidance for Quality Assurance Project Plans EPA-QA/G-5*, (EPA/600/R-98/018, February, 1998). A copy of this document can be found electronically at: http://www.epa.gov/r10earth/offices/oea/epaqag5.pdf ;

      (iii) *Urban Storm BMP Performance Monitoring*, (EPA-821-B-02-001, April 2002). A copy of this document can be found electronically at: http://www.epa.gov/npdes/pubs/montcomplete.pdf

      The QAP should be prepared in the format specified in these documents.

   c) At a minimum, the QAP must include the following:

      (i) Organization chart reflecting responsibilities of key Permittee staff;

      (ii) Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample representativeness and completeness, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;

      (iii) Data quality objectives;

(iv) Map(s) and associated documentation reflecting the location of each sampling point and physical description including street address or latitude/longitude;

(v) Qualification and training of personnel;

(vi) Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the Permittees;

(vii) Data management;

(viii) Data review, validation and verification; and

(ix) Data reconciliation.

d) The Permittees must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP. The amended QAP must be submitted to EPA as part of the next Annual Report.

e) Copies of any current QAP must be maintained by the Permittees and made available to EPA and/or IDEQ upon request.

6. **Additional Monitoring by Permittees.** If the Permittees monitor more frequently, or in more locations, than required by this Permit, the results of any such additional monitoring must be included and summarized with other data submitted to EPA and IDEQ as required in Part IV.C.

7. **Storm Water Outfall Monitoring**

a) No later than September 30, 2015, the Permittees must update the existing *Boise NPDES Municipal Storm Water Permit Monitoring Plan* to be consistent with the monitoring and evaluation program objectives and plan as described in Part IV.A.2. At a minimum, the plan must describe five outfall sample locations, and any additional or alternative locations, as defined by the Permittees. The outfalls selected by the Permittees to be monitored must be identified as representative of all major land uses occurring within the Permit area.

b) No later than September 30, 2014, the Permittees must begin monitoring discharges from the identified five storm water outfalls during wet weather events at least three times per year. The specific minimum monitoring requirements are outlined in Table IV.A, but may be augmented based on the Permittees' updated stormwater monitoring and evaluation plan required by Part IV.A.2. The Permittees must include any additional parameters to be sampled in an updated Table IV.A within the final updated stormwater monitoring and evaluation plan submitted to EPA with the 2nd Annual Report.

Table IV.A – Outfall Monitoring Requirements[1, 2]
PARAMETER SAMPLING
Ammonia
Total Kjeldahl Nitrogen (TKN) (mg/l)
Nitrate + Nitrite
Total Phosphorus (mg/l)
Dissolved Orthophosphate (mg/l)
E. coli
Biological Oxygen Demand (BOD5) (mg/l)
Chemical Oxygen Demand (COD) (mg/l)
Total Suspended Solids (TSS) (mg/l)
Total Dissolved Solids (TDS) (mg/l)
Dissolved Oxygen
Turbidity (NTU)
Temperature
pH (S.U)
Flow/Discharge, Volume, in cubic feet
Arsenic – Total
Cadmium- Total and Dissolved
Copper – Dissolved
Lead – Total and Dissolved
Mercury – Total
Zinc – Dissolved
Hardness (as CaCO3) (mg/l)

[1] Five or more outfall locations will be identified in the Permittees' updated stormwater monitoring and evaluation plan

[2] A minimum of ***three (3) samples*** must be collected during wet weather storm events in each reporting year, assuming the presence of storm events sufficient to produce a discharge.

8. **Water Quality Monitoring and/or Fish Tissue Sampling**. At the Permittees' option and to augment the storm water discharge data collection required in Part IV.A.7 above, one or more of the Permittees may conduct, or contract with others to conduct, water quality monitoring and/or fish tissue sampling within the Lower Boise River Watershed.

   a) If the Permittees elect to conduct in-stream water quality monitoring and/or fish tissue sampling within the Lower Boise River Watershed, the Permittees must revise the stormwater monitoring and evaluation plan and QAP to describe the monitoring and/or sampling effort(s) per Part IV.A.2 and IV.A.5, no later September 30, 2014.

   b) The documentation of the Permittees' intended in-stream water quality monitoring and/or fish tissue sampling activities must be included in the final updated stormwater monitoring and evaluation plan submitted with the 2nd Year Annual Report as required in Part IV.A.2.b.

   c) The Permittees are encouraged to engage in cooperative efforts with other organizations to collect reliable methylmercury fish tissue data within a specific geographic area of the Lower Boise River Watershed. The objective of the cooperative effort is to determine if fish tissue concentrations of methylmercury in the Lower Boise River are compliant with Idaho's methylmercury fish tissue criterion of 0.3 mg/kg.

      (i) In particular, the Permittees are encouraged to cooperate with other organizations to collect data through implementation of the Methylmercury Fish Tissue Sampling requirements specified in NPDES Permits # ID-002044-3 and ID-002398-1 as issued to the City of Boise. Beginning with the 2nd Year Annual Report, the Permittees' may (individually or collectively) submit documentation in each Annual Report which describes their specific involvement over the prior reporting period, and may reference fish tissue sampling plans and data reports as developed or published by others through the cooperative watershed effort.

9. **Evaluate the Effectiveness of Required Structural Controls**. Within two years of the effective date of this Permit, the Permittees must select and begin to evaluate at least two different types of permanent structural storm water management controls currently mandated by the Permittees at new development or redevelopment sites. For each selected control, this evaluation must determine whether the control is effectively treating or preventing the discharge of one or more of the pollutants of concern into waterbodies listed in Table II.C. The results of this evaluation, and any recommendations for improved treatment performance, must be submitted to EPA in subsequent Annual Reports as the evaluation projects are implemented and completed.

10. **Evaluate the Effectiveness of Green Infrastructure/Low Impact Development Pilot Projects**. The Permittees must evaluate the performance and effectiveness of the three pilot projects required in Part II.B.2.c of this Permit, or contract with another entity to conduct such evaluations. An evaluation summary of the LID technique or control and any recommendations

of improved treatment performance must be submitted in subsequent Annual Reports as the evaluation projects are implemented and completed.

11. **Dry Weather Discharge Screening.** The Permittees must implement a dry weather screening program, or contract with another entity to implement such a program, as required in Part II.B.5.d.

B. Recordkeeping

1. **Retention of Records.** The Permittees must retain records and copies of all information (e.g., all monitoring, calibration, and maintenance records; all original strip chart recordings for any continuous monitoring instrumentation; copies of all reports required by this Permit; storm water discharge monitoring reports; a copy of the NPDES permit; and records of all data or information used in the development and implementation of the SWMP and to complete the application for this Permit;) for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this Permit, whichever is longer. This period may be extended at the request of the EPA at any time.
2. **Availability of Records.** The Permittees must submit the records referred to in Part IV.B.1 to EPA and IDEQ only when such information is requested. At a minimum, the Permittees must retain all records comprising the SWMP required by this Permit (including a copy of the Permit language and all Annual Reports) in a location and format that are accessible to EPA and IDEQ. The Permittees must make all records described above available to the public if requested to do so in writing. The public must be able to view the records during normal business hours. The Permittees may charge the public a reasonable fee for copying requests**.**

C. Reporting Requirements

1. **Storm Water Discharge Monitoring Report.** Beginning with the 2nd Year Annual Report, and in subsequent Annual Reports, all storm water discharge monitoring data collected to date must be submitted as part of the Annual Report. At a minimum, this Storm Water Discharge Monitoring Report must include:
   a) Dates of sample collection and analyses;
   b) Results of sample analyses;
   c) Location of sample collection. and
   d) Summary discussion and interpretation of the data collected, including a discussion of quality assurance issues and comparison to previously collected information, as appropriate.
2. **Water Quality Monitoring and/or Fish Tissue Sampling Report(s).** If the Permittees elect to conduct water quality monitoring and/or fish tissue sampling as specified in Part IV.A.8, all relevant monitoring data collected to date must

be submitted as part of each Annual Report beginning with the 2nd Year Annual Report. Summary data reports as prepared by other organizations with whom the Permittee(s) cooperate may be submitted to fulfill this requirement. At a minimum, this Water Quality Monitoring and/or Fish Tissue Sampling Report must include:

a) Dates of sample collection and analyses;

b) Results of sample analyses;

c) Locations of sample collection; and

d) Summary discussion and interpretation of the data collected, including discussion of quality assurance issues and comparison to previously collected information, as appropriate.

3. **Annual Report.**

a) No later than January 30th of each year beginning in 2014, and annually thereafter, each Permittee must submit an Annual Report to EPA and IDEQ. The reporting period for the 1st Year Annual Report will be from February 1, 2013, through September 30, 2013. Reporting periods for subsequent Annual Reports are specified in Table IV.C. Copies of all Annual Reports, including each Permittee's SWMP documentation, must be available to the public, through a Permittee-maintained website, and/or through other easily accessible means.

Table IV.C - Annual Report Deadlines

Annual Report	Reporting Period	Due Date
1st Year Annual Report	February 1, 2013–September 30, 2013	January 30, 2014
2nd Year Annual Report	October 1, 2013-September 30, 2014	January 30, 2015
3rd Year Annual Report	October 1, 2014-September 30, 2015	January 30, 2016
4th Year Annual Report	October 1, 2015-September 30, 2016	January 30, 2017
5th Year Annual Report	October 1, 2016-December 31, 2017	January 30, 2018

b) Preparation and submittal of the Annual Reports must be coordinated by Ada County Highway District. Each Permittee is responsible for content of their organization's SWMP documentation and Annual Report(s) relating to SWMP implementation for portions of the MS4s for which they are responsible.

c) The following information must be submitted in each Annual Report:

(i) A updated and current document describing the SWMP as implemented by the specific Permittee, in accordance with Part II.A.1.b;

(ii) A narrative assessment of the Permittee's compliance with this Permit, describing the status of implementing the control measures in Parts II and IV. The status of each control measure must be addressed, even if activity has previously been completed, has not yet been implemented, does not apply to the Permittee's jurisdiction or operation, or is conducted on the Permittee's behalf by another entity;

(iii) Discussion of any information collected and analyzed during the reporting period, including but not limited to storm water monitoring data not included with the Storm Water Discharge Monitoring Report; dry weather monitoring results; Green Infrastructure/LID pilot project evaluation results, structural control evaluation results, and any other information collected or used by the Permittee(s) to assess the success of the SWMP controls at improving receiving water quality to the maximum extent practicable;

(iv) A summary of the number and nature of public education programs; the number and nature of complaints received by the Permittee(s), and follow-up actions taken; and the number and nature of inspections, formal enforcement actions, or other similar activities as performed by the Permittee(s) during the reporting period;

(v) Electronic copies of new or updated education materials, ordinances (or other regulatory mechanisms), inventories, guidance materials, or other products produced as required by this Permit during the reporting period;

(vi) A description and schedule of the Permittee's implementation of additional controls or practices deemed necessary by the Permittee, based on monitoring or other information, to ensure compliance with applicable water quality standards;

(vii) Notice if the Permittee is relying on another entity to satisfy any of the Permit obligations, if applicable; and

(viii) Annual expenditures for the reporting period, and estimated budget for the reporting period following each Annual Report.

d) If, after the effective date of this Permit, EPA provides the Permittees with an alternative Annual Report format, the Permittees may use the alternative format in lieu of the required elements of Part IV.C.3.c.

D. Addresses

Reports and other documents required by this Permit must be signed in accordance with Part VI.E and submitted to each of the following addresses:

IDEQ: Idaho Department of Environmental Quality
Boise Regional Office
Attn: Water Program Manager
1410 North Hilton
Boise, ID 83854

EPA: United States Environmental Protection Agency
Attention: Storm Water MS4 Compliance Program
NPDES Compliance Unit
1200 6th Avenue, Suite 900 (OCE-133)
Seattle, WA 98101

Any documents and/or submittals requiring formal EPA approval must also be submitted to the following address:

United States Environmental Protection Agency
Attention: Storm Water MS4 Permit Program
NPDES Permits Unit
1200 6th Avenue, Suite 900 (OWW-130)
Seattle, WA 98101

V. Compliance Responsibilities.

A. Duty to Comply. The Permittees must comply with all conditions of this Permit. Any Permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for Permit termination, revocation and reissuance, or modification, or for denial of a Permit renewal application.

B. Penalties for Violations of Permit Conditions

1. Civil and Administrative Penalties. Pursuant to 40 CFR Part 19 and the Act, any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $37,500 per day for each violation).

2. Administrative Penalties. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of this Act. Pursuant to 40 CFR Part 19

and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500). Pursuant to 40 CFR Part 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $177,500).

3. Criminal Penalties

a) **Negligent Violations**. The Act provides that any person who negligently violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both.

b) **Knowing Violations**. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six years, or both.

c) **Knowing Endangerment**. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

d) **False Statements.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Permit shall, upon conviction, be

punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Permit.

D. Duty to Mitigate. The Permittees must take all reasonable steps to minimize or prevent any discharge or disposal in violation of this Permit that has a reasonable likelihood of adversely affecting human health or the environment**.**

E. Proper Operation and Maintenance. The Permittees must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittees to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittees only when the operation is necessary to achieve compliance with the conditions of the Permit.

F. Toxic Pollutants. The Permittees must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the Permit has not yet been modified to incorporate the requirement.

G. Planned Changes. The Permittee(s) must give notice to the Director and IDEQ as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR §122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the Permit.

H. Anticipated Noncompliance. The Permittee(s) must give advance notice to the Director and IDEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this Permit.

I. Twenty-four Hour Notice of Noncompliance Reporting

1. The Permittee(s) must report the following occurrences of noncompliance by telephone within 24 hours from the time the Permittee(s) becomes aware of the circumstances:

a) any noncompliance that may endanger health or the environment;

b) any unanticipated bypass that exceeds any effluent limitation in the permit (See Part IV.F., "Bypass of Treatment Facilities");

c) any upset that exceeds any effluent limitation in the permit (See Part IV.G., "Upset Conditions"); or

d) any overflow prior to the stormwater treatment facility over which the Permittee(s) has ownership or has operational control. An overflow is any spill, release or diversion of municipal sewage including:

(1) an overflow that results in a discharge to waters of the United States; and

(2) an overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral) that does not reach waters of the United States.

2. The Permittee(s) must also provide a written submission within five days of the time that the Permittee(s) becomes aware of any event required to be reported under subpart 1 above. The written submission must contain:

a) a description of the noncompliance and its cause;

b) the period of noncompliance, including exact dates and times;

c) the estimated time noncompliance is expected to continue if it has not been corrected; and

d) steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

e) if the noncompliance involves an overflow, the written submission must contain:

(1) The location of the overflow;

(2) The receiving water (if there is one);

(3) An estimate of the volume of the overflow;

(4) A description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe);

(5) The estimated date and time when the overflow began and stopped or will be stopped;

(6) The cause or suspected cause of the overflow;

(7) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;

(8) An estimate of the number of persons who came into contact with wastewater from the overflow; and

(9) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps.

3. The Director of the Office of Compliance and Enforcement may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.

4. Reports must be submitted to the addresses in Part IV.D ("Addresses").

J. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The Permittee(s) may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. Notice.

a) **Anticipated bypass**. If the Permittee(s) knows in advance of the need for a bypass, it must submit prior written notice, if possible at least 10 days before the date of the bypass.

b) **Unanticipated bypass.** The Permittee(s) must submit notice of an unanticipated bypass as required under Part III.G ("Twenty-four Hour Notice of Noncompliance Reporting").

3. Prohibition of bypass.

a) Bypass is prohibited, and the Director of the Office of Compliance and Enforcement may take enforcement action against the Permittee(s) for a bypass, unless:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The Permittee(s) submitted notices as required under paragraph 2 of this Part.

b) The Director of the Office of Compliance and Enforcement may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 3.a. of this Part.

K. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the Permittee(s) meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the Permittee(s) must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a) An upset occurred and that the Permittee(s) can identify the cause(s) of the upset;

b) The permitted facility was at the time being properly operated;

c) The Permittee(s) submitted notice of the upset as required under Part V.I, "*Twenty-four Hour Notice of Noncompliance Reporting;*" and

d) The Permittee(s) complied with any remedial measures required under Part V.D, "*Duty to Mitigate.*"

3. Burden of proof. In any enforcement proceeding, the Permittee(s) seeking to establish the occurrence of an upset has the burden of proof.

VI. General Provisions

A. Permit Actions.

1. This Permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR **§§** 122.62, 122.64, or 124.5. The filing of a request by the Permittee(s) for a Permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any Permit condition.

2. Permit coverage may be terminated, in accordance with the provisions of 40 CFR §§122.64 and 124.5, for a single Permittee without terminating coverage for the other Permittees subject to this Permit.

B. Duty to Reapply. If the Permittees intend to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittees must apply for and obtain a

new permit. In accordance with 40 CFR §122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Director, the Permittees must submit a new application at least 180 days before the expiration date of this Permit, or alternatively in conjunction with the 4th Year Annual Report. The reapplication package must contain the information required by 40 CFR §122.21(f), which includes: name and mailing address(es) of the Permittees(s) that operate the MS4(s), and names and titles of the primary administrative and technical contacts for the municipal Permittees(s). In addition, the Permittees must identify any previously unidentified water bodies that receive discharges from the MS4(s); a summary of any known water quality impacts on the newly identified receiving waters; a description of any changes to the number of applicants; and any changes or modifications to the Storm Water Management Program as implemented by the Permittees. The re-application package may incorporate by reference the 4th Year Annual Report when the reapplication requirements have been addressed within that report.

C. Duty to Provide Information. The Permittees must furnish to the Director and IDEQ, within the time specified in the request, any information that the Director or IDEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittees must also furnish to the Director or IDEQ, upon request, copies of records required to be kept by this Permit.

D. Other Information. When the Permittees become aware that it failed to submit any relevant facts in a Permit application, or that it submitted incorrect information in a Permit application or any report to the Director or IDEQ, the Permittees must promptly submit the omitted facts or corrected information.

E. Signatory Requirements. All applications, reports or information submitted to the Director and IDEQ must be signed and certified as follows.

1. All Permit applications must be signed as follows:
   a) For a corporation: by a responsible corporate officer.
   b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
   c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the Permit and other information requested by the Director or the IDEQ must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   a) The authorization is made in writing by a person described above;
   b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or

position having overall responsibility for environmental matters for the organization; and

c) The written authorization is submitted to the Director and IDEQ.

3. **Changes to Authorization.** If an authorization under Part VI.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part VI.E.2 must be submitted to the Director and IDEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. **Certification.** Any person signing a document under this Part must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. In accordance with 40 CFR Part 2, information submitted to EPA pursuant to this Permit may be claimed as confidential by the Permittees. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the Permittees. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry. The Permittees must allow the Director, IDEQ, or an authorized representative (including an authorized contractor acting as a representative of the Director), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the Permittees' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring Permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights. The issuance of this Permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of state or local laws or regulations.

I. Transfers. This Permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the Permit to change the name of the Permittees and incorporate such other requirements as may be necessary under the Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

J. State/Tribal Environmental Laws

1. Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittees from any responsibilities, liabilities, or penalties established pursuant to any applicable State/Tribal law or regulation under authority preserved by Section 510 of the Act**.**
2. No condition of this Permit releases the Permittees from any responsibility or requirements under other environmental statutes or regulations.

K. Oil and Hazardous Substance Liability Nothing in this Permit shall be constructed to preclude the institution of any legal action or relieve the Permittees from any responsibilities, liabilities, or penalties to which the Permittees is or may be subject under Section 311 of the CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

L. Severability The provisions of this Permit are severable, and if any provision of this permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to the circumstances, and the remainder of this Permit shall not be affected thereby.

VII. Definitions and Acronyms

All definitions contained in Section 502 of the Act and 40 CFR Part 122 apply to this Permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided but, in the event of a conflict, the definition found in the statute or regulation takes precedence.

“Administrator” means the Administrator of the EPA, or an authorized representative.

“Animal facility” see “commercial animal facility.”

“Annual Report” means the periodic self –assessment submitted by the Permittee(s) to document incremental progress towards meeting the storm water management requirements and implementation schedules as required by this Permit. See Part IV.C.

"Best Management Practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR § 122.2. BMP refers to operational activities, physical controls or educational measures that are applied to reduce the discharge of pollutants and minimize potential impacts upon receiving waters, and accordingly, refers to both structural and nonstructural practices that have direct impacts on the release, transport, or discharge of pollutants. See also "storm water control measure (SCM)."

"Bioretention" is the water quality and water quantity storm water management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from storm water runoff.

"Canopy Interception**"** is the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.

"CGP" and "Construction General Permit" means the current available version of EPA's *NPDES General Permit for Storm Water Discharges for Construction Activities in Idaho*, Permit No. IDR12-0000. EPA's CGP is posted on EPA's website at *www.epa.gov/npdes/stormwater/cgp*.

"Commercial Animal Facility" as used in this Permit, means a business that boards, breeds, or grooms animals including but not limited to dogs, cats, rabbits or horses.

"Common Plan of Development**"** is a contiguous construction project or projects where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The "plan" is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions and industrial parks.

"Construction activity" includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to the construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines and industrial non-building structures).

"Control Measure" as used in this Permit, refers to any action, activity, Best Management Practice or other method used to prevent or reduce the discharge of pollutants in stormwater to waters of the United States.

"CWA" or "The Act" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.

"Director" means the Environmental Protection Agency Regional Administrator, the EPA Director of the Office of Water and Watersheds, or an authorized representative.

"Discharge" when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR §122.2.

"Discharge of a pollutant" means (a) any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or (b) any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

"Discharge of Storm Water Associated with Construction Activity" as used in this Permit, refers to a discharge of pollutants in storm water runoff from areas where soil disturbing activities (*e.g.*, clearing, grading, or excavation), construction materials or equipment storage or maintenance (*e.g.*, fill piles, borrow areas, concrete truck washout, fueling) or other industrial storm water directly related to the construction process are located, and which are required to be managed under an NPDES permit. See the regulatory definitions of storm water discharge associated with large and small construction activity at 40 CFR §122.26(b)(14)(x) and 40 CFR §122.26(b)(15), respectively

"Discharge of Storm Water Associated with Industrial Activity" as used in this Permit, refers to the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant included in the regulatory definition of storm water discharge associated with industrial activity at 40 CFR §122.26(b)(14).

"Discharge-related Activities" include: activities which cause, contribute to, or result in storm water point source pollutant discharges and measures to control storm water discharges, including the siting, construction, and operation of best management practices to control, reduce or prevent storm water pollution.

"Disconnect" for the purposes of this permit, means the change from a direct discharge into receiving waters to one in which the discharged water flows across a vegetated surface, through a constructed water or wetlands feature, through a vegetated swale, or other attenuation or infiltration device before reaching the receiving water.

"Engineered Infiltration" is an underground device or system designed to accept storm water and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the infiltration rate.

"Erosion" means the process of carrying away soil particles by the action of water.

"Evaporation" means rainfall that is changed or converted into a vapor.

"Evapotranspiration" means the sum of evaporation and transpiration of water from the earth's surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration from plants.

"Extended Filtration" is a structural storm water device which filters storm water runoff through a soil media and collects it in an underdrain which slowly releases it after the storm is over.

"EPA" means the Environmental Protection Agency Regional Administrator, the EPA Director of the Office of Water and Watersheds, or an authorized representative.

"Entity" means a governmental body, or a public or private organization.

"Existing Permanent Controls," in the context of this Permit, means post- construction or permanent storm water management controls designed to treat or control runoff on a permanent basis and that were installed prior to the effective date of this Permit.

"Facility or Activity" generally means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

"Fish Tissue Sampling" see "Methylmercury Fish Tissue Sampling"

"Green infrastructure" means runoff management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse.

"Hydromodification" means changes to the storm water runoff characteristics of a watershed caused by changes in land use.

"IDEQ" means the Idaho Department of Environmental Quality or its authorized representative.

"Illicit Connection" means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

"Illicit Discharge" is defined at 40 CFR §122.26(b)(2) and means any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES Permit for discharges from the MS4) and discharges resulting from fire fighting activities.

"Impaired Water**"** (or "Water Quality Impaired Water") for purposes of this Permit means any water body identified by the State of Idaho or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards. Impaired waters include both waters with approved or established Total Maximum Daily Loads (TMDLs), and those for which a TMDL has not yet been approved or established.

"Industrial Activity" as used in this Permit refers to the eleven categories of industrial activities included in the definition of discharges of "storm water associated with industrial activity" at 40 CFR §122.26(b)(14).

"Industrial Storm Water" as used in this Permit refers to storm water runoff associated with the definition of "discharges of storm water associated with industrial activity".

"Infiltration" is the process by which storm water penetrates into soil.

"Low Impact Development" or "LID" means storm water management and land development techniques, controls and strategies applied at the parcel and subdivision scale that emphasize conservation and use of on-site natural features integrated with engineered, small scale hydrologic controls to more closely mimic pre-development hydrologic functions.

"Major outfall" is defined in 40 CFR §122.26(b)(5) and in general, means a municipal storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more.

"MEP" or "maximum extent practicable," means the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by Section 402(p) of the Clean Water Act, 33 U.S.C §1342(p).

"Measurable Goal" means a quantitative measure of progress in implementing a component of a storm water management program.

"Methylmercury Fish Tissue Sampling" and "Methylmercury Fish Tissue Sampling Requirements" means the IDEQ-recommended cooperative data collection effort for the Lower Boise River Watershed. In particular, Methylmercury Fish Tissue Sampling requirements are otherwise specified in NPDES Permits # ID-002044-3 and ID-002398-1, as issued by EPA to the City of Boise and available online at http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/Current+ID1319

"Minimize" means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry or municipal practices.

"MS4" means "municipal separate storm sewer system," and is used to refer to either a Large, Medium, or Small Municipal Separate Storm Sewer System as defined in 40 CFR 122.26(b). The term, as used within the context of this Permit, refers to those portions of the municipal separate storm sewer systems within the corporate limits of the City of Boise and City of Garden City that are owned and/or operated by the Permittees, namely: Ada County Highway District, Boise State University, City of Boise, City of Garden City, Drainage District #3 and/or the Idaho Transportation Department District #3.

"Municipality" means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

"Municipal Separate Storm Sewer" is defined in 40 CFR §122.26(b) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to

State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

"National Pollutant Discharge Elimination System" or "NPDES" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the CWA. The term includes an 'approved program.'

"New Permanent Controls," in the context of this Permit, means post- construction or permanent storm water management controls designed to treat or control runoff on a permanent basis that are installed after the effective date of this permit.

"Outfall" is defined at 40 CFR §122.26(b)(9) means a point source (see definition below) at the point where a municipal separate storm sewer discharges to waters of the United States, and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

"Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

"Permanent storm water management controls" see "post-construction storm water management controls."

"Permitting Authority" means the U.S. Environmental Protection Agency (EPA)

"Point Source" is defined at 40 CFR §122.2 and means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

"Pollutant" is defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

"Pollutant(s) of concern" includes any pollutant identified by IDEQ as a cause of impairment of any water body that will receive a discharge from a MS4 authorized under this Permit. See Table II.C.

"Post- construction storm water management controls" or "permanent storm water management controls" means those controls designed to treat or control runoff on a permanent basis once construction is complete. See also "new permanent controls" and "existing permanent controls."

"QA/QC" means quality assurance/quality control.

"QAP" means Quality Assurance Plan.

"Rainfall and Rainwater Harvesting**"** is the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.

"Redevelopment" for the purposes of this Permit, means the alteration, renewal or restoration of any developed land or property that results in land disturbance of 5,000 square feet or more, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

"Regional Administrator" means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.

"Repair of Public Streets, Roads and Parking Lots" means repair work on Permittee-owned or Permittee-managed streets and parking lots that involves land disturbance, including asphalt removal or regrading of 5,000 square feet or more. This definition excludes the following activities: pot hole and square cut patching; overlaying existing asphalt or concrete pacing with asphalt or concrete without expanding the area of coverage; shoulder grading; reshaping or regrading drainage ditches; crack or chip sealing; and vegetative maintenance.

"Runoff Reduction Techniques" means the collective assortment of storm water practices that reduce the volume of storm water from discharging off site.

"Storm Sewershed" means, for the purposes of this Permit, all the land area that is drained by a network of municipal separate storm sewer system conveyances to a single point of discharge into a water of the United States.

"Significant contributors of pollutants" means any discharge that causes or could cause or contribute to a violation of surface water quality standards.

"Small Construction Activity" – is defined at 40 CFR §122.26(b)(15) and incorporated here by reference. A small construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than one (1) acre and less than five (5) acres of land or will disturb less than one (1) acre of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site.
"Snow management" means the plowing, relocation and collection of snow.

"Soil amendments" are components added to in situ or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes

various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.

"Source control" storm water management means practices that control storm water *before* pollutants have been introduced into storm water

"Storm event" or "measurable storm event" for the purposes of this Permit means a precipitation event that results in an actual discharge from the outfall and which follows the preceding measurable storm event by at least 48 hours (2 days).

"Storm water" and "storm water runoff" as used in this Permit means storm water runoff, snow melt runoff, and surface runoff and drainage, and is defined at 40 CFR §122.26(b)(13). "Storm water" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

"Storm Water Control Measure" (SCM) or "storm water control device," means physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of storm water. Also, SCM means a permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. SCMs may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See "best management practices (BMPs)."

"Storm Water Facility" means a constructed component of a storm water drainage system, designed or constructed to perform a particular function or multiple functions. Storm water facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catch basins, oil/water separators, sediment basins, and modular pavement.

"Storm Water Management Practice**"** or "Storm Water Management Control" means practices that manage storm water, including structural and vegetative components of a storm water system.

"Storm Water Management Project" means a project that takes into account the effects on the water quality of the receiving waters and whether a structural storm water control device can be retrofitted to control water quality.

"Storm Water Management Program (SWMP)" refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system. For the purposes of this Permit, the SWMP consists of the actions and activities conducted by the Permittees as required by this Permit and described in the Permittees' SWMP documentation. A "SWMP document" is the written summary describing the unique and/or cooperative means by which an individual Permittee or entity implements the specific storm water management controls Permittee within their jurisdiction.

"Storm Water Pollution Prevention Plan (SWPPP)" means a site specific plan designed to describe the control of soil, raw materials, or other substances to prevent pollutants in storm water runoff; a SWPPP is generally developed for a construction site, or an industrial facility. For the purposes of this permit, a SWPPP means a written document that identifies potential sources of pollution, describes practices to reduce pollutants in storm water discharges from the site, and identifies procedures or controls that the operator will implement to reduce impacts to water quality and comply with applicable Permit requirements.

"Structural flood control device" means a device designed and installed for the purpose of storm drainage during storm events.

"Subwatershed" for the purposes of this Permit means a smaller geographic section of a larger watershed unit with a drainage area between 2 to 15 square miles and whose boundaries include all the land area draining to a point where two second order streams combine to form a third order stream. A subwatershed may be located entirely within the same political jurisdiction.

"TMDL" means Total Maximum Daily Load, an analysis of pollutant loading to a body of water detailing the sum of the individual waste load allocations for point sources and load allocations for non-point sources and natural background. See 40 CFR §130.2.

"Treatment control" storm water management means practices that 'treat' storm water after pollutants have been incorporated into the storm water.

"Urban Agriculture" and "Urban Agricultural Activities" means the growing, processing, and distribution of food and other products through intensive plant cultivation and animal husbandry in and around cities. For the purposes of this Permit, the term includes activities allowed and/or acknowledged by the Permittees through a local comprehensive plan ordinance, or other regulatory mechanism. For example, see: *Blueprint Boise* online at *http://www.cityofboise.org/BluePrintBoise/pdf/Blueprint%20Boise/0_Blueprint_All.pdf*, and/or *City of Boise Urban Agriculture ordinance amendment, ZOA11-00006.*

"Waters of the United States," as defined in 40 CFR 122.2, means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters, including interstate "wetlands";

3. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

c. Which are used or could be used for industrial purposes by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under this definition;

5. Tributaries of waters identified in paragraphs 1 through 4 of this definition;

6. The territorial sea; and

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs 1 through 6 of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds for steam electric generation stations per 40 CFR Part 423) which also meet the criteria of this definition are not waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

“Watershed” is defined as all the land area that is drained by a waterbody and its tributaries.

“Wetlands” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

ATTACHMENT G-2

Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

NPDES General Permit No. NMR04A000

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"), except as provided in Part I.A.5 of this permit, operators of municipal separate storm sewer systems located in the area specified in Part I.A.1 are authorized to discharge pollutants to waters of the United States in accordance with the conditions and requirements set forth herein.

Only operators of municipal separate storm sewer systems in the general permit area who submit a Notice of Intent and a storm water management program document in accordance with Part I.A.6 of this permit are authorized to discharge storm water under this general permit.

This is a renewal NPDES permit issued for these portions of the small municipal separate storm sewer systems covered under the NPDES permit No NMR040000 and NMR04000I and the large municipal separate storm sewer systems covered under the NPDES permit No NMS000101.

This permit is issued on and shall become effective on the date of publication in the Federal Register. DEC 2 2 2014

This permit and the authorization to discharge shall expire at, midnight, December 19, 2019.

Signed by

William K. Honker, P.E.
Director
Water Quality Protection Division

Prepared by

Nelly Smith
Environmental Engineer
NPDES Permits and TMDLs Branch

MIDDLE RIO GRANDE WATERSHED BASED MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT

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PART I. INDIVIDUAL PERMIT CONDITIONS

A. DISCHARGES AUTHORIZED UNDER THIS PERMIT

1. **Permit Area.** This permit is available for MS4 operators within the Middle Rio Grande Sub-Watersheds described in Appendix A. This permit may authorize stormwater discharges to waters of the United States from MS4s within the Middle Rio Grande Watershed provided the MS4:

   a. Is located fully or partially within the corporate boundary of the City of Albuquerque;

   b. Is located fully or partially within the Albuquerque urbanized area as determined by the 2000 and 2010 Decennial Census. Maps of Census 2010 urbanized areas are available at: http://water.epa.gov/polwaste/npdes/stormwater/Urbanized-Area-Maps-for-NPDES-MS4-Phase-II-Stormwater-Permits.cfm;

   c. Is designated as a regulated MS4 pursuant to 40 CFR 122.32; or

   d. This permit may also authorize an operator of a MS4 covered by this permit for discharges from areas of a regulated small MS4 located outside an Urbanized Areas or areas designated by the Director provided the permittee complies with all permit conditions in all areas covered under the permit.

2. **Potentially Eligible MS4s.** MS4s located within the following jurisdictions and other areas, including any designated by the Director, are potentially eligible for authorization under this permit:

   - City of Albuquerque
   - AMAFCA (Albuquerque Metropolitan Arroyo Flood Control Authority)
   - UNM (University of New Mexico)
   - NMDOT (New Mexico Department of Transportation District 3)
   - Bernalillo County
   - Sandoval County
   - Village of Corrales
   - City of Rio Rancho
   - Los Ranchos de Albuquerque
   - KAFB (Kirtland Air Force Base)
   - Town of Bernalillo
   - EXPO (State Fairgrounds/Expo NM)
   - SSCAFCA (Southern Sandoval County Arroyo Flood Control Authority)
   - ESCAFCA (Eastern Sandoval County Arroyo Flood Control Authority)
   - Sandia Laboratories, Department of Energy (DOE)
   - Pueblo of Sandia
   - Pueblo of Isleta
   -Pueblo of Santa Ana

3. **Eligibility**. To be eligible for this permit, the operator of the MS4 must provide:

   a. Public Participation: Prior submitting the Notice of Intent (NOI), the operator of the MS4 must follow the local notice and comment to procedures at Part I.D.5.h.(i).

   b. National Historic Preservation Act (NHPA) Eligibility Provisions

   In order to be eligible for coverage under this permit, the applicant must be in compliance with the National Historic Preservation Act. Discharges may be authorized under this permit only if:

(i) Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior; or

(ii) Criterion B: the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) (or equivalent tribal authority) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Appendix C of this permit provides procedures and references to assist with determining permit eligibility concerning this provision. You must document and incorporate the results of your eligibility determination in your SWMP.

The permittee shall also comply with the requirements in Part IV.U.

4. **Authorized Non-Stormwater Discharges**. The following non-stormwater discharges need not be prohibited unless determined by the permittees, U.S. Environmental Protection Agency (EPA), or New Mexico Environment Department (NMED) to be significant contributors of pollutants to the municipal separate storm sewer system (MS4). Any such discharge that is identified as significant contributor pollutants to the MS4, or as causing or contributing to a water quality standards violation, must be addressed as an illicit discharge under the illicit discharge and improper disposal practices established pursuant to Part I.D.5.e of this permit. For all of the discharges listed below, not treated as illicit discharges, the permittee must document the reason these discharges are not expected to be significant contributors of pollutants to the MS4. This documentation may be based on either the nature of the discharge or any pollution prevention/treatment requirements placed on such discharges by the permittee.

- potable water sources, including routine water line flushing;
- lawn, landscape, and other irrigation waters provided all pesticides, herbicides and fertilizers have been applied in accordance with approved manufacturing labeling and any applicable permits for discharges associated with pesticide, herbicide and fertilizer application;
- diverted stream flows;
- rising ground waters;
- uncontaminated groundwater infiltration (as defined at 40 CFR §35.2005 (20));
- uncontaminated pumped groundwater;
- foundation and footing drains;
- air conditioning or compressor condensate;
- springs;
- water from crawl space pumps;
- individual residential car washing;
- flows from riparian habitats and wetlands;
- dechlorinated swimming pool discharges;
- street wash waters that do not contain detergents and where no un-remediated spills or leaks of toxic or hazardous materials have occurred;
- discharges or flows from fire fighting activities (does not include discharges from fire fighting training activities); and,
- other similar occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.)

5. **Limitations of Coverage**. This permit does not authorize:

a. Non-Storm Water: Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are:

(i) In compliance with a separate NPDES permit; or

(ii) Exempt from permitting under the NPDES program; or

(iii) Determined not to be a substantial contributor of pollutants to waters of the United States. See Part I.A.4.

b. Industrial Storm Water: Storm water discharges associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi).

c. Construction Storm Water: Storm water discharges associated with construction activity as defined in 40 CFR §122.26(b)(14)(x) or 40 CFR §122.26(b)(15).

d. Currently Permitted Discharges: Storm water discharges currently covered under another NPDES permit.

e. Discharges Compromising Water Quality: Discharges that EPA, prior to authorization under this permit, determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Where such a determination is made prior to authorization, EPA may notify you that an individual permit application is necessary in accordance with Part IV.M. However, EPA may authorize your coverage under this permit after you have included appropriate controls and implementation procedures in your SWMP designed to bring your discharge into compliance with water quality standards.

f. Discharges Inconsistent with a TMDL: You are not eligible for coverage under this permit for discharges of pollutants of concern to waters for which there is an applicable total maximum daily load (TMDL) established or approved by EPA unless you incorporate into your SWMP measures or controls that are consistent with the assumptions and requirements of such TMDL. To be eligible for coverage under this general permit, you must incorporate documentation into your SWMP supporting a determination of permit eligibility with regard to waters that have an EPA-established or approved TMDL. If a wasteload allocation has been established that would apply to your discharge, you must comply with the requirements established in Part I.C.2.b.(i). Where an EPA-approved or established TMDL has not specified a wasteload allocation applicable to municipal storm water discharges, but has not specifically excluded these discharges, adherence to a SWMP that meets the requirements in Part I.C.2.b.(ii) of this general permit will be presumed to be consistent with the requirements of the TMDL. If the EPA-approved or established TMDL specifically precludes such discharges, the operator is not eligible for coverage under this general permit.

6. **Authorization Under This General Permit**

a. Obtaining Permit Coverage.

(i) An MS4 operator seeking authorization to discharge under this general permit must submit electronically a complete notice of intent (NOI) to the e-mail address provided in Part I.B.3 (see suggested EPA R6 MS4 NOI format located in EPA website at http://epa.gov/region6/water/npdes/sw/ms4/index.htm), in accordance with the deadlines in Part I.B.1 of this permit. The NOI must include the information and attachments required by Parts I.B.2, Part I.A.3, Part I.D.5.h.(i), and I.A.5.f of this permit. By submitting a signed NOI, the applicant certifies that all eligibility criteria for permit coverage have been met. If EPA notifies a discharger (either directly, by public notice, or by making information available on the Internet) of other NOI options that become available at a later date, such as electronic submission of forms or information, the MS4 operator may take advantage of those options to satisfy the NOI submittal requirements.

(ii) If an operator changes or a new operator is added after an NOI has been submitted, the operator must submit a new or revised NOI to EPA.

(iii) An MS4 operator who submits a complete NOI and meets the eligibility requirements in Part I of this permit is authorized to discharge storm water from the MS4 under the terms and conditions of this general permit only upon written notification by the Director. After review of the NOI and any public comments on the NOI, EPA may condition permit coverage on correcting any deficiencies or on including a schedule to respond to any public comments. (See also Parts I.A.3 and Part I.D.5.h.(i).)

(iv) If EPA notifies the MS4 operator of deficiencies or inadequacies in any portion of the NOI (including the SWMP), the MS4 operator must correct the deficient or inadequate portions and submit a written statement to EPA certifying that appropriate changes have been made. The certification must be submitted within the time-frame specified by EPA and must specify how the NOI has been amended to address the identified concerns.

(v) The NOI must be signed and certified in accordance with Parts IV.H.1 and 4. Signature for the NOI, which effectively takes the place of an individual permit application, may not be delegated to a lower level under Part IV.H.2

b. Terminating Coverage.

(i) A permittee may terminate coverage under this general permit by submitting a notice of termination (NOT). Authorization to discharge terminates at midnight on the day the NOT is post-marked for delivery to EPA.

(ii) A permittee must submit an NOT to EPA within 30 days after the permittee:

(a) Ceases discharging storm water from the MS4,

(b) Ceases operations at the MS4, or

(c) Transfers ownership of or responsibility for the facility to another operator.

(iii) The NOT will consist of a letter to EPA and must include the following information:

(a) Name, mailing address, and location of the MS4 for which the notification is submitted;

(b) The name, address and telephone number of the operator addressed by the NOT;

(c) The NPDES permit number for the MS4;

(d) An indication of whether another operator has assumed responsibility for the MS4, the discharger has ceased operations at the MS4, or the storm water discharges have been eliminated; and

(e) The following certification:

I certify under penalty of law that all storm water discharges from the identified MS4 that are authorized by an NPDES general permit have been eliminated, or that I am no longer the operator of the MS4, or that I have ceased operations at the MS4. I understand that by submitting this Notice of Termination I am no longer authorized to discharge storm water under this general permit, and that discharging pollutants in storm water to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit. I also understand that the submission of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

(f) NOTs, signed in accordance with Part IV.H.1 of this permit, must be sent to the e-mail address in Part I.B.3. Electronic submittal of the NOT required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

B. NOTICE OF INTENT REQUIREMENTS

1. **Deadlines for Notification**.

a. Designations: Small MS4s automatically designated under 40 CFR 122.32(a)(1), large MS4s located within the corporate boundary of the COA including the COA and former co-permittees under the NPDES permit No

NMS000101, and MS4s designated under 40 CFR 122.26(a)(1)(v), 40 CFR 122.26(a)(9)(i)(C) or (D), or 40 CFR 122.32(a)(2) are required to submit individual NOIs by the dates listed in Table 1. Any MS4 designated as needing a permit after issuance of this permit will be given an individualized deadline for NOI submittal by the Director at the time of designation.

In lieu of creating duplicate program elements for each individual permittee, implementation of the SWMP, as required in Part I.D, may be achieved through participation with other permittees, public agencies, or private entities in cooperative efforts to satisfy the requirements of Part D. For these programs with cooperative elements, the permittee may submit individual NOIs as established in Table 1. See also "Permittees with Cooperative Elements in their SWMP " under Part.I.B.4 and "Shared Responsibilities and Cooperative Programs" under Part I.D.3.

Table 1 Deadlines to Submit NOI

Permittee Class Type	NOI Deadlines
Class A: MS4s within the Cooperate Boundary of the COA including former co-permittees under the NPDES permit No NMS000101	90 days from effective date of the permit or 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class B: MS4s designated under 40 CFR 122.32(a)(1). Based on 2000 Decennial Census Map	90 days from effective date of the permit or 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class C: MS4s designated under 40 CFR 122.26(a)(1)(v), 40 CFR 122.26(a)(9)(i)(C) or (D), or 40 CFR 122.32(a)(2) or MS4s newly designated under 122.32(a)(1) based on 2010 Decennial Census Map	180 days from effective date of the permit or notice of designation, unless the notice of designation grants a later date or; 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class D: MS4s within Indian Country Lands designed under 40 CFR 122.26(a)(I)(v), 122.26(a)(9)(i)(C) or (D), 122.32(a)(1), or 122.32(a)(2)	180 days from effective date of the permit or notice of designation, unless the notice of designation grants a later date or; 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.

See Appendix A for list of potential permittees in the Middle Rio Grande Watershed

b. New Operators. For new operators of all or a part of an already permitted MS4 (due to change on operator or expansion of the MS4) who will take over implementation of the existing SWMP covering those areas, the NOI must be submitted 30 days prior to taking over operational control of the MS4. Existing permittees who are expanding coverage of their MS4 area (e.g., city annexes part of unincorporated county MS4) are not required to submit a new NOI, but must comply with Part I.D.6.d.

c. Submitting a Late NOI. MS4s not able to meet the NOI deadline in Table I and Part I.B.1.b due to delays in determining eligibility should notify EPA of the circumstance and progress to date at the address in Part I.B.3 and then proceed with a late NOI. MS4 operators are not prohibited from submitting an NOI after the dates provided in Table I and Part I.B.1.b. If a late NOI is submitted, the authorization is only for discharges that occur after permit coverage is effective. The permitting authority reserves the right to take appropriate enforcement actions for any unpermitted discharges.

d. End of Administrative Continued Coverage under Previous Permit. Administrative continuance is triggered by a timely reapplication. Discharges submitting an NOI for coverage under this permit are considered to have met

the timely reapplication requirement if NOI is submitted by the deadlines included in Table 1 of Part I.B.1. For MS4s previously covered under either NMS000101 or NMR040000, continued coverage under those permits ends: a) the day after the applicable deadline for submittal of an NOI if a complete NOI has not been submitted or b) upon notice of authorization under this permit if a complete and timely NOI is submitted.

2. **Contents of Notice of Intent**. An MS4 operator eligible for coverage under this general permit must submit an NOI to discharge under this general permit. The NOI will consist of a letter to EPA containing the following information (see suggested EPA R6 MS4 NOI Format located in EPA website at http://www.epa.gov/region6/water/npdes/sw/ms4/index.htm) and must be signed in accordance with Part IV.H of this permit:

   a. The legal name of the MS4 operator and the name of the urbanized area and core municipality (or Indian reservation/pueblo) in which the operator's MS4 is located;

   b. The full facility mailing address and telephone number;

   c. The name and phone number of the person or persons responsible for overall coordination of the SWMP;

   d. An attached location map showing the boundaries of the MS4 under the applicant's jurisdiction. The map must include streets or other demarcations so that the exact boundaries can be located;

   e. The area of land served by the applicant's MS4 (in square miles);

   f. The latitude and longitude of the approximate center of the MS4;

   g. The name(s) of the waters of the United States that receive discharges from the system.

   h. If the applicant is participating in a cooperative program element or is relying on another entity to satisfy one or more permit obligations (see Part I.D.3), identify the entity(ies) and the element(s) the entity(ies) will be implementing;

   i. Information on each of the storm water minimum control measures in Part I.D.5 of this permit and how the SWMP will reduce pollutants in discharges to the Maximum Extent Practicable. For each minimum control measure, include the following:

      (i) Description of the best management practices (BMPs) that will be implemented;

      (ii) Measurable goals for each BMP; and

      (iii) Time frames (i.e., month and year) for implementing each BMP;

   j. Based on the requirements of Part I.A.3.b describe how the eligibility criteria for historic properties have been met;

   k. Indicate whether or not the MS4 discharges to a receiving water for which EPA has approved or developed a TMDL. If so, describe how the eligibility requirements of Part I.A.5.f and Part I.C.2 have been met.

      Note: If an individual permittee or a group of permittees seeks an alternative sub-measureable goal for TMDL controls under Part I.C.2.b.(i).(c).B, the permittee or a group of permittees must submit a preliminary proposal with the NOI. This proposal shall include, but is not limited to, the elements included in Appendix B under Section B.2.

   l. Signature and certification by an appropriate official (see Part IV.H). The NOI must include the certification statement from Part IV.H.4.

3. **Where to Submit.** The MS4 operator must submit the signed NOI to EPA via e-mail at R6_MS4Permits@epa.gov (note: there is an underscore between R6 and MS4) and NMED to the address provided in Part III.D.4. See also Part III.D.4 to determine if a copy must be provided to a Tribal agency.

   The following MS4 operators: AMAFCA, Sandoval County, Village of Corrales, City of Rio Rancho, Town of Bernalillo, SSCAFCA, and ESCAFCA must submit the signed NOI to the Pueblo of Sandia to the address provided in Part III.D.4.

   Note: See suggested EPA R6 MS4 NOI Format located in EPA website at http://www.epa.gov/region6/water/npdes/sw/ms4/index.htm. A complete copy of the signed NOI should be maintained on site. Electronic submittal of the documents required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

4. **Permittees with Cooperative Elements in their SWMP.** Any MS4 that meets the requirements of Part I.A of this general permit may choose to partner with one or more other regulated MS4 to develop and implement a SWMP or SWMP element. The partnering MS4s must submit separate NOIs and have their own SWMP, which may incorporate jointly developed program elements. If responsibilities are being shared as provided in Part I.D.3 of this permit, the SWMP must describe which permittees are responsible for implementing which aspects of each of the minimum measures. All MS4 permittees are subject to the provisions in Part I.D.6.

   Each individual MS4 in a joint agreement implementing a permit condition will be independently assessed for compliance with the terms of the joint agreement. Compliance with that individual MS4s obligations under the joint agreement will be deemed compliance with that permit condition. Should one or more individual MS4s fail to comply with the joint agreement, causing the joint agreement program to fail to meet the requirements of the permit, the obligation of all parties to the joint agreement is to develop within 30 days and implement within 90 days an alternative program to satisfy the terms of the permit.

C. SPECIAL CONDITIONS

1. **Compliance with Water Quality Standards**. Pursuant to Clean Water Act §402(p)(3)(B)(iii) and 40 CFR §122.44(d)(1), this permit includes provisions to ensure that discharges from the permittee's MS4 do not cause or contribute to exceedances of applicable surface water quality standards, in addition to requirements to control discharges to the maximum extent practicable (MEP) set forth in Part I.D. Permittees shall address stormwater management through development of the SWMP that shall include the following elements and specific requirements included in Part VI.

   a. Permittee's discharges shall not cause or contribute to an exceedance of surface water quality standards (including numeric and narrative water quality criteria) applicable to the receiving waters. In determining whether the SWMP is effective in meeting this requirement or if enhancements to the plan are needed, the permittee shall consider available monitoring data, visual assessment, and site inspection reports.

   b. Applicable surface water quality standards for discharges from the permittees' MS4 are those that are approved by EPA and any other subsequent modifications approved by EPA upon the effective date of this permit found at New Mexico Administrative Code §20.6.4. Discharges from various portions of the MS4 also flow downstream into waters with Pueblo of Isleta and Pueblo of Sandia Water Quality Standards;

   c. The permittee shall notify EPA and the Pueblo of Isleta in writing as soon as practical but not later than thirty (30) calendar days following each Pueblo of Isleta water quality standard exceedance at an in-stream sampling location. In the event that EPA determines that a discharge from the MS4 causes or contributes to an exceedance of applicable surface water quality standards and notifies the permittee of such an exceedance, the permittee shall, within sixty (60) days of notification, submit to EPA, NMED, Pueblo of Isleta (upon request) and Pueblo of Sandia (upon request), a report that describes controls that are currently being implemented and additional controls that will be implemented to prevent pollutants sufficient to ensure that the discharge will no longer cause or contribute to an exceedance of applicable surface water quality standards. The permittee shall implement such additional controls upon notification by EPA and shall incorporate such measures into their SWMP as described in Part I.D of this permit. NMED or the affected Tribe may provide information

documenting exceedances of applicable water quality standards caused or contributed to by the discharges authorized by this permit to EPA Region 6 and request EPA take action under this paragraph.

d. Phase I Dissolved Oxygen Program (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit): Within one year from effective date of the permit , the permittees shall revise the May 1, 2012 Strategy to continue taking measures to address concerns regarding discharges to the Rio Grande by implementing controls to eliminate conditions that cause or contribute to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. The permittees shall:

(i) Continue identifying structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;

(ii) Continue implementing controls, and updating/revising as necessary, to eliminate structural elements or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the United States;

(iii) To verify the remedial action in the North Diversion Channel Embayment, the COA and AMAFCA shall continue sampling for DO and temperature until the data indicate the discharge does not exceed applicable dissolved oxygen water quality standards in waters of the United States; and

(iv) Submit a revised strategy to FWS for consultation and EPA for approval from a year of effective date of the permit and progress reports with the subsequent Annual Reports. Progress reports to include:

(a) Summary of data.

(b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. Including summary of findings of the assessment required in Part I.C.1.d.(i).

(c) Conclusions drawn, including support for any determinations.

(d) Activities undertaken to eliminate MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States.

(e) Account of stakeholder involvement.

e. PCBs (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit and Bernalillo County): The permittee shall address concerns regarding PCBs in channel drainage areas specified in Part I.C.1.e.(vi) by developing or continue updating/revising and implementing a strategy to identify and eliminate controllable sources of PCBs that cause or contribute to exceedances of applicable water quality standards in waters of the United States. Bernalillo County shall submit the proposed PCB strategy to EPA within two (2) years from the effective date of the permit and submit a progress report with the third and with subsequent Annual Reports. COA and AMAFCA shall submit a progress report with the first and with the subsequent Annual Reports. The progress reports shall include:

(i) Summary of data.

(ii) Findings regarding controllable sources of PCBs in the channel drainages area specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the United States via the discharge of municipal stormwater.

(iii) Conclusions drawn, including supporting information for any determinations.

(iv) Activities undertaken to eliminate controllable sources of PCBs in the drainage areas specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the United States via the discharge of municipal stormwater including proposed activities that extend beyond the five (5) year permit term.

(v) Account of stakeholder involvement in the process.

(vi) Channel Drainage Areas: The PCB strategy required in Part I.C.1.e is only applicable to:

COA and AMAFCA Channel Drainage Areas:
- San Jose Drain
- North Diversion Channel

Bernalillo County Channel Drainage Areas:
- Adobe Acres Drain
- Alameda Outfall Channel
- Paseo del Norte Outfall Channel
- Sanchez Farm Drainage Area

A cooperative strategy to address PCBs in the COA, AMAFCA and Bernalillo County's drainage areas may be developed between Bernalillo County, AMAFCA, and the COA. If a cooperative strategy is developed, the cooperative strategy shall be submitted to EPA within three (3) years from the effective date of the permit and submit a progress report with the fourth and with subsequent Annual Reports,

Note: COA and AMAFCA must continue implementing the existing PCB strategy until a new Cooperative PCB Strategy is submitted to EPA.

f. Temperature (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit): The permittees must continue assessing the potential effect of stormwater discharges in the Rio Grande by collecting and evaluating additional data. If the data indicates there is a potential of stormwater discharges contributing to exceedances of applicable temperature water quality standards in waters of the United States, within thirty (30) days such as findings, the permittees must develop and implement a strategy to eliminate conditions that cause or contribute to these exceedances. The strategy must include:

(i) Identify structural controls, post construction design standards, or pollutants contributing to raised temperatures in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;

(ii) Develop and implement controls to eliminate structural controls, post construction design standards, or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for temperature in waters of the United States; and

(iii) Provide a progress report with the first and with subsequent Annual Reports. The progress reports shall include:

(a) Summary of data.

(b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States.

(c) Conclusions drawn, including supporting information for any determinations.

(d) Activities undertaken to reduce MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States.

(e) Accounting of stakeholder involvement.

2. **Discharges to Impaired Waters with and without approved TMDLs**. Impaired waters are those that have been identified pursuant to Section 303(d) of the Clean Water Act as not meeting applicable surface water quality standards. This may include both waters with EPA-approved Total Maximum Daily Loads (TMDLs) and those for which a TMDL has not yet been approved. For the purposes of this permit, the conditions for discharges to impaired waters also extend to controlling pollutants in MS4 discharges to tributaries to the listed impaired waters in the Middle Rio Grande watershed boundary identified in Appendix A.

   a. Discharges of pollutant(s) of concern to impaired water bodies for which there is an EPA approved total maximum daily load (TMDL) are not eligible for this general permit unless they are consistent with the approved TMDL. A water body is considered impaired for the purposes of this permit if it has been identified, pursuant to the latest EPA approved CWA §303(d) list, as not meeting New Mexico Surface Water Quality Standards.

   b. The permittee shall control the discharges of pollutant(s) of concern to impaired waters and waters with approved TMDLs as provided in sections (i) and (ii) below, and shall assess the success in controlling those pollutants.

      (i) Discharges to Water Quality Impaired Water Bodies with an Approved TMDL
      If the permittee discharges to an impaired water body with an approved TMDL (see Appendix B), where stormwater has the potential to cause or contribute to the impairment, the permittee shall include in the SWMP controls targeting the pollutant(s) of concern along with any additional or modified controls required in the TMDL and this section. The SWMP and required annual reports must include information on implementing any focused controls required to reduce the pollutant(s) of concern as described below:

         (a) Targeted Controls: The SWMP submitted with the first annual report must include a detailed description of all targeted controls to be implemented, such as identifying areas of focused effort or implementing additional Best Management Practices (BMPs) that will be implemented to reduce the pollutant(s) of concern in the impaired waters.

         (b) Measurable Goals: For each targeted control, the SWMP must include a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term. Where the impairment is for bacteria, the permittee must, at minimum comply with the activites and schedules described in Table 1.a of Part I.C.2.(iii).

         (c) Identification of Measurable Goal: The SWMP must identify a measurable goal for the pollutant(s) of concern. The value of the measurable goal must be based on one of the following options:

            A. If the permittee is subject to a TMDL that identifies an aggregate Waste Load Allocation (WLA) for all or a class of permitted MS4 stormwater sources, then the SWMP may identify such WLA as the measurable goal. Where an aggregate WLA measurable goal is used, all affected MS4 operators are jointly responsible for progress in meeting the measurable goal and shall (jointly or individually) develop a monitoring/assessment plan. This program element may be coordinated with the monitoring required in Part III.A.

            B. Alternatively, if multiple permittees are discharging into the same impaired water body with an approved TMDL (which has an aggregate WLA for all permitted stormwater MS4s), the MS4s may combine or share efforts, in consultation with/and the approval of NMED, to determine an alternative sub-measurable goal derived from the WLA for the pollutant(s) of concern (e.g., bacteria) for their respective MS4. The SWMP must clearly define this alternative approach and must describe how the sub-measurable goals would cumulatively support the aggregate WLA. Where an aggregate WLA measurable goal has been broken into sub-measurable goals for individual MS4s, each permittee is only responsible for progress in meeting its WLA sub-measurable goal.

C. If the permittee is subject to an individual WLA specifically assigned to that permittee, the measurable goal must be the assigned WLA. Where WLAs have been individually assigned, or where the permittee is the only regulated MS4 within the urbanized area that is discharging into the impaired watershed with an approved TMDL, the permittee is only responsible for progress in meeting its WLA measurable goal.

(d) Annual Report: The annual report must include an analysis of how the selected BMPs have been effective in contributing to achieving the measurable goal and shallll include graphic representation of pollutant trends, along with computations of annual percent reductions achieved from the baseline loads and comparisons with the target loads.

(e) Impairment for Bacteria: If the pollutant of concern is bacteria, the permittee shall include focused BMPs addressing the five areas below, as applicable, in the SWMP and implement as appropriate. If a TMDL Implementation Plan (a plan created by the State or a Tribe) is available, the permittee may refer to the TMDL Implementation Plan for appropriate BMPs. The SWMP and annual report must include justification for not implementing a particular BMP included in the TMDL Implementation Plan. The permittee may not exclude BMPs associated with the minimum control measures required under 40 CFR §122.34 from their list of proposed BMPs. The BMPs shall, as appropriate, address the following:

A. Sanitary Sewer Systems
- Make improvements to sanitary sewers;
- Address lift station inadequacies;
- Identify and implement operation and maintenance procedures;
- Improve reporting of violations; and
- Strengthen controls designed to prevent over flows

B. On-site Sewage Facilities (for entities with appropriate jurisdiction)
- Identify and address failing systems; and
- Address inadequate maintenance of On-Site Sewage Facilities (OSSFs).

C. Illicit Discharges and Dumping
- Place additional effort to reduce waste sources of bacteria; for example, from septic systems, grease traps, and grit traps.

D. Animal Sources
- Expand existing management programs to identify and target animal sources such as zoos, pet waste, and horse stables.

E. Residential Education: Increase focus to educate residents on:
- Bacteria discharging from a residential site either during runoff events or directly;
- Fats, oils, and grease clogging sanitary sewer lines and resulting overflows;
- Decorative ponds; and
- Pet waste.

(f) Monitoring or Assessment of Progress: The permittee shall monitor or assess progress in achieving measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A. The permittee may use the following methods either individually or in conjunction to evaluate progress towards the measurable goal and improvements in water quality as follows:

A. Evaluating Program Implementation Measures: The permittee may evaluate and report progress towards the measurable goal by describing the activities and BMPs implemented, by identifying the appropriateness of the identified BMPs, and by evaluating the success of implementing the measurable goals. The permittee may assess progress by using program implementation indicators

such as: (1) number of sources identified or eliminated; (2) decrease in number of illegal dumping; (3) increase in illegal dumping reporting; (4) number of educational opportunities conducted; (5) reductions in SSOs; or, 6) increase in illegal discharge detection through dry screening, etc.; and

B. Assessing Improvements in Water Quality: The permittee may assess improvements in water quality by using available data for segment and assessment units of water bodies from other reliable sources, or by proposing and justifying a different approach such as collecting additional instream or outfall monitoring data, etc. Data may be acquired from NMED, local river authorities, partnerships, and/or other local efforts as appropriate. Progress towards achieving the measurable goal shall be reported in the annual report. Annual reports shall report the measurable goal and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.

(g) Observing no Progress towards the Measurable Goal: If, by the end of the third year from the effective date of the permit, the permittee observes no progress toward the measurable goal either from program implementation or water quality assessments, the permittee shall identify alternative focused BMPs that address new or increased efforts towards the measurable goal. As appropriate, the MS4 may develop a new approach to identify the most significant sources of the pollutant(s) of concern and shall develop alternative focused BMPs (this may also include information that identifies issues beyond the MS4's control). These revised BMPs must be included in the SWMP and subsequent annual reports.

Where the permittee originally used a measurable goal based on an aggregated WLA, the permittee may combine or share efforts with other MS4s discharging to the same impaired stream segment to determine an alternative sub-measurable goal for the pollutant(s) of concern for their respective MS4s, as described in Part I.C.2.b.(i).(c).B above. Permittees must document, in their SWMP for the next permit term, the proposed schedule for the development and subsequent adoption of alternative sub-measurable goals for the pollutant(s) of concern for their respective MS4s and associated assessment of progress in meeting those individual goals.

(ii) Discharges Directly to Water Quality Impaired Water Bodies without an Approved TMDL:
The permittee shall also determine whether the permitted discharge is directly to one or more water quality impaired water bodies where a TMDL has not yet been approved by NMED and EPA. If the permittee discharges directly into an impaired water body without an approved TMDL, the permittee shall perform the following activities:

(a) Discharging a Pollutant of Concern: The permittee shall:

A. Determine whether the MS4 may be a source of the pollutant(s) of concern by referring to the CWA §303(d) list and then determining if discharges from the MS4 would be likely to contain the pollutant(s) of concern at levels of concern. The evaluation of CWA §303(d) list parameters should be carried out based on an analysis of existing data (e.g., Illicit Discharge and Improper Disposal Program) conducted within the permittee's jurisdiction.

B. Ensure that the SWMP includes focused BMPs, along with corresponding measurable goals, that the permittee will implement, to reduce, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. (note: Only applicable if the permittee determines that the MS4 may discharge the pollutant(s) of concern to an impaired water body without a TMDL. The SWMP submitted with the first annual report must include a detailed description of proposed controls to be implemented along with corresponding measurable goals.

C. Amend the SWMP to include any additional BMPs to address the pollutant(s) of concern.

(b) Impairment for Bacteria: Where the impairment is for bacteria, the permittee shall identify potential significant sources and develop and implement targeted BMPs to control bacteria from those sources (see Part I.C.2.b.(i).(c).A through E.. The permittee must, at minimum comply with the activities and

schedules described in Table 1.a of Part I.C.2.(iii). The annual report must include information on compliance with this section, including results of any sampling conducted by the permittee.

Note: Probable pollutant sources identified by permittees should be submitted to NMED on the following form: ftp://ftp.nmenv.state.nm.us/www/swqb/Surveys/PublicProbableSourceIDSurvey.pdf

(c) Impairment for Nutrients: Where the impairment is for nutrients (e.g., nitrogen or phosphorus), the permittee shall identify potential significant sources and develop and implement targeted BMPs to control nutrients from potential sources. The permittee must, at minimum comply with the activities and schedules described in Table 1.b of Part I.C,2, (iii). The annual report must include information on compliance with this section, including results of any sampling conducted by the permittee.

(d) Impairment for Dissolved Oxygen: See Endangered Species Act (ESA) Requirements in Part I.C.3. These program elements may be coordinated with the monitoring required in Part III.A.

(iii) Program Development and Implementation Schedules: Where the impairment is for nutrient constituent (e.g., nitrogen or phosphorus) or bacteria, the permittee must at minimum comply with the activities and schedules in Table 1.a and Table 1.b.

Table 1.a. Pre-TMDL Bacteria Program Development and Implementation Schedules

Activity	Class Permittee				
	A Phase I MS4s	**B** Phase II MS4s (2000 Census)	**C** New Phase II MS4s (2010 Census **)	**D** MS4s within Indian Lands	**Cooperative (*)** Any Permittee with cooperative programs
Identify potential significant sources of the pollutant of concern entering your MS4	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a public education program to reduce the discharge of bacteria in municipal storm water contributed by (if applicable) by pets, recreational and exhibition livestock, and zoos.	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of bacteria in municipal storm water contributed by areas within your MS4 served by on-site wastewater treatment systems.	Fourteen (14) months from effective date of permit	Fourteen (14) moths from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Review results to date from the Illicit Discharge Detection and Elimination program (see Part I.D.5.e) and modify as necessary to prioritize the detection and elimination of discharges contributing bacteria to the MS4	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit

Develop (or modify an existing program ***) and implement a program to reduce the discharge of bacteria in municipal storm water contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.c)	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit	Eighteen (18) months from effective date of permit	Twenty (20) months from effective date of permit
Include in the Annual Reports progress on program implementation and reducing the bacteria and updates their measurable goals as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs
(**) or MS4s designated by the Director
(***) Permittees previously covered under permit NMS000101 or NMR040000
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

Table 1.b. Pre-TMDL Nutrient Program Development and Implementation Schedules

Activity	Class Permittee				
	A Phase I MS4s	**B** Phase II MS4s (2000 Census)	**C** New Phase II MS4s (2010 Census **)	**D** MS4s within Indian Lands	**Cooperative (*)** Any Permittee with cooperative programs
Identify potential significant sources of the pollutant of concern entering your MS4	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a public education program to reduce the discharge of pollutant of concern in municipal storm water contributed by residential and commercial use of fertilizer	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by fertilizer use at municipal operations (e.g., parks, roadways, municipal facilities)	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit

Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by municipal and private golf courses within your jurisdiction	One (1) year from effective date of permit	One (1)year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.e)	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Include in the Annual Reports progress on program implementation and reducing the nutrient pollutant of concern and updates their measurable goals	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs
(**) or MS4s designated by the Director
(***) Permittees previously covered under permit NMS000101 or NMR040000
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

These program elements may be coordinated with the monitoring required in Part III.A.

3. **Endangered Species Act (ESA) Requirements**. Consistent with U.S. FWS Biological Opinion dated August 21, 2014 to ensure actions required by this permit are not likely to jeopardize the continued existence of any currently listed as endangered or threatened species or adversely affect its critical habitat, permittees shall meet the following requirements and include them in the SWMP:

   a. Dissolved Oxygen Strategy in the Receiving Waters of the Rio Grande:

      (i) The permittees must identify (or continue identifying if previously covered under permit NMS000101) structural controls, natural or man-made topographical and geographical formations, MS4 operations, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. The permittees shall implement controls, and update/revise as necessary, to eliminate discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the Rio Grande. The permittees shall submit a summary of findings and a summary of activities undertaken under Part I.C.3.a.(i) with each Annual Report. The SWMP submitted with the first and fourth annual reports must include a detailed description of controls implemented (or/and proposed control to be implemented) along with corresponding measurable goals. (Applicable to all permittees).

      (ii) As required in Part I.C.1.d, the COA and AMAFCA shall revise the May 1, 2012 Strategy for dissolved oxygen to address dissolved oxygen at the North Diversion Channel Embayment and/or other MS4 locations. The permittees shall submit the revised strategy to FWS and EPA for approval within a year of permit issuance and progress reports with the subsequent Annual Reports (see also Part I.C.1.d.(iv)). The permittees shall ensure that actions to reduce pollutants or remedial activities selected for the North Diversion Channel Embayment and its watershed are implemented such that there is a reduction in

frequency and magnitude of all low oxygen storm water discharge events that occur in the Embayment or downstream in the MRG as indicated in Table 1.c. Actions to meet the year 3 measurable goals must be taken within 2 years from the effective date of the permit. Actions to meet the year 5 measurable goals must be taken within 4 years from the effective date of the permit.

Table 1.c Measurable Goals of Anoxic and Hypoxia Levels Measured by Permit Year

Permit Year	*Anoxic Events*, max*	*Hypoxic Events**, max*
Year 1	*18*	*36*
Year 2	*18*	*36*
Year 3	*9*	*18*
Year 4	*9*	*18*
Year 5	*4*	*9*

Notes:

- * Anoxic Events: See Appendix G, for oxygen saturation and dissolved oxygen concentrations at various water temperatures and atmospheric pressures for the North Diversion Channel area that are considered anoxic and associated with the Rio Grande Silvery minnow lethality.
- ** Hypoxic Events: See Appendix for G, for oxygen saturation and dissolved oxygen concentrations at various water temperatures and atmospheric pressures for the North Diversion Channel area that are considered hypoxic and associated with the Rio Grande silvery minnow harassment.

(a) The revised strategy shall include:

A. A Monitoring Plan describing all procedures necessary to continue conducting continuous monitoring of dissolved oxygen (DO) and temperature in the North Diversion Channel Embayment and at one (1) location in the Rio Grande downstream of the mouth of the North Diversion Channel within the action area (e.g., Central Bridge). The monitoring plan to be developed will describe the methodology used to assure its quality, and will identify the means necessary to address any gaps that occur during monitoring, in a timely manner (that is, within 24 to 48 hours).

B. A Quality Assurance and Quality Control (QA/QC) Plan describing all standard operating procedures, quality assurance and quality control plans, maintenance, and implementation schedules that will assure timely and accurate collection and reporting of water temperature, dissolved oxygen, oxygen saturation, and flow. The QA/QC plan should include all procedures for estimating oxygen data when any oxygen monitoring equipment fail. Until a monitoring plan with quality assurance and quality control is submitted by EPA, any data, including any provisional or incomplete data from the most recent measurement period (e.g. if inoperative monitoring equipment for one day, use data from previous day) shall be used as substitutes for all values in the calculations for determinations of incidental takes. Given the nature of the data collected as surrogate for incidental take, all data, even provisional data (e.g., oxygen/water temperature data, associated metadata such as flows, date, times), shall be provided to the Service in a spreadsheet or database format within two weeks after formal request.

(b) Reporting: The COA and AMAFCA shall provide

A. An Annual Incidental Take Report to EPA and the Service that includes the following information: beginning and end date of any qualifying stormwater events, dissolved oxygen values and water temperature in the North Diversion Channel Embayment, dissolved oxygen values and water temperature at a downstream monitoring station in the MRG, flow rate in the North Diversion Channel, mean daily flow rate in the MRG, evaluation of oxygen and temperature data

as either anoxic or hypoxic using Table 2 of the BO, and estimate the number of silvery minnows taken based on Appendix A of the BO. Electronic copy of The Annual Incidental Take Report should be provided with the Annual Report required under Part III.B no later than December 1 for the proceeding calendar year.

B. A summary of data and findings with each Annual Report to EPA and the Service. All data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report. If additional data is requested by EPA or the Service, The COA and AMAFCA shall provide such as information within two weeks upon request,

The revised strategy required under Part I.C.3.a.(ii),the Annual Incidental Take Reports required under Part I.C.3.a.(ii).(b).A, and Annual Reports required under Part III.B can be submitted to FWS via e-mail nmesfo@fws.gov and joel_lusk@fws.gov, or by mail to the New Mexico Ecological Services field office, 2105 Osuna Road NE, Albuquerque, New Mexico 87113. (Only Applicable to the COA and AMAFCA

b. Sediment Pollutant Load Reduction Strategy (Applicable to all pemittees): The permittee must develop, implement, and evaluate a sediment pollutant load reduction strategy to assess and reduce pollutant loads associated with sediment (e.g., metals, etc. adsorbed to or traveling with sediment, as opposed to clean sediment) into the receiving waters of the Rio Grande. The strategy must include the following elements:

(i) Sediment Assessment: The permittee must identify and investigate areas within its jurisdiction that may be contributing excessive levels (e.g., levels that may contribute to exceedance of applicable Water Quality Standards) of pollutants in sediments to the receiving waters of the Rio Grande as a result of stormwater discharges. The permittee must identify structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, and areas indicated as potential sources of sediments pollutants in the receiving waters of the Rio Grande. At the time of assessment, the permittee shall record any observed erosion of soil or sediment along ephemeral channels, arroyos, or stream banks, noting the scouring or sedimentation in streams. The assessment should be made using available data from federal, state, or local studies supplemented as necessary with collection of additional data. The permittee must describe, in the first annual report, all standard operating procedures, quality assurance plans to assure that accurate data are collected, summarized, evaluated and reported.

(ii) Estimate Baseline Loading: Based on the results of the sediment pollutants assessment required in Part I.C.3.b.(i) above the permittee must provide estimates of baseline total sediment loading and relative potential for contamination of those sediments by urban activities for drainage areas, sub-watersheds, Impervious Areas (IAs), and/or Directly Connected Impervious Area (DCIAs) draining directly to a surface waterbody or other feature used to convey waters of the United States. Sediment loads may be provided for targeted areas in the entire Middle Rio Grande Watershed (see Appendix A) using an individual or cooperative approach. Any data available and/or preliminary numeric modeling results may be used in estimating loads.

(iii) Targeted Controls: Include a detailed description of all proposed targeted controls and BMPs that will be implemented to reduce sediment pollutant loads calculated in PartI.C.3.b.(ii) above during the next ten (10) years of permit issuance. For each targeted control, the permittee must include interim measurable goals (e.g., interim sediment pollutant load reductions) and an implementation and maintenance schedule, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions. Any data available and/or preliminary numeric modeling results may be used in establishing the targeted controls, BMPs, and interim measurable goals. The permittee must prioritize pollutant load reduction efforts and target areas (e..g. drainage areas, sub-watersheds, IAs, DCIAs) that generate the highest annual average pollutant loads.

(iv) Monitoring and Interim Reporting: The permittee shall monitor or assess progress in achieving interim measurable goals and determining the effectiveness of BMPs, and shall include documentation of this

monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A.

(v) Progress Evaluation and Reporting: The permittee must assess the overall success of the Sediment Pollutant Load Reduction Strategy and document both direct and indirect measurements of program effectiveness in a Progress Report to be submitted with the fifth Annual Report. Data must be analyzed, interpreted, and reported so that results can be applied to such purposes as documenting effectiveness of the BMPs and compliance with the ESA requirements specified in Part I.C.3.b. The Progress Report must include:

(a) A list of species likely to be within the action area:

(b) Type and number of structural BMPs installed;

(c) Evaluation of pollutant source reduction efforts;

(d) Any recommendation based on program evaluation;

(e) Description of how the interim sediment load reduction goals established in Part I.C.3.b.(iii) were achieved; and

(f) Future planning activities needed to achieve increase of sediment load reduction required in Part I.C.3.d.(iii).

(vi) Critical Habitat (Applicable to all permittees): Verify that the installation of stormwater BMPs will not occur in or adversely affect currently listed endangered or threatened species critical habitat by reviewing the activities and locations of stormwater BMP installation within the location of critical habitat of currently listed endangered or threatened species at the U.S. Fish and Wildlife service website http://criticalhabitat.fws.gov/crithab/.

D. STORMWATER MANAGEMENT PROGRAM (SWMP)

1. **General Requirements**. The permittee must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from a MS4 to the maximum extent practicable (MEP), to protect water quality (including that of downstream state or tribal waters), and to satisfy applicable surface water quality standards. The permittees shall continue implementation of existing SWMPs, and where necessary modify or revise existing elements and/or develop new elements to comply with all discharges from the MS4 authorized in Part I.A. The updated SWMP shall satisfy all requirements of this permit, and be implemented in accordance with Section 402(p)(3)(B) of the Clean Water Act (Act), and the Stormwater Regulations (40 CFR §122.26 and §122.34). This permit does not extend any compliance deadlines set forth in the previous permits (NMS000101 with effective date March 1, 2012 and permits No: NM NMR040000 and NMR04000I with effective date July 1, 2007).

   If a permittee is already in compliance with one or more requirements in this section because it is already subject to and complying with a related local, state, or federal requirement that is at least as stringent as this permit's requirement, the permittee may reference the relevant requirement as part of the SWMP and document why this permit's requirement has been satisfied. Where this permit has additional conditions that apply, above and beyond what is required by the related local, state, or federal requirement, the permittee is still responsible for complying with these additional conditions in this permit.

2. **Legal Authority**. Each permittee shall implement the legal authority granted by the State or Tribal Government to control discharges to and from those portions of the MS4 over which it has jurisdiction. The difference in each co-permittee's jurisdiction and legal authorities, especially with respect to third parties, may be taken into account in developing the scope of program elements and necessary agreements (i.e. Joint Powers Agreement, Memorandum of Agreement, Memorandum of Understanding, etc.). Permittees may use a combination of statute, ordinance, permit, contract, order, interagency or inter-jurisdictional agreement(s) with other permittees to:

a. Control the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity (applicable only to MS4s located within the corporate boundary of the COA);

b. Control the discharge of stormwater and pollutants associated with land disturbance and development activities, both during the construction phase and after site stabilization has been achieved (post-construction), consistent with Part I.D.5.a and Part I.D.5.b;

c. Prohibit illicit discharges and sanitary sewer overflows to the MS4 and require removal of such discharges consistent with Part I.D.5.e;

d. Control the discharge of spills and prohibit the dumping or disposal of materials other than stormwater (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;

e. Control, through interagency or inter-jurisdictional agreements among permittees, the contribution of pollutants from one (1) portion of the MS4 to another;

f. Require compliance with conditions in ordinances, permits, contracts and/or orders; and

g. Carry out all inspection, surveillance and monitoring procedures necessary to maintain compliance with permit conditions.

3. **Shared Responsibility and Cooperative Programs**.

a. The SWMP, in addition to any interagency or inter-jurisdictional agreement(s) among permittees, (e.g., the Joint Powers Agreement to be entered into by the permittees), shall clearly identify the roles and responsibilities of each permittee.

b. Implementation of the SWMP may be achieved through participation with other permittees, public agencies, or private entities in cooperative efforts to satisfy the requirements of Part I.D in lieu of creating duplicate program elements for each individual permittee.

(i) Implementation of one or more of the control measures may be shared with another entity, or the entity may fully take over the measure. A permittee may rely on another entity only if:

(a) the other entity, in fact, implements the control measure;

(b) the control measure, or component of that measure, is at least as stringent as the corresponding permit requirement; or,

(c) the other entity agrees to implement the control measure on the permittee's behalf. Written acceptance of this obligation is expected. The permittee must maintain this obligation as part of the SWMP description. If the other entity agrees to report on the minimum measure, the permittee must supply the other entity with the reporting requirements in Part III.D of this permit. The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure component.

c. Each permittee shall provide adequate finance, staff, equipment, and support capabilities to fully implement its SWMP and all requirements of this permit.

4. **Measurable Goals**. The permittees shall control the discharge of pollutants from its MS4. The permittee shall implement the provisions set forth in Part I.D.5 below, and shall at a minimum incorporate into the SWMP the control measures listed in Part I.D.5 below. The SWMP shall include measurable goals, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions and the frequency of the action.

5. **Control Measures**.

a. Construction Site Stormwater Runoff Control.

(i) The permittee shall develop, revise, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. **Permittees previously covered under permit NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit.** (Note: Highway Departments and Flood Control Authorities may only apply the construction site stormwater management program to the permittees's own construction projects)

(ii) The program must include the development, implementation, and enforcement of, at a minimum:

(a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal or local law;

(b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices (both structural and non-structural);

(c) Requirements for construction site operators to control waste such as, but not limited to, discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality (see EPA guidance at http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=117);

(d) Procedures for site plan review which incorporate consideration of potential water quality impacts. The site plan review must be conducted prior to commencement of construction activities, and include a review of the site design, the planned operations at the construction site, the planned control measures during the construction phase (including the technical criteria for selection of the control measures), and the planned controls to be used to manage runoff created after the development;

(e) Procedures for receipt and consideration of information submitted by the public;

(f) Procedures for site inspection (during construction) and enforcement of control measures, including provisions to ensure proper construction, operation, maintenance, and repair. The procedures must clearly define who is responsible for site inspections; who has the authority to implement enforcement procedures; and the steps utilized to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and the quality of the receiving water. If a construction site operator fails to comply with procedures or policies established by the permittee, the permittee may request EPA enforcement assistance. The site inspection and enforcement procedures must describe sanctions and enforcement mechanism(s) for violations of permit requirements and penalties with detail regarding corrective action follow-up procedures, including enforcement escalation procedures for recalcitrant or repeat offenders. Possible sanctions include non-monetary penalties (such as stop work orders and/or permit denials for non-compliance), as well as monetary penalties such as fines and bonding requirements;

(g) Procedures to educate and train permittee personnel involved in the planning, review, permitting, and/or approval of construction site plans, inspections and enforcement. Education and training shall also be provided for developers, construction site operators, contractors and supporting personnel, including requiring a stormwater pollution prevention plan for construction sites within the permitee's jurisdiction;

(h) Procedures for keeping records of and tracking all regulated construction activities within the MS4, i.e. site reviews, inspections, inspection reports, warning letters and other enforcement documents. A

summary of the number and frequency of site reviews, inspections (including inspector's checklist for oversight of sediment and erosion controls and proper disposal of construction wastes) and enforcement activities that are conducted annually and cumulatively during the permit term shall be included in each annual report; and

(iii) Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres within the MS4 jurisdiction. Site inspections are to be followed by any necessary compliance or enforcement action. Follow-up inspections are to be conducted to ensure corrective maintenance has occurred; and, all projects must be inspected at completion for confirmation of final stabilization.

(iv) The permittee must coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area to ensure that the construction stormwater runoff controls eliminate erosion and maintain sediment on site. Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.

(v) The site plan review required in Part I.D.5.a.(ii)(d) must include an evaluation of opportunities for use of GI/LID/Sustainable practices and when the opportunity exists, encourage project proponents to incorporate such practices into the site design to mimic the pre-development hydrology of the previously undeveloped site. For purposes of this permit, pre-development hydrology shall be met according to Part I.D.5.b of this permit. (consistent with any limitations on that capture). Include a reporting requirement of the number of plans that had opportunities to implement these practices and how many incorporated these practices.

(vi) The permittee must include in the SWMP a description of the mechanism(s) that will be utilized to comply with each of the elements required in Part I.D.5.a.(i) throughout Part I.D.5.a.(v), including description of each individual BMP (both structural or non-structural) or source control measures and its corresponding measurable goal.

(vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report. The permittee must include in each annual report:

(a) A summary of the frequency of site reviews, inspections and enforcement activities that are conducted annually and cumulatively during the permit term.

(b) The number of plans that had the opportunity to implement GI/LID/Sustainable practices and how many incorporated the practices.

Program Flexibility Elements

(viii) The permittee may use storm water educational materials locally developed or provided by the EPA (refer to http://water.epa.gov/polwaste/npdes/swbmp/index.cfm, http://www.epa.gov/smartgrowth/parking.htm, http://www.epa.gov/smartgrowth/stormwater.htm), the NMED, environmental, public interest or trade organizations, and/or other MS4s.

(ix) The permittee may develop or update existing construction handbooks (e.g., the COA NPDES Stormwater Management Guidelines for Construction and Industrial Activities Handbook) to be consistent with promulgated construction and development effluent limitation guidelines.

(x) The construction site inspections required in Part I.D.5.a.(iii) may be carried out in conjunction with the permittee's building code inspections using a screening prioritization process.

Table 2. Construction Site Stormwater Runoff Control - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	**B** Phase II MS4s (2000 Census)	**C** New Phase II MS4s (2010 Census **)	**D** MS4s within Indian Lands	**Cooperative (*)** Any Permittee with cooperative programs
Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of the permit
Develop requirements and procedures as required in Part I.D.5.a.(ii)(b) through in Part I.D.5.a.(ii)(h)	Ten (10) months from effective date of permit	Thirteen (13) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.5.a.(iii)	Ten (10) months from effective date of permit	Start Thirteen (13) months from effective date of permit and annually thereafter	Start Sixteen (16) months from effective date of permit and annually thereafter	Start eighteen (18) months from effective date of permit and thereafter	Start two (2) years from effective date of permit and thereafter
Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.a.(iv)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.5.a.(v)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.a.(vi) and in Part I.D.5.a.(vii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(x)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) or MS4s designated by the Director
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

b. Post-Construction Stormwater Management in New Development and Redevelopment

(i) The permittee must develop, revise, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit.** (Note: Highway Departments and Flood Control Authorities may only apply the post-construction stormwater management program to the permittee's own construction projects)

(ii) The program must include the development, implementation, and enforcement of, at a minimum:

(a) Strategies which include a combination of structural and/or non-structural best management practices (BMPs) to control pollutants in stormwater runoff.

(b) An ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law. The ordinance or policy must:

Incorporate a stormwater quality design standard that manages on-site the 90th percentile storm event discharge volume associated with new development sites and 80th percentile storm event discharge volume associated with redevelopment sites, through stormwater controls that infiltrate, evapotranspire the discharge volume, except in instances where full compliance cannot be achieved, as provided in Part I.D.5.b.(v). The stormwater from rooftop discharge may be harvested and used on-site for non-commercial use. Any controls utilizing impoundments that are also used for flood control that are located in areas where the New Mexico Office of the State Engineer requirements at NMAC 19.26.2.15 (see also Section 72-5-32 NMSA) apply must drain within 96 hours unless the state engineer has issued a waiver to the owner of the impoundment.

Options to implement the site design standard include, but not limited to: management of the discharge volume achieved by canopy interception, soil amendments, rainfall harvesting, rain tanks and cisterns, engineered infiltration, extended filtration, dry swales, bioretention, roof top disconnections, permeable pavement, porous concrete, permeable pavers, reforestation, grass channels, green roofs and other appropriate techniques, and any combination of these practices, including implementation of other stormwater controls used to reduce pollutants in stormwater (e.g., a water quality facility).

Estimation of the 90th or 80th percentile storm event discharge volume is included in EPA Technical Report entitled "*Estimating Predevelopment Hydrology in the Middle Rio Grande Watershed, New Mexico, EPA Publication Number 832-R-14-007*". Permittees can also estimate:

Option A: a site specific 90th or 80th percentile storm event discharge volume using methodology specified in the referenced EPA Technical Report.

Option B: a site specific pre-development hydrology and associated storm event discharge volume using methodology specified in the referenced EPA technical Report.

(c) The permittee must ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with preconstruction BMP design; failure to construct BMPs

in accordance with the agreed upon pre-construction design; and ineffective post-construction operation and maintenance of BMPs;

(d) The permittee must ensure that the post-construction program requirements are constantly reviewed and revised as appropriate to incorporate improvements in control techniques;

(e) Procedure to develop and implement an educational program for project developers regarding designs to control water quality effects from stormwater, and a training program for plan review staff regarding stormwater standards, site design techniques and controls, including training regarding GI/LID/Sustainability practices. Training may be developed independently or obtained from outside resources, i.e. federal, state, or local experts;

(f) Procedures for site inspection and enforcement to ensure proper long-term operation, maintenance, and repair of stormwater management practices that are put into place as part of construction projects/activities. Procedure(s) shall include the requirement that as-built plans be submitted within ninety (90) days of completion of construction projects/activities that include controls designed to manage the stormwater associated with the completed site (post-construction stormwater management). Procedure(s) may include the use of dedicated funds or escrow accounts for development projects or the adoption by the permittee of all privately owned control measures. This may also include the development of maintenance contracts between the owner of the control measure and the permittee. The maintenance contract shall include verification of maintenance practices by the owner, allows the MS4 owner/operator to inspect the maintenance practices, and perform maintenance if inspections indicate neglect by the owner;

(g) Procedures to control the discharge of pollutants related to commercial application and distribution of pesticides, herbicides, and fertilizers where permittee(s) hold jurisdiction over lands not directly owned by that entity (e.g., incorporated city). The procedures must ensure that herbicides and pesticides applicators doing business within the permittee's jurisdiction have been properly trained and certified, are encouraged to use the least toxic products, and control use and application rates according to the applicable requirements; and

(h) Procedure or system to review and update, as necessary, the existing program to ensure that stormwater controls or management practices for new development and redevelopment projects/activities continue to meet the requirements and objectives of the permit.

(iii) The permittee must coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private new development and redevelopment projects/activities within the permit area to ensure the hydrology associated with new development and redevelopment sites mimic to the extent practicable the pre-development hydrology of the previously undeveloped site, except in instances where the pre-development hydrology requirement conflicts with applicable water rights appropriation requirements. For purposes of this permit, pre-development hydrology shall be met by capturing the 90th percentile storm event runoff (consistent with any limitations on that capture) which under undeveloped natural conditions would be expected to infiltrate or evapotranspirate on-site and result in little, if any, off-site runoff. (Note: This permit does not prevent permittees from requiring additional controls for flood control purposes.) Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.

(iv) The permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices. The assessment shall include a list of the identified impediments, necessary regulation changes, and recommendations and proposed schedules to incorporate policies and standards to relevant documents and procedures to maximize infiltration, recharge, water harvesting, habitat improvement, and hydrological management of stormwater runoff as allowed under the applicable water rights appropriation requirements. The permittee must develop a report of the assessment findings, which is to be used to provide information to the permittee, of the regulation changes necessary to remove impediments and allow implementation of these practices.

(v) Alternative Compliance for Infeasibility due to Site Constrains:

(a) Infeasibility to manage the design standard volume specified in Part I(D)(5)(b)(ii)(b), or a portion of the design standard volume, onsite may result from site constraints including the following:

A. too small a lot outside of the building footprint to create the necessary infiltrative capacity even with amended soils;

B. soil instability as documented by a thorough geotechnical analysis;

C. a site use that is inconsistent with capture and reuse of storm water;

D. other physical conditions; or,

E. to comply with applicable requirements for on-site flood control structures leaves insufficient area to meet the standard.

(b) A determination that it is infeasible to manage the design standard volume specified in Part I.D.5.b.(ii)(b), or a portion of the design standard volume, on site may not be based solely on the difficulty or cost of implementing onsite control measures, but must include multiple criteria that rule out an adequate combination of the practices set forth in Part I.D,5.b.(v).

(c) This permit does not prevent imposition of more stringent requirements related to flood control. Where both the permittee's site design standard ordinance or policy and local flood control requirements on site cannot be met due to site conditions, the standard may be met through a combination of on-site and off-site controls.

(d) Where applicable New Mexico water law limits the ability to fully manage the design standard volume on site, measures to minimize increased discharge consistent with requirements under New Mexico water law must still be implemented.

(e) In instances where an alternative to compliance with the standard on site is chosen, technical justification as to the infeasibility of on-site management of the entire design standard volume, or a portion of the design standard volume, is required to be documented by submitting to the permittee a site-specific hydrologic and/or design analysis conducted and endorsed by a registered professional engineer, geologist, architect, and/or landscape architect.

(f) When a Permittee determines a project applicant has demonstrated infeasibility due to site constraints specified in Part I.D.5.b.(v) to manage the design standard volume specified in Part I.D.5.b.(ii).(b) or a portion of the design standard volume on-site, the Permittee shall require one of the following mitigation options:

A. Off-site mitigation. The off-site mitigation option only applies to redevelopment sites and cannot be applied to new development. Management of the standard volume, or a portion of the volume, may be implemented at another location within the MS4 area, approved by the permittee. The permittee shall identify priority areas within the MS4 in which mitigation projects can be completed. The permittee shall determine who will be responsible for long-term maintenance on off-site mitigation projects.

B. Ground Water Replenishment Project: Implementation of a project that has been determined to provide an opportunity to replenish regional ground water supplies at an offsite location.

C. Payment in lieu. Payment in lieu may be made to the permittee, who will apply the funds to a public stormwater project. MS4s shall maintain a publicly accessible database of approved projects for which these payments may be used.

D. *Other.* In a situation where alternative options A through C above are not feasible and the permittee wants to establish another alternative option for projects, the permitte may submit to the EPA for approval, the alternative option that meets the standard.

(vi) The permittee must estimate the number of acres of impervious area (IA) and directly connected impervious area (DCIA). For the purpose of his part, IA includes conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops. DCIA is the portion of IA with a direct hydraulic connection to the permittee's MS4 or a waterbody via continuous paved surfaces, gutters, pipes, and other impervious features. DCIA typically does not include isolated impervious areas with an indirect hydraulic connection to the MS4 (e.g., swale or detention basin) or that otherwise drain to a pervious area.

(vii) The permittee must develop an inventory and priority ranking of MS4-owned property and infrastructure (including public right-of-way) that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges to and from its MS4. In determining the potential for retrofitting, the permittee shall consider factors such as the complexity and cost of implementation, public safety, access for maintenance purposes, subsurface geology, depth to water table, proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems, and opportunities for public use and education under the applicable water right requirements and restrictions. In determining its priority ranking, the permittee shall consider factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service and control of discharges to impaired waters, streams, and critical receiving water (drinking water supply sources);

(viii) The permittee must incorporate watershed protection elements into relevant policy and/or planning documents as they come up for regular review. If a relevant planning document is not scheduled for review during the term of this permit, the permittee must identify the elements that cannot be implemented until that document is revised, and provide to EPA and NMED a schedule for incorporation and implementation not to exceed five years from the effective date of this permit. As applicable to each permittee's MS4 jurisdiction, policy and/or planning documents must include the following:

(a) A description of master planning and project planning procedures to control the discharge of pollutants to and from the MS4.

(b) Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each watershed, by controlling the unnecessary creation, extension and widening of impervious parking lots, roads and associated development. The permittee may evaluate the need to add impervious surface on a case-by-case basis and seek to identify alternatives that will meet the need without creating the impervious surface.

(c) Identify environmentally and ecologically sensitive areas that provide water quality benefits and serve critical watershed functions within the MS4 and ensure requirements to preserve, protect, create and/or restore these areas are developed and implemented during the plan and design phases of projects in these identified areas. These areas may include, but are not limited to critical watersheds, floodplains, and areas with endangered species concerns and historic properties. Stakeholders shall be consulted as appropriate.

(d) Implement stormwater management practices that minimize water quality impacts to streams, including disconnecting direct discharges to surface waters from impervious surfaces such as parking lots.

(e) Implement stormwater management practices that protect and enhance groundwater recharge as allowed under the applicable water rights laws.

(f) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.

(g) Develop and implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.

(h) The program must be specifically tailored to address local community needs (e.g. protection to drinking water sources, reduction of water quality impacts) and must be designed to attempt to maintain pre-development runoff conditions.

(ix) The permittee must update the SWMP as necessary to include a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.b.(i) throughout Part I.D.5.b.(viii) as well as the citations and descriptions of design standards for structural and non-structural controls to control pollutants in stormwater runoff, including discussion of the methodology used during design for estimating impacts to water quality and selecting structural and non-structural controls. Description of measurable goals for each BMP (structural or non-structural) or each stormwater control must be included in the SWMP.

(x) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report. The following information must be included in each annual report:

(a) Include a summary and analysis of all maintenance, inspections and enforcement, and the number and frequency of inspections performed annually.

(b) A cumulative listing of the annual modifications made to the Post-Construction Stormwater Management Program during the permit term, and a cumulative listing of annual revisions to administrative procedures made or ordinances enacted during the permit term.

(c) According to the schedule presented in the Program Development and Implementation Schedule in Table 3, the permittee must

A. Report the number of MS4-owned properties and infrastructure that have been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. The permittee may also include in its annual report non-MS4 owned property that has been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges.

B. As required in Part I.D.5.b.(vi), report the tabulated results for IA and DCIA and its estimation methodology. In each subsequent annual report, the permittee shall estimate the number of acres of IA and DCIA that have been added or removed during the prior year. The permittee shall include in its estimates the additions and reductions resulting from development, redevelopment, or retrofit projects undertaken directly by the permittee; or by private developers and other parties in a voluntary manner on in compliance with the permittee's regulations.

Program Flexibility Elements:

(xi) The permittee may use storm water educational materials locally developed or provided by EPA (refer to http://water.epa.gov/polwaste/npdes/swbmp/index.cfm, http://www.epa.gov/smartgrowth/parking.htm, and http://www.epa.gov/smartgrowth/stormwater.htm); the NMED; environmental, public interest or trade organizations; and/or other MS4s.

(xii) When choosing appropriate BMPs, the permittee may participate in locally-based watershed planning efforts, which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, the permittee may adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures.

(xiii) The permittee may incorporate the following elements in the Post-Construction Stormwater Management in New Development and Redevelopment program required in Part I.D.5.b.(ii)(b):

(a) Provide requirements and standards to direct growth to identified areas to protect environmentally and ecologically sensitive areas such as floodplains and/or other areas with endangered species and historic properties concerns;

(b) Include requirements to maintain and/or increase open space/buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; and

(c) Encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure.

Table 3. Post-Construction Stormwater Management in New Development and Redevelopment - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	**B** Phase II MS4s (2000 Census)	**C** New Phase II MS4s (2010 Census **)	**D** MS4s within Indian Lands	**Cooperative (*)** Any Permittee with cooperative programs
Development of strategies as required in Part I.D.5.b.(ii).(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii).(b)	Twenty (24) months from effective date of permit	Thirty (30) months from effective date of permit	Thirty six (36) months from effective date of permit	Thirty six (36) months from effective date of permit	Thirty six (36) months from effective date of permit
Implementation and enforcement, via the ordinance or other regulatory mechanism, of site design standards as required in Part I.D.5.b.(ii).(b)	Within thirsty six (36) months from effective date of the permit	Within forty two (42) months from the effective date of the permit	Within forty eight (48) months from effective date of the permit	Within forty eight (48) months from effective date of the permit	Within forty eight (48) months from effective date of the permit
Ensure appropriate implementation of structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop procedures as required in Part I.D.5.b.(ii).(e), Part I.D.5.b.(ii).(f), Part I.D.5.b.(ii).(g), and Part I.D.5.b.(ii).(h)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit

Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.b.(iii)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	One (1) year from effective date of permit
As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit
As required in Part I.D.5.b.(iv), develop and submit a report of the assessment findings on GI/LID/Sustainable practices.	Eleven (11) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Twenty seven (27) months from effective date of permit
Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Inventory and priority ranking as required in section in Part I.D.5.b.(vii)	Within fifteen (15) months from effective date of the permit	Within twenty four (24) months from effective date of the permit	Within thirty six (36) months from effective date of the permit	Within thirty six (36) months from effective date of the permit	Within forty two (42) months from effective date of the permit
Incorporate watershed protection elements as required in Part I.D.5.b.(viii)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.b.(ix) and Part I.D.5.b.(x).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include program elements in Part I.D.5.b.(xi) and Part I.D.5.b.(xii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) or MS4s designated by the Director
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

c. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations.

(i) The permittee must develop, revise and implement an operation and maintenance program that includes a training component and the ultimate goal of preventing or reducing pollutant runoff from municipal operations. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit**. The program must include:

(a) Development and implementation of an employee training program to incorporate pollution prevention and good housekeeping techniques into everyday operations and maintenance activities. The employee training program must be designed to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. The permittee must also develop a tracking procedure and ensure that employee turnover is considered when determining frequency of training;

(b) Maintenance activities, maintenance schedules, and long term inspections procedures for structural and non-structural storm water controls to reduce floatable, trash, and other pollutants discharged from the MS4.

(c) Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, snow disposal areas operated by the permittee, and waste transfer stations;

(d) Procedures for properly disposing of waste removed from the separate storm sewers and areas listed in Part I.D.5.c.(i).(c) (such as dredge spoil, accumulated sediments, floatables, and other debris); and

(e) Procedures to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices.

Note: The permittee may use training materials that are available from EPA, NMED, Tribe, or other organizations.

(ii) The Pollution Prevention/Good Housekeeping program must include the following elements:

(a) Develop or update the existing list of all stormwater quality facilities by drainage basin, including location and description;

(b) Develop or modify existing operational manual for de-icing activities addressing alternate materials and methods to control impacts to stormwater quality;

(c) Develop or modify existing program to control pollution in stormwater runoff from equipment and vehicle maintenance yards and maintenance center operations located within the MS4;

(d) Develop or modify existing street sweeping program. Assess possible benefits from changing frequency or timing of sweeping activities or utilizing different equipment for sweeping activities;

(e) A description of procedures used by permittees to target roadway areas most likely to contribute pollutants to and from the MS4 (i.e., runoff discharges directly to sensitive receiving water, roadway receives majority of de-icing material, roadway receives excess litter, roadway receives greater loads of oil and grease);

(f) Develop or revise existing standard operating procedures for collection of used motor vehicle fluids (at a minimum oil and antifreeze) and toxics (including paint, solvents, fertilizers, pesticides, herbicides,

and other hazardous materials) used in permittee operations or discarded in the MS4, for recycle, reuse, or proper disposal;

(g) Develop or revised existing standard operating procedures for the disposal of accumulated sediments, floatables, and other debris collected from the MS4 and during permittee operations to ensure proper disposal;

(h) Develop or revised existing litter source control programs to include public awareness campaigns targeting the permittee audience; and

(i) Develop or review and revise, as necessary, the criteria, procedures and schedule to evaluate existing flood control devices, structures and drainage ways to assess the potential of retrofitting to provide additional pollutant removal from stormwater. Implement routine review to ensure new and/or innovative practices are implemented where applicable.

(j) Enhance inspection and maintenance programs by coordinating with maintenance personnel to ensure that a target number of structures per basin are inspected and maintained per quarter;

(k) Enhance the existing program to control the discharge of floatables and trash from the MS4 by implementing source control of floatables in industrial and commercial areas;

(l) Include in each annual report, a cumulative summary of retrofit evaluations conducted during the permit term on existing flood control devices, structures and drainage ways to benefit water quality. Update the SWMP to include a schedule (with priorities) for identified retrofit projects;

(m) Flood management projects: review and revise, as necessary, technical criteria guidance documents and program for the assessment of water quality impacts and incorporation of water quality controls into future flood control projects. The criteria guidance document must include the following elements:

A. Describe how new flood control projects are assessed for water quality impacts.

B. Provide citations and descriptions of design standards that ensure water quality controls are incorporated in future flood control projects.

C. Include method for permittees to update standards with new and/or innovative practices.

D. Describe master planning and project planning procedures and design review procedures.

(n) Develop procedures to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied, by the permittee's employees or contractors, to public right-of-ways, parks, and other municipal property. The permittee must provide an updated description of the data monitoring system for all permittee departments utilizing pesticides, herbicides and fertilizers.

(iii) Comply with the requirements included in the EPA Multi Sector General Permit (MSGP) to control runoff from industrial facilities (as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi)) owned or operated by the permittees and ultimately discharge to the MS4. The permittees must develop or update:

(a) A list of municipal/permittee operations impacted by this program,

(b) A map showing the industrial facilities owned and operated by the MS4,

(c) A list of the industrial facilities (other than large construction activities defined as industrial activity) that will be included in the industrial runoff control program by category and by basin. The list must include the permit authorization number or a MSGP NOI ID for each facility as applicable.

(iv) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.c.(i) throughout Part I.D.5.c.(iii) and its corresponding measurable goal.

(v) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Table 4. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
-Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit	Fourteen (14) months from effective date of the permit	Eighteen (18) months from effective date of the permit
-Enhance the program to include the elements in Part I.D.5.c.(ii)	Ten (10) months from effective date of the permit	One (1) year from effective date of the permit	Two (2) years from effective date of the permit	Two (2) years from effective date of the permit	Thirty (30) months from effective date of the permit
-Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit	One (1) year from effective date of the permit	Eighteen (18) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.c.(iv) and Part I.D.5.c.(v)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs
(**) or MS4s designated by the Director
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

d. Industrial and High Risk Runoff (Applicable only to Class A permittees)

(i) The permittee must control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi). If no such industrial activities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.

(ii) The permittee must continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report. The program shall include:

(a) A description of a program to identify, monitor, and control pollutants in stormwater discharges to the MS4 from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee(s) determines are contributing a substantial pollutant loading to the

MS4. (Note: If no such facilities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.); and

(b) Priorities and procedures for inspections and establishing and implementing control measures for such discharges.

(iii) Permittees must comply with the monitoring requirements specified in Part III.A.4;

(iv) The permittee must modify the following as necessary:

(a) The list of the facilities included in the program, by category and basin;

(b) Schedules and frequency of inspection for listed facilities. Facility inspections may be carried out in conjunction with other municipal programs (e.g. pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include random inspections for facilities not normally visited by the municipality;

(c) The priorities for inspections and procedures used during inspections (e.g. inspection checklist, review for NPDES permit coverage; review of stormwater pollution prevention plan; etc.); and

(d) Monitoring frequency, parameters and entity performing monitoring and analyses (MS4 permittees or subject facility). The monitoring program may include a waiver of monitoring for parameters at individual facilities based on a "no-exposure" certification;

(v) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.d.(i) throughout Part I.D.5.d.(iv) and its corresponding measurable goal.

(vi) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Program Flexibility Elements:

(vii) The permittee may:

(a) Use analytical monitoring data, on a parameter-by-parameter basis, that a facility has collected to comply with or apply for a State or NPDES discharge permit (other than this permit), so as to avoid unnecessary cost and duplication of effort;

(b) Allow the facility to test only one (1) outfall and to report that the quantitative data also apply to the substantially identical outfalls if:

A. A Type 1 or Type 2 industrial facility has two (2) or more outfalls with substantially identical effluents, and

B. Demonstration by the facility that the stormwater outfalls are substantially identical, using one (1) or all of the following methods for such demonstration. The NPDES Stormwater Sampling Guidance Document (EPA 833-B-92-001), available on EPA's website at provides detailed guidance on each of the three options: (1) submission of a narrative description and a site map; (2) submission of matrices; or (3) submission of model matrices.

(c) Accept a copy of a "no exposure" certification from a facility made to EPA under 40 CFR §122.26(g), in lieu of analytic monitoring.

Table 5: Industrial and High Risk Runoff - Program Development and Implementation Schedules:

Activity	Permittee Class	
	A Phase I MS4s	Cooperative (*) Any Permittee with cooperative programs
Ordinance (or other control method) as required in Part I.D.5.d.(i)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report as required in Part I.D.5.d.(ii)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Meet the monitoring requirements in Part I.D.5.d.(iii)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Include requirements in Part I.D.5.d.(iv)	Ten (10) months from permit effective date of the permit	Twelve (12) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.d.(v) and Part I.D.5.d.(vi)	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.d.(vii)	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs. Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

e. Illicit Discharges and Improper Disposal

(i) The permittee shall develop, revise, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR 122.26(b)(2)) entering the MS4. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The permittee must:

(a) Develop, if not already completed, a storm sewer system map, showing the names and locations of all outfalls as well as the names and locations of all waters of the United States that receive discharges from those outfalls. Identify all discharges points into major drainage channels draining more than twenty (20) percent of the MS4 area;

(b) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into the MS4, and implement appropriate enforcement procedures and actions;

(c) Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumpling, to the MS4. The permittee must include the following elements in the plan:

A. Procedures for locating priority areas likely to have illicit discharges including field test for selected pollutant indicators (ammonia, boron, chlorine, color, conductivity, detergents, *E. coli*, enterococci, total coliform, fluoride, hardness, pH, potassium, conductivity, surfactants), and visually screening outfalls during dry weather;

B. Procedures for enforcement, including enforcement escalation procedures for recalcitrant or repeat offenders;

C. Procedures for removing the source of the discharge;

D. Procedures for program evaluation and assessment; and

E. Procedures for coordination with adjacent municipalities and/or state, tribal, or federal regulatory agencies to address situations where investigations indicate the illicit discharge originates outside the MS4 jurisdiction.

(d) Develop an education program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials. The permittee shall inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.

(e) Establish a hotline to address complaints from the public.

(f) Investigate suspected significant/severe illicit discharges within forty-eight (48) hours of detection and all other discharges as soon as practicable; elimination of such discharges as expeditiously as possible; and, requirement of immediate cessation of illicit discharges upon confirmation of responsible parties.

(g) Review complaint records for the last permit term and develop a targeted source reduction program for those illicit discharge/improper disposal incidents that have occurred more than twice in two (2) or more years from different locations. (Applicable only to class A and B permittees)

(h) If applicable, implement the program using the priority ranking develop during last permit term

(ii) The permittee shall address the following categories of non-stormwater discharges or flows (e.g., illicit discharges) only if they are identified as significant contributors of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(90)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

Note: Discharges or flows from fire fighting activities are excluded from the effective prohibitions against non-stormwater and need only be addressed where they are identified a significant sources of pollutants to water of the United States).

(iii) The permittee must screen the entire jurisdiction at least once every five (5) years and high priority areas at least once every year. High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months. The permittee must:

(a) Include in its SWMP document a description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected.

(b) Comply with the dry weather screening program established in Table 6 and the monitoring requirements specified in Part III.A.2.

(c) If applicable, implement the priority ranking system develop in previous permit term.

(iv) Waste Collection Programs: The permittee must develop, update, and implement programs to collect used motor vehicle fluids (at a minimum, oil and antifreeze) for recycle, reuse, or proper disposal, and to collect household hazardous waste materials (including paint, solvents, fertilizers, pesticides, herbicides, and other hazardous materials) for recycle, reuse, or proper disposal. Where available, collection programs operated by third parties may be a component of the programs. Permittees shall enhance these programs by establishing the following elements as a goal in the SWMP:

A. Increasing the frequency of the collection days hosted;

B. Expanding the program to include commercial fats, oils and greases; and

C. Coordinating program efforts between applicable permittee departments.

(v) Spill Prevention and Response. The permittee must develop, update and implement a program to prevent, contain, and respond to spills that may discharge into the MS4. The permittees must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The Spill Prevention and Response program shall include:

(a) Where discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage, the permittee(s) shall take, or insure the party responsible for the spill takes, all reasonable steps to control or prevent any adverse effects to human health or the environment: and

(b) The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittee's municipal jurisdiction.

(vi) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.e.(i) throughout Part I.D.5.e.(v) and its corresponding measurable goal. A description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected

(vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

(viii) The permittee must expeditiously revise as necessary, within nine (9) months from the effective date of the permit, the existing permitting/certification program to ensure that any entity applying for the use of Right of Way implements controls in their construction and maintenance procedures to control pollutants entering the MS4. (Only applicable to NMDOT)

Program Flexibility Elements

(ix) The permittee may:

(a) Divide the jurisdiction into assessment areas where monitoring at fewer locations would still provide sufficient information to determine the presence or absence of illicit discharges within the larger area;

(b) Downgrade high priority areas after the area has been screened at least once and there are citizen complaints on no more than five (5) separate events within a twelve (12) month period;

(c) Rely on a cooperative program with other MS4s for detection and elimination of illicit discharges and illegal dumping;

(d) If participating in a cooperative program with other MS4s, required detection program frequencies may be based on the combined jurisdictional area rather than individual jurisdictional areas and may use assessment areas crossing jurisdictional boundaries to reduce total number of screening locations (e.g., a shared single screening location that would provide information on more than one jurisdiction); and

(e) After screening a non-high priority area once, adopt an "in response to complaints only" IDDE for that area provided there are citizen complaints on no more than two (2) separate events within a twelve (12) month period.

(f) Enhance the program to utilize procedures and methodologies consistent with those described in "Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments."

Table 6. Illicit Discharges and Improper Disposal - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	**B** Phase II MS4s (2000 Census)	**C** New Phase II MS4s (2010 Census ***)	**D** MS4s within Indian Lands	**Cooperative (*)** Any Permittee with cooperative programs
Mapping as required in Part I.D.5.e.(i)(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	Fourteen (14) months from effective date of permit
Ordinance (or other control method) as required in Part I.D.5.e.(i)(b)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop and implement a IDDE plan as required in Part I.D.5.e.(i)(c)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop an education program as required in Part I.D.5.e.(i)(d)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Establish a hotline as required in Part I.D.5.e.(i)(e)	Update as necessary	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i)(f)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i)(g)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	N/A	N/A	One (1) year from effective date of permit

Screening of system as required in Part I.D.5.e.(iii) as follows: a.) High priority areas**	1 / year	1 / year	1 / year	1 / year	1 / year
b.) Whole system	-Screen 20% of the MS4 per year	- Screen 20% of the MS4 per year	-Years 1 – 2: develop procedures as required in Part I.D.5.e.(i)(c) -Year 3: screen 30% of the MS4 -Year 4: screen 20% of the MS4 -Year 5: screen 50% of the MS4	-Years 1 – 2: develop procedures as required Part I.D.5.e.(i)(c) -Year 3: screen 30% of the MS4 -Year 4: screen 20% of the MS4 -Year 5: screen 50% of the MS4	-Years 1 – 3: develop procedures as require in Part I.D.5.e.(i)(c) -Year 4: screen 30% of the MS4 -Year 5: screen 70% of the MS4
Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv)	Ten (10) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.e.(iii), Part I.D.5.e.(vi), and Part I.D.5.e.(vii).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.e.(ix)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) High priority areas include any area where there is ongoing evidence of illicit discharges or dumpling, or where there are citizen complaints on more than five (5) separate events within twelve (12) months
(***) or MS4s designated by the Director
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

f. Control of Floatables Discharges

(i) The permittee must develop, update, and implement a program to address and control floatables in discharges into the MS4. The floatables control program shall include source controls and, where necessary, structural controls. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The following elements must be included in the program:

(a) Develop a schedule for implementation of the program to control floatables in discharges into the MS4 (Note: AMAFCA and the City of Albuquerque should update the schedule according to the findings of the 2005 AMAFCA/COA Floatable and Gross Pollutant Study and other studies); and

(b) Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type.

(ii) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.f.(i).

(iii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Table 7. Control of Floatables Discharges - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	**B Phase II MS4s (2000 Census)**	**C New Phase II MS4s (2010 Census **)**	**D MS4s within Indian Lands**	**Cooperative (*) Any Permittee with cooperative programs**
- Develop a schedule to implement the program as required in Part I.D.5.f.(i)(a)	Ten (10) months from the effective date of the permit	Ten (10) months from the effective date of the permit	One (1) year from the effective date of the permit	One (1) year from the effective date of the permit	Eighteen (18) months from the effective date of the permit
-Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i)(b)	Ten (10) months from the effective date of the permit	One (1) year from the effective date of the permit	Two (2) years from the effective date of the permit	Two (2) years from the effective dae of the permit	Thirty (30) months from the effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.f.(ii) and Part I.D.5.f.(iii).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) or MS4s designated by the Director
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

g. Public Education and Outreach on Stormwater Impacts

(i) The permittee shall, individually or cooperatively, develop, revise, implement, and maintain a comprehensive stormwater program to educate the community, employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater. **Permittees previously covered under NMS000101 and NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.**

(ii) The permittee must implement a public education program to distribute educational knowledge to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The permittee must:

(a) Define the goals and objectives of the program based on high priority community-wide issues;

(b) Develop or utilize appropriate educational materials, such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, and websites;

(c) Inform individuals and households about ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes;

(d) Inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups;

(e) Use tailored public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed cleanups; and

(f) Use materials or outreach programs directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permittee may tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children. The permittee must make information available for non-English speaking residents, where appropriate.

(iii) The permittee must include the following information in the Stormwater Management Program (SWMP) document:

(a) A description of a program to promote, publicize, facilitate public reporting of the presence of illicit discharges or water quality associated with discharges from municipal separate storm sewers;

(b) A description of the education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(c) A description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.g.(i) and Part I.D.5.g.(ii) and its corresponding measurable goal.

(iv) The permittee must assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the Annual Report.

Program Flexibility Elements

(v) Where necessary to comply with the Minimum Control Measures established in Part I.D.5.g.(i) and Part I.D.5.g.(ii), the permittee should develop a program or modify/revise an existing education and outreach program to:

(a) Promote, publicize, and facilitate the use of Green Infrastructure (GI)/Low Impact Development (LID)/Sustainability practices; and

(b) Include an integrated public education program (including all permittee departments and programs within the MS4) regarding litter reduction, reduction in pesticide/herbicide use, recycling and proper

disposal (including yard waste, hazardous waste materials, and used motor vehicle fluids), and GI/LID/Sustainable practices (including xeriscaping, reduced water consumption, water harvesting practices allowed by the New Mexico State Engineer Office).

(vi) The permittee may collaborate or partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach.

(vii) The education and outreach program may use citizen hotlines as a low-cost strategy to engage the public in illicit discharge surveillance.

(viii) The permittee may use stormwater educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The permittee may also integrate the education and outreach program with existing education and outreach programs in the Middle Rio Grande area. Example of existing programs include:

(a) Classroom education on stormwater;

A. Develop watershed map to help students visualize area impacted.

B. Develop pet-specific education

(b) Establish a water committee/advisor group;

(c) Contribute and participate in Stormwater Quality Team;

(d) Education/outreach for commercial activities;

(e) Hold regular employee trainings with industry groups

(f) Education of lawn and garden activities;

(g) Education on sustainable practices;

(h) Education/outreach of pet waste management;

(i) Education on the proper disposal of household hazardous waste;

(j) Education/outreach programs aimed at minority and disadvantaged communities and children;

(k) Education/outreach of trash management;

(l) Education/outreach in public events;

A. Participate in local events—brochures, posters, etc.

B. Participate in regional events (i.e., State Fair, Balloon Fiesta).

(m) Education/outreach using the media (e.g. publish local newsletters);

(n) Education/outreach on water conservation practices designed to reduce pollutants in storm water for home residences.

Table 8. Public Education and Outreach on Stormwater Impacts - Program_Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	**B** Phase II MS4s (2000 Census)	**C** New Phase II MS4s (2010 Census **)	**D** MS4s within Indian Lands	**Cooperative (*)** Any Permittee with cooperative programs
Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii)	Ten (10) months from the effective date of the permit	Eleven (11) months from the effective date of the permit	Twelve (12) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.g.(iii) and Part I.D.5.g.(iv)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) or MS4s designated by the Director
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

h. Public Involvement and Participation

(i) The permittee must provide local public notice of and make available for public review a copy of the complete NOI and attachments (see Part I.B.2). Local public notice may be made by newspaper notice, notice at a council meeting, posting on the internet, or other method consistent with state/tribal/local public notice requirements.

The permittee must consider all public comments received during the public notice period and modify the NOI, or include a schedule to modify the SWMP, as necessary, or as required by the Director modify the NOI or/and SWMP in response to such comments. The Permittees must include in the NOI any unresolved public comments and the MS4's response to these comments. Responses provided by the MS4 will be considered as part of EPA's decision-making process. See also Appendix E Providing Comments or Requesting a Public Hearing on an Operator's NOI.

(ii) The permittee shall develop, revise, implement and maintain a plan to encourage public involvement and provide opportunities for participation in the review, modification and implementation of the SWMP; develop and implement a process by which public comments to the plan are received and reviewed by the person(s) responsible for the SWMP; and, make the SWMP available to the public and to the operator of any MS4 or Tribal authority receiving discharges from the MS4. **Permittee previously covered under NMS000101 or NMR040000 must continue existing public involvement and participation programs while updating those programs, as necessary, to comply with the requirements of this permit.**

(iii) The plan required in Part I.D.5.h.(ii) shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The permittee must include the following elements in the plan:

(a) A detailed description of the general plan for informing the public of involvement and participation opportunities, including types of activities; target audiences; how interested parties may access the SWMP; and how the public was involved in development of the SWMP;

(b) The development and implementation of at least one (1) assessment of public behavioral change following a public education and/or participation event;

(c) A process to solicit involvement by environmental groups, environmental justice communities, civic organizations or other neighborhoods/organizations interested in water quality-related issues, including but not limited to the Middle Rio Grande Water Quality Work Group, the Middle Rio Grande Bosque Initiative, the Middle Rio Grande Endangered Species Act Collaborative Program, the Middle Rio Grande-Albuquerque Reach Watershed Group, the Pueblos of Santa Ana, Sandia and Isleta, Albuquerque Bernalillo County Water Utility Authority, UNM Colleges and Schools, and Chartered Student Organizations; and

(d) An evaluation of opportunities to utilize volunteers for stormwater pollution prevention activities and awareness throughout the area.

(iv) The permittee shall comply with State, Tribal and local public notice requirements when implementing a public involvement/ participation program.

(v) The public participation process must reach out to all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts.

(vi) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Parts I.D.5.h.(i) throughout Part I.D.5.h.(iv) and its corresponding measurable goal.

(vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

(viii) The permittee must provide public accessibility of the Storm Water Management Program (SWMP) document and Annual Reports online via the Internet and during normal business hours at the MS4 operator's main office, a local library, posting on the internet and/or other readily accessible location for public inspection and copying consistent with any applicable federal, state, tribal, or local open records requirements. Upon a showing of significant public interest, the MS4 operator is encouraged to hold a public meeting (or include in the agenda of in a regularly scheduled city council meeting, etc.) on the NOI, SWMP, and Annual Reports. (See Part III B)

Program Flexibility Elements

(ix) The permittee may integrate the public Involvement and participation program with existing education and outreach programs in the Middle Rio Grande area. Example of existing programs include: Adopt-A-Stream Programs; Attitude Surveys; Community Hotlines (e.g. establishment of a "311"-type number and system established to handle storm-water-related concerns, setting up a public tracking/reporting

system, using phones and social media); Revegetation Programs; Storm Drain Stenciling Programs; Stream cleanup and Monitoring program/events.

Table 9. Public Involvement and Participation - *Program Development and Implementation Schedules*

Activity	Permittee Class				
	A Phase I MS4s	**B Phase II MS4s (2000 Census)**	**C New Phase II MS4s (2010 Census **)**	**D MS4s within Indian Lands**	**Cooperative (*) Any Permittee with cooperative programs**
Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii) and Part I.D.5.h.(iii)	Ten (10) months from effective date of the permit	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit
Comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	Twelve (12) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit
Include elements as required in Part I.D.5.h.(v)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit	One (1) year from effective date of the permit	Eighteen (18) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.h.(vi), Part I.D.5.h.(vii), and Part I.D.5.h.(viii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.h.(ix)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) or MS4s designated by the Director
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

6. **Stormwater Management Program Review and Modification**.

a. Program Review. Permittee shall participate in an annual review of its SWMP in conjunction with preparation of the annual report required in Part III.B. Results of the review shall be discussed in the annual report and shall include an assessment of:

(i) SWMP implementation, progress in achieving measurable goals, and compliance with program elements and other permit conditions;

(ii) the effectiveness of its SWMP, and any necessary modifications, in complying with the permit, including requirements to control the discharge of pollutants, and comply with water quality standards and any applicable approved TMDLs; and the adequacy of staff, funding levels, equipment, and support capabilities to fully implement the SWMP and comply with permit conditions.

(a) Project staffing requirements, in man hours, for the implementation of the MS4 program during the upcoming year.

(b) Staff man hours used during the previous year for implementing the MS4 program. Man hours may be estimated based on staff assigned, assuming a forty (40) hour work week.

b. Program Modification. The permittee(s) may modify its SWMP with prior notification or request to the EPA and NMED in accordance with this section.

(i) Modifications adding, but not eliminating, replacing, or jeopardizing fulfillment of any components, controls, or requirements of its SWMP may be made by the permittee(s) at any time upon written notification to the EPA.

(ii) Modifications replacing or eliminating an ineffective or unfeasible component, control or requirement of its SWMP, including monitoring and analysis requirements described in Parts III.A and V, may be requested in writing at any time. If request is denied, the EPA will send a written explanation of the decision. Modification requests shall include the following:

(a) a description of why the SWMP component is ineffective, unfeasible (including cost prohibitions), or unnecessary to support compliance with the permit;

(b) expectations on the effectiveness of the proposed replacement component; and

(c) an analysis of how the proposed replacement component is expected to achieve the goals of the component to be replaced.

(iii) Modifications resulting from schedules contained in Part VI may be requested following completion of an interim task or final deadline.

(iv) Modification requests or notifications shall be made in writing, signed in accordance with Part IV.H.

c. Program Modifications Required by EPA. Modifications requested by EPA shall be made in writing, set forth the time schedule for the permittee(s) to develop the modifications, and offer the permittee(s) the opportunity to propose alternative program modifications to meet the objective of the requested modification. The EPA may require changes to the SWMP as needed to:

(i) Address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;

(ii) Include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements;

(iii) Include such other conditions deemed necessary by the EPA to comply with the goals and requirements of the Clean Water Act; or

(iv) If, at any time, EPA determines that the SWMP does not meet permit requirements.

d. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation: The permittee(s) shall implement the SWMP:

(i) On all new areas added to their portion of the MS4 (or for which they become responsible for implementation of stormwater quality controls) as expeditiously as possible, but not later than one (1) year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately;

(ii) Within ninety (90) days of a transfer of ownership, operational authority, or responsibility for SWMP implementation, the permittee(s) shall have a plan for implementing the SWMP on all affected areas. The plan may include schedules for implementation; and information on all new annexed areas and any resulting updates required to the SWMP shall be submitted in the annual report.

7. **Retention of Program Records**. The permittee shall retain SWMP records developed in accordance with Part I.D, Part IV.P, and Part VI for at least five (5) years after coverage under this permit terminates.

8. **Qualifying State, Tribal or Local Program**. The permittee may substitute the BMPs and measurable goals of an existing storm water pollution control program to qualify for compliance with one or more of the minimum control measures if the existing measure meets the requirements of the minimum control measure as established in Part I.D.5

PART II. NUMERIC DISCHARGE LIMITATIONS

A. DISCHARGE LIMITATIONS. Reserved

PART III. MONITORING, ASSESSMENT, AND REPORTING REQUIREMENTS:

A. MONITORING AND ASSESSMENT

The permittee must develop, in consultation with NMED and EPA (and affected Tribes if monitoring locations would be located on Tribal lands), and implement a comprehensive monitoring and assessment program designed to meet the following objectives:

- Assess compliance with this permit;
- Assess the effectiveness of the permittee's stormwater management program;
- Assess the impacts to receiving waters resulting from stormwater discharges;
- Characterize stormwater discharges;
- Identify sources of elevated pollutant loads and specific pollutants;
- Detect and eliminate illicit discharges and illegal connections to the MS4; and
- Assess the overall health and evaluate long-term trends in receiving water quality.

The permittee shall be select specific monitoring locations sufficient to assess effects of storm water discharges on receiving waters. The monitoring program may take advantage of monitoring stations/efforts utilized by the permittees or others in previous stormwater monitoring programs or other water quality monitoring efforts. Data collected by others at such stations may be used to satisfy part, or all, of the permit monitoring requirements provided the data collection by that party meets the requirements established in Part III.A.1 throughout Part III.A.5. The comprehensive monitoring and assessment program shall be described in the SWMP document and the results must be provided in each annual report.

Implementation of the comprehensive monitoring and assessment program may be achieved through participation with other permittees to satisfy the requirements of Part III.A.1 throughout Part III.A.5 below in lieu of creating duplicate program elements for each individual permittee.

1. **Wet Weather Monitoring**: The permittees shall conduct wet weather monitoring to gather information on the response of receiving waters to wet weather discharges from the MS4 during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Wet Weather Monitoring shall be conducted at outfalls, internal sampling stations, and/or in-stream monitoring locations at each water of the US that runs in each entity or entities' jurisdiction(s). Permittees may choose either Option A or Option B below:

   a. *Option A*: Individual monitoring

      (i) Class A: Perform wet weather monitoring at a location coming into the MS4 jurisdictional area (upstream) and leaving the MS4 jurisdictional area (downstream), see Appendix D. Monitor for TSS, TDS, COD, BOD_5, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Phase I permittees must include additional parameters from monitoring conducted under permit NMS000101 (from last 10 years) whose mean values are at or above a WQS. Permittee must sample these pollutants a minimum of 10 events during the permit term with at least 5 events in wet season and 4 events in dry season.

      (ii) Class B, C, and D: Perform wet weather monitoring at a location coming into the MS4 jurisdictional area (upstream) and leaving the MS4 jurisdictional area (downstream), see Appendix D. Monitor for TSS, TDS, COD, BOD_5, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and gross alpha. Monitoring of temperature shall be also

conducted at outfalls and/or Rio Grande monitoring locations. If applicable, include additional parameters from monitoring conducted under permits NMR040000 or/and NMR04000I whose mean values are at or above a WQS; sample these pollutants a minimum of 8 events per location during the permit term with at least 4 events in wet season and 2 events in dry season.

b. *Option B*: Cooperative Monitoring Program

Develop a cooperative wet weather monitoring program with other permittees in the Middle Rio Grande watershed (see map in Appendix A). The program will monitor waters coming into the watershed (upstream) and leaving the watershed (downstream), see suggested sampling locations in Appendix D. The program must include sampling for TSS, TDS, COD, BOD5, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and Gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Permittees must include additional parameters from monitoring conducted under permits NMS000101, NMR040000 or/and NMR04000I whose mean values are at or above a WQS. The monitoring program must sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events wet season and 2 events in dry season.

Note: Seasonal monitoring periods are: Wet Season: July 1 through October 31; Dry Season: November 1 through June 30.

c. Wet weather monitoring shall be performed only when the predicted (or actual) rainfall magnitude of a storm event is greater than 0.25 inches and an antecedent dry period of at least forty-eight (48) hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology will consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of fifteen (15) minutes each (or a flow weighted automatic composite, see Part III.A.5.a.(i)). Individual grab samples shall be preserved and delivered to the laboratory where samples will be combined into a single composite sample from each monitoring location.

d. Monitoring methodology at each MS4 monitoring location shall be collected during any portion of the monitoring location's discharge hydrograph (i.e. first flush, rising limb, peak, and falling limb) after a discernible increase in flow at the tributary inlet.

e. The permittee must comply with the schedules contained in Table 10. The results of the Wet Weather Monitoring must be provided in each annual report.

f. DO, pH, conductivity, and temperature shall be analyzed in the field within fifteen (15) minutes of sample collection.

g. Alternate wet weather monitoring locations established in Part III.A.1.a or Part III.A.1.b may be substituted for just cause during the term of the permit. Requests for approval of alternate monitoring locations shall be made to the EPA and NMED in writing and include the rationale for the requested monitoring station relocation. Unless disapproved by the EPA, use of an alternate monitoring location (except for those with numeric effluent limitations) may commence thirty (30) days from the date of the request. For monitoring locations where numeric effluent limitations have been established, the permit must be modified prior to substitution of alternate monitoring locations. At least six (6) samples shall be collected during the first year of monitoring at substitute monitoring locations. If there are less than six sampleable events, this should be document for reporting purposes.

h. Response to monitoring results: The monitoring program must include a contingency plan for collecting additional monitoring data within the MS4 or at additional appropriate instream locations should monitoring results indicate that MS4 discharges may be contributing to instream exceedances of WQS. The purpose of this additional monitoring effort would be to identify sources of elevated pollutant loadings so they could be addressed by the SWMP.

Table 10. Wet Weather Monitoring Program Implementation Schedules:

Activity	Permittee Class				
	A Phase I MS4s	**B Phase II MS4s (2000 Census)**	**C New Phase II MS4s (2010 Census **)**	**D MS4s within Indian Lands**	**Cooperative (*) Any Permittee with cooperative programs**
Submit wet weather monitoring preference to EPA (i.e., individual monitoring program vs. cooperative monitoring program) with NOI submittals	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)
Submit a detailed description of the monitoring scheme to EPA and NMED for approval. The monitoring scheme should include: a list of pollutants; a description of monitoring sites with an explanation of why those sites were selected; and a detailed map of all proposed monitoring sites	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	Twelve (12) months from effective date of permit
Submit certification that all wet weather monitoring sites are operational and begin sampling	March 22, 2016	March 22, 2016	May 21, 2016	May 21, 2016	June 21, 2016
Update SWMP document and submit annual reports	Annually	Annually	Annually	Annually	Annually

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

2. **Dry Weather Discharge Screening of MS4**: Each permittee shall identify, investigate, and address areas within its jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System as a result of dry weather discharges (i.e., discharges from separate storm sewers that occur without the direct influence of runoff from storm events, e.g. illicit discharges, allowable non-stormwater, groundwater infiltration, etc.). Due to the arid and semi-arid conditions of the area, the dry weather discharges screening program may be carried out during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Results of the assessment

shall be provided in each annual report. This program may be coordinated with the illicit discharge detection and elimination program required in Part I.D.5.e. The dry weather screening program shall be described in the SWMP and comply with the schedules contained in Part I.D.5.e.(iii). The permittee shall

a. Include sufficient screening points to adequately assess pollutant levels from all areas of the MS4.

b. Screen for, at a minimum, BOD_5, sediment or a parameter addressing sediment (e.g., TSS or turbidity), E. coli, Oil and Grease, nutrients, any pollutant that has been identified as cause of impairment of a waterbody receiving discharges from that portion of the MS4, including temperature.

c. Specify the sampling and non-sampling techniques to be issued for initial screening and follow-up purposes. Sample collection and analysis need not conform to the requirements of 40 CFR Part 136; and

d. Perform monitoring only when an antecedent dry period of at least seventy-two (72) hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology shall consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of fifteen (15) minutes each. Grab samples will be combined into a single composite sample from each station, preserved, and delivered to the laboratory for analysis. A flow weighted automatic composite sample may also be used.

3. **Floatable Monitoring:** The permittees shall establish locations for monitoring/assessing floatable material in discharges to and/or from their MS4. Floatable material shall be monitored at least twice per year at priority locations and at minimum of two (2) stations except as provided in Part III.A.3. below. The amount of collected material shall be estimated in cubic yards.

   a. One (1) station should be located in the North Diversion (only applicable to the COA and AMAFCA).

   b. Non-traditional MS4 as defined in Part VII shall sample/assess at one (1) station.

   c. Phase II MS4s shall sample/assess at one (1) station within their jurisdiction or participate in a cooperative floatable monitoring plan addressing impacts on perennial waters of the US on a larger watershed basis.

   A cooperative monitoring program may be established in partnership with other MS4s to monitor and assess floatable material in discharges to and/or from a joint jurisdictional area or watershed basis.

4. **Industrial and High Risk Runoff Monitoring** (Applicable only to Class A permittees): The permittees shall monitor stormwater discharges from Type 1 and 2 industrial facilities which discharge to the MS4 provided such facilities are located in their jurisdiction. (Note: if no such facilities are in the permittee's jurisdiction, the permittee must certify that this program element does not apply). The permittee shall:

   a. Conduct analytical monitoring of Type I facilities that discharge to the MS4. Type 1 facilities are municipal landfills; hazardous waste treatment, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and industrial facilities the permittee(s) determines are contributing a substantial pollutant loading to the MS4.

      (i) The following parameters shall be monitored:
      - any pollutants limited in an existing NPDES permit to a subject facility;

- oil and grease;
- chemical oxygen demand (COD);
- pH;
- biochemical oxygen demand, five-day (BOD_5);
- total suspended solids (TSS);
- total phosphorous;
- total Kjeldahl nitrogen (TKN);
- nitrate plus nitrite nitrogen;
- any discharge information required under 40 CFR §122.21(g)(7)(iii) and (iv);
- total cadmium;
- total chromium;
- total copper;
- total lead;
- total nickel;
- total silver;
- total zinc; and,
- PCBs.

(ii) Frequency of monitoring shall be established by the permittee(s), but may not be less than once per year;

(iii) In lieu of the above parameter list, the permittee(s) may alter the monitoring requirement for any individual Type 1 facility:

(a) To coincide with the corresponding industrial sector-specific monitoring requirements of the 2008 Multi-Sector General Stormwater Permit or any applicable general permit issued after September 2008. This exception is not contingent on whether a particular facility is actually covered by the general permit; or

(b) To coincide with the monitoring requirements of any individual permit for the stormwater discharges from that facility, and

(c) Any optional monitoring list must be supplemented by pollutants of concern identified by the permittee(s) for that facility.

b. Conduct appropriate monitoring (e.g. analytic, visual), as determined by the permittee(s), at Type 2 facilities that discharge to the MS4. Type 2 facilities are other municipal waste treatment, storage, or disposal facilities (e.g. POTWs, transfer stations, incinerators) and industrial or commercial facilities the permittee(s) believed contributing pollutants to the MS4. The permittee shall include in each annual report, a list of parameters of concern and monitoring frequencies required for each type of facility.

c. May use analytical monitoring data, on a parameter-by-parameter basis, that a facility has collected to comply with or apply for a State or NPDES discharge permit (other than this permit), so as to avoid unnecessary cost and duplication of effort;

d. May allow the facility to test only one (1) outfall and to report that the quantitative data also apply to the substantially identical outfalls if:

(i) A Type 1 or Type 2 industrial facility has two (2) or more outfalls with substantially identical effluents, and

(ii) Demonstration by the facility that the stormwater outfalls are substantially identical, using one (1) or all of the following methods for such demonstration. The NPDES Stormwater Sampling Guidance Document (EPA 833-B-92-001), available on EPA's website at provides detailed guidance on each of the three options: (1) submission of a narrative description and a site map; (2) submission of matrices; or (3) submission of model matrices.

b. May accept a copy of a "no exposure" certification from a facility made to EPA under 40 CFR §122.26(g), in lieu of analytic monitoring.

5. **Additional Sample Type, Collection and Analysis**:

a. Wet Weather (or Storm Event) Discharge Monitoring: If storm event discharges are collected to meet the objectives of the Comprehensive Monitoring and Assessment Program required in Part III.A (e.g., assess compliance with this permit; assess the effectiveness of the permittee's stormwater management program; assess the impacts to receiving waters resulting from stormwater discharges), the following requirements apply:

(i) Composite Samples: Flow-weighted composite samples shall be collected as follows:

(a) Composite Method – Flow-weighted composite samples may be collected manually or automatically. For both methods, equal volume aliquots may be collected at the time of sampling and then flow-proportioned and composited in the laboratory, or the aliquot volume may be collected based on the flow rate at the time of sample collection and composited in the field.

(b) Sampling Duration – Samples shall be collected for at least the first three (3) hours of discharge. Where the discharge lasts less than three (3) hours, the permittee should report the value. .

(c) Aliquot Collection – A minimum of three (3) aliquots per hour, separated by at least fifteen (15) minutes, shall be collected. Where more than three (3) aliquots per hour are collected, comparable intervals between aliquots shall be maintained (e.g. six aliquots per hour, at least seven (7) minute intervals).

(ii) Grab Samples: Grab samples shall be taken during the first two (2) hours of discharge.

b. Analytical Methods: Analysis and collection of samples shall be done in accordance with the methods specified at 40 CFR §136. Where an approved 40 CFR §136 method does not exist, any available method may be used unless a particular method or criteria for method selection (such as sensitivity) has been specified in the permit. The minimum quantification levels (MQLs) in Appendix F are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

Screening level tests may utilize less expensive "field test kits" using test methods not approved by EPA under 40 CFR 136, provided the manufacturers published detection ranges are adequate for the illicit discharge detection purposes.

EPA Method 1668 shall be utilized when PCB water column monitoring is conducted to determine compliance with permit requirements. For purposes of sediment sampling in dry weather as part of a screening program to identify area(s) where PCB control/clean-up efforts may need to be focused, either the Arochlor test (EPA Method 8082) or USGS test method (8093) may be utilized, but must use EPA Method 1668 (latest revision) for confirmation and determination of specific PCB levels at that location.

EPA Method 900.0 shall be utilized when gross alpha water column monitoring is conducted to determine compliance with permit requirements.

B. ANNUAL REPORT

The permittees shall submit an annual report to be submitted by no later than **December 1st**. See suggested form at http://epa.gov/region6/water/npdes/sw/ms4/index.htm. The report shall cover the previous year from **July 1st to June 30rd** and include the below separate sections. Additionally, the year one (1) and year four (4) annual report shall include submittal of a complete SWMP revision.

At least forty five (45) days prior to submission of each Annual Report, the permittee must provide public notice of and make available for public review and comment a draft copy of the Annual Report. All public input must be considered in preparation of the final Annual Reports and any changes to the SWMP.

Note: A complete copy of the signed Annual Report should be maintained on site.

1. **SWMP(s) status of implementation**: shall include the status of compliance with all schedules established under this permit and the status of actions required in Parts I, III, and VI.

2. **SWMP revisions**: shall include revisions, if necessary, to the assessments of controls or BMPs reported in the permit application (or NOI for coverage under this permit) under 40 CFR §122.26(d)(2)(v) and §122.34(d)(1)(i) are to be included, as well as a cumulative list of all SWMP revisions during the permit term.

   Class A permittees shall include revisions, if necessary, to the fiscal analysis reported in the permit application (or NOI for coverage under this permit) under §122.26(d)(2)(vi).

3. **Performance assessment**: shall include:

   a. an assessment of performance in terms of measurable goals, including, but not limited to, a description of the number and nature of enforcement actions and inspections, public education and public involvement efforts;

   b. a summary of the data, including monitoring data, that is accumulated throughout the monitoring year (July 1 to June 30); actual values of representative monitoring results shall be included, if results are above minimum quantification level (MQL); and

   c. an identification of water quality improvements or degradation.

4. **Annual expenditures**: for the reporting period, with a breakdown for the major elements of the stormwater management program and the budget for the year following each annual report. (Applicable only to Class A permittees)

5. **Annual Report Responsibilities for Cooperative Programs:** preparation of a system-wide report with cooperative programs may be coordinated among cooperating MS4s and then used as part of individual Annual Reports. The report of a cooperative program element shall indicate which, if any, permittee(s) have failed to provide the required information on the portions of the MS4 for which they are responsible to the cooperation permittees.

   a. Joint responsibility for reports covering cooperative programs elements shall be limited to participation in preparation of the overview for the entire system and inclusion of the identity of any permittee who failed to provide input to the annual report.

b. Individual permittees shall be individually responsible for content of the report relating to the portions of the MS4 for which they are responsible and for failure to provide information for the system-wide annual report no later than July 31st of each year.

6. **Public Review and Comment**: a brief summary of any issues raised by the public on the draft Annual Report, along with permittee's responses to the public comments.

7. **Signature on Certification of Annual Reports**: The annual report shall be signed and certified, in accordance with Part IV.H and include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or been apprised of the content of the Annual Report. Annual report shall be due no later than December 1st of each year. A complete copy of the signed Annual Report should be maintained on site.

C. CERTIFICATION AND SIGNATURE OF RECORDS.

All reports required by the permit and other information requested by the EPA shall be signed and certified in accordance with Part IV.H.

D. REPORTING: WHERE AND WHEN TO SUBMIT

1. Monitoring results (Part III.A.1, Part III.A.3, Part III.A.5.a) obtained during the reporting period running from July 1st to June 30th shall be submitted on discharge monitoring report (DMR) forms along with the annual report required by Part III.B. A separate DMR form is required for each monitoring period (season) specified in Part III.A.1. If any individual analytical test result is less than the minimum quantification level (MQL) listed for that parameter, then a value of zero (0) may be used for that test result for the discharge monitoring report (DMR) calculations and reporting requirements. The annual report shall include the actual value obtained, if test result is less than the MQL (See Appendix F).

2. Signed copies of DMRs required under Part III, the Annual Report required by Part III.B, and all other reports required herein, shall be submitted in electronic form to R6_MS4Permits@epa.gov (note: there is an underscore between R6 and MS4).

   Copy of a suggested Annual Report Format is located in EPA R6 website: http://epa.gov/region6/water/npdes/sw/ms4/index.htm.

   Electronic submittal of the documents required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

3. Requests for SWMP updates, modifications in monitoring locations, or application for an individual permit shall, be submitted to,:

   U.S. EPA, Region 6
   Water Quality Protection Division
   Operations Support Office (6WQ-O)
   1445 Ross Avenue
   Dallas, Texas 75202-2733

4. Additional Notification. Permittee(s) shall also provide copies of NOIs, DMRs, annual reports, NOTs, requests for SWMP updates, items for compliance with permit requirements for Compliance with Water Quality Standards in Part I.C.1, TMDL's reports established in Part I.C.2, monitoring scheme, reports, and certifications required in Part III.A.1, programs or changes in monitoring locations, and all other reports required herein, to:

New Mexico Environment Department
Attn: Bruce Yurdin, Program Manager
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

Pueblo of Sandia Environment Department
Attn: Scott Bulgrin, Water Quality Manager
481 Sandia Loop
Bernalillo, NM 87004
(Note: Only those MS4s with discharges upstream of or to waters under the jurisdictional of the Pueblo of Sandia: AMAFCA, Sandoval County, Village of Corrales, City of Rio Rancho, Town of Bernalillo, SSCAFCA, and ESCAFCA)

Pueblo of Isleta
Attn: Ramona M. Montoya, Environment Division Manager
P.O. Box 1270
Isleta NM 87022

(Notes: Only the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), New Mexico Department of Transportation (NMDOT) District 3, KAFB (Kirtland Air Force Base), Sandia Labs (DOE), and Bernalillo County). All parties submitting an NOI or NOT shall notify the Pueblo of Isleta in writing that a NOI or NOT has been submitted to EPA

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004
(Note: Only those MS4s with discharges upstream of or to waters under the jurisdictional of the Pueblo of Santa Ana)

PART IV. STANDARD PERMIT CONDITIONS

A. DUTY TO COMPLY.

The permittee(s) must comply with all conditions of this permit insofar as those conditions are applicable to each permittee, either individually or jointly. Any permit noncompliance constitutes a violation of the Clean Water Act (The Act) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS.

The EPA will adjust the Civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (Federal Register: Dec. 31, 1996, Volume 61, No. 252, pages 69359-69366, as corrected, March 20, 1997, Volume 62, No. 54, pages 13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every four years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties listed below were adjusted for inflation starting in 1996.

1. **Criminal Penalties.**
   a. Negligent Violations: The Act provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one (1) year, or both.

   b. Knowing Violations: The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three (3) years, or both.

   c. Knowing Endangerment: The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than fifteen (15) years, or both.

   d. False Statement: The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two (2) years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both. (See Section 309(c)(4) of the Act).

2. **Civil Penalties.** The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

3. **Administrative Penalties.** The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

   a. Class I penalty: Not to exceed $11,000 per violation nor shall the maximum amount exceed $27,500.

b. Class II penalty: Not to exceed $11,000 per day for each day during which the violation continues nor shall the maximum amount exceed $137,500.

C. **DUTY TO REAPPLY.** If the permittee wishes to continue an activity regulated by this permit after the permit expiration date, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days prior to expiration of this permit. The EPA may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR §122.6 and any subsequent amendments.

D. **NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

E. **DUTY TO MITIGATE.** The permittee(s) shall take all reasonable steps to control or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. **DUTY TO PROVIDE INFORMATION.** The permittee(s) shall furnish to the EPA, within a time specified by the EPA, any information which the EPA may request to determine compliance with this permit. The permittee(s) shall also furnish to the EPA upon request copies of records required to be kept by this permit.

G. **OTHER INFORMATION.** When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in any report to the EPA, he or she shall promptly submit such facts or information.

H. **SIGNATORY REQUIREMENTS.** For a municipality, State, or other public agency, all DMRs, SWMPs, reports, certifications or information either submitted to the EPA or that this permit requires be maintained by the permittee(s), shall be signed by either a:

1. Principal executive officer or ranking elected official; or

2. Duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the EPA.

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

3. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new written authorization satisfying the requirements of this paragraph must be submitted to the EPA prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification: Any person signing documents under this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I. **PENALTIES FOR FALSIFICATION OF MONITORING SYSTEMS.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the Act.

J. **OIL AND HAZARDOUS SUBSTANCE LIABILITY.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Act or section 106 of CERCLA.

K. **PROPERTY RIGHTS.** The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

L. **SEVERABILITY.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

M. **REQUIRING A SEPARATE PERMIT.**

1. The EPA may require any permittee authorized by this permit to obtain a separate NPDES permit. Any interested person may petition the EPA to take action under this paragraph. The Director may require any permittee authorized to discharge under this permit to apply for a separate NPDES permit only if the permittee has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form (as necessary), a statement setting a deadline for the permittee to file the application, and a statement that on the effective date of the separate NPDES permit, coverage under this permit shall automatically terminate. Separate permit applications shall be submitted to the address shown in Part III.D. The EPA may grant additional time to submit the application upon request of the applicant. If an owner or operator fails to submit, prior to the deadline of the time extension, a separate NPDES permit application as required by the EPA, then the applicability of this permit to the permittee is automatically terminated at the end of the day specified for application submittal.

2. Any permittee authorized by this permit may request to be excluded from the coverage of this permit by applying for a separate permit. The permittee shall submit a separate application as specified by 40 CFR §122.26(d) for Class A permittees and by 40 CFR §122.33(b)(2) for Class B, C, and D permittees, with reasons supporting the request to the Director. Separate permit applications shall be submitted to the address shown in Part III.D.3. The request may be granted by the issuance of a separate permit if the reasons cited by the permittee are adequate to support the request.

3. When an individual NPDES permit is issued to a discharger otherwise subject to this permit, or the permittee is authorized to discharge under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to an operator otherwise subject to this permit, or the operator is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the permitting authority.

N. **STATE / ENVIRONMENTAL LAWS.**

1. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by section 510 of the Act.

2. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

O. PROPER OPERATION AND MAINTENANCE. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of stormwater management programs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

P. MONITORING AND RECORDS.

1. The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES permit, and records of all data used to complete the NOI for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the permitting authority at any time.

2. The permittee must submit its records to the permitting authority only when specifically asked to do so. The permittee must retain a description of the SWMP required by this permit (including a copy of the permit language) at a location accessible to the permitting authority. The permittee must make its records, including the NOI and the description of the SWMP, available to the public if requested to do so in writing.

3. Records of monitoring information shall include:
   a. The date, exact place, and time of sampling or measurements;
   b. The initials or name(s) of the individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The time(s) analyses were initiated;
   e. The initials or name(s) of the individual(s) who performed the analyses;
   f. References and written procedures, when available, for the analytical techniques or methods used; and
   g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

4. The permittee must maintain, for the term of the permit, copies of all information and determinations used to document permit eligibility under Parts I.A.5.f and Part I.A.3.b.

Q. MONITORING METHODS. Monitoring must be conducted according to test procedures approved under 40 CFR §136, unless other test procedures have been specified in this permit. The minimum quantification levels (MQLs) in Appendix F are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

R. INSPECTION AND ENTRY. The permittee shall allow the EPA or an authorized representative of EPA, or the State, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substance or parameters at any location.

S. **PERMIT ACTIONS**. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

T. **ADDITIONAL MONITORING BY THE PERMITTEE(S)**. If the permittee monitors more frequently than required by this permit, using test procedures approved under 40 CFR §136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.

U. **ARCHEOLOGICAL AND HISTORIC SITES** (Applicable to areas within the corporate boundary of the City of Albuquerque and Tribal lands). This permit does not authorize any stormwater discharges nor require any controls to control stormwater runoff which are not in compliance with any historic preservation laws.

1. In accordance with the Albuquerque Archaeological Ordinance (Section 2-12-2, 14-16-5, and 14-14-3-4), an applicant for either:

   a. A preliminary plan for any subdivision that is five acres or more in size; or

   b. A site development plan or master development plan for a project that is five acres or more in size on property that is zoned SU-1 Special Use, IP Industrial Park, an SU-2 zone that requires site plan review, PC Planned Community with a site, or meets the Zoning Code definition of a Shopping Center must first obtain either a Certificate of No Effect or a Certificate of Approval from the City Archaeologist. Details of the requirements for a Certificate of No Effect or a Certificate of Approval are described in the ordinance. Failure to obtain a certificate as required by ordinance shall subject the property owner to the penalties of §1-1-99 ROA 1994.

2. If municipal excavation and/or construction projects implementing requirements of this permit will result in the disturbance of previously undisturbed land, and the project is not required to have a separate NPDES permit (e.g. general permit for discharge of stormwater associated with construction activity), then the permittee may seek authorization for stormwater discharges from such sites of disturbance by:

   a. Submitting, thirty (30) days prior to commencing land disturbance, the following to the State Historic Preservation Officer (SHPO) and to appropriate Tribes and Tribal Historic Preservation Officers for evaluation of possible effects on properties listed or eligible for listing on the National Register of Historic Places:

      (i) A description of the construction or land disturbing activity and the potential impact that this activity may have upon the ground, and

      (ii) A copy of a USGS topographic map outlining the location of the project and other ancillary impact areas.

      (iii) The addresses of the SHPO. Sandia Pueblo, and Isleta Pueblo are:

      State Historic Preservation Officer
      New Mexico Historic Preservation Division

Bataan Memorial Building
407 Galisteo Street, Ste. 236
Santa Fe, New Mexico 87501

Pueblo of Sandia Environment Department
Attn: Frank Chaves, Environment Director
481 Sandia Loop
Bernalillo, New Mexico 87004

Pueblo of Isleta
Department of Cultural and Historic Preservation
Attn: Daniel Waseta, Director
P.O. Box 1270
Isleta NM 87022

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004

3. If the permittee receives a request for an archeological survey or notice of adverse effects from the SHPO, the permittee shall delay such activity until:

   a. A cultural resource survey report has been submitted to the SHPO for a review and a determination of no effect or no adverse effect has been made, and

   b. If an adverse effect is anticipated, measures to minimize harm to historic properties have been agreed upon between the permittee and the SHPO.

4. If the permittee does not receive notification of adverse effects or a request for an archeological survey from the SHPO within thirty (30) days, the permittee may proceed with the activity.

5. Alternately, the permittee may obtain authorization for stormwater discharges from such sites of disturbance by applying for a modification of this permit. The permittee may apply for a permit modification by submitting the following information to the Permitting Authority 180 days prior to commencing such discharges:

   a. A letter requesting a permit modification to include discharges from activities subject to this provision, in accordance with the signatory requirements in Part IV.H.

   b. A description of the construction or land disturbing activity and the potential impact that this activity may have upon the ground; County in which the facility will be constructed; type of facility to be constructed; size area (in acres) that the facility will encompass; expected date of construction; and whether the facility is located on land owned or controlled by any political subdivision of New Mexico; and

   c. A copy of a USGS topographic map outlining the location of the project and other ancillary impact areas.

V. **CONTINUATION OF THE EXPIRED GENERAL PERMIT.** If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

1. Reissuance or replacement of this permit, at which time the permittee must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or

2. Issuance of an individual permit for your discharges; or

3. A formal permit decision by the permitting authority not to reissue this general permit, at which time the permittee must seek coverage under an alternative general permit or an individual permit.

W. **PERMIT TRANSFERS**: This permit is not transferable to any person except after notice to the permitting authority. The permitting authority may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

X. **ANTICIPATED NONCOMPLIANCE.** The permittee must give advance notice to the permitting authority of any planned changes in the permitted small MS4 or activity which may result in noncompliance with this permit. (see

Y. **PROCEDURES FOR MODIFICATION OR REVOCATION**: Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64 and 124.5.

PART V. PERMIT MODIFICATION

A. **MODIFICATION OF THE PERMIT**. The permit may be reopened and modified, in accordance with 40 CFR §122.62, §122.63, and §124.5, during the life of the permit to address:

1. Changes in the State's Water Quality Management Plan, including Water Quality Standards;

2. Changes in applicable water quality standards, statutes or regulations;

3. A new permittee who is the owner or operator of a portion of the MS4;

4. Changes in portions of the SWMP that are considered permit conditions;

5. Construction activities implementing requirements of this permit that will result in the disturbance of previously undisturbed land and not required to have a separate NPDES permit; or

6. Other modifications deemed necessary by the EPA to meet the requirements of the Act.

B. **MODIFICATION OF THE SWMP(s)**. Only those portions of the SWMPs specifically required as permit conditions shall be subject to the modification requirements of 40 CFR §124.5. Addition of components, controls, or requirements by the permittee(s); replacement of an ineffective or infeasible control implementing a required component of the SWMP with an alternate control expected to achieve the goals of the original control; and changes required as a result of schedules contained in Part VI shall be considered minor changes to the SWMP and not modifications to the permit. (See also Part I.D.6)

C. **CHANGES IN REPRESENTATIVE MONITORING SITES**. Changes in monitoring sites, other than those with specific numeric effluent limitations (as described in Part III.A.1.g), shall be considered minor modifications to the permit and shall be made in accordance with the procedures at 40 CFR §122.63.

PART VI. SCHEDULES FOR IMPLEMENTATION AND COMPLIANCE.

A. **IMPLEMENTATION AND AUGMENTATION OF THE SWMP(s).** The permittee(s) shall comply with all elements identified in Parts I and III for SWMP implementation and augmentation, and permit compliance. The EPA shall have sixty (60) days from receipt of a modification or augmentation made in compliance with Part VI to provide comments or request revisions. During the initial review period, EPA may extend the time period for review and comment. The permittee(s) shall have thirty (30) days from receipt of the EPA's comments or required revisions to submit a response. All changes to the SWMP or monitoring plans made to comply with schedules in Parts I and III must be approved by EPA prior to implementation.

B. **COMPLIANCE WITH EFFLUENT LIMITATIONS.** Reserved.

C. **REPORTING COMPLIANCE WITH SCHEDULES.** No later than fourteen (14) days following a date for a specific action (interim milestone or final deadline) identified in the Part VI schedule(s), the permittee(s) shall submit a written notice of compliance or noncompliance to the EPA in accordance with Part III.D.

D. **MODIFICATION OF THE SWMP(s).** The permittee(s) shall modify its SWMP, as appropriate, in response to modifications required in Part VI.A. Such modifications shall be made in accordance with Part V.B.

PART VII. DEFINITIONS

All definitions contained in Section 502 of the Act shall apply to this permit and are incorporated herein by reference. Unless otherwise specified, additional definitions of words or phrases used in this permit are as follows:

(1) **Baseline Load** means the load for the pollutant of concern which is present in the waterbody before BMPs or other water quality improvement efforts are implemented.

(2) **Best Management Practices (BMPs)** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

(3) **Bioretention** means the water quality and water quantity stormwater management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from stormwater runoff.

(4) **Canopy Interception** means the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.

(5) **Contaminated Discharges:** The following discharges are considered contaminated:

- Has had a discharge resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since November 16, 1987; or
- Has had a discharge resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- Contributes to a violation of an applicable water quality standard.

(6) **Controls** or **Control Measures** or **Measures** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or control the pollution of waters of the United States. Controls also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

(7) **Controllable Sources**: Sources, private or public, which fall under the jurisdiction of the MS4.

(8) **CWA** or **The Act** means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.

(9) **Co-permittee** means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(10) **Composite Sample** means a sample composed of two or more discrete samples. The aggregate sample will reflect the average water quality covering the compositing or sample period.

(11) **Core Municipality** means, for the purpose of this permit, the municipality whose corporate boundary (unincorporated area for counties and parishes) defines the municipal separate storm sewer system. (ex. City of Dallas for the Dallas Municipal Separate Storm Sewer System, Harris County for unincorporated Harris County).

(12) **Direct Connected Impervious Area (DCIA)** means the portion of impervious area with a direct hydraulic connection to the permitee's municipal separate storm sewer system or a waterbody via continuous paved surfaces, gutters, pipes, and other impervious features. Direct connected impervious area typically does not include isolated impervious areas with an indirect hydraulic connection to the municipal separate storm sewer system (e.g., swale or detention basin) or that otherwise drain to a pervious area.

(13) **Director** means the Regional Administrator or an authorized representative.

(14) **Discharge** for the purpose of this permit, unless indicated otherwise, means discharges from the municipal separate storm sewer system.

(15) **Discharge-related activities"** include: activities which cause, contribute to, or result in storm water point source pollutant discharges; and measures to control storm water discharges, including the sitting, construction and operation of best management practices (BMPs) to control, reduce or prevent storm water pollution.

(16) **Engineered Infiltration** means an underground device or system designed to accept stormwater and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the exfiltration rate.

(17) **Evaporation** means rainfall that is changed or converted into a vapor.

(18) **Evapotranspiration** means the sum of evaporation and transpiration of water from the earth's surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration of plants.

(19) **Extended Filtration** means a structural stormwater practice which filters stormwater runoff through vegetation and engineered soil media. A portion of the stormwater runoff drains into an underdrain system which slowly releases it after the storm is over.

(20) **Facility** means any NPDES "point source" or any other facility (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

(21) **Flood Control Projects** mean major drainage projects developed to control water quantity rather than quality, including channelization and detention.

(22) **Flow-weighted composite sample** means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

(23) **Grab Sample** means a sample which is taken from a wastestream on a one-time basis without consideration of the flow rate of the wastestream and without consideration of time.

(24) **Green Infrastructure** means an array of products, technologies, and practices that use natural systems -- or engineered systems that mimic natural processes -- to enhance overall environmental quality and provide utility services. As a general principal, Green Infrastructure techniques use soils and vegetation to infiltrate, evapotranspirate, and/or recycle stormwater runoff. When used as components of a stormwater management system, Green Infrastructure practices such as green roofs, porous pavement, rain gardens, and vegetated swales can produce a variety of environmental benefits. In addition to effectively retaining and infiltrating rainfall, these technologies can simultaneously help filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon while also providing communities with aesthetic and natural resource benefits.

(25) **Hydromodification** means the alteration of the natural flow of water through a landscape, and often takes the form of channel straightening, widening, deepening, or relocating existing, natural stream channels. It also can involve excavation of borrow pits or canals, building of levees, streambank erosion, or other conditions or practices that change the depth, width or location of waterways. Hydromodification usually results in water quality and habitat impacts.

(26) **Illicit connection** means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

(27) **Illicit discharge** means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(28) **Impervious Area (IA)** means conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops.

(29) **Indian Country** means:

a. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;

b. All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and

c. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.

(30) **Individual Residence** means, for the purposes of this permit, single or multi-family residences. (e.g. single family homes and duplexes, town homes, apartments, etc.)

(31) **Infiltration** means the process by which stormwater penetrates the soil.

(32) **Land application unit** means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

(33) **Landfill** means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

(34) **Land Use** means the way in which land is used, especially in farming and municipal planning.

(35) **Large or medium municipal separate storm sewer system** means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendix F of 40 CFR §122); or (ii) located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers are located in the incorporated places, townships, or towns within such counties (these counties are listed in Appendices H and I of 40 CFR §122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.

(36) **MEP** means maximum extent practicable, the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges. A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34. CWA section 402(p)(3)(B)(iii) requires that a municipal permit "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system design, and engineering methods, and other provisions such as the Administrator or the State determines appropriate for the control of such pollutants.

(37) **Measurable Goal** means a quantitative measure of progress in implementing a component of storm water management program.

(38) **Municipal Separate Storm Sewer (MS4)** means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to paragraphs 40 CFR §122.26(b)(4), (b)(7), and (b)(16), or designated under paragraph 40 CFR §122.26(a)(1)(v).

(39) **Non-traditional MS4** means systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. 40 CFR 122.26(a)(16)(iii).

(40) **NOI** means Notice of Intent to be covered by this permit (see Part I.B of this permit)

(41) **NOT** means Notice of Termination.

(42) **Outfall** means a *point source* as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(43) **Percent load reduction** means the difference between the baseline load and the target load divided by the baseline load.

(44) **Owner or operator** means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

(45) **Permittee** refers to any person (defined below) authorized by this NPDES permit to discharge to Waters of the United States.

(46) **Permitting Authority** means EPA, Region 6.

(47) **Person** means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

(48) **Point Source** means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

(49) **Pollutant** is defined at 40 CFR 122.2. Pollutant means dredged spoil, solid waste, incinerator residue, filter back-wash, sewage, garbage, sewage sludge. Munitions, chemical waste, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011), heat, wrecked or discarded equipment, rock sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

(50) **Pre-development Hydrology**, Predevelopment hydrology is generally the rain volume at which runoff would be produced when a site or an area is in its natural condition, prior to development disturbances. For the Middle Rio Grande area, EPA considers predevelopment conditions to be a mix of woods and desert shrub.

(51) **Rainfall and Rainwater Harvesting** means the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.

(52) **Soil amendment** means adding components to in-situ or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.

(53) **Storm drainage projects** include stormwater inlets, culverts, minor conveyances and a host of other structures or devices.

(54) **Storm sewer**, unless otherwise indicated, means a municipal separate storm sewer.

(55) **Stormwater** means stormwater runoff, snow melt runoff, and surface runoff and drainage.

(56) **Stormwater Discharge Associated with Industrial Activity** means the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant (See 40 CFR §122.26(b)(14) for specifics of this definition).

(57) **Target load** means the load for the pollutant of concern which is necessary to attain water quality goals (e.g. applicable water quality standards).

(58) **Stormwater Management Program (SWMP)** means a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system. For the purposes of this permit, the Stormwater Management Program is considered a single document, but may actually consist of separate programs (e.g. "chapters") for each permittee.

(59) **Targeted controls** means practices implemented to address particular pollutant of concern. For example litter program targets floatables.

(60) **Time-weighted composite** means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

(61) **Total Maximum Daily Load (TMDL)** means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. A TMDL is the sum of individual wasteload allocations for point sources (WLA), load allocations for non-point sources and natural background (LA), and must consider seasonal variation and include a margin of safety. The TMDL comes in the form of a technical document or plan.

(62) **Toxicity** means an LC50 of <100% effluent.

(63) **Waste load allocation (WLA)** means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.

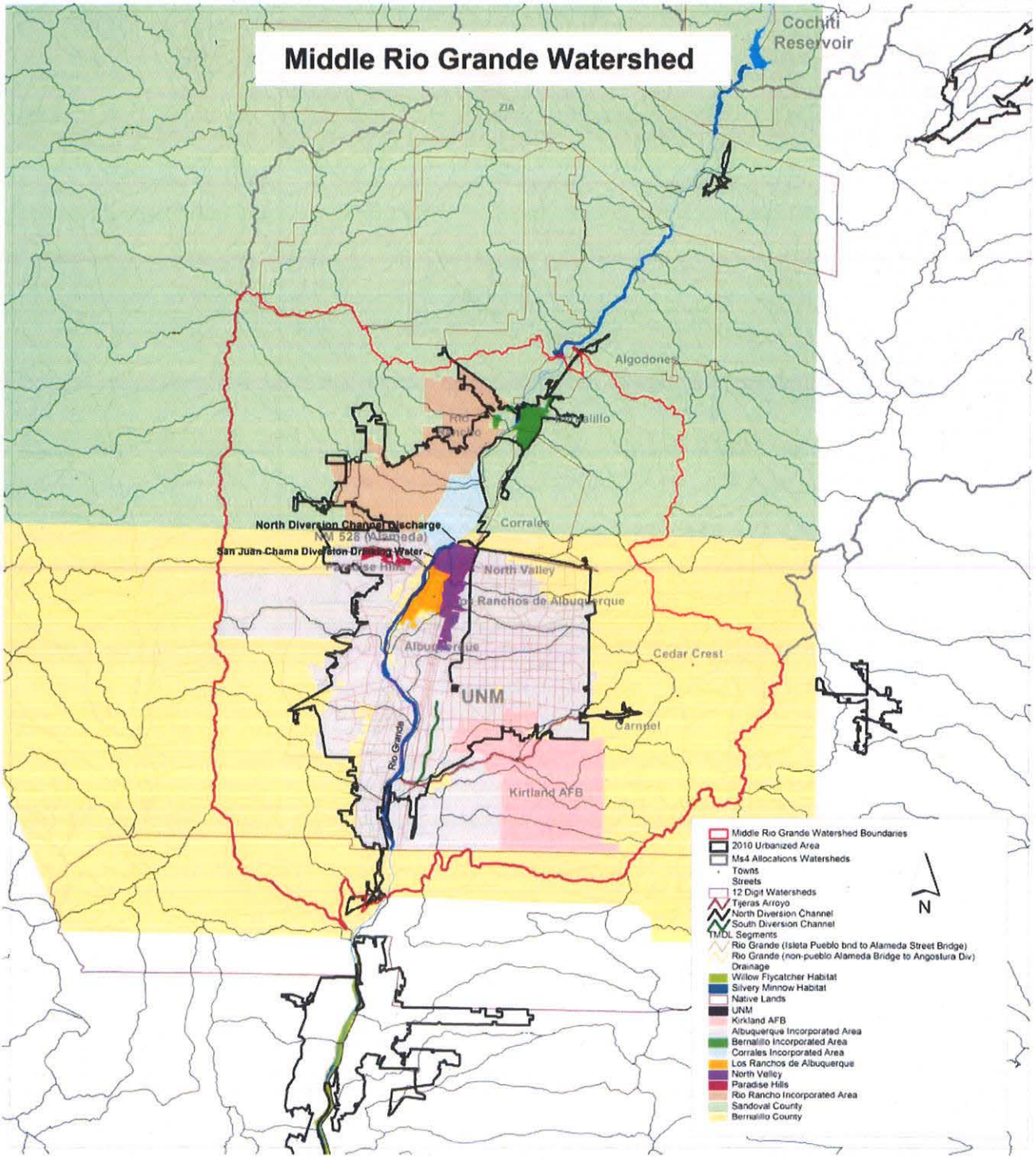
(64) **Wetlands** means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(65) **Whole Effluent Toxicity (WET)** means the aggregate toxic effect of an effluent measured directly by a toxicity test.

PART VIII PERMIT CONDITIONS APPLICABLE TO SPECIFIC AREAS OR INDIAN COUNTY LANDS

Reserved

Appendix A - Middle Rio Grande Watershed Jurisdictions and Potential Permittees



Middle Rio Grande Watershed Jurisdictions and Potential Permittees

Class A:
City of Albuquerque
AMAFCA (Albuquerque Metropolitan Arroyo Flood Control Authority)
UNM (University of New Mexico)
NMDOT (New Mexico Department of Transportation District 3)

Class B:
Bernalillo County
Sandoval County
Village of Corrales
City of Rio Rancho
Los Ranchos de Albuquerque
KAFB (Kirtland Air Force Base)
Town of Bernalillo
EXPO (State Fairgrounds/Expo NM)
SSCAFCA (Southern Sandoval County Arroyo Flood Control Authority)
NMDOT (New Mexico Department of Transportation District 3)

Class C:
ESCAFCA (Eastern Sandoval County Arroyo Flood Control Authority)
Sandia Labs (DOE)

Class D:
Pueblo of Sandia
Pueblo of Isleta
Pueblo of Santa Ana

Note: There could be additional potential permittees.
NMDOT Dist. 3 falls into the Class A type permittee, if an individual program is developed or/and implemented. The timelines for cooperative programs should be used, if NMDOT Dist. 3 cooperates with other permittees.

Appendix B - Total Maximum Daily Loads (TMDLs)

B.1. Approved Total Maximum Daily Loads (TMDLs) Tables

A bacteria TMDL for the Middle Rio Grande was approved by the New Mexico Water Quality Control Commission on April 13, 2010, and by EPA on June 30, 2010. The new TMDL modifies: 1) the indicator parameter for bacteria from fecal coliform to *E. coli*, and 2) the way the WLAs are assigned

Discharges to Impaired Waters – TMDL Waste Load Allocations (WLAs)[2] for *E. coli*: Rio Grande[1]

Stream Segment	Stream Name	Permittee Class	FLOW CONDITIONS & ASSOCIATED WLA (cfu/day)[3]				
			High	Moist	Mid-Range	Dray	Low
2105_50	Isleta Pueblo boundary to Alameda Street Bridge (based on flow at USGS Station NM08330000)	Class A [4]	3.36×10^{10}	8.41×10^{10}	5.66×10^{10}	2.09×10^{10}	4.67×10^{9}
		Class B[5] Class C[6]	3.73×10^{9}	9.35×10^{9}	6.29×10^{9}	2.32×10^{9}	5.19×10^{8}
2105.1_00	non-Pueblo Alameda Bridge to Angostura Diversion (based on flow at USGS Station NM08329928)	Class A	5.25×10^{10}	1.52×10^{10}	_	5.43×10^{9}	2.80×10^{9}
		Class B Class C	2.62×10^{11}	7.59×10^{10}	_	2.71×10^{10}	1.40×10^{10}

1 Total Maximum Daily Load for the Middle Rio Grande Watershed, NMED, 2010.
2 The WLAs for the stormwater MS4 permit was based on the percent jurisdiction area approach. Thus, the MS4 WLAs are a percentage of the available allocation for each hydrologic zone, where the available allocation = TMDL – WLA – MOS.
3 Flow conditions relate to percent of days the flow in the Rio Grande at a USGS Gauge exceeds a particular level: High 0-10%; Moist 10-40%; Mid-Range 40-60%; Dry 60-90%; and Low 90-100%. (Source: Figures 4.3 and 4.4 in 2010 Middle Rio Grande TMDL)
4 Phase I MS4s
5 Phase II MS4s (2000 Census)
6 New Phase II MS4s (2010 Census or MS4s designated by the Director)

Estimating Target Loadings for Particular Monitoring Location:

The Table in B.2 below provides a mechanism to calculate, based on acreage within a drainage area, a target loading value for a particular monitoring location.

B.2. Calculating Alternative Sub-measurable Goals

Individual permittees or a group of permittees seeking alternative sub-measureable goals under C.2.b.(i).(c).B should consult NMED. Preliminary proposals should be submitted with the Notice of Intent (NOI) under Part I.B.2.k according to the due dates specified in Part I.B.1.a of the permit. This proposal shall include, but is not limited to, the following items

B.2.1 Determine base loading for subwatershed areas consistent with TMDL

a. Using the table below, the permittee must develop a target load consistent with the TMDL for any sampling point in the watershed (even if it includes area outside the jurisdictional area of the permit).

E. coli loading on a per area basis (cfu/sq mi/day)

	high	moist	mid	dry	low
Alameda to Isleta	1.79E+09	4.48E+08	3.02E+08	1.11E+08	2.58E+07
Angostura to Alameda	3.25E+09	9.41E+08	5.19E+08	3.37E+08	1.74E+08

b. An estimation of the pertinent, subwatershed area that the permittee is responsible for and the basis for determining that area, including the means for excluding any tributary inholdings;

c. Using the total loading for the watershed (from part a) and the percentage of the watershed area that is part of the permitee(s) jurisdiction (part b) to calculate a base WLA for this subwatershed.

B.2.2 Set Alternative subwatershed targets

a. Permittee(s) may reallocate WLA within and between subwatershed based on factors including:

- Population density within the pertinent watershed area;
- Slope of the waterway;
- Percent impervious surface and how that value was determined;
- Stormwater treatment, installation of green infrastructure for the control or treatment of stormwater and stormwater pollution prevention and education programs within specific watersheds

b. A proposal for an alternative subwatershed target must include the rationale for the factor(s) used

B.2.3 Ensure overall compliance with TMDL WLA allocation

The permitee(s) will provide calculations demonstrating the total WLA under the alternative proposed in (Part II) is consistent with the baseline calculated in (Part I) based on their total jurisdictional area. Permittee(s) will not be allowed to allocate more area within the watershed than is accorded to them under their jurisdictional area. For permittees that work cooperatively, WLA calculations may be combined and used where needed within the sub-watershed amongst the cooperating parties.

WLA calculations must be sent as part of the Notice of Intent to EPA via e-mail at R6_MS4Permits@epa.gov. These calculations must also be sent to:

Sarah Holcomb
Industrial and Stormwater Team Leader
NMED Surface Water Quality Bureau
P.O. Box 5469,

Appendix C - Historic Properties Eligibility Procedures

MS4 operators must determine whether their MS4's storm water discharges, allowable non-storm water discharges, or construction of best management practices (BMPs) to control such discharges, have potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places.

For existing dischargers who do not need to construct BMPs for permit coverage, a simple visual inspection may be sufficient to determine whether historic properties are affected. However, for MS4s which are new storm water dischargers and for existing MS4s which are planning to construct BMPs for permit eligibility, MS4 operators should conduct further inquiry to determine whether historic properties may be affected by the storm water discharge or BMPs to control the discharge. In such instances, MS4 operators should first determine whether there are any historic properties or places listed on the National Register or if any are eligible for listing on the register (e.g., they are "eligible for listing").

Due to the large number of entities seeking coverage under this permit and the limited number of personnel available to State and Tribal Historic Preservation Officers nationwide to respond to inquiries concerning the location of historic properties, EPA suggests that MS4 operators first access the "National Register of Historic Places" information listed on the National Park Service's web page (www.nps.gov/nr/). Addresses for State Historic Preservation Officers and Tribal Historic Preservation Officers are listed in Parts II and III of this appendix, respectively. In instances where a Tribe does not have a Tribal Historic Preservation Officer, MS4 operators should contact the appropriate Tribal government office when responding to this permit eligibility condition. MS4 operators may also contact city, county or other local historical societies for assistance, especially when determining if a place or property is eligible for listing on the register. Tribes that do not currently reside in an area may also have an interest in cultural properties in areas they formerly occupied. Tribal contact information is available at http://www.epa.gov/region06/6dra/oejta/tribalaffairs/index.html

The following three scenarios describe how MS4 operators can meet the permit eligibility criteria for protection of historic properties under this permit:

(1) If historic properties are not identified in the path of an MS4's storm water and allowable non-storm water discharges or where construction activities are planned to install BMPs to control such discharges (e.g., diversion channels or retention ponds), then the MS4 operator has met the permit eligibility criteria under Part I.A.3.b.(i).

(2) If historic properties are identified but it is determined that they will not be affected by the discharges or construction of BMPs to control the discharge, the MS4 operator has met the permit eligibility criteria under Part.I.A.3.b.(ii).

(3) If historic properties are identified in the path of an MS4's storm water and allowable non-storm water discharges or where construction activities are planned to install BMPs to control such discharges, and it is determined that there is the potential to adversely affect the property, the MS4 operator can still meet the permit eligibility criteria under Part I.A.3.b.(ii) if he/she obtains and complies with a written agreement with the appropriate State or Tribal Historic Preservation Officer which outlines measures the MS4 operator will follow to mitigate or prevent those adverse effects. The operator should notify EPA before exercising this option.

The contents of such a written agreement must be included in the MS4's Storm Water Management Program.

In situations where an agreement cannot be reached between an MS4 operator and the State or Tribal Historic Preservation Officer, MS4 operators should contact EPA for assistance.

The term "adverse effects" includes but is not limited to damage, deterioration, alteration or destruction of the historic property or place. EPA encourages MS4 operators to contact the appropriate State or Tribal Historic Preservation Officer as soon as possible in the event of a potential adverse effect to a historic property.

MS4 operators are reminded that they must comply with applicable State, Tribal and local laws concerning the protection of historic properties and places.

I. Internet Information on the National Register of Historic Places
An electronic listing of the ``National Register of Historic Places," as maintained by the National Park Service on its National Register Information System (NRIS), can be accessed on the Internet at www.nps.gov/nr/.

II. State Historic Preservation Officers (SHPO)
SHPO List for areas covered by the permit:

NEW MEXICO
Historic Preservation Div, Office of Cultural Affairs
Bataan Memorial Building, 407 Galisteo Street, Suite 236
Santa Fe, NM 87501
505-827-6320 FAX: 505-827-6338

III. Tribal Historic Preservation Officers
(THPO)
In instances where a Tribe does not have a Tribal Historic Preservation Officer, please contact the appropriate Tribal government office when responding to this permit eligibility condition.

Tribal Historic Preservation Officers:
Mescalero Apache Tribe
P.O. Box 227
Mescalero, New Mexico 88340

Pueblo of Sandia Environment Department
Attn: Frank Chaves, Environment Director
481 Sandia Loop
Bernalillo, New Mexico 87004

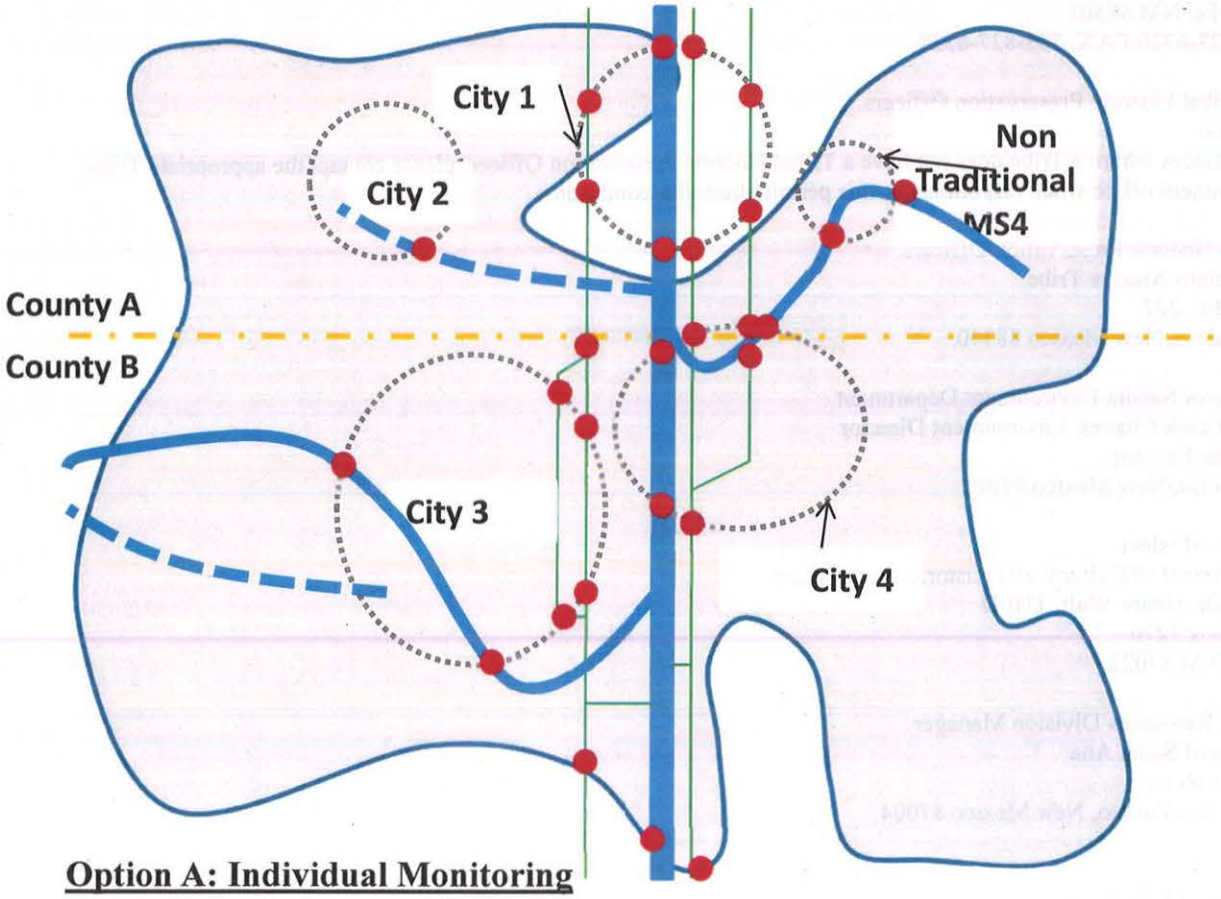
Pueblo of Isleta
Department of Cultural and Historic Preservation
Attn: Dr. Henry Walt, THPO
P.O. Box 1270
Isleta NM 87022

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004

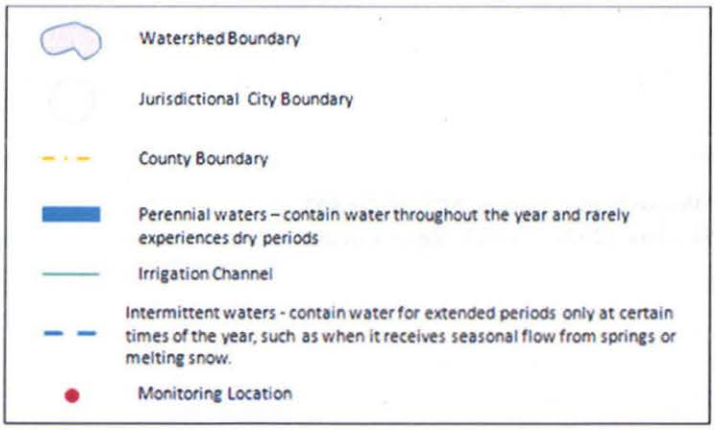
For more information:
National Association of Tribal Historic
Preservation Officers
P.O. Box 19189
Washington, DC 20036-9189
Phone: (202) 628-8476
Fax: (202) 628-2241

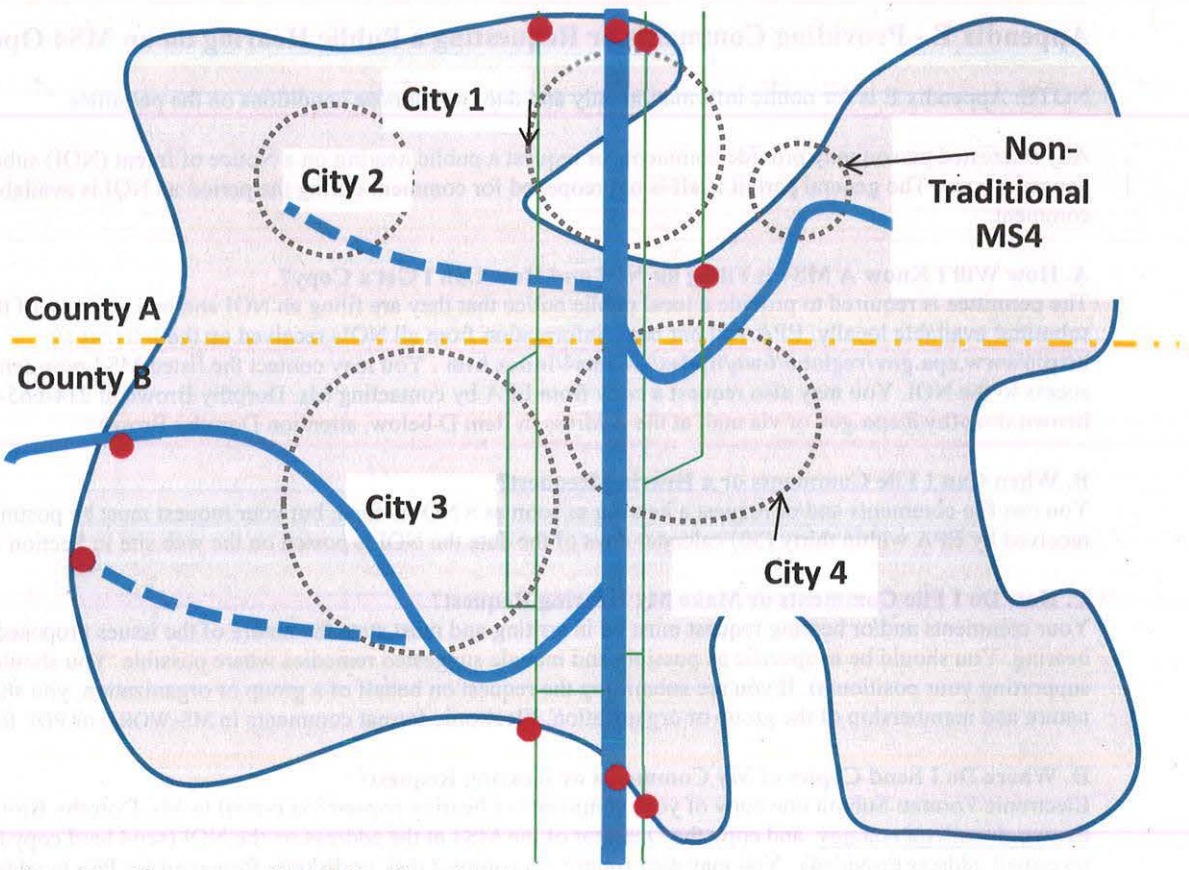
IV. Advisory Council on Historic Preservation
Advisory Council on Historic Preservation, 1100 Pennsylvania Avenue, NW., Suite 803, Washington, DC 20004 Telephone: (202) 606-8503, Fax: (202) 606-8647/8672, E-mail: achp@achp.gov

Appendix D - Suggested Initial Phase Sampling Location Concepts – Wet Weather Monitoring

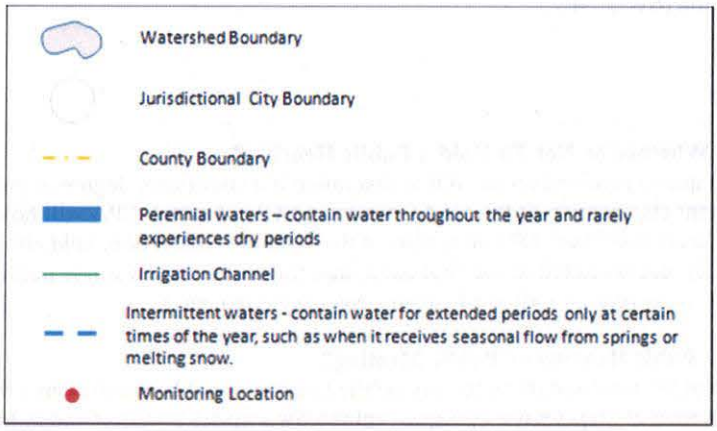


Option A: Individual Monitoring





Option B: Cooperative Monitoring



Appendix E - Providing Comments or Requesting a Public Hearing on an MS4 Operator's NOI

NOTE: Appendix E is for public information only and does not impose conditions on the permittee.

Any interested person may provide comments or request a public hearing on a Notice of Intent (NOI) submitted under this general permit. The general permit itself is not reopened for comment during the period an NOI is available for review and comment.

A. How Will I Know A MS4 is Filing an NOI and How Can I Get a Copy?
The permittee is required to provide a local public notice that they are filing an NOI and make a copy of the draft NOI submittal available locally. EPA will put basic information from all NOIs received on the Internet at: **http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm** . You may contact the listed MS4 representative for local access to the NOI. You may also request a copy from EPA by contacting Ms. Dorothy Brown at 214-665-8141 or **brown.dorothy@epa.gov** or via mail at the Address in Item D below, attention Dorothy Brown.

B. When Can I File Comments or a Hearing Request?
You can file comments and/or request a hearing as soon as a NOI is filed, but your request must be postmarked or physically received by EPA within thirty (30) calendar days of the date the NOI is posted on the web site in Section A.

C. How Do I File Comments or Make My Hearing Request?
Your comments and/or hearing request must be in writing and must state the nature of the issues proposed to be raised in the hearing. You should be as specific as possible and include suggested remedies where possible. You should include any data supporting your position(s). If you are submitting the request on behalf of a group or organization, you should describe the nature and membership of the group or organization. Electronic format comments in MS-WORD or PDF format are preferred.

D. Where Do I Send Copies of My Comments or Hearing Request?
Electronic Format: Submit one copy of your comments or hearing request via e-mail to Ms. Dorothy Brown at **brown.dorothy@epa.gov** and copy the Operator of the MS4 at the address on the NOI (send hard copy to MS4 Operator if no e-mail address provided). You may also submit via compact disk or diskette formatted for PCs to addresses for hard copy below. (Hard Copy: You must send an original and one copy of your comments or hearing request to EPA at the address below and a copy to the Operator of the MS4 at the address provided on the NOI)

U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

E. How Will EPA Determine Whether or Not To Hold a Public Hearing?
EPA will evaluate all hearing requests received on an NOI to determine if a significant degree of public interest exists and whether issues raised may warrant clarification of the MS4 Operator's NOI submittal. EPA will hold a public hearing if a significant amount of public interest is evident. EPA may also, at the Agency's discretion, hold either a public hearing or an informal public meeting to clarify issues related to the NOI submittal. EPA may hold a single public hearing or public meeting covering more than one MS4 (e.g., for all MS4s in an Urbanized Area, etc.).

F. How Will EPA Announce a Pubic Hearing or Public Meeting?
EPA will provide public notice of the time and place for any public hearing or public meeting in a major newspaper with local distribution and via the Internet at **http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm**.

G. What Will EPA Do With Comments on an NOI?
EPA will take all comments made directly or in the course of a public hearing or public meeting into consideration in determining whether or not the MS4 that submitted the NOI is appropriately covered under the general permit. The MS4 operator will have the opportunity to provide input on issues raised. The Director may require the MS4 operator to supplement or amend the NOI submittal in order to be authorized under the general permit or may direct the MS4 Operator to submit an individual permit application. A summary of issues raised and EPA's responses will be made available online at **http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm.** A hard copy may also be requested by contacting Ms. Dorothy Brown (see paragraph D)

Appendix F - Minimum Quantification Levels (MQL's)

The following Minimum Quantification Levels (MQL's) are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
METALS, RADIOACTIVITY, CYANIDE and CHLORINE			
Aluminum	2.5	Molybdenum	10
Antimony	60	Nickel	0.5
Arsenic	0.5	Selenium	5
Barium	100	Silver	0.5
Beryllium	0.5	Thalllium	0.5
Boron	100	Uranium	0.1
Cadmium	1	Vanadium	50
Chromium	10	Zinc	20
Cobalt	50	Cyanide	10
Copper	0.5	Cyanide, weak acid dissociable	10
Lead	0.5	Total Residual Chlorine	33
Mercury (*)	0.0005 0.005		
DIOXIN			
2,3,7,8-TCDD	0.00001		
VOLATILE COMPOUNDS			
Acrolein	50	1,3-Dichloropropylene	10
Acrylonitrile	20	Ethylbenzene	10
Benzene	10	Methyl Bromide	50
Bromoform	10	Methylene Chloride	20
Carbon Tetrachloride	2	1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10	Tetrachloroethylene	10
Clorodibromomethane	10	Toluene	10
Chloroform	50	1,2-trans-Dichloroethylene	10
Dichlorobromomethane	10	1,1,2-Trichloroethane	10
1,2-Dichloroethane	10	Trichloroethylene	10
1,1-Dichloroethylene	10	Vinyl Chloride	10
1,2-Dichloropropane	10		
ACID COMPOUNDS			
2-Chlorophenol	10	2,4-Dinitrophenol	50
2,4-Dichlorophenol	10	Pentachlorophenol	5
2,4-Dimethylphenol	10	Phenol	10
4,6-Dinitro-o-Cresol	50	2,4,6-Trichlorophenol	10

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
		BASE/NEUTRAL	
Acenaphthene	10	Dimethyl Phthalate	10
Anthracene	10	Di-n-Butyl Phthalate	10
Benzidine	50	2,4-Dinitrotoluene	10
Benzo(a)anthracene	5	1,2-Diphenylhydrazine	20
Benzo(a)pyrene	5	Fluoranthene	10
3,4-Benzofluoranthene	10	Fluorene	10
Benzo(k)fluoranthene	5	Hexachlorobenzene	5
Bis(2-chloroethyl)Ether	10	Hexachlorobutadiene	10
Bis(2-chloroisopropyl)Ether	10	Hexachlorocyclopentadiene	10
Bis(2-ethylhexyl)Phthalate	10	Hexachloroethane	20
Butyl Benzyl Phthalate	10	Indeno(1,2,3-cd)Pyrene	5
2-Chloronapthalene	10	Isophorone	10
Chrysene	5	Nitrobenzene	10
Dibenzo(a,h)anthracene	5	n-Nitrosodimethylamine	50
1,2-Dichlorobenzene	10	n-Nitrosodi-n-Propylamine	20
1,3-Dichlorobenzene	10	n-Nitrosodiphenylamine	20
1,4-Dichlorobenzene	10	Pyrene	10
3,3'-Dichlorobenzidine	5	1,2,4-Trichlorobenzene	10
Diethyl Phthalate	10		
		PESTICIDES AND PCBS	
Aldrin	0.01	Beta-Endosulfan	0.02
Alpha-BHC	0.05	Endosulfan sulfate	0.02
Beta-BHC	0.05	Endrin	0.02
Gamma-BHC	0.05	Endrin Aldehyde	0.1
Chlordane	0.2	Heptachlor	0.01
4,4'-DDT and derivatives	0.02	Heptachlor Epoxide	0.01
Dieldrin	0.02	PCBs **	0.2
Alpha-Endosulfan	0.01	Toxaphene	0.3

(MQL's Revised November 1, 2007)

(*) Default MQL for Mercury is 0.005 unless Part I of your permit requires the more sensitive Method 1631 (Oxidation / Purge and Trap / Cold vapor Atomic Fluorescence Spectrometry), then the MQL shall be 0.0005.

(**) EPA Method 1668 should be utilized when PCB water column monitoring is conducted to determine compliance with permit requirements. Either the Arochlor test (EPA Method 8082) or USGS test method (8093) may be utilized for purposes of sediment sampling as part of a screening program, but must use EPA Method 1668 (latest revision) for confirmation and determination of specific PCB levels at that location.

Appendix G – Oxygen Saturation and Dissolved Oxygen Concentrations North Diversion Channel Area

Concentrations of dissolved oxygen in water at various atmospheric pressures and temperatures with 100 percent oxygen saturation, 54.3 percent oxygen saturation (associated with hypoxia and harassment of silvery minnows), and 8.7 percent oxygen saturation (associated with anoxia and lethality of silvery minnows) at the North Diversion Channel (NDC) (based on USGS DO website <http://water.usgs.gov/software/DOTABLES/> for pressures between 628 to 648 millimeters of mercury (Hg)). Source: Biological Consultation Cons. #22420-2011-F-0024-R001

Water temp.	100% Oxygen Saturation at NDC			54.3% saturation = Harassmen			8.7% saturation= 50%Lethality		
(°C)	628mmHg	638mmHg	648mmHg	628mmHg	638mmHg	648mmHg	628mmHg	638mmHg	648mmHg
0	12.1	12.3	12.5	66	6.7	6.8	1.1	1.1	1.1
1	11.7	11.9	12.1	64	6.5	6.6	1.0	1.0	1.1
2	11.4	11.6	11.8	6.2	6.3	8.4	1.0	1.0	1.0
3	11.1	11.3	11.5	6.0	6.1	6.2	1.0	1.0	1.0
4	10.8	11	11.2	5.9	6.0	6.1	0.9	1.0	1.0
5	10.5	10.7	10.9	5.7	5.8	5.9	0.9	0.9	0.9
6	10.3	10.4	10.6	5.6	5.8	5.0	0.9	0.9	0.9
7	10	10.2	10.3	5.4	5.5	5.6	0.9	09	0.9
8	9.8	9.9	10.1	5.3	5.4	5.5	0.9	0.9	0.9
8	9.5	9.7	9.6	52	53	5.3	08	0.8	09
11	93	9.5	96	50	5.2	5.2	0.0	0.8	0.8
11	9.1	9.2	9.4	4.9	5.0	5.1	0.8	0.8	08
12	8.9	9	9.2	4.8	4.9	5.0	0.8	0.8	08
13	8.7	8.8	9	4.7	4.8	4.9	0.8	0.8	0.8
14	8.5	8.6	8.8	4.8	4.7	4.8	0.7	0.7	0.0
15	8.3	8.4	8.8	4.5	4.6	4.7	0.7	0.7	0.7
16	0.1	83	0.4	4.4	4.5	4.6	07	0.7	0.7
17	8	8.1	8.2	4.3	4.4	4.5	0.7	0.7	0.7
16	7.8	7.9	8	4.2	43	43	07	0.7	0.7
19	76	7.8	7.9	4.1	4.2	4.3	0.7	07	0.7
20	7.5	76	7.7	4.1	4.1	42	07	07	0.7
21	7.3	7.4	7.6	4.0	4.0	4.1	0.6	0.6	0.7
22	7.2	7.3	7.4	3.9	4.0	4.0	0.6	0.6	0.6
23	7	72	7.3	3.8	3.9	4.0	0.6	0.6	0.6
24	6.9	7	7.1	3.7	3.8	3.9	0.6	0.6	0.6
25	6.8	6.9	7	3.7	3.7	3.6	0.6	0.6	0.6
26	6.7	68	6.9	3.6	3.7	3.7	0.6	0.6	06
27	6.5	8.6	8.8	3.5	3.6	3.7	06	0.6	0.8
26	6.4	8.5	8.6	3.5	3.5	3.6	0.6	0.8	08
29	6.3	8.4	6.5	3.4	3.5	3.5	0.5	06	0.8
20	82	83	64	3.4	3.4	3.5	0.5	0.5	0.8
31	6.1	6.2	6.3	3.3	3.4	3.4	0.5	0.5	0S
32	6	6.1	6.2	3.3	3.3	34	0.5	0.5	0.5
33	5.0	6	6.1	3.2	3.3	3.3	0.5	0.5	0.5
34	5.8	5.9	6	3.1	3.2	3.3	0.5	0.5	0.5
	5.7	5.6	5.9	31	3.1	3.2	0.5	0.5	0.5

ATTACHMENT G-3

United States Environmental Protection Agency (EPA)
National Pollutant Discharge Elimination System (NPDES)

GENERAL PERMITS FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS IN MASSACHUSETTS

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act (CWA), as amended (33 U.S.C. §1251 *et seq.*), and the Massachusetts Clean Waters Act, as amended (M.G.L. Chap.21 §§ 26-53), any operator of a small municipal separate storm sewer system whose system:

- Is located in the areas described in part 1.1;
- Is eligible for coverage under part 1.2 and part 1.9; and
- Submits a complete and accurate Notice of Intent in accordance with part 1.7 of this permit and EPA issues a written authorization

is authorized to discharge in accordance with the conditions and the requirements set forth herein.

The following appendices are also included as part of these permits:
Appendix A – Definitions, Abbreviations, and Acronyms;
Appendix B – Standard permit conditions applicable to all authorized discharges;
Appendix C – Endangered Species Act Eligibility Guidance;
Appendix D – National Historic Preservation Act Eligibility Guidance;
Appendix E – Information required for the Notice of Intent (NOI);
Appendix F – Requirements for MA Small MS4s Subject to Approved TMDLs;
Appendix G – Impaired Waters Monitoring Parameter Requirements;
Appendix H – Requirements related to discharges to certain water quality limited waterbodies;

These permits become effective on **July 1, 2017**.

These permits and the authorization to discharge expire at midnight, **June 30, 2022**.

Signed this 4th day of April 2016

Ken Moraff, Director
Office of Ecosystem Protection
United States Environmental Protection Agency
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

Signed this 4th day of April 2016

Douglas E. Fine
Assistant Commissioner for Water Resources
Department of Environmental Protection
One Winter Street
Boston, Massachusetts 02108

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1.0. Introduction

This document consists of three (3) general permits listed in part 1.1. Each general permit is applicable to a particular type of municipal system within Massachusetts. Many of the permit terms and conditions are applicable across all regulated entities, and therefore are presented just once in parts 1-2, part 4, and Appendices A through E. Other conditions are applicable to a particular set of authorized entities; these terms and conditions are included in parts 3, and 5 and Appendices F through H. Throughout the permit, the terms "this permit" or "the permit" will refer to the three general permits.

1.1. Areas of Coverage

This permit covers small municipal separate storm sewer systems (MS4s) located in the Commonwealth of Massachusetts:

- Traditional Cities and Towns (NPDES Permit No. MAR041000)
- State, federal, county and other publicly owned properties (Non-traditional) (MAR042000)
- State transportation agencies (except for MassDOT- Highway Division) (MAR043000)

1.2. Eligibility

The MS4 shall meet the eligibility provisions described in part 1.2.1 and part 1.9 to be eligible for authorization under this permit.

1.2.1. Small MS4s Covered

This permit authorizes the discharge of stormwater from small MS4s as defined at 40 CFR § 122.26(b) (16). This includes MS4s described in 40 CFR §122.32(a) (1) and (a) (2). An MS4 is eligible for coverage under this permit if it is:

- A small MS4 within the Commonwealth of Massachusetts;
- Not a large or medium MS4 as defined in 40 CFR §§122.26(b)(4) or (7);
- Located either fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census as of the effective date of this permit (the 2010 Census); or
- Located in a geographic area designated by EPA as requiring a permit.

If the small MS4 is not located entirely within an urbanized area, only the portion of the MS4 that is located within the urbanized area is regulated under 40 CFR §122.32(a) (1).

A small municipal separate storm sewer system means all separate storm sewers that are:

- Owned or operated by the United States, a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.
- Not defined as large or medium municipal separate storm sewer systems pursuant to 40 CFR § 122.26(b) (4) and (b) (7) or designated under 40 CFR § 122.26(a) (1) (v).
- This term includes systems similar to separate storm sewer systems in municipalities such as systems at military bases, large hospitals or prison complexes, and highways

and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

1.3. Limitations on Coverage

This permit does not authorize the following:

a. Stormwater discharges mixed with sources of non-stormwater unless such non-stormwater discharges are:
   - Authorized under a separate NPDES permit; or
   - A non-stormwater discharge as listed in part 1.4.

b. Stormwater discharges associated with industrial activity as defined in 40 CFR §122.26 (b) (14) (i)-(ix) and (xi).

c. Stormwater discharges associated with construction activity as defined in 40 CFR §122.26(b) (14) (x) or (b) (15).

d. Stormwater discharges currently authorized under another NPDES permit, including discharges covered under other regionally issued general permits.

e. Stormwater discharges or discharge related activities that are likely to adversely affect any species that are listed as endangered or threatened under the Endangered Species Act (ESA) or result in the adverse modification or destruction of habitat that is designated as critical under the ESA. The permittee shall follow the procedures detailed in Appendix C to make a determination regarding eligibility. The permittee shall certify compliance with this provision on the submitted NOI.

f. Stormwater discharges whose direct or indirect impacts do not prevent or minimize adverse effects on any Essential Fish Habitat.

g. Stormwater discharges, or implementation of a stormwater management program, which adversely affects properties listed or eligible to be listed on the National Register of Historic Places. The permittee shall follow the procedures detailed in Appendix D to make a determination regarding eligibility. The permittee shall certify compliance with this provision on the submitted NOI.

h. Stormwater discharges prohibited under 40 CFR § 122.4.

i. Stormwater discharges to the subsurface subject to state Underground Injection Control (UIC) regulations. Although the permit includes provisions related to infiltration and groundwater recharge, structural controls that dispose of stormwater into the ground may be subject to UIC regulation requirements. Authorization for such discharges shall be obtained from Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Drinking Water Program, Underground Injection Control, One Winter Street, Boston, MA 02108 – phone 617-292-5859.

j. Any non-traditional MS4 facility that is a "new discharger" as defined in part 5.1.4. and discharges to a waterbody listed in category 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) due to nutrients (Total Nitrogen or (Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enteroccus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease), or discharges to a waterbody with an approved TMDL for any of those pollutants.

1.4. Non-Stormwater Discharges

The following categories of non-stormwater discharges are allowed under this permit *unless* the permittee, EPA, or the MassDEP identifies any category or individual discharge of non-stormwater discharge in part 1.4.a-r as a significant contributor of pollutants to the MS4, then that category or individual discharge is not allowed under part 1.4, but rather shall be deemed an "illicit discharge" under part 2.3.4.1, and the permittee shall address that category or individual discharge as part of the Illicit Discharge Detection and Elimination (IDDE) Program described in part 2.3.4 of this permit.

a. Water line flushing
b. Landscape irrigation
c. Diverted stream flows
d. Rising ground water
e. Uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20))
f. Uncontaminated pumped ground water
g. Discharge from potable water sources
h. Foundation drains
i. Air conditioning condensation
j. Irrigation water, springs
k. Water from crawl space pumps
l. Footing drains
m. Lawn watering
n. Individual resident car washing
o. Flows from riparian habitats and wetlands
p. De-chlorinated swimming pool discharges
q. Street wash waters
r. Residential building wash waters without detergents

Discharges or flows from firefighting activities are allowed under this permit need only be addressed where they are identified as significant sources of pollutants to waters of the United States.

1.5. Permit Compliance

Non-compliance with any of the requirements of this permit constitutes a violation of the permit and the CWA and may be grounds for an enforcement action and may result in the imposition of injunctive relief and/or penalties.

1.6. Continuation of this Permit

If this permit is not reissued prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedure Act and remain in force and effect for discharges that were authorized prior to expiration. If a small MS4 was granted permit authorization prior to the expiration date of this permit, it will automatically remain authorized by this permit until the earliest of:

- Authorization under a reissued general permit following timely and appropriate submittal of a complete and accurate NOI requesting authorization to discharge under the reissued permit; or
- Issuance or denial of an individual permit for the MS4's discharges; or
- Authorization or denial under an alternative general permit.

If the MS4 operator does not submit a timely, appropriate, complete, and accurate NOI requesting authorization to discharge under the reissued permit or a timely request for authorization under an individual or alternative general permit, authorization under this permit will terminate on the due date for the NOI under the reissued permit unless otherwise specified in the reissued permit.

1.7. Obtaining Authorization to Discharge

1.7.1. How to Obtain Authorization to Discharge

To obtain authorization under this permit, a small MS4 shall:

- Be located in the areas listed in part 1.1 of this permit;
- Meet the eligibility requirements in part 1.2 and part 1.9;
- Submit a complete and accurate Notice of Intent (NOI) in accordance with the requirements of part 1.7.2; and
- EPA issues a written authorization.

1.7.2. Notice of Intent

a. Operators of Small MS4s seeking authorization to discharge under the terms and conditions of this permit shall submit a Notice of Intent that contains the information identified in Appendix E. This includes operators of small MS4s that were previously authorized under the May 1, 2003 small MS4 general permit (MS4-2003 permit).

b. The NOI shall be signed by an appropriate official (see Appendix B, Subparagraph B.11, Standard Conditions).

c. The NOI shall contain the following certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print the name and title of the official, followed by signature and date.

d. The NOI shall be submitted within 90 days of the effective date of the permit. If EPA notifies an MS4 that it is designated under 40 CFR § 122.32(a) (2) or (b), the NOI shall be submitted within 180 days of receipt of notice unless granted a longer period of time by EPA.

1.7.3. Submission of Notice of Intent

a. All small MS4s shall submit a complete and accurate Notice of Intent (suggested form in Appendix E) to EPA-Region 1 at the following address:

United States Environmental Protection Agency
Stormwater and Construction Permits Section (OEP06-1)
Five Post Office Square, Suite 100
Boston, MA 02109

Or submitted electronically to EPA at the following email address: stormwater.reports@epa.gov

b. All small MS4s shall also submit a copy of the NOI to the MassDEP at the following address:

Massachusetts Department of Environmental Protection
One Winter Street -5th Floor
Boston, Massachusetts 02108
ATTN: Frederick Civian, Stormwater Coordinator

c. Late notification: A small MS4 is not prohibited from submitting a NOI after the dates provided in part 1.7.2.d. However, if a late NOI is submitted, authorization is only for discharges that occur after permit authorization is granted. EPA and MassDEP reserve the right to take enforcement actions for any unpermitted discharges. All NOIs submitted after December 21, 2020 must be submitted electronically.

1.7.4. Public Notice of NOI and Effective Date of Coverage

a. EPA will provide a public notice and opportunity for comment on the contents of the submitted NOIs. The public comment period will be a minimum of 30 calendar days.

b. Based on a review of a small MS4's NOI or other information, EPA may grant authorization, extend the public comment period, or deny authorization under this permit and require submission of an application for an individual or alternative NPDES permit. (See part 1.8) A small MS4 will be authorized to discharge under the terms and conditions of this permit upon receipt of notice of authorization from EPA.

c. Permittees whose authorization to discharge under the MS4-2003 permit, which expired on May 1, 2008, has been administratively continued in accordance with the Administrative Procedure Act (5 U.S.C. § 558(c) and 40 CFR § 122.6, who wish to obtain coverage under this permit, must submit a new NOI requesting permit coverage in accordance with the requirements of part 1.7 of this permit to EPA within 90 days after the effective date of this permit. Permittees whose authorization to discharge under the expired MS4-2003 permit was administratively continued, who fail to submit a timely, complete and accurate NOI or an application for an individual NPDES permit within 90 after the effective date of this permit will be considered to be discharging without a permit (see 40 CFR § 122.28(b)(3)(iii)).

1.8. Individual Permits and Alternative General Permits

a. EPA may require a small MS4 to apply for and obtain authorization under either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition EPA in accordance with the provisions of 40 CFR § 122.26(f) to require a small MS4 to apply for and/or obtain authorization under either an individual NPDES permit or an alternative NPDES general permit. If EPA requires a small MS4 to apply for an individual or alternative NPDES permit, EPA will notify the small MS4 in writing that a permit application is required. This notification will include a brief statement of the reasons for this decision and will provide application information and an application deadline. If a small MS4 is authorized under the MS4-2003 permit or this permit and fails to submit an individual NPDES or an alternative general permit NPDES permit application as required by EPA, then the authorization under the MS4-2003 permit or this permit to the small MS4 is automatically terminated at the end of the date specified by EPA as the deadline

for application submittal. EPA reserves the right to take enforcement action for any unpermitted discharge.

b. A small MS4 may request to be excluded from this general permit by applying for an individual permit or authorization under an alternative general permit. In such a case, a small MS4 shall submit an individual permit application in accordance with the requirements of 40 CFR § 122.33(b) (2) (i) or § 122.33(b) (2) (ii), with reasons supporting the request, to EPA at the address listed in part 1.7.3 of this permit. The request may be granted by issuance of an individual permit or authorization under an alternative general permit if EPA determines that the reasons stated by the small MS4 are adequate to support the request. (See 40 CFR § 122.28(b) (3)).

c. When an individual NPDES permit is issued, or a small MS4 is authorized to discharge under an alternative NPDES general permit, authorization under this permit automatically terminates on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit.

1.9. Special Eligibility Determinations

1.9.1. Documentation Regarding Endangered Species

The small MS4 shall certify eligibility regarding endangered species in the NOI required by part 1.7.2. The Stormwater Management Program (SWMP) shall include documentation supporting the permittee's eligibility determination with regard to federal Endangered and Threatened Species and Critical Habitat Protection, including:

- Results of the Appendix C U.S. Fish and Wildlife Service endangered species screening determination; and
- If applicable, a description of the measures the small MS4 shall implement to protect federally listed endangered or threatened species, or critical habitat, including any conditions imposed by the U.S. Fish and Wildlife Service. If a permittee fails to document and implement such measures, the permittee's discharges are ineligible for coverage under this permit.

1.9.2. Documentation Regarding Historic Properties

The small MS4 shall certify eligibility regarding historic properties on the NOI required by part 1.7.2. The SWMP shall include documentation supporting the small MS4's eligibility determination with regard to Historic Properties Preservation, including:

- Information on whether the permittee's stormwater discharges, allowable non-stormwater discharges, or stormwater discharge-related activities would have an effect on a property that is listed or eligible for listing on the National Register of Historic Properties (NRHP);
- Where such effects may occur, any documents received by the permittee or any written agreements the permittee has made with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other Tribal representative to mitigate those effects;
- Results of the Appendix D historic property screening investigations; and
- If applicable, a description of the measures the permittee shall implement to avoid or minimize adverse impacts on places listed, or eligible for listing, on the NRHP, including any conditions imposed by the SHPO or THPO. If the permittee fails to

document and implement such measures, those discharges are ineligible for coverage under this permit.

1.10. Stormwater Management Program (SWMP)

a. The permittee shall develop and implement a written (hardcopy or electronic) SWMP. The SWMP shall be signed in accordance with Appendix B, Subsection 11, including the date of signature. A signature and date is required for initial program preparation and for any significant revision to the program, which shall be in writing. The written SWMP shall be completed within one (1) year of the effective date of the permit.

The SWMP is the document used by the permittee to describe and detail the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP shall accurately describe the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term.

b. Permittees authorized by the MS4-2003 permit shall modify or update their existing Best Management Practices (BMPs) and measurable goals to meet the terms and conditions of part 2.3 of this permit within one (1) year of the effective date of the permit. These modifications and updates shall be reflected in the written (hardcopy or electronic) SWMP. Permittees authorized by the MS4-2003 permit shall continue to implement their existing SWMP until the program has been updated.

1.10.1. Stormwater Management Program Availability

a. The permittee shall retain a copy of the current SWMP required by this permit at the office or facility of the person listed as the program contact on the submitted Notice of Intent (NOI). The SWMP shall be immediately available to representatives from EPA, MassDEP, U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) at the time of an onsite inspection or upon request.

b. The permittee shall make the SWMP available to the public during normal business hours. The permittee shall also post the SWMP online[1] if the permittee has a website on which to post the SWMP.

1.10.2. Contents and Timelines of the Stormwater Management Program for 2003 permittees

The following information must be included in the SWMP within one (1) year of the permit effective date and updated annually thereafter, as necessary:

- Identification of names and titles of people responsible for program implementation. If a position is currently unfilled, list the title of the position and modify the SWMP with the name once the position is filled;
- Documentation of compliance with part 1.9.1;

[1] Should a permittee not wish to post mapping information included in the SWMP (see part 1.10.2) on their website for public safety reasons, they must state the reason either with or within the online SWMP and provide how the MS4 mapping information can be obtained. The permittee must retain the entire SWMP, including all completed mapping, at a location where it can be made available to the public during normal business hours.

- Documentation of compliance with part 1.9.2;
- Documentation of authorization of all new or increased discharges granted by MassDEP in compliance with part 2.1.2; part
- Listing of all discharges identified pursuant to part 2.1.1 and description of response;
- Description of practices to achieve compliance with part 2.3 (MEP requirements) identified in the permittee's NOI and any updates to those BMPs within the first year;
  For each permit condition in part 2.3 identify:
  - The person(s) or department responsible for the measure;
  - The BMPs for the control measure or permit requirement;
  - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal shall have a measure of assessment associated with it;
- Sanitary Sewer Overflow (SSO) inventory including all of the information required in part 2.3.4.4.b;
- Written IDDE Program pursuant to part 2.3.4.6;
- Written procedures for site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5;
- Description of measures to avoid or minimize impacts to surface public drinking water supply sources. The permittee is also encouraged to include provisions to notify public water supplies in the event of an emergency. Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Drinking Water Program, One Winter Street, Boston, MA 02108 – phone 617.292.5770.
- Description of activities to achieve compliance with part 3.0;
- Annual program evaluation (part 4.1). Update annually and maintain copies.

The following information must be included in the SWMP within two (2) years of the permit effective date and updated annually thereafter, as necessary:

- Listing of all receiving waterbody segments, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and number of outfalls from the MS4 that discharge to each waterbody. In addition to the receiving water, the permittee shall document in the SWMP all surface public drinking water sources that may be impacted by MS4 discharges;
- Listing of all interconnected MS4s and other separate storm sewer systems receiving a discharge from the permitted MS4, the receiving waterbody segment(s) ultimately receiving the discharge, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and the number of interconnections;
- Written procedures to require submission of as-built drawings and ensure long term operation and maintenance in accordance with part 2.3.6.a.iii;
- The map of the separate storm sewer system required by part 2.3.4.5.

The following information must be included in the SWMP within four (4) years of the permit effective date and updated annually thereafter, as necessary:

- Report(s) assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover.

The following information must be included in the SWMP concurrent with the applicable deadlines in Appendix F and H and updated annually thereafter, as necessary:

- Description of practices to achieve compliance with part 2.2.1 (TMDL requirements) including:
  - The person(s) or department responsible for the measure;
  - The BMPs for the control measure or permit requirement;
  - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment.
- Description of practices to achieve compliance with part 2.2.2 (discharges to certain water quality limited waters subject to additional requirements) including:
  - The person(s) or department responsible for the measure;
  - The BMPs for the control measure or permit requirement;
  - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment;

Description of any other practices to achieve compliance with part 2.1 (water quality based requirements);1.10.3. Contents and Timelines of the Stormwater Management Program for New Permittees

a. Permittees seeking authorization for the first time shall meet all deadlines contained in this permit except the following:

- Timelines for public education requirements in part 2.3.2.c shall be extended by one (1) year and need to include one (1) message to each audience over the permit term;
- The ordinances, by-laws, or other regulatory mechanisms required by parts 2.3.4, 2.3.5 and 2.3.6 shall be completed as soon as possible, but no later than three (3) years from the permit effective date; and
- All other deadlines in part 2.3.4 shall be extended by three (3) years.
- partAll other deadlines in part 2.3.5, 2.3.6 and 2.3.7 shall be extended by two (2) years.
- partpartpartAll deadlines for discharges to water quality limited waters without a TMDL under part 2.2.2 shall be extended by two (2) years.

b. Contents of the Stormwater Management Program for New Permittees

The following information must be included in the SWMP within one (1) year of the permit effective date and updated annually thereafter, as necessary:

- Identification of names and titles of people responsible for program implementation. If a position is currently unfilled, list the title of the position and modify the SWMP with the name once the position is filled;
- Documentation of compliance with part 1.9.1;
- Documentation of compliance with part 1.9.2;
- Documentation of authorization of all new or increased discharges granted by MassDEP in compliance with part 2.1.2;
- Listing of all discharges identified pursuant to part 2.1.1 and description of response;
- Description of practices to achieve compliance with part 2.3 (MEP requirements)

identified in the permittee's NOI and any updates to those BMPs within the first year;

For each permit condition in part 2.3 identify:

- The person(s) or department responsible for the measure;
- The BMPs for the control measure or permit requirement;
- The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal shall have a measure of assessment associated with it;

- Description of measures to avoid or minimize impacts to surface public drinking water supply sources. The permittee is also encouraged to include provisi9ons to notify public water supplies in the event of an emergency. Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Drinking Water Program, One Winter Street, Boston, MA 02108 – phone 617.292.5770. Description of activities to achieve compliance with part 3.0;
- Annual program evaluation (part 4.1). Update annually and maintain copies.

The following information must be included in the SWMP within three (3) years of the permit effective date and updated annually thereafter, as necessary:

- Written procedures for site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5;
- Written operation and maintenance procedures for municipal activities in part 2.3.7.a.ii;
- Written program detailing the activities and procedures the permittee will implement so that the MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4 in accordance with part 2.3.7.a.iii.1;
- Written procedures to require submission of as-built drawings and ensure long term operation and maintenance in accordance with part 2.3.6.a.iii;

The following information must be included in the SWMP within four (4) years of the permit effective date and updated annually thereafter, as necessary:

- Outfall and interconnection inventory;
- Sanitary Sewer Overflow (SSO) inventory including all of the information required in part 2.3.4.4.b;
- Written IDDE Program pursuant to part 2.3.4.6.

The following information must be included in the SWMP within four (5) years of the permit effective date and updated annually thereafter, as necessary:

- Phase 1 of the map of the separate storm sewer system required by part 2.3.4.5;
- Listing of all receiving waterbody segments, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and number of outfalls from the MS4 that discharge to each waterbody. In addition to the receiving water, the permittee shall document in the SWMP all surface public drinking water sources that may be impacted by MS4 discharges;
- Listing of all interconnected MS4s and other separate storm sewer systems receiving a discharge from the permitted MS4, the receiving waterbody segment(s) ultimately receiving the discharge, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs

and WLAs, and the number of interconnections;

The following information must be included in the SWMP within four (4) years of the permit effective date and updated annually thereafter, as necessary:

- Report(s) assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover.

The following information must be included in the SWMP concurrent with the applicable deadlines in Appendix F and H (extended by two (2) years) and updated annually thereafter, as necessary:

- Description of practices to achieve compliance with part 2.2.1 (discharges subject to requirements related to approved TMDLs)including:
  - The person(s) or department responsible for the measure;
  - The BMPs for the control measure or permit requirement;
  - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment.
- Description of practices to achieve compliance with part 2.2.2 (discharges to certain water quality limited waters subject to additional requirements) including:
  - The person(s) or department responsible for the measure;
  - The BMPs for the control measure or permit requirement;
  - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment;
- Description of any other practices to achieve compliance with part 2.1 (water quality based requirements).

2.0. Non-Numeric Effluent Limitations

The permittee shall develop, implement, and enforce a program to reduce the discharge of pollutants from the MS4 to the maximum extent practicable; to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act and the Massachusetts Water Quality Standards.

2.1. Water Quality Based Effluent Limitations

Pursuant to Clean Water Act 402(p)(3)(B)(iii), this permit includes provisions to ensure that discharges from the permittee's small MS4 do not cause or contribute to an exceedance of water quality standards, in addition to requirements to reduce the discharge of pollutants to the maximum extent practicable. The requirements found in this part and part 2.2 constitute appropriate water quality based effluent limits of this permit. Requirements to reduce the discharge of pollutants to the maximum extent practicable are set forth in part 2.3.

2.1.1. Requirement to Meet Water Quality Standards

a. The permittee shall reduce the discharge of pollutants such that the discharges from the MS4 do not cause or contribute to an exceedance of water quality standards.

b. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is subject to an approved TMDL identified in part 2.2.1, the permittee is subject to the requirements of part 2.2.1 and Appendix F of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix F. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix F applicable to it will constitute compliance with part 2.1.1.a. of the Permit.

c. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is water quality limited (see definition in Appendix A) due to nutrients (Total Nitrogen or Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enterococcus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease) and is not subject to an approved TMDL, or the MS4 is located within a municipality listed in part 2.2.2.a.-b., the permittee is subject to the requirements of part 2.2.2 and Appendix H of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix H. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix H applicable to it will constitute compliance with part 2.1.1.a. of the Permit.

d. Except where a pollutant of concern in a discharge is subject to the requirements of part 2.2.1 and/or part 2.2.2 of this permit or is the result of an illicit discharge and subject to part 2.3.4 of this Permit, if a pollutant in a discharge from the MS4 is causing or contributing to a violation of applicable water quality criteria[2] for the receiving water, the permittee shall, as expeditiously as possible, but no later than 60 days of becoming aware of the situation, reduce or eliminate the pollutant in its discharge such that the discharge meets applicable water quality criteria.

2.1.2. Increased Discharges

a. Any increased discharge, including increased pollutant loading(s) through the MS4 to waters of the United States is subject to Massachusetts antidegradation regulations at 314 CMR 4.04. The permittee shall comply with the provisions of 314 CMR 4.04 including information submittal requirements and obtaining authorization for increased discharges where appropriate[3]. Any authorization of an increased discharge by MassDEP shall be incorporated into the permittee's SWMP. If an applicable MassDEP approval specifies additional conditions or requirements, then those requirements are incorporated into this permit by reference. The permittee must comply with all such requirements.

b. There shall be no increased discharges, including increased pollutant loading(s) from the MS4 to impaired waters listed in categories 5 or 4b on the most recent Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) unless the permittee demonstrates that there is no net increase in loading from the MS4 to the impaired water of the pollutant(s) for which the waterbody is impaired. The permittee may demonstrate compliance with this provision by *either:*

[2] Applicable water quality criteria are part of the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at http://www.epa.gov/waterscience/standards/wqslibrary/

[3] Contact MassDEP for guidance on compliance with 314 CMR 4.04

i. Documenting that the pollutant(s) for which the waterbody is impaired is not present in the MS4's discharge and retaining documentation of this finding with the SWMP; or

ii. Documenting that the total load of the pollutant(s) of concern from the MS4 to any impaired portion of the receiving water will not increase as a result of the activity and retaining documentation of this finding in the SWMP. Unless otherwise determined by the Permittee, USEPA or by MassDEP that additional demonstration is necessary, compliance with the requirements of part 2.2.2 and part 2.3.6 of this Permit, including all reporting and documentation requirements, shall be considered as demonstrating no net increase as required by this part.

c. The requirements of this part are independent of permit conditions requiring reduction in discharges of pollutants as set forth in parts 2.1.1 and 2.2 (water quality based requirements) and 2.3 (requirements to reduce discharge of pollutants to the maximum extent practicable). Permittees remain subject to requirements to reduce the discharge of pollutants from the MS4 as set forth in those parts.

2.2. Discharges to Certain Impaired Waters

The permittee shall identify in the SWMP and Annual Reports all MS4 discharges, including both outfalls and interconnections to other MS4s or other separate storm sewer systems, that:

- Are subject to Total Maximum Daily Load (TMDL) related requirements as identified in part 2.2.1.
- Are subject to additional requirements to protect water quality as identified in part 2.2.2.

The discharge location from an interconnection shall be determined based on the receiving water of the outfall from the interconnected system.

2.2.1. Discharges Subject to Requirements Related to an Approved TMDL

a. "Approved TMDLs" are those that have been approved by EPA as of the date of issuance of this permit.

b. The MS4s specified below discharge to waters within Massachusetts that are subject to TMDLs, or in some cases, to tributaries of such waters, and shall comply with the requirements of Appendix F, part A. Appendix F identifies, by section, the provisions the permittee shall implement to be consistent with the terms of the approved TMDL. Alternatively, EPA may notify the permittee that an individual permit application is necessary in accordance with part 1.8.a.

i. The following is a list of municipalities in the Charles River Watershed:

1.

Arlington	Mendon
Ashland	Milford
Bellingham	Millis
Belmont	Natick
Brookline	Needham

Cambridge	Newton
Dedham	Norfolk
Dover	Sherborn
Foxborough	Walpole
Franklin	Waltham
Holliston	Watertown
Hopedale	Wayland
Hopkinton	Wellesley
Lexington	Weston
Lincoln	Westwood
Medfield	Wrentham
Medway	

Permittees that operate regulated MS4s located in municipalities listed above that discharge to the Charles River or its Tributaries shall meet the requirements of Appendix F, part A.I with respect to the reduction of phosphorus discharges from their MS4.

ii. The following is a list of municipalities that contain a lake or pond subject to an approved lake or pond phosphorus TMDL in the Northern Blackstone Basin, Chicopee Basin, Connecticut Basin, French Basin, Millers Basin or in the watershed of Bare Hill Pond, Flint Pond, Indian Lake, Lake Boon, Lake Quinsigamond, Leesville Pond, Salisbury Pond, Quaboag Pond or Quacumquasit Pond.

1.

Auburn	Millbury
Charlton	Oxford
Dudley	Shrewsbury
Gardner	Spencer
Grafton	Springfield
Granby	Stow
Hadley	Templeton
Harvard	Westminster
Hudson	Winchendon
Leicester	Wilbraham
Ludlow	

Permittees that operate regulated MS4s in the above municipalities that discharge to waterbodies listed on Table F-6 in Appendix F or their tributaries, and any other MS4 that discharges to waterbodies listed on Table F-6 in Appendix F or their tributaries,

shall meet the requirements of Appendix F, part A.II with respect to reduction of phosphorus discharges from their MS4.

iii. The following is a list of municipalities that contain waters subject to an approved TMDL for bacteria or pathogens.

1.

Abington	Marshfield
Acushnet	Mashpee
Andover	Mattapoisett
Avon	Medfield
Barnstable	Medway
Bedford	Melrose
Bellingham	Mendon
Belmont	Milford
Berkley	Millis
Beverly	Milton
Billerica	Nahant
Bourne	Natick
Brewster	Needham
Bridgewater	New Bedford
Brockton	Newton
Brookline	Norfolk
Burlington	North Andover
Cambridge	Norton
Canton	Norwell
Chatham	Norwood
Cohasset	Orleans
Concord	Peabody
Danvers	Pembroke
Dartmouth	Plymouth
Dedham	Raynham
Dennis	Rehoboth
Dighton	Revere
Dover	Rockland
Duxbury	Rockport
East Bridgewater	Salem
Eastham	Sandwich
Essex	Saugus
Everett	Scituate
Fairhaven	Seekonk
Fall River	Sharon

Falmouth	Sherborn
Foxborough	Somerset
Franklin	Stoughton
Freetown	Swampscott
Gloucester	Swansea
Hanover	Taunton
Hanson	Tewksbury
Harwich	Wakefield
Holliston	Walpole
Hopedale	Waltham
Hopkinton	Wareham
Ipswich	Watertown
Kingston	Wellesley
Lawrence	Wellfleet
Lexington	West Bridgewater
Lincoln	Weston
Lynn	Westport
Lynnfield	Westwood
Malden	Whitman
Manchester	Wilmington
Mansfield	Winthrop
Marblehead	Yarmouth
Marion	

The operators of MS4s located in municipalities listed above that discharge to a waterbody segment listed on Table F-8 in Appendix F and any other MS4 that discharges directly to a waterbody segment listed on Table F-8 in Appendix F shall meet the requirements of Appendix F, part A.III with respect to reduction of bacteria/pathogens discharges from their MS4.

iv. The following is a list of municipalities located on Cape Cod that contain waters subject to an approved TMDL for nitrogen (Total Nitrogen).

1.

Bourne
Barnstable
Chatham
Falmouth
Harwich
Mashpee
Orleans
Yarmouth

Permittees that operate regulated MS4s located in the municipalities above that discharge to waterbodies found on Table F-9 in Appendix F or their tributaries and any other MS4 that discharges to waterbodies found on Table F-9 in Appendix F or their tributaries shall meet the requirements of Appendix F, part A.IV with respect to reduction of nitrogen discharges from their MS4.

v. The following is a list of municipalities located in the Assabet River Watershed:

1.

Acton	Hudson
Berlin	Littleton
Bolton	Marlborough
Boxborough	Maynard
Boylston	Northborough
Ca rlisle	Shrewsbury
Clinton	Stow
Concord	Westborough
Grafton	Westford
Harvard	

Permittees that operate regulated MS4s located in the municipalities above that discharge to the Assabet River or its tributaries shall meet the requirements of Appendix F part A.V with respect to reduction of phosphorus discharges from their MS4.

c. The MS4s specified below discharge to waters, or tributaries of waters, that have been identified in an adjacent state's approved TMDL as being impaired due, in part, to MS4 stormwater discharges in Massachusetts, and shall comply with the requirements of Appendix F, part B. Appendix F identifies, by section, the provisions the permittee shall implement to be consistent with the reasonable assumptions related to Massachusetts MS4 discharges. Alternatively, EPA may notify the permittee that an individual permit application is necessary in accordance with part 1.8.a.

i. The following is a list of municipalities in Massachusetts located in the watershed of Long Island Sound, which has an approved TMDL for nitrogen (Total Nitrogen).

1.

Adams	North Adams
Agawam	Northampton
Amherst	Oxford
Ashburnham	Palmer
Ashby	Paxton
Auburn	Pelham
Belchertown	Pittsfield
Charlton	Richmond
Cheshire	Russell

Chicopee	Rutland
Dalton	South Hadley
Douglas	Southampton
Dudley	Southbridge
East Longmeadow	Southwick
Easthampton	Spencer
Gardner	Springfield
Granby	Sturbridge
Hadley	Sutton
Hampden	Templeton
Hatfield	Ware
Hinsdale	Webster
Holyoke	West Springfield
Lanesborough	Westfield
Leicester	Westhampton
Lenox	Westminster
Longmeadow	Wilbraham
Ludlow	Williamsburg
Millbury	Winchendon
Monson	

Permittees that operate regulated MS4s located in the municipalities above that discharge to a water within the Connecticut River Watershed, the Housatonic River Watershed, or the Thames River Watershed shall meet the requirements of Appendix F part B. I with respect to nitrogen discharges from their MS4.

ii. The following is a list of municipalities in Massachusetts identified in a TMDL as containing MS4s contributing phosphorus to waterbody segments that have out of state approved TMDLs for phosphorus:

1.

Attleboro
North Attleborough
Plainville
Rehoboth
Seekonk
Swansea

Permittees that operate regulated MS4s located in the municipalities above that discharge to a waterbody found on Table F-12 in Appendix F or its tributaries shall meet the requirements of Appendix F part B. II with respect to phosphorus discharges from their MS4.

iii. The following is a list of municipalities in Massachusetts identified in a TMDL as containing MS4s contributing bacteria/pathogens to waterbody segments that have out of state approved TMDLs for bacteria/pathogens:

1.

Attleboro
North Attleborough
Plainville
Rehoboth
Seekonk

Permittees that operate regulated MS4s located in the municipalities above that discharge to a waterbody found on Table F-13 in Appendix F or its tributaries shall meet the requirements of Appendix F part B. III with respect to bacteria/pathogens discharges from their MS4.

iv. The following is a list of municipalities in Massachusetts identified in a TMDL as containing MS4s contributing metals (cadmium, lead, aluminum iron) to waterbody segments that have out of state approved TMDLs for metals (cadmium, lead, aluminum, iron):

1.

Attleboro
North Attleborough
Plainville
Seekonk

Permittees that operate regulated MS4s located in the municipalities above that discharge to a waterbody found on Table F-14 in Appendix F or its tributaries shall meet the requirements of Appendix F part B. IV with respect to metals discharges from their MS4.

2.2.2. Discharges to Certain Water Quality Limited Waters Subject to Additional Requirements

For purposes of this permit, a 'water quality limited water body' is any water body that does not meet applicable water quality standards, including but not limited to waters listed in categories 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b).

If there is a discharge from the MS4 to a water quality limited waterbody where pollutants typically found in stormwater (specifically nutrients (Total Nitrogen or Total Phosphorus), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enteroccus or Fecal Coliform), chloride (Chloride), metals (Cadmium, Copper, Iron, Lead or Zinc) and oil and grease (Petroleum Hydrocarbons or Oil and Grease)) are the cause of the impairment and there is not an approved TMDL, or the MS4 is located in a town listed in part 2.2.2.a.-b, the permittee shall comply with the provisions in Appendix H applicable to it.

In the absence of a defined pollutant reduction target and where no approved TMDL has been established, this permit part and Appendix H define an iterative approach addressing pollutant reductions to waterbodies where the permittee's discharge is causing or contributing to an excursion above water quality standards due to nutrients (Total Nitrogen Total Phosphorus), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enteroccus or Fecal Coliform), chloride (Chloride), metals

(Cadmium, Copper, Iron, Lead or Zinc) or oil and grease (Petroleum Hydrocarbons or Oil and Grease).

a. Discharges to water quality limited waterbodies where nitrogen (Total Nitrogen) is the cause of the impairment, or their tributaries

i. The requirements of this part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to nitrogen (Total Nitrogen), or their tributaries.

Abington	Mattapoisett
Acushnet	Middleborough
Attleboro	New Bedford
Avon	Norton
Barnstable	Peabody
Berkley	Pembroke
Bourne	Plainville
Bridgewater	Plymouth
Brockton	Plympton
Carver	Raynham
Dartmouth	Rehoboth
Dighton	Rochester
East Bridgewater	Salem
Easton	Seekonk
Fairhaven	Sharon
Fall River	Somerset
Foxborough	Stoughton
Freetown	Swansea
Halifax	Taunton
Hanson	Wakefield
Holbrook	Wareham
Kingston	West Bridgewater
Lakeville	Westport
Lynnfield	Whitman
Mansfield	Wrentham
Marion	Yarmouth

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to nitrogen (Total Nitrogen), or a tributary of such water.

ii. Permittees subject to part 2.2.2.a.i above shall meet the requirements of Appendix H part I with respect to the control of nitrogen discharges from their MS4;

iii. During development of their Notice of Intent, the permittee may determine that all discharges from the regulated area through their MS4 are outside of a watershed that contains a nitrogen (Total Nitrogen) impairment in a downstream segment. The permittee shall retain all documentation used in this determination as part of their NOI and are relieved from the requirements of part 2.2.2.a.i and Appendix H part I.

b. Discharges to water quality limited waterbodies where phosphorus ("Total Phosphorus") is the cause of the impairment, or their tributaries

i. The requirements of this part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to phosphorus (Total Phosphorus), or their tributaries.

Abington	Lynn
Acushnet	Lynnfield
Andover	Malden
Arlington	Mansfield
Ashburnham	Marlborough
Ashland	Mashpee
Auburn	Medfield
Avon	Medford
Ayer	Melrose
Barnstable	Mendon
Bedford	Methuen
Belchertown	Millbury
Belmont	Millville
Billerica	Milton
Blackstone	North Andover
Bolton	Northbridge
Brewster	Norton
Bridgewater	Norwood
Brockton	Oxford
Burlington	Peabody
Cambridge	Pembroke
Canton	Pepperell
Carlisle	Pittsfield

Carver	Quincy
Chelmsford	Randolph
Chelsea	Reading
Clinton	Revere
Concord	Rockland
Dalton	Salem
Dedham	Scituate
Douglas	Seekonk
Dover	Sharon
Dracut	Shirley
Dunstable	Shrewsbury
East Bridgewater	Somerville
Eastham	Southampton
Easthampton	Spencer
Everett	Springfield
Falmouth	Stoneham
Fitchburg	Stoughton
Foxborough	Sudbury
Framingham	Sutton
Gloucester	Taunton
Grafton	Tewksbury
Granby	Townsend
Groton	Tyngsborough
Halifax	Upton
Hanover	Uxbridge
Hanson	Wakefield
Harvard	Walpole
Haverhill	Wareham
Hinsdale	Watertown
Hopkinton	Wayland
Hudson	West Bridgewater
Lancaster	Westfield
Lawrence	Westminster
Leicester	Westwood
Lenox	Whitman
Leominster	Wilmington
Lexington	Winchendon
Littleton	Winchester
Lowell	Winthrop

Lunenburg	Woburn
Lynn	

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to phosphorus ("Total Phosphorus"), or to a tributary of such water.

ii. The permittees subject to part 2.2.2.b.i. above shall meet all requirements of Appendix H part II with respect to the control of phosphorus discharges from the MS4.

iii. During development of their Notice of Intent, the permittee may determine that all discharges from the regulated area through their MS4 are outside of a watershed that contains a phosphorus ("Total Phosphorus") impairment in a downstream segment. The permittee shall retain all documentation used in this determination as part of their NOI and are relieved from the requirements of part 2.2.2.b.i and Appendix H part II.

c. Discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment

i. The requirements of this part are applicable to:

1. Any MS4 discharge identified by the permittee on their Notice of Intent as discharging directly to an impaired waterbody on the most recent EPA approved Massachusetts 303(d) list where bacteria or pathogens (E. Coli, Enteroccus or Fecal Coliform) is the cause of the impairment.
2. Any other MS4 that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to bacteria or pathogens.

ii. The permittees subject to part 2.2.2.c.i. shall meet all requirements of Appendix H part III with respect to reduction of bacteria or pathogens discharges from the MS4.

d. Discharges to water quality limited waterbodies where chloride (Chloride) is the cause of the impairment

i. The requirements of this part are applicable to:

1. Any MS4 discharge identified by the permittee on their Notice of Intent as discharging directly to an impaired waterbody on the most recent EPA approved Massachusetts 303(d) list where chloride (Chloride) is the cause of the impairment.
2. Any other MS4 that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to chloride (Chloride).

ii. The permittees subject to part 2.2.2.d.i. shall meet all requirements of Appendix H part IV with respect to reduction of chloride discharges from the MS4.

e. Discharges to water quality limited waterbodies where oil and grease (Petroleum Hydrocarbons or Oil and Grease), solids (TSS or Turbidity) or metals (Cadmium, Copper, Iron, Lead or Zinc) is the cause of the impairment

i. The requirements of this part are applicable to:

1. Any MS4 discharge identified by the permittee on their Notice of Intent as discharging directly to an impaired waterbody on the most recent EPA approved Massachusetts 303(d) list where oil and grease, solids or metals (Oil and Grease, Petroleum Hydrocarbons TSS, Turbidity, Cadmium, Copper, Iron, Lead or Zinc) is the cause of the impairment.
2. Any other MS4 that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to oil and grease (Petroleum Hydrocarbons or Oil and Grease), solids (TSS or Turbidity) or metals (Cadmium, Copper, Iron, Lead or Zinc).

ii. The permittees subject to part 2.2.2.d.i. shall meet all requirements of Appendix H part V with respect to reduction of solids, oil and grease or metals discharges from the MS4.

2.3. Requirements to Reduce Pollutants to the Maximum Extent Practicable (MEP)

The permittee shall reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) as detailed in parts 2.3.2 through 2.3.7.

2.3.1. Control Measures

a. Permittees authorized under the MS4-2003 permit shall continue to implement their existing SWMPs while updating their SWMPs pursuant to this permit. This permit does not extend the compliance deadlines set forth in the MS4-2003 permit.

b. Implementation of one or more of the minimum control measures described in parts 2.3.2- 2.3.7 or other permit requirements may be shared with another entity (including another interconnected MS4) or the other entity may fully implement the measure or requirement, if the following requirements are satisfied:

- The other entity, in fact, implements the control measure.
- The particular control measure or component thereof undertaken by the other entity is at least as stringent as the corresponding permit requirement.
- The other entity agrees to implement the control measure on the permittee's behalf. The annual reports must specify that the permittee is relying on another entity to satisfy some of its permit obligations and specify what those obligations are.
- If the permittee is relying on another governmental entity regulated under 40 CFR §122 to satisfy all of its permit obligations, including the obligation to file annual reports, the permittee shall note that fact in its NOI, but is not required to file annual reports.
- The permittee remains responsible for compliance with all permit obligations if the other entity fails to implement the control measures (or component thereof). The permittee may enter into a legally binding agreement with the other entity regarding the other entity's performance of control measures, but the permittee remains ultimately responsible for permit compliance.

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2.3.2. Public Education and Outreach

Objective: The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public

education program is to increase knowledge and change behavior of the public so that pollutants in stormwater are reduced.

a. The permittee shall continue to implement the public education program required by the MS4-2003 permit by distributing educational material to the MS4 community. The educational program shall define educational goals, express specific messages, define the targeted audience for each message, and identify responsible parties for program implementation. If appropriate for the target audience, materials may be developed in a language other than English. At a minimum, the program shall provide information concerning the impact of stormwater discharges on water bodies within the community, especially those waters that are impaired or identified as priority waters. The program shall identify steps and/or activities that the public can take to reduce the pollutants in stormwater runoff and their impacts to the environment.

b. The educational program shall include education and outreach efforts for the following four audiences: (1) residents, (2) businesses, institutions (churches, hospitals), and commercial facilities, (3) developers (construction), and (4) industrial facilities, unless one of these audiences is not present in the MS4 community. In such a situation, the MS4 must document in both the NOI and SWMP which audience is absent from the community and no educational messages are required to that audience.

c. The permittee shall distribute a minimum of two (2) educational messages over the permit term to each audience identified in part 2.3.2.b. The distribution of materials to each audience shall be spaced at least a year apart. Educational messages may be printed materials such as brochures or newsletters; electronic materials such as websites; mass media such as newspaper articles or public service announcement (radio or cable); targeted workshops on stormwater management, or displays in a public area such as town/city hall. The permittee may use existing materials if they are appropriate for the message the permittee chooses to deliver or the permittee may develop its own educational materials. The permittee may partner with other MS4s, community groups or watershed associations to implement the education program to meet this permit requirement.

Some EPA educational materials are available at: http://cfpub.epa.gov/npstbx/index.html.

d. The permittee shall, at a minimum, consider the topics listed in part 2.3.2.d.i. – iv when developing the outreach/education program. The topics are not exclusive and the permittee shall focus on those topics most relevant to the community.

i. Residential program: effects of outdoor activities such as lawn care (use of pesticides, herbicides, and fertilizers and information on Massachusetts Regulation 331 CMR 31 pertaining to proper use of phosphorus containing fertilizers on turf grasses) on water quality; benefits of appropriate on-site infiltration of stormwater; effects of automotive work and car washing on water quality; proper disposal of swimming pool water; proper management of pet waste; maintenance of septic systems. If the small MS4 area has areas serviced by septic systems, the permittee shall consider information pertaining to maintenance of septic systems as part of its education program.

ii. Business/Commercial/Institution program: proper lawn maintenance (use of pesticides, herbicides and fertilizer, and information on Massachusetts Regulation 331 CMR 31 pertaining to proper use of phosphorus containing fertilizers on turf grasses); benefits of appropriate on-site infiltration of stormwater; building maintenance (use of detergents); use of salt or other de-icing and anti-icing materials (minimize their use); proper storage

of salt or other de-icing/anti-icing materials (cover/prevent runoff to storm system and contamination to ground water); proper storage of materials (emphasize pollution prevention); proper management of waste materials and dumpsters (cover and pollution prevention); proper management of parking lot surfaces (sweeping); proper car care activities (washing of vehicles and maintenance); and proper disposal of swimming pool water by entities such as motels, hotels, and health and country clubs (discharges must be dechlorinated and otherwise free from pollutants).

iii. Developers and Construction: proper sediment and erosion control management practices; information about Low Impact Development (LID) principles and technologies; and information about EPA's construction general permit (CGP). This education can also be a part of the Construction Site Stormwater Runoff Control measure detailed in part 2.3.5.

iv. Industrial program: equipment inspection and maintenance; proper storage of industrial materials (emphasize pollution prevention); proper management and disposal of wastes; proper management of dumpsters; minimization of use of salt or other de-icing/anti-icing materials; proper storage of salt or other de-icing/anti-icing materials (cover/prevent runoff to storm system and ground water contamination); benefits of appropriate on-site infiltration of stormwater runoff from areas with low exposure to industrial materials such as roofs or employee parking; proper maintenance of parking lot surfaces (sweeping); and requirements for coverage under EPA's Multi-Sector General Permit.

e. The program shall show evidence of focused messages for specific audiences as well as evidence that progress toward the defined educational goals of the program has been achieved. The permittee shall identify methods that it will use to evaluate the effectiveness of the educational messages and the overall education program. Any methods used to evaluate the effectiveness of the program shall be tied to the defined goals of the program and the overall objective of changes in behavior and knowledge.

f. The permittee shall modify any ineffective messages or distribution techniques for an audience prior to the next scheduled message delivery.

g. The permittee shall document in each annual report the messages for each audience; the method of distribution; the measures/methods used to assess the effectiveness of the messages, and the method/measures used to assess the overall effectiveness of the education program.

2.3.3. Public Involvement and participation

Objective: The permittee shall provide opportunities to engage the public to participate in the review and implementation of the permittee's SWMP.

a. All public involvement activities shall comply with state public notice requirements (MGL Chapter 30A, Sections 18 – 25 – effective 7/10/2010). The SWMP and all annual reports shall be available to the public.

b. The permittee shall annually provide the public an opportunity to participate in the review and implementation of the SWMP.

c. The permittee shall report on the activities undertaken to provide public participation opportunities including compliance with part 2.3.3.a. Public participation opportunities pursuant to part 2.3.3.b may include, but are not limited to, websites; hotlines; clean-up teams; monitoring teams; or an advisory committee.

2.3.4. Illicit Discharge Detection and Elimination (IDDE) Program

Objective: The permittee shall implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges.

a. Legal Authority - The IDDE program shall include adequate legal authority to:: prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance, by-law, or other regulatory mechanism. For permittees authorized by the MS4-2003 permit, the ordinance, by-law, or other regulatory mechanism was a requirement of the MS4-2003 permit and was required to be effective by May 1, 2008. For new permittees the ordinance, by-law, or other regulatory mechanism shall be in place within 3 years of the permit effective date.
b. During the development of the new components of the IDDE program required by this permit, permittees authorized by the MS4-2003 permit must continue to implement their existing IDDE program required by the MS4-2003 permit to detect and eliminate illicit discharges to their MS4.

2.3.4.1. Definitions and Prohibitions

The permittee shall prohibit illicit discharges and sanitary sewer overflows (SSOs) to its MS4 and require removal of such discharges consistent with parts 2.3.4.2 and 2.3.4.4 of this permit.

An SSO is a discharge of untreated sanitary wastewater from a municipal sanitary sewer.

An illicit discharge is any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

2.3.4.2. Elimination of Illicit Discharges

a. Upon detection of an illicit discharge, the permittee shall locate, identify and eliminate the illicit discharge as expeditiously as possible. Upon identification of the illicit source the MS4 notify all responsible parties for any such discharge and require immediate cessation of improper disposal practices in accordance with its legal authorities. Where elimination of an illicit discharge within 60 days of its identification as an illicit discharge is not possible, the permittee shall establish an expeditious schedule for its elimination and report the dates of identification and schedules for removal in the permittee's annual reports. The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all illicit discharges. In the interim, the permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to and from its MS4.

b. The period between identification and elimination of an illicit discharge is not a grace period. Discharges from an MS4 that are mixed with an illicit discharge are not authorized by this Permit (part 1.3.a) and remain unlawful until eliminated.

2.3.4.3. Non-Stormwater Discharges

The permittee may presume that the sources of non-stormwater listed in part 1.4 of this permit need not be addressed. However, if the permittee identifies any of these sources as significant contributors of pollutants to the MS4, then the permittee shall implement measures to control these sources so they are no longer significant contributors of pollutants, and/or eliminate them entirely, consistent with part 2.3.4.

2.3.4.4. Sanitary Sewer Overflows

a. Upon detection of an SSO the permittee shall eliminate it as expeditiously as possible and take interim mitigation measures to minimize the discharge of pollutants to and from its MS4 until elimination is completed.

b. The permittee shall identify all known locations where SSOs have discharged to the MS4 within the previous five (5) years. This shall include SSOs resulting, during dry or wet weather, from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for communication of flow between the systems. Within one (1) year of the effective date of the permit, the permittee shall develop an inventory of all identified SSOs indicating the following information, if available:

1. Location (approximate street crossing/address and receiving water, if any);
2. A clear statement of whether the discharge entered a surface water directly or entered the MS4;
3. Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge);
4. Estimated volume(s) of the occurrence;
5. Description of the occurrence indicating known or suspected cause(s);
6. Mitigation and corrective measures completed with dates implemented; and
7. Mitigation and corrective measures planned with implementation schedules.

The permittee shall maintain the inventory as a part of the SWMP and update the inventory annually, all updates shall include the information in part 2.3.4.4.b.1-7.

c. In accordance with Paragraph B.12 of Appendix B of this permit, upon becoming aware of an SSO to the MS4, the permittee shall provide oral notice to EPA within 24 hours. Additionally, the permittee shall provide written notice to EPA and MassDEP within five (5) days of becoming aware of the SSO occurrence and shall include the information in the updated inventory. The notice shall contain all of the information listed in part 2.3.4.4.b. Where common notification requirements for SSOs are included in multiple NPDES permits issued to a permittee, a single notification may be made to EPA as directed in the permittee's wastewater or CSO NPDES permit and constitutes compliance with this part.

d. The permittee shall include and update the SSO inventory in its annual report, including the status of mitigation and corrective measures implemented by the permittee to address each SSO identified pursuant to this part.

e. The period between detection and elimination of a discharge from the SSO to the MS4 is not a grace period. Discharges from an MS4 that are mixed with an SSO are not authorized by this Permit (part 1.3.a) and remain unlawful until eliminated.

2.3.4.5. System mapping

The permittee shall develop a revised and more detailed map than was required by the MS4-2003 permit. This revised map of the MS4 shall be completed in two phases as outlined below. The mapping shall include a depiction of the permittee's separate storm sewer system in the permit area. The mapping is intended to facilitate the identification of key infrastructure and factors influencing proper system operation, and the potential for illicit sanitary sewer discharges.

a. Phase I: The system map shall be updated within two (2) years of the permit effective date to include the following information:

- Outfalls and receiving waters (required by MS4-2003 permit)
- Open channel conveyances (swales, ditches, etc.)
- Interconnections with other MS4s and other storm sewer systems
- Municipally-owned stormwater treatment structures (e.g., detention and retention basins, infiltration systems , bioretention areas, water quality swales, gross particle separators, oil/water separators, or other proprietary systems)
- Waterbodies identified by name and indication of all use impairments as identified on the most recent EPA approved Massachusetts Integrated List of waters report pursuant to Clean Water Act section 303(d) and 305(b)
- Initial catchment delineations. Any available system data and topographic information may be used to produce initial catchment delineations. For the purpose of this permit, a catchment is the area that drains to an individual outfall or interconnection.

b. Phase II: The system map shall be updated annually as the following information becomes available during implementation of catchment investigation procedures in part 2.3.4.8. This information must be included in the map for all outfalls within ten (10) years of the permit effective date:
- Outfall spatial location (latitude and longitude with a minimum accuracy of +/-30 feet)
- Pipes
- Manholes
- Catch basins
- Refined catchment delineations. Catchment delineations shall be updated to reflect information collected during catchment investigations
- Municipal sanitary sewer system (if available)
- Municipal combined sewer system (if applicable).

c. Recommended elements to be included in the system map as information becomes available:
- Storm sewer material, size (pipe diameter) and age
- Sanitary sewer system material, size (pipe diameter) and age
- Privately-owned stormwater treatment structures
- Where a municipal sanitary sewer system exists, properties known or suspected to be served by a septic system, especially in high-density urban areas
- Area where the permittee's MS4 has received or could receive flow from septic system discharges (e.g., areas with poor soils, or high ground water elevations unsuitable for conventional subsurface disposal systems)
- Seasonal high water table elevations impacting sanitary alignments
- Topography
- Orthophotography

- Alignments, dates and representation of work completed (with legend) of past illicit discharge investigations (e.g., flow isolation, dye testing, CCTV)
- Locations of suspected, confirmed and corrected illicit discharges (with dates and flow estimates).

d. The mapping may be produced by hand or through computer-aided methods (e.g. GIS). The required scale and detail of the map shall be appropriate to facilitate a rapid understanding of the system by the permittee, EPA and the state. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDE program and demonstration of the extent of complete and planned investigations and corrections. The permittee shall update the mapping as necessary to reflect newly discovered information and required corrections or modifications.

e. The permittee shall report on the progress towards the completion of the system map in each annual report.

2.3.4.6. Written Illicit Discharge Detection and Elimination Program

The IDDE program shall be recorded in a written (hardcopy or electronic) document. The IDDE program shall include each of the elements described in parts 2.3.4.7 and part 2.3.4.8, unless the permittee provides a written explanation within the IDDE program as to why a particular element is not applicable to the permittee.

Notwithstanding the permittee's explanation, EPA may at any time determine that a particular element is in fact applicable to the permittee and require the permittee to add it to the IDDE program. The written (hardcopy or electronic) IDDE program shall be completed within one (1) year of the effective date of the permit and updated in accordance with the milestones of this part. The permittee shall implement the IDDE program in accordance with the goals and milestones contained in this part.

a. The written (hardcopy or electronic) IDDE program shall include a reference or citation of the authority the permittee will use to implement all aspects of the IDDE program.
b. Statement of IDDE Program Responsibilities - The permittee shall establish a written (hardcopy or electronic) statement that clearly identifies responsibilities with regard to eliminating illicit discharges. The statement shall identify the lead municipal agency(ies) or department(s) responsible for implementing the IDDE Program as well as any other agencies or departments that may have responsibilities for aspects of the program (e.g., board of health responsibilities for overseeing septic system construction; sanitary sewer system staff; inspectional services for enforcing plumbing codes; town counsel responsibilities in enforcement actions, etc.). Where multiple departments and agencies have responsibilities with respect to the IDDE program specific areas of responsibility shall be defined and processes for coordination and data sharing shall be established and documented.

c. Program Procedures – The permittee shall include in the written IDDE program all written procedures developed in accordance with the requirements and timelines in parts 2.3.4.7 and 2.3.4.8 below. At a minimum this shall include the written procedures for dry weather outfall screening and sampling and for catchment investigations.

2.3.4.7. Assessment and Priority Ranking of Outfalls/Interconnections

The permittee shall assess and priority rank the outfalls in terms of their potential to have illicit discharges and SSOs and the related public health significance. This ranking will determine the priority order for

screening of outfalls and interconnections pursuant to part 2.3.4.7.b, catchment investigations for evidence of illicit discharges and SSOs pursuant to part 2.3.4.8, and provides the basis for determining permit milestones of this part.

a. Outfall/Interconnection Inventory and Initial Ranking:
An initial outfall and interconnection inventory and priority ranking to assess illicit discharge potential based on existing information shall be completed within one (1) year from the effective date of the permit; an updated inventory and ranking will be provided in each annual report thereafter. The inventory shall be updated annually to include data collected in connection with the dry weather screening and other relevant inspections conducted by the permittee.

i. The outfall and interconnection inventory will identify each outfall and interconnection discharging from the MS4, record its location and condition, and provide a framework for tracking inspections, screenings and other activities under the permittee's IDDE program.

- An outfall means a point source as defined by 40 CFR § 122.2 as the point where the municipal separate storm sewer discharges to waters of the United States. An outfall does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels or other conveyances that connect segments of the same stream or other waters of the United States and that are used to convey waters of the United States. (40 CFR § 122.26(b)(9)). However, it is strongly recommended that a permittee inspect all accessible portions of the system as part of this process. Culverts longer than a simple road crossing shall be included in the inventory unless the permittee can confirm that they are free of any connections and simply convey waters of the United States.
- An interconnection means the point (excluding sheet flow over impervious surfaces) where the permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is conveyed to waters of the United States or to another storm sewer system and eventually to a water of the United States.

ii. The permittee shall classify each of the permittee's outfalls and interconnections into one of the following categories:
- Problem Outfalls: outfalls/interconnections with known or suspected contributions of illicit discharges based on existing information shall be designated as Problem Outfalls. This shall include any outfalls/interconnections where previous screening indicates likely sewer input.[4] Problem Outfalls need not be screened pursuant to part 2.3.4.7.b.
- High Priority Outfalls: Outfalls/interconnections that have not been classified as Problem Outfalls and that are:
  - discharging to an area of concern to public health due to proximity of public beaches, recreational areas, drinking water supplies or shellfish beds;
  - determined by the permittee as high priority based on the characteristics listed below or other available information;
- Low Priority Outfalls: Outfalls/interconnections determined by the permittee as low priority based on the characteristics listed below or other available information.

[4] Likely sewer input indicators are any of the following:
- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammoni a ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine.

- Excluded outfalls: outfalls/interconnections with no potential for illicit discharges may be excluded from the IDDE program. This category is limited to roadway drainage in undeveloped areas with no dwellings and no sanitary sewers; drainage for athletic fields, parks or undeveloped green space and associated parking without services; cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land.

iii. The permittee shall priority rank outfalls into the categories above (except for excluded outfalls), based on the following characteristics of the defined initial catchment area where information is available:

- Past discharge complaints and reports.
- Poor receiving water quality- the following guidelines are recommended to identify waters as having a high illicit discharge potential: exceeding water quality standards for bacteria; ammonia levels above 0.5 mg/l; surfactants levels greater than or equal to 0.25 mg/l.
- Density of generating sites- Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. Examples of these sites include, but are not limited to, car dealers; car washes; gas stations; garden centers; and industrial manufacturing areas.
- Age of development and infrastructure – Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old will probably have a high illicit discharge potential. Developments 20 years or younger will probably have a low illicit discharge potential.
- Sewer conversion – contributing catchment areas that were once serviced by septic systems, but have been converted to sewer connections may have a high illicit discharge potential.
- Historic combined sewer systems – contributing areas that were once serviced by a combined sewer system, but have been separated may have a high illicit discharge potential.
- Surrounding density of aging septic systems – Septic systems thirty years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential.
- Culverted streams – any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.
- Water quality limited waterbodies that receive a discharge from the MS4 or waters with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the water quality impairment.
- The permittee may also consider additional relevant characteristics, including location-specific characteristics; if so, the permittee shall include the additional characteristics in its written (hardcopy or electronic) IDDE program.

b. Dry Weather Outfall and Interconnection Screening and Sampling

All outfalls/interconnections (excluding Problem and excluded Outfalls) shall be inspected for the presence of dry weather flow within three (3) years of the permit effective date. The permittee shall screen all High and Low Priority Outfalls in accordance with their initial ranking developed at part 2.3.4.7.a.

i. Written procedure: The permittee shall develop an outfall and interconnection screening and sampling procedure to be included in the IDDE program within one (1) year of the permit effective date. This procedure shall include the following procedures for:

- sample collection,
- use of field kits,

- storage and conveyance of samples (including relevant hold times), and
- field data collection and storage.

An example screening and sampling protocol (*EPA New England Bacterial Source Tracking Protocol*) can be found on EPA's website.

ii. Weather conditions: Dry weather screening and sampling shall proceed only when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period and no significant snow melt is occurring.

iii. Screening requirements: For each outfall/interconnection:

1. The permittee shall record all of the following information and include it in the outfall/interconnection inventory and priority ranking:
    - unique identifier,
    - receiving water,
    - date of most recent inspection,
    - dimensions,
    - shape,
    - material (concrete, PVC),
    - spatial location (latitude and longitude with a minimum accuracy of +/-30 feet,
    - physical condition,
    - indicators of potential non-stormwater discharges (including presence or evidence of suspect flow and sensory observations such as odor, color, turbidity, floatables, or oil sheen).
2. If an outfall/interconnection is inaccessible or submerged, the permittee shall proceed to the first accessible upstream manhole or structure for the observation and sampling and report the location with the screening results.
3. If no flow is observed, but evidence of illicit flow exists, the permittee shall revisit the outfall during dry weather within one week of the initial observation, if practicable, to perform a second dry weather screening and sample any observed flow (proceed as in iv. below).
4. Where dry weather flow is found at an outfall/interconnection, at least one (1) sample shall be collected, and:
    a) Samples shall be analyzed at a minimum for:
        - ammonia,
        - chlorine,
        - conductivity,
        - salinity,
        - *E. coli* (freshwater receiving water) or enterococcus (saline or brackish receiving water),
        - surfactants (such as MBAS),
        - temperature, and
        - pollutants of concern[5]
    b) All analyses with the exception of indicator bacteria and pollutants of concern can be performed with field test kits or field instrumentation and are not subject to 40

[5] Where the discharge is directly into a water quality limited water or a water subject to an approved TMDL as indicated in Appendix F; the sample shall be analyzed for the pollutant(s) of concern identified as the cause of the impairment as specified in Appendix G

CFR part 136 requirements. Sampling for bacteria and pollutants of concern shall be conducted using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. Sampling for ammonia and surfactants must use sufficiently sensitive methods to detect those parameters at or below the threshold indicator concentrations of 0.5 mg/L for ammonia and 0.25 mg/L for surfactants. Sampling for residual chlorine must use a method with a detection limit of 0.02 mg/L or 20 ug/L.

iv. The permittee may rely on screening conducted under the MS4-2003 permit, pursuant to an EPA enforcement action, or by the state or EPA to the extent that it meets the requirements of part 2.3.4.7.b.iii.4. All data shall be reported in each annual report. Permittees that have conducted substantially equivalent monitoring to that required by part 2.3.4.7.b as part of an EPA enforcement action can request an exemption from the requirements of part 2.3.4.7.b by submitting a written request to EPA and retaining exemption approval from EPA as part of the SWMP. Until the permittee receives formal written approval of the exemption from part 2.3.4.7.b from EPA the permittee remains subject to all requirements of part 2.3.4.7.b.

v. The permittee shall submit all screening data used in compliance with this part in its Annual Report.

c. Follow-up ranking of outfalls and interconnections:

i. The permittee's outfall and interconnection ranking (2.3.4.7.a) shall be updated to reprioritize outfalls and interconnections based on information gathered during dry weather screening (part 2.3.4.7.b).

ii. Outfalls/interconnections where relevant information was found indicating sewer input to the MS4 or sampling results indicating sewer input[6] shall be considered highly likely to contain illicit discharges from sanitary sources, and such outfalls/interconnections shall be ranked at the top of the High Priority Outfalls category for investigation. At this time, permittees may choose to rank other outfalls and interconnections based on any new information from the dry weather screening.

iii. The ranking can be updated continuously as dry weather screening information becomes available, but shall be completed within three (3) years of the effective date of the permit.

2.3.4.8. Catchment Investigations

The permittee shall develop a systematic procedure to investigate each catchment associated with an outfall or interconnection within their MS4 system.

a. Timelines:

- A written catchment investigation procedure shall be developed within 18 months of the permit effective date in accordance with the requirements of part 2.3.4.8.b below.
- Investigations of catchments associated with Problem Outfalls shall begin no later than two (2)

[6] Likely sewer input indicators are any of the following:

- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine.

years from the permit effective date.

- Investigations of catchments associated with High and Low Priority Outfalls shall follow the ranking of outfalls updated in part 2.3.4.7.c.
- Investigations of catchments associated with Problem Outfalls shall be completed with seven (7) years of the permit effective date
- Investigations of catchments where any information gathered on the outfall/interconnection identifies sewer input[7] shall be completed within seven (7) years of the permit effective date.
- Investigations of catchments associated with all Problem, High- and Low-Priority Outfalls shall be completed within ten (10) years of the permit effective date.

*For the purposes of these milestones, an individual catchment investigation will be considered complete if all relevant procedures in part 2.3.4.8.c. and 2.3.4.8.d. below have been completed.

b. A written catchment investigation procedure shall be developed that:

i. **Identifies maps, historic plans and records, and other sources of data**, including but not limited to plans related to the construction of the storm drain and of sanitary sewers, prior work performed on the storm drains or sanitary sewers, board of health or other municipal data on septic system failures or required upgrades, and complaint records related to SSOs, sanitary sewer surcharges, and septic system breakouts. These data sources will be used in identifying system vulnerability factors within each catchment.

ii. **Includes a manhole inspection methodology** that shall describe a storm drain network investigation that involves systematically and progressively observing, sampling (as required below) and evaluating key junction manholes (see definition in Appendix A) in the MS4 to determine the approximate location of suspected illicit discharges or SSOs. The manhole inspection methodology may either start from the outfall and work up the system or start from the upper parts of the catchment and work down the system or be a combination of both practices. Either method must, at a minimum, include an investigation of each key junction manhole within the MS4, even where no evidence of an illicit discharge is observed at the outfall. The manhole inspection methodology must describe the method the permittee will use. The manhole inspection methodology shall include procedures for dry and wet weather investigations.

iii. **Establishes procedures to isolate and confirm sources of illicit discharges** where manhole investigations or other physical evidence or screening has identified that MS4 alignments are influenced by illicit discharges or SSOs. These shall include isolation of the drainage area for implementation of more detailed investigations, inspection of additional manholes along the alignment to refine the location of potential contaminant sources, and methods such as sandbagging key junction manhole inlets, targeted internal plumbing inspections, dye testing, video inspections, or smoke testing to isolate and confirm the sources.

c. Requirements for each catchment investigation associated with an outfall/interconnection:

i. For each catchment being investigated, the permittee shall review relevant mapping and historic plans and records gathered in accordance with Part 2.3.4.8.b.i. This review shall be used to identify

[7] Likely sewer input indicators are any of the following:

- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine.

areas within the catchment with higher potential for illicit connections. The permittee shall identify and record the presence of any of the following specific **System Vulnerability Factors (SVFs)**:

- History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages;
- Common or twin-invert manholes serving storm and sanitary sewer alignments;
- Common trench construction serving both storm and sanitary sewer alignments;
- Crossings of storm and sanitary sewer alignments where the sanitary system is shallower than the storm drain system;
- Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
- Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints;
- Areas formerly served by combined sewer systems;
- Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.

EPA recommends the permittee include the following in their consideration of System Vulnerability Factors:

- Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs;
- Any sanitary sewer and storm drain infrastructure greater than 40 years old;
- Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance);
- History of multiple Board of Health actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance);

The permittee shall document the presence or absence of System Vulnerability Factors for each catchment, retain this documentation as part of its IDDE program, and report this information in Annual Reports. Catchments with a minimum of one (1) System Vulnerability Factor are subject to wet weather sampling requirements of part 2.3.4.8.c.ii.2.

ii. For each catchment, the permittee must inspect key junction manholes and gather catchment information on the locations of MS4 pipes, manholes, and the extent of the contributing catchment.

1. <u>For all catchments</u>
   a) Infrastructure information shall be incorporated into the permittee's mapping required at part 2.3.4.5; the permittee will refine their catchment delineation based on the field investigation where appropriate.
   b) The SVF inventory for the catchment will be updated based on information obtained during the inspection, including common (twin invert) manholes, directly piped connections between storm drains and sanitary sewer infrastructure, common weir walls, sanitary sewer underdrain connections and other structural vulnerabilities where sanitary discharges could enter the storm drain system during wet weather.
      1) **Where a minimum of one (1) SVF is identified based on previous information**

or the investigation, a wet weather investigation must be conducted at the associated outfall (see below).

c) During dry weather, key junction manholes[8] shall be opened and inspected systematically for visual and olfactory evidence of illicit connections (e.g., excrement, toilet paper, gray filamentous bacterial growth, or sanitary products present).
   1) If flow is observed, the permittee shall sample the flow at a minimum for ammonia, chlorine and surfactants and can use field kits for these analyses.
   2) Where sampling results or visual or olfactory evidence indicate potential illicit discharges or SSOs, the area draining to the junction manhole shall be flagged for further upstream investigation.

d) Key junction and subsequent manhole investigations will proceed until the location of suspected illicit discharges or SSOs can be isolated to a pipe segment between two manholes. If no evidence of an illicit discharge is found, catchment investigations will be considered complete upon completion of key junction manhole sampling.

2. <u>For all catchments with a minimum of one (1) SVF identified</u>
   a) The permittee shall meet the requirements above for dry weather screening
   b) The permittee shall inspect and sample under wet weather conditions to the extent necessary to determine whether wet weather-induced high flows in sanitary sewers or high groundwater in areas served by septic systems result in discharges of sanitary flow to the MS4.
      1) The permittee shall conduct at least one wet weather screening and sampling at the outfall that includes the same parameters required during dry weather screening, part 2.3.4.7.b.iii.4.
      2) Wet weather sampling and screening shall proceed during or after a storm event of sufficient depth or intensity to produce a stormwater discharge. EPA strongly recommends sampling during the spring (March through June) when groundwater levels are relatively high.
      3) The permit does not require a minimum rainfall event prior to wet weather screening. However, permittees may incorporate provisions that assist in targeting such discharges, including avoiding sampling during the initial period of discharge ("first flush") and/or identifying minimum storm event intensities likely to trigger sanitary sewer interconnections.
   c) This sampling can be done upon completion of any dry weather investigation but must be completed before the catchment investigation is marked as complete.

iii. All data collected as part of the dry and wet weather catchment investigations shall be recorded and reported in each annual report.

d. <u>Identification/Confirmation of illicit source</u>
Where the source of an illicit discharge has been approximated between two manholes in the permittee's MS4, the permittee shall isolate and identify/confirm the source of the illicit discharge using more detailed methods identified in their written procedure (2.3.4.8.b.iii). For outfalls that contained evidence of an illicit discharge, catchment investigations will be considered complete upon

[8] Where catchments do not contain junction manholes, the dry weather screening and sampling shall be considered as meeting the manhole inspection requirement. In these catchments, dry weather screenings that indicate potential presence of illicit discharges shall be further investigated pursuant to part 2.3.4.8.d. Investigations in these catchments may be considered complete where dry weather screening reveals no flow; no evidence of illicit discharges or SSOs is indicated through sampling results or visual or olfactory means; and no wet weather System Vulnerability Factors are identified.

confirmation of all illicit sources.

e. Illicit discharge removal
When the specific source of an illicit discharge is identified, the permittee shall exercise its authority as necessary to require its removal pursuant to part 2.3.4.2 or 2.3.4.3.

i. For each confirmed source the permittee shall include in the annual report the following information:
- the location of the discharge and its source(s);
- a description of the discharge;
- the method of discovery;
- date of discovery;
- date of elimination, mitigation or enforcement action OR planned corrective measures and a schedule for completing the illicit discharge removal; and
- estimate of the volume of flow removed.

ii. Within one year of removal of all identified illicit discharges within a catchment area, confirmatory outfall or interconnection screening shall be conducted. The confirmatory screening shall be conducted in dry weather unless System Vulnerability Factors have been identified, in which case both dry weather and wet weather confirmatory screening shall be conducted. If confirmatory screening indicates evidence of additional illicit discharges, the catchment shall be scheduled for additional investigation.

2.3.4.9. Indicators of IDDE Program Progress

The permittee shall define or describe indicators for tracking program success and evaluate and report on the overall effectiveness of the IDDE program in each annual report. At a minimum the permittee shall document in each annual report:
- the number of SSOs and illicit discharges identified and removed,
- the number and percent of total outfall catchments served by the MS4 evaluated using the catchment investigation procedure,
- all dry weather and wet weather screening and sampling results and
- the volume of sewage removed

2.3.4.10 Ongoing Screening

Upon completion of all catchment investigations pursuant to part 2.3.4.8.c and illicit discharge removal and confirmation (if necessary) pursuant to paragraph 2.3.4.8.e, each outfall or interconnection shall be reprioritized for screening in accordance with part 2.3.4.8.a and scheduled for ongoing screening once every five years. Ongoing screening shall consist of dry weather screening and sampling consistent with part 2.3.4.7.b; wet weather screening and sampling shall also be required at outfalls where wet weather screening was required due to SVFs and shall be conducted in accordance with part 2.3.4.8.c.ii. All sampling results shall be reported in the permittee's annual report.

2.3.4.11 Training

The permittee shall, at a minimum, annually provide training to employees involved in IDDE program about the program, including how to recognize illicit discharges and SSOs. The permittee shall report on the frequency and type of employee training in the annual report.

2.3.5. Construction Site Stormwater Runoff Control

Objective: The objective of an effective construction stormwater runoff control program is to minimize or eliminate erosion and maintain sediment on site so that it is not transported in stormwater and allowed to discharge to a water of the U.S through the permittee's MS4. The construction site stormwater runoff control program required by this permit is a separate and distinct program from EPA's stormwater construction permit program. (http://cfpub1.epa.gov/npdes/stormwater/cgp.cfm)

a. Permittees shall implement and enforce a program to reduce pollutants in any stormwater runoff discharged to the MS4 from all construction activities that result in a land disturbance of greater than or equal to one acre within the regulated area. The permittee's program shall include disturbances less than one acre if that disturbance is part of a larger common plan of development or sale that would disturb one or more acres. Permittees authorized under the MS4-2003 permit shall continue to implement and enforce their existing program and modify as necessary to meet the requirements of this part.

b. The permittee does not need to apply its construction program requirements to projects that receive a waiver from EPA under the provisions of 40 CFR § 122.26(b) (15) (i).

c. The permittee shall develop and implement a construction site runoff control program that includes the elements in Paragraphs i. through v. of this part:

i. An ordinance or regulatory mechanism that requires the use of sediment and erosion control practices at construction sites. In addition to addressing sediment and erosion control, the ordinance must include controls for other wastes on constructions sites such as demolition debris, litter and sanitary wastes. Development of an ordinance or other regulatory mechanism was a requirement of the MS4-2003 permit (See part II.B.4 and part IV.B.4).The ordinance or other regulatory mechanism required by the MS4-2003 permit shall have been effective by May 1, 2008.

ii. Written (hardcopy or electronic) procedures for site inspections and enforcement of sediment and erosion control measures. If not already existing, these procedures shall be completed within one (1) year from the effective date of the permit. The procedures shall clearly define who is responsible for site inspections as well as who has authority to implement enforcement procedures. The program shall provide that the permittee may, to the extent authorized by law, impose sanctions to ensure compliance with the local program. These procedures and regulatory authorities shall be documented in the SWMP.

iii. Requirements for construction site operators performing land disturbance activities within the MS4 jurisdiction that result in stormwater discharges to the MS4 to implement a sediment and erosion control program that includes BMPs appropriate for the conditions at the construction site. The program may include references to BMP design standards in state manuals, such as the Massachusetts Stormwater Handbook[9], or design standards developed by the MS4. EPA supports and encourages the use of design standards in local programs. Examples of appropriate sediment and erosion control measures for construction sites include local requirements to:

[9] The handbook is available at: http://www.mass.gov/dep/water/laws/policies.htm#storm

1. Minimize the amount of disturbed area and protect natural resources;
2. Stabilize sites when projects are complete or operations have temporarily ceased;
3. Protect slopes on the construction site;
4. Protect all storm drain inlets and armor all newly constructed outlets;
5. Use perimeter controls at the site;
6. Stabilize construction site entrances and exits to prevent off-site tracking;
7. Inspect stormwater controls at consistent intervals.

iv. Requirements for construction site operators within the MS4 jurisdiction to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes. These wastes may not be discharged to the MS4.

v. Written procedures for site plan review and inspection and enforcement. If not already existing, the procedures for site plan review and inspection and enforcement shall be completed within one (1) year from the effective date of the permit. The site plan review procedure shall include a pre-construction review by the permittee of the site design, the planned operations at the construction site, planned BMPs during the construction phase, and the planned BMPs to be used to manage runoff created after development. The review procedure shall incorporate procedures for the consideration of potential water quality impacts, and procedures for the receipt and consideration of information submitted by the public. The site plan review procedure shall also include evaluation of opportunities for use of low impact design and green infrastructure. When the opportunity exists, the permittee shall encourage project proponents to incorporate these practices into the site design. The procedures for site inspections conducted by the permittee shall include the requirement that inspections occur during construction of BMPs as well as after construction of BMPs to ensure they are working as described in the approved plans, clearly defined procedures for inspections including qualifications necessary to perform the inspections, the use of mandated inspection forms if appropriate, and procedure for tracking the number of site reviews, inspections, and enforcement actions. This tracking information shall be included as part of each annual report required by part 4.4.

2.3.6. Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management)

Objective: The objective of this control measure is to reduce the discharge of pollutants found in stormwater through the retention or treatment of stormwater after construction on new or redeveloped sites. For the purposes of this part (2.3.6.), the following definitions apply:

site is defined as the area extent of construction activities, including but not limited to the creation of new impervious cover and improvement of existing impervious cover (e.g. repaving not covered by 2.3.6.a.ii.4.d.)

new development is defined as any construction activities or land alteration resulting in total earth disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) on an area that has not previously been developed to include impervious cover.

redevelopment is defined as any construction, land alteration, or improvement of impervious surfaces resulting in total earth disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) that does not meet the definition of new development (see above).

a. Permittees shall develop, implement, and enforce a program to address post-construction stormwater runoff from all new development and redevelopment sites that disturb one or more acres and discharge into the permittees MS4 at a minimum. Permittees authorized under the MS4-2003 permit shall continue to implement and enforce their program and modify as necessary to meet the requirements of this part.

i. The permittee's new development/ redevelopment program shall include sites less than one acre if the site is part of a larger common plan of development or redevelopment which disturbs one or more acre.

ii. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit to contain provisions that are as least as stringent as the following:

1. Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible.

2. The design of treatment and infiltration practices should follow the guidance in Volume 2 of the Massachusetts Stormwater Handbook, as amended, or other federally or State approved[10] BMP design guidance.

3. Stormwater management systems on new development sites shall be designed to:
   a) Not allow new stormwater conveyances to discharge untreated stormwater in accordance with Massachusetts Stormwater Handbook Standard 1;
   b) Control peak runoff rates in accordance with Massachusetts Stormwater Handbook Standard 2[11];
   c) Recharge groundwater in accordance with Massachusetts Stormwater Handbook Standard 3[12];
   d) Eliminate or reduce the discharge of pollutants from land uses with higher pollutant loads as defined in the Massachusetts Stormwater Handbook in accordance with Massachusetts Stormwater Handbook Standard 5;
   e) Protect Zone II or Interim Wellhead Protection Areas of public water supplies in accordance with Massachusetts Stormwater Handbook Standard 6[13];
   f) Implement long term maintenance practices in accordance with Massachusetts Stormwater Handbook Standard 9; and
   g) Require that all stormwater management systems be designed to:
      1) Retain the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the

[10] State approved includes any state in the United States, including, but not limited to, approved guidance by the Commonwealth of Massachusetts
[11] Requirement necessary for Section 401 water quality certification by Massachusetts
[12] Requirement necessary for Section 401 water quality certification by Massachusetts
[13] Requirement necessary for Section 401 water quality certification by Massachusetts

site AND/OR

2) Remove 90% of the average annual load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site[14] AND 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site[14]. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved[15] BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.

4. Redevelopment Requirements
   a) Stormwater management systems on Redevelopment sites shall meet the following sections of part 2.3.6.a.ii.3 to the maximum extent feasible:
      1) Part 2.3.6.a.ii.3(a) (Massachusetts Stormwater Standard 1);
      2) Part 2.3.6.a.ii.3(b) (Massachusetts Stormwater Standard 2);
      3) Part 2.3.6.a.ii.3(c) (Massachusetts Stormwater Standard 3); and
      4) The pretreatment and structural best management practices requirements of 2.3.6.a.ii.3(d) and 2.3.6.a.ii.3(e) (Massachusetts Stormwater Standards 5 and 6).
   b) Stormwater management systems on Redevelopment sites shall also improve existing conditions by requiring that stormwater management systems be designed to:
      1) Retain the volume of runoff equivalent to, or greater than, 0.80 inch multiplied by the total post-construction impervious surface area on the site AND/OR
      2) Remove 80% of the average annual post-construction load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site AND 50% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1 where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.
   c) Stormwater management systems on redevelopment sites may utilize offsite mitigation within the same USGS HUC10 as the redevelopment site to meet the equivalent tretention or pollutant removal requirements in part 2.3.6.a.ii.4(b).
   d) Redevelopment activities that are exclusively limited to maintenance and improvement of existing roadways, (including widening less than a single

[14] The required removal percentage is not required for each storm,it is the average removal over a year that is required
[15] See footnote 14

lane, adding shoulders, correcting substandard intersections, improving existing drainage systems, and repaving projects) shall improve existing conditions where feasible and are exempt from part 2.3.6.a.ii.4(a), part 2.3.6.a.ii.4(b) and part 2.3.6.a.ii.4(c). Roadway widening or improvements that increase the amount of impervious area on the redevelopment site by greater than or equal to a single lane width shall meet the requirements of part 2.3.6.a.ii.4(a) – (c)fully.

iii. The permittee shall require, at a minimum, the submission of as-built drawings no later than two (2) years after completion of construction projects. The as-built drawings must depict all on site controls, both structural and non-structural, designed to manage the stormwater associated with the completed site (post construction stormwater management). The new development/redevelopment program shall have procedures to ensure adequate long-term operation and maintenance of stormwater management practices that are put in place after the completion of a construction project. These procedures may include the use of dedicated funds or escrow accounts for development projects or the acceptance of ownership by the permittee of all privately owned BMPs. These procedures may also include the development of maintenance contracts between the owner of the BMP and the permittee. Alternatively, these procedures may include the submission of an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures. The procedures to require submission of as-built drawings and ensure long term operation and maintenance shall be a part of the SWMP. The permittee shall report in the annual report on the measures that the permittee has utilized to meet this requirement.

b. Within four (4) years of the effective date of this permit, the permittee shall develop a report assessing current street design and parking lot guidelines and other local requirements that affect the creation of impervious cover. This assessment shall be used to provide information to allow the permittee to determine if changes to design standards for streets and parking lots can be made to support low impact design options. If the assessment indicates that changes can be made, the assessment shall include recommendations and proposed schedules to incorporate policies and standards into relevant documents and procedures to minimize impervious cover attributable to parking areas and street designs. The permittee shall implement all recommendations, in accordance with the schedules, contained in the assessment. The local planning board and local transportation board should be involved in this assessment. This assessment shall be part of the SWMP. The permittee shall report in each annual report on the status of this assessment including any planned or completed changes to local regulations and guidelines.

c. Within four (4) years from the effective date of the permit, the permittee shall develop a report assessing existing local regulations to determine the feasibility of making, at a minimum, the following practices allowable when appropriate site conditions exist:

i. Green roofs;
ii. Infiltration practices such as rain gardens, curb extensions, planter gardens, porous and pervious pavements, and other designs to manage stormwater using landscaping and structured or augmented soils; and
iii. Water harvesting devices such as rain barrels and cisterns, and the use of stormwater for non-potable uses.

The assessment should indicate if the practices are allowed in the MS4 jurisdiction and under what circumstances are they allowed. If the practices are not allowed, the permittee shall determine what hinders the use of these practices, what changes in local regulations may be made to make them allowable, and provide a schedule for implementation of recommendations. The permittee shall implement all recommendations, in accordance with the schedules, contained in the assessment. The permittee shall report in each annual report on its findings and progress towards making the practices allowable.(Information available at: http://www.epa.gov/region1/npdes/stormwater/assets/pdf/AddressingBarrier2LID.pdf and http://www.mapc.org/resources/low-impact-dev-toolkit/local-codes-lid)

d. Four (4) years from the effective date of this permit, the permittee shall identify a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs designed to reduce the frequency, volume, and pollutant loads of stormwater discharges to and from its MS4 through the reduction of impervious area. Properties and infrastructure for consideration shall include those with the potential for reduction of on-site impervious area (IA) as well as those that could provide reduction of off-site IA. At a minimum, the permittee shall consider municipal properties with significant impervious cover (including parking lots, buildings, and maintenance yards) that could be modified or retrofitted. MS4 infrastructure to be considered includes existing street right-of-ways, outfalls and conventional stormwater conveyances and controls (including swales and detention practices) that could be readily modified or retrofitted to provide reduction in frequency, volume or pollutant loads of such discharges through reduction of impervious cover.

In determining the potential for modifying or retrofitting particular properties, the permittee shall consider factors such as access for maintenance purposes; subsurface geology; depth to water table; proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems; and opportunities for public use and education. In determining its priority ranking, the permittee shall consider factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service; and control of discharges to water quality limited waters, first or second order streams, public swimming beaches, drinking water supply sources and shellfish growing areas.

Beginning with the fifth year annual report and in each subsequent annual report, the permittee shall identify additional permittee owned sites and infrastructure that could be retrofitted such that the permittee maintains a minimum of 5 sites in their inventory, until such a time as when the permittee has less than 5 sites remaining. In addition, the permittee shall report on all properties that have been modified or retrofitted with BMPs to mitigate IA that were inventoried in accordance with this part. The permittee may also include in its annual report non-MS4 owned property that has been modified or retrofitted with BMPs to mitigate IA.

2.3.7. Good House Keeping and Pollution Prevention for Permittee Owned Operations

Objective: The permittee shall implement an operations and maintenance program for permittee-owned operations that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned operations.

a. Operations and Maintenance Programs

i. Within two (2) years from the effective date of the permit, the permittee shall develop, if not already developed, written (hardcopy or electronic) operations and maintenance procedures for the municipal activities listed below in part 2.3.7.a.ii. These written procedures shall be included as part of the SWMP.

ii. Within two (2) year of the effective date of this permit, the permittee shall develop an inventory of all permittee owned facilities within the categories listed below. The permittee shall review this inventory annually and update as necessary.

1. Parks and open space: Establish procedures to address the proper use, storage, and disposal of pesticides, herbicides, and fertilizers including minimizing the use of these products and using only in accordance manufacturer's instruction. Evaluate lawn maintenance and landscaping activities to ensure practices are protective of water quality. Protective practices include reduced mowing frequencies, proper disposal of lawn clippings, and use of alternative landscaping materials (e.g., drought resistant planting). Establish pet waste handling collection and disposal locations at all parks and open space where pets are permitted, including the placing of proper signage concerning the proper collection and disposal of pet waste. Establish procedures to address waterfowl congregation areas where appropriate to reduce waterfowl droppings from entering the MS4. Establish procedures for management of trash containers at parks and open space (scheduled cleanings; sufficient number). Establish procedures to address erosion or poor vegetative cover when the permittee becomes aware of it; especially if the erosion is within 50 feet of a surface water.

2. Buildings and facilities where pollutants are exposed to stormwater runoff: This includes schools (to the extent they are permittee-owned or operated), town offices, police, and fire stations, municipal pools and parking garages and other permittee-owned or operated buildings or facilities. Evaluate the use, storage, and disposal of petroleum products and other potential stormwater pollutants. Provide employee training as necessary so that those responsible for handling these products know proper procedures. Ensure that Spill Prevention Plans are in place, if applicable, and coordinate with the fire department as necessary. Develop management procedures for dumpsters and other waste management equipment. Sweep parking lots and keep areas surrounding the facilities clean to reduce runoff of pollutants.

3. Vehicles and Equipment: Establish procedures for the storage of permittee vehicles. Vehicles with fluid leaks shall be stored indoors or containment shall be provided until repaired. Evaluate fueling areas owned or operated by the permittee. If possible, place fueling areas under cover in order to minimize exposure. Establish procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters. This permit does not authorize such discharges.

iii. Infrastructure Operations and Maintenance

1. The permittee shall establish within two (2) year of the effective date of the permit a written (hardcopy or electronic) program detailing the activities and procedures the permittee will implement so that the MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4. If the permittee has an existing program to maintain its MS4 infrastructure in a timely manner to reduce or eliminate the discharge of pollutants from the MS4, the permittee shall document the program in the SWMP.

2. The permittee shall optimize routine inspections, cleaning and maintenance of catch basins such that the following conditions are met:

    - Prioritize inspection and maintenance for catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
    - Establish a schedule with a goal that the frequency of routine cleaning will ensure that no catch basin at anytime will be more than 50 percent full.
    - If a catch basin sump is more than 50 percent full during two consecutive routine inspections/cleaning events, the permittee shall document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, abate contributing sources. The permittee shall describe any actions taken in its annual report.
    - For the purposes of this part, an excessive sediment or debris loading is a catch basin sump more than 50 percent full. A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.
    - The permittee shall document in the SWMP and in the first annual report its plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan. Documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. The permittee shall keep a log of catch basins cleaned or inspected.
    - The permittee shall report in each annual report the total number of catch basins, number inspected, number cleaned, and the total volume or mass of material removed from all catch basins.

3. The permittee shall establish and implement procedures for sweeping and/or cleaning streets, and permittee-owned parking lots. All streets with the exception of rural uncurbed roads with no catch basins or high speed limited access highways shall be swept and/or cleaned a minimum of once per year in the spring (following winter activities such as sanding). The procedures shall also include more frequent sweeping of targeted areas determined by the permittee on the basis of pollutant load reduction potential, based on inspections, pollutant loads, catch basin cleaning or inspection results, land use, water quality limited or TMDL waters or other relevant factors as determined by the permittee. The permittee shall report in each annual report the number of miles cleaned or the volume or mass of material removed.

    For rural uncurbed roadways with no catch basins and limited access highways, the permittee shall either meet the minimum frequencies above, or develop and implement an inspection, documentation and targeted sweeping plan within two (2) year of the effective date of the permit, and submit such plan with its year one annual report.

4. The permittee shall ensure proper storage of catch basin cleanings and street sweepings prior to disposal or reuse such that they do not discharge to receiving

waters. These materials should be managed in compliance with current MassDEP policies:

- For catch basins cleanings: http://www.mass.gov/eea/agencies/massdep/recycle/regulations/management-of-catch-basin-cleanings.html
- For street sweepings: http://www.mass.gov/eea/docs/dep/recycle/laws/stsweep.pdf.

5. The permittee shall establish and implement procedures for winter road maintenance including the use and storage of salt and sand; minimize the use of sodium chloride and other salts, and evaluate opportunities for use of alternative materials; and ensure that snow disposal activities do not result in disposal of snow into waters of the United States. For purposes of this MS4 Permit, salt shall mean any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

6. The permittee shall establish and implement inspection and maintenance frequencies and procedures for all stormwater treatment structures such as water quality swales, retention/detention basins, infiltration structures, proprietary treatment devices or other similar structures. All permittee-owned stormwater treatment structures (excluding catch basins) shall be inspected annually at a minimum.

iv. The permittee shall report in the annual report on the status of the inventory required by this part and any subsequent updates; the status of the O&M programs for the permittee-owned facilities and activities in part 2.3.7.a.ii; and the maintenance activities associated with each.

v. The permittee shall keep a written (hardcopy or electronic) record of all required activities including but not limited to maintenance activities, inspections and training required by part 2.3.7.a. The permittee shall maintain, consistent with part 4.2.a, all records associated with maintenance and inspection activities required by part 2.3.7.a.

b. Stormwater Pollution Prevention Plan (SWPPP)

The permittee shall develop and fully implement a SWPPP for each of the following permittee-owned or operated facilities: maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater as determined by the permittee. If facilities are located at the same property, the permittee may develop one SWPPP for the entire property. The SWPPP is a separate and different document from the SWMP required in part 1.10. A SWPPP does not need to be developed for a facility if the permittee has either developed a SWPPP or received a no exposure certification for the discharge under the Multi-Sector General Permit or the discharge is authorized under another NPDES permit.

i. No later than two (2) years from the effective date of the permit, the permittee shall develop and implement a written (hardcopy or electronic) SWPPP for the facilities described above. The SWPPP shall be signed in accordance with the signatory requirements of Appendix B – Subparagraph 11.

ii. The SWPPP shall contain the following elements:

1. Pollution Prevention Team
   Identify the staff on the team, by name and title. If the position is unstaffed, the title of the position should be included and the SWPPP updated when the position is filled. The role of the team is to develop, implement, maintain, and revise, as necessary, the SWPPP for the facility.

2. Description of the facility and identification of potential pollutant sources
   The SWPPP shall include a map of the facility and a description of the activities that occur at the facility. The map shall show the location of the stormwater outfalls, receiving waters, and any structural controls. Identify all activities that occur at the facility and the potential pollutants associated with each activity including the location of any floor drains. These may be included as part of the inventory required by part 2.3.7.a.

3. Identification of stormwater controls
   The permittee shall select, design, install, and implement the control measures detailed in paragraph iv below to prevent or reduce the discharge of pollutants from the permittee owned facility.

   The selection, design, installation, and implementation of the control measures shall be in accordance with good engineering practices and manufacturer's specifications. The permittee shall also take all reasonable steps to control or address the quality of discharges from the site that may not originate at the facility.

   If the discharge from the facility is to a water quality limited water and the facility has the potential to discharge the pollutant identified as causing the water quality limitation, the permittee shall identify the control measures that will be used to address this pollutant at the facility so that the discharge does not cause or contribute to a violation of a water quality standard.

4. The SWPPP shall include the following management practices:
   a) Minimize or Prevent Exposure: The permittee shall to the extent practicable either locate materials and activities inside, or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.

   b) Good Housekeeping: The permittee shall keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.

   c) Preventative Maintenance: The permittee shall regularly inspect, test, maintain, and repair all equipment and systems to avoid situations that

may result in leaks, spills, and other releases of pollutants in stormwater to receiving waters. Inspections shall occur at a minimum once per quarter.

d) Spill Prevention and Response: The permittee shall minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:

- Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
- Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
- Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.

e) Erosion and Sediment Control: The permittee shall use structural and non-structural control measures at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation. Efforts to achieve this may include the use of flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion.

f) Management of Runoff: The permittee shall manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that

are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.

g) Salt Storage Piles or Piles Containing Salt: For storage piles of salt or piles containing salt used for deicing or other purposes (including maintenance of paved surfaces) for which the discharge during precipitation events discharges to the permittee's MS4, any other storm sewer system, or to a Water of the US, the permittee shall prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. Such piles shall be enclosed or covered within two (2) years of the permit effective date. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. The permittee is encouraged to store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.

h) Employee Training: The permittee shall regularly train employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training shall cover both the specific components and scope of the SWPPP and the control measures required under this part, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc. EPA recommends annual training.

The permittee shall document the following information for each training:

- The training date, title and training duration;
- List of municipal attendees;
- Subjects covered during training

i) Maintenance of Control Measures: The permittee shall maintain all control measures, required by this permit in effective operating condition. The permittee shall keep documentation onsite that describes procedures and a regular schedule for preventative maintenance of all control measures and discussions of back-up practices in place should a runoff event occur while a control measure is off-line. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel trained).

iii. The permittee shall conduct the following inspections:

1. Site Inspections: Inspect all areas that are exposed to stormwater and all stormwater control measures. Inspections shall be conducted at least once each calendar quarter. More frequent inspections may be required if significant activities are exposed to stormwater. Inspections shall be performed when the facility is in operation. At least one of the quarterly inspections shall occur during a period when a stormwater discharge is occurring.

The permittee shall document the following information for each facility inspection:

- The inspection date and time;
- The name of the inspector;
- Weather information and a description of any discharge occurring at the time of the inspection;
- Identification of any previously unidentified discharges from the site;
- Any control measures needing maintenance or repair;
- Any failed control measures that need replacement.
- Any SWPPP changes required as a result of the inspection.

If during the inspections, or any other time, the permittee identifies control measures that need repair or are not operating effectively, the permittee shall repair or replace them before the next anticipated storm event if possible, or as soon as practicable following that storm event. In the interim, the permittee shall have back-up measures in place.

The permittee shall report the findings from the Site Inspections in the annual report.

iv. The permittee must keep a written (hardcopy or electronic) record of all required activities including but not limited to maintenance, inspections, and training required by part 2.3.7.b.The permittee shall maintain all records associated with the development and implementation of the SWPPP required by this part consistent with the requirements of part 4.2.

3.0. Additional Requirements for Discharges to Surface Drinking Water Supplies and Their Tributaries

a. Permittees which discharge to public surface drinking water supply sources (Class A and Class B surface waters used for drinking water) or their tributaries should consider these waters a priority in the implementation of the SWMP.

b. Permittees should provide pretreatment and spill control measures to stormwater discharges to public drinking water supply sources or their tributaries to the extent feasible.

c. Direct discharges to Class A waters should be avoided to the extent feasible.

4.0. Program Evaluation, Record Keeping, and Reporting

4.1. Program Evaluation

a. The permittee shall annually self-evaluate its compliance with the terms and conditions of this permit and submit each self-evaluation in the Annual Report. The permittee shall also maintain the annual evaluation documentation as part of the SWMP.

b. The permittee shall evaluate the appropriateness of the selected BMPs in achieving the objectives of each control measure and the defined measurable goals. Where a BMP is found to be ineffective the permittee shall change BMPs in accordance with the provisions below. In addition, permittees may augment or change BMPs at any time following the provisions below:

- Changes adding (but not subtracting or replacing) components or controls may be made at any time.
- Changes replacing an ineffective or infeasible BMP specifically identified in the SWMP with an alternative BMP may be made as long as the basis for the changes is documented in the SWMP by, at a minimum:
    - An analysis of why the BMP is ineffective or infeasible;
    - Expectations on the effectiveness of the replacement BMP; and
    - An analysis of why the replacement BMP is expected to achieve the defined goals of the BMP to be replaced.

The permittee shall indicate BMP modifications along with a brief explanation of the modification in each Annual Report.

c. EPA or MassDEP may require the permittee to add, modify, repair, replace or change BMPs or other measures described in the annual reports as needed:

- To address impacts to receiving water quality caused or contributed to by discharges from the MS4; or
- To satisfy conditions of this permit

Any changes requested by EPA or MassDEP will be in writing and will set forth the schedule for the permittee to develop the changes and will offer the permittee the opportunity to propose alternative program changes to meet the objective of the requested modification.

4.2. Record Keeping

a. The permittee shall keep all records required by this permit for a period of at least five years. EPA may extend this period at any time. Records include information used in the development of any written (hardcopy or electronic) program required by this permit, any monitoring results, copies of reports, records of screening, follow-up and elimination of illicit discharges; maintenance records; inspection records; and data used in the development of the notice of intent, SWMP, SWPPP, and annual reports. This list provides examples of records that should be maintained, but is not all inclusive.

b. Records other than those required to be included in the annual report, part 4.4, shall be submitted only when requested by the EPA or the MassDEP.

c. The permittee shall make the records relating to this permit, including the written (hardcopy or electronic) stormwater management program, available to the public. The public may view the records during normal business hours. The permittee may charge a reasonable fee for copying requests. The permittee is encouraged to satisfy this requirement by posting records online.

4.3. Outfall Monitoring Reporting

a. The permittee shall monitor and sample its outfalls at a minimum through sampling and testing at the frequency and locations required in connection with IDDE screening under part 2.3.4.7.b. and 2.3.4.8.c.ii.2. The monitoring program may also include additional outfall and interconnection monitoring as determined by the permittee in connection with assessment of SWMP effectiveness

pursuant to part 4.1; evaluation of discharges to water quality limited waters pursuant to part 2.2; assessment of BMP effectiveness pursuant to part 2.2 or 2.3; or otherwise.

b. The permittee shall document all monitoring results each year in the annual report. The report shall include the date, outfall or interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results of all analyses. The annual report shall include all of this information and data for the current reporting period and for the entire permit period.

c. The permittee shall also include in the annual report results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period where that data is being used by the permittee to inform permit compliance or program effectiveness. If such monitoring or studies were conducted on behalf of the permittee, or if monitoring or studies conducted by other entities were reported to the permittee, a brief description of the type of information gathered or received shall be included in the annual report(s) covering the time period(s) the information was received.

4.4. Annual Reports

a. The permittee shall submit annual reports each year of the permit term. The reporting period will be a one year period commencing on the permit effective date, and subsequent anniversaries thereof, except that the first annual report under this permit shall also cover the period from May 1, [year of final permit issuance] to the permit effective date. The annual report is due ninety days from the close of each reporting period.

b. The annual reports shall contain the following information:

i. A self-assessment review of compliance with the permit terms and conditions.

ii. An assessment of the appropriateness of the selected BMPs.

iii. The status of any plans or activities required by part 2.1 and/ or part 2.2, including:

- Identification of all discharges determined to be causing or contributing to an exceedance of water quality standards and description of response including all items required by part 2.1.1;
- For discharges subject to TMDL related requirements, identification of specific BMPs used to address the pollutant identified as the cause of impairment and assessment of the BMPs effectiveness at controlling the pollutant (part 2.2.1. and Appendix F) and any deliverables required by Appendix F;
- For discharges to water quality limited waters a description of each BMP required by Appendix H and any deliverables required by Appendix H.

iv. An assessment of the progress towards achieving the measurable goals and objectives of each control measure in part 2.3 including:

- Evaluation of the public education program including a description of the targeted messages for each audience; method of distribution and dates of distribution; methods used to evaluate the program; and any changes to the program.
- Description of the activities used to promote public participation including documentation of compliance with state public notice regulations.

- Description of the activities related to implementation of the IDDE program including: status of the map; status and results of the illicit discharge potential ranking and assessment; identification of problem catchments; status of all protocols described in part 2.3.4.(program responsibilities and systematic procedure); number and identifier of catchments evaluated; number and identifier of outfalls screened; number of illicit discharges located; number of illicit discharges removed; gallons of flow removed; identification of tracking indicators and measures of progress based on those indicators; and employee training.
- Evaluation of the construction runoff management including number of project plans reviewed; number of inspections; and number of enforcement actions.
- Evaluation of stormwater management for new development and redevelopment including status of ordinance development (2.3.6.a.ii.), review and status of the street design assessment(2.3.6.b.), assessments to barriers to green infrastructure (2.3.6.c), and retrofit inventory status (2.3.6.d.)
- Status of the O&M Programs required by part 2.3.7.a.
- Status of SWPPP required by part 2.3.7.b. including inspection results.
- Any additional reporting requirements in part 3.0.

v. All outfall screening and monitoring data collected by or on behalf of the permittee during the reporting period and cumulative for the permit term, including but not limited to all data collected pursuant to part 2.3.4. The permittee shall also provide a description of any additional monitoring data received by the permittee during the reporting period.

vi. Description of activities for the next reporting cycle.

vii. Description of any changes in identified BMPs or measurable goals.

viii. Description of activities undertaken by any entity contracted for achieving any measurable goal or implementing any control measure.

c. Reports shall be submitted to EPA at the following address:

United State Environmental Protection Agency
Stormwater and Construction Permits Section (OEP06-1)
Five Post Office Square, Suite 100
Boston, MA 02109

Massachusetts Department of Environmental Protection
One Winter Street – 5th Floor
Boston, MA 02108
ATTN: Frederick Civian

Or submitted electronically to EPA at the following email address: stormwater.reports@epa.gov. After December 21, 2020 all Annual Reports must be submitted electronically.

5.0. Non-Traditional MS4s

Non-traditional MS4s are MS4s owned and operated by the Commonwealth of Massachusetts, counties or other public agencies within the Commonwealth of Massachusetts, and properties owned and operated by the United States (Federal Facilities) within the Commonwealth of Massachusetts. This part addresses all non-traditional MS4s except MS4s that are owned or operated by transportation agencies, which are addressed in part 6.0 below.

5.1. Requirements for Non-Traditional MS4s

All requirements and conditions of parts 1 – 4 above apply to all Non-traditional MS4s, except as specifically provided below:

5.1.1. Public education

For the purpose of this permit, the audiences for a Non-traditional MS4 include the employees, clients and customers (including students at education MS4s), visitors to the property, tenants, long term contractors and any other contractors working at the facility where the MS4 is located. The permittee may use some of the educational topics included in part 2.3.2.d. as appropriate, or may focus on topics specific to the MS4. The permittee shall document the educational topics for each target audience in the SWMP and annual reports.

5.1.2. Ordinances and regulatory mechanisms

Some Non-traditional MS4s may not have authority to enact an ordinance, by-law, or other regulatory mechanisms. MS4s without the authority to enact an ordinance shall ensure that written policies or procedures are in place to address the requirements of part 2.3.4.5., part 2.3.4.6 and part 2.3.6.a.

5.1.3. Assessment of Regulations

Non-traditional MS4s do not need to meet the requirements of part 2.3.6.c.

5.1.4. New Dischargers

New MS4 facilities are subject to additional water quality-based requirements if they fall within the definition of "new discharger" under 40 CFR § 122.2: "A new discharger is any building, structure, facility or installation (a) from which there is or may be a 'discharge of pollutants' (b) that did not commence the 'discharge of pollutants' at a particular 'site' prior to August 13, 1979; (c) which is not a 'new source'; and (d) which never received a finally effective NPDES permit for discharges at that 'site.' The term "site" is defined in § 122.2 to mean "the land or water area where any 'facility or activity' is physically located or conducted including adjacent land used in connection with the facility or activity."

Consistent with these definitions, a Non-traditional MS4 is a "new discharger" if it discharges stormwater from a new facility with an entirely new separate storm sewer system that is not physically located on the same or adjacent land as an existing facility and associated system operated by the same MS4.

Any Non-traditional MS4 facility that is a "new discharger" and discharges to a waterbody listed in category 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water

Act section 303(d) and 305(b) due to nutrients (Total Nitrogen or Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enteroccus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease), or discharges to a waterbody with an approved TMDL for any of those pollutants, is not eligible for coverage under this permit and shall apply for an individual permit.

Any Non-traditional MS4 facility that is a "new discharger" and discharges to a waterbody that is in attainment is subject to Massachusetts antidegradation regulations at 314 CMR 4.04. The permittee shall comply with the provisions of 314 CMR 4.04 including information submittal requirements and obtaining authorization for new discharges where appropriate[16]. Any authorization of new discharges by MassDEP shall be incorporated into the permittee's SWMP. If an applicable MassDEP approval specifies additional conditions or requirements, then those requirements are incorporated into this permit by reference. The permittee must comply with all such requirements.

6.0 Requirements for MS4s Owned or Operated by Transportation Agencies

This part applies to all MS4s owned or operated by any state or federal transportation agency (except Massachusetts Department of Transportation –MassDOT- Highway Division, which is subject to a separate individual permit). All requirements and conditions of this permit apply with the following exceptions:

6.1 Public education

For the purpose of this permit, the audiences for a transportation agency education program include the general public (users of the roadways), employees, and any contractors working at the location. The permittee may use some of the educational topics included in part 2.3.2.d. as appropriate, or may focus on topics specific to the agency. The permittee shall document the educational topics for each target audience.

6.2 Ordinances and regulatory mechanisms

The transportation agency may not have authority to enact an ordinance, by-law or other regulatory mechanisms. The agency shall ensure that written agency policies or procedures are in place to address the requirements of part 2.3.4.5., part 2.3.4.6 and part 2.3.6.a.

6.3 Assessment of regulations

Non-traditional MS4s do not need to meet the requirements of part 2.3.6.c.

6.4 New Dischargers

New MS4 facilities are subject to additional water quality-based requirements if they fall within the definition of "new dischargers" under 40 CFR § 122.2: "A new discharger is any building, structure, facility or installation (a) from which there is or may be a 'discharge of pollutants' (b) that did not commence the 'discharge of pollutants' at a particular 'site' prior to August 13, 1979; (c) which is not a 'new source'; and (d) which never received a finally effective NPDES permit for discharges at that 'site.' The term "site" is defined in § 122.2 to mean "the land or water area where any 'facility or activity' is physically located or conducted including adjacent land used in connection with the facility or activity."

[16] Contact MassDEP for guidance on compliance with 314 CMR 4.04

Consistent with these definitions, a new transportation MS4 is a "new discharger" if it discharges stormwater from a new facility with an entirely new separate storm sewer system that is not physically located on the same or adjacent land as an existing facility and associated system operated by the same MS4.

Any transportation MS4 facility that is a "new discharger" and discharges to a waterbody listed as impaired in category 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) due to nutrients (Total Nitrogen or Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enteroccus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease), or discharges to a waterbody with an approved TMDL for any of those pollutants, is not eligible for coverage under this permit and shall apply for an individual permit.

Any transportation MS4 facility that is a "new discharger" and discharges to a waterbody that is in attainment is subject to Massachusetts antidegradation regulations at 314 CMR 4.04. The permittee shall comply with the provisions of 314 CMR 4.04 including information submittal requirements and obtaining authorization for new discharges where appropriate[17]. Any authorization of new discharges by MassDEP shall be incorporated into the permittee's SWMP. If an applicable MassDEP approval specifies additional conditions or requirements, then those requirements are incorporated into this permit by reference. The permittee must comply with all such requirements.

[17] Contact MassDEP for guidance on compliance with 314 CMR 4.04

Appendix A
Definitions, Abbreviations and Acronyms

Definitions

Best Management Practices (BMPs) - schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Common Plan of Development - A "larger common plan of development or sale" is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan. For example, if a developer buys a 20-acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the future, this would be considered a larger common plan of development or sale. If the land is parceled off or sold, and construction occurs on plots that are less than one acre by separate, independent builders, this activity still would be subject to stormwater permitting requirements if the smaller plots were included on the original site plan.

Control Measure - refers to any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

Director - a Regional Administrator of the Environmental Protection Agency or an authorized representative.

Discharge - when used without qualification, means the "discharge of a pollutant."

Discharge of a pollutant - any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from surface runoff which is collected or channeled by man; or discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Discharge-related activities - activities which cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.

Disturbance - action to alter the existing vegetation and/or underlying soil of a site, such as clearing, grading, site preparation (e.g., excavating, cutting, and filling), soil compaction, and movement and stockpiling of top soils.

Existing Discharger – an operator applying for coverage under this permit for discharges covered previously under an NPDES general or individual permit.

Facility or Activity - any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

Federal Facility – Any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the federal government.

Illicit Discharge - any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

Impaired Water – A water is impaired if it does not meet one or more of its designated use(s). For purposes of this permit, "impaired" refers to categories 4 and 5 of the five-part categorization approach used for classifying the water quality standards attainment status for water segments under the TMDL program. Impaired waters compilations are also sometimes referred to as "303(d) lists." Category 5 waters are impaired because at least one designated use is not being supported or is threatened and a TMDL is needed. Category 4 waters indicate that at least one designated use is not being supported but a TMDL is not needed (4a indicates that a TMDL has been approved or established by EPA; 4b indicates other required control measures are expected in result in the attainment of water quality standards in a reasonable period of time; and 4c indicates that the non-attainment of the water quality standard is the result of pollution (e.g. habitat) and is not caused by a pollutant). See *USEPA's 2006 Integrated Report Guidance, July 29, 2005* for more detail on the five part categorization of waters [under EPA National TMDL Guidance http://www.epa.gov/owow/tmdl/policy.html]).

Impervious Surface- Any surface that prevents or significantly impedes the infiltration of water into the underlying soil. This can include but is not limited to: roads, driveways, parking areas and other areas created using non porous material; buildings, rooftops, structures, artificial turf and compacted gravel or soil.

Industrial Activity - the ten categories of industrial activities included in the definition of "stormwater discharges associated with industrial activity," as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

Industrial Stormwater - stormwater runoff associated with the definition of "stormwater discharges associated with industrial activity."

Interconnection – the point (excluding sheet flow over impervious surfaces) where the permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is eventually conveyed to a water of the United States. Interconnections shall be treated similarly to outfalls throughout the permit.

Junction Manhole - For the purposes of this permit, a junction manhole is a manhole or structure with two or more inlets accepting flow from two or more MS4 alignments. Manholes with inlets solely from private storm drains, individual catch basins, or both are not considered junction manholes for these purposes.

Key Junction Manhole - For the purposes of this permit, key junction manholes are those junction manholes that can represent one or more junction manholes without compromising adequate implementation of the illicit discharge program. Adequate implementation of the illicit discharge program would not be compromised if the exclusion of a particular junction manhole as a key junction manhole would not affect the permittee's ability to determine the possible presence of an upstream illicit discharge. A permittee may exclude a junction manhole located upstream from another located in the immediate vicinity or that is serving a drainage alignment with no potential for illicit connections.

Municipal Separate Storm Sewer - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a combined sewer; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Municipal Separate Storm Sewer System (MS4) - means all separate storm sewers that are defined as "large" or "medium" or "small" municipal storm sewer systems pursuant to paragraphs 40 CFR 122.26 (b)(4) and (b)(7), or designated under paragraph 40 126.26(a) (1)(v). For the purposes of this permit "MS4" may also refer to the permittee with jurisdiction over the sewer system.

New Development – any construction activities or land alteration resulting in total earth disturbances greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) on an area that has not previously been developed to include impervious cover. (see part 2.3.6. of the permit)

New Discharger – For the purposes of this permit, a new discharger is an entity that discharges stormwater from a new facility with an entirely new separate storm sewer system that is not physically located on the same or adjacent land as an existing facility and associated system operated by the same MS4.

New Source - any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:

- after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or
- after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

New Source Performance Standards (NSPS) – Technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

No exposure - all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff.

One Lane Width – The width of the travel lane for a roadway. Lane width does not include shoulders, curbs, and on-street parking areas.

Outfall Catchment – The land area draining to a single outfall or interconnection. The extent of an outfall's catchment is determined not only by localized topography and impervious cover but also by the location of drainage structures and the connectivity of MS4 pipes.

Owner or operator - the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Person - an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point source - any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant - dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water.

Pollutant of concern – A pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a State's 303(d) list.

Redevelopment – for the purposes of part 2.3.6., any construction, land alteration, or improvement of impervious surfaces resulting in total earth disturbances greater than 1

acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) that does not meet the definition of new development (see above).

Reportable Quantity Release – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 177, and 302 for complete definitions and reportable quantities for which notification is required.

Runoff coefficient - the fraction of total rainfall that will appear at the conveyance as runoff.

Significant materials - includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

Site – for the purposes of part 2.3.6., the area extent of construction activities, including but not limited to the creation of new impervious cover and improvement of existing impervious cover (e.g. repaving not covered by 2.3.6.a.ii.4.d.)

Small Municipal Separate Storm Sewer System – all separate storm sewer systems that are (i) owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district, or drainage district, or similar entity or an Indian tribe or an authorized Indian tribal organization or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States, and (ii) not defined as “large” or “medium” municipal separate storm sewer system pursuant to paragraphs 40 CFR 122.26 (b)(4) and (b)(7), or designated under paragraph 40 126.26(a) (1)(v). This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. This term does not include separate storm sewers in very discrete areas, such as individual buildings.

Small MS4 – means a small municipal separate storm sewer system.

Stormwater - stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Discharges Associated with Construction Activity - a discharge of pollutants in stormwater runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial

stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located. (See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15).

Stormwater Discharges Associated with Industrial Activity - the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in Appendix D of this permit. The term also includes those facilities designated under the provisions of 40 CFR 122.26(a)(1)(v).

Total Maximum Daily Loads (TMDLs) - A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

Urbanized Area – US Census designated area comprised of a densely settled core of census tracts and/or census blocks that meet minimum population density requirements, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. For the purposes of this permit, Urbanized Areas as defined by any Census since 2000 remain subject to stormwater regulation even if there is a change in the reach of the Urbanized Area because of a change in more recent Census data.

Water Quality Limited Water – for the purposes of this permit, a water quality limited water is any waterbody that does not meet applicable water quality standards, including but not limited to waters listed in categories 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b).

Water Quality Standards - A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. States and EPA adopt WQS to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA sections 101(a)2 and 303(c)).

ABBREVIATIONS AND ACRONYMS

BMP – Best Management Practice
BPJ – Best Professional Judgment
CGP – Construction General Permit
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq*)
DCIA – Directly Connected Impervious Area
EPA – U. S. Environmental Protection Agency
ESA – Endangered Species Act
USFWS – U. S. Fish and Wildlife Service
IA – Impervious Area
IDDE – Illicit Discharge Detection and Elimination
LA – Load Allocations
MOS – Margin of Safety
MS4 – Municipal Separate Storm Sewer System
MSGP – Multi-Sector General Permit
NHPA – National Historic Preservation Act
NMFS – U. S. National Marine Fisheries Service
NOI – Notice of Intent
NPDES – National Pollutant Discharge Elimination System
NRHP – National Register of Historic Places
NSPS – New Source Performance Standard
NTU – Nephelometric Turbidity Unit
PCP – Phosphorus Control Plan (pertaining to Charles River Watershed phosphorus TMDL requirements only – Appendix F Part A.I)
LPCP – Lake Phosphorus Control Plan (pertaining to Lake or pond phosphorus TMDL requirements only – Appendix F Part A.II)
POTW – Publicly Owned Treatment Works
RCRA – Resource Conservation and Recovery Act
SHPO – State Historic Preservation Officer
SIC – Standard Industrial Classification
SPCC – Spill Prevention, Control, and Countermeasure
SWMP – Stormwater Management Program
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
TSS – Total Suspended Solids

USGS – United States Geological Survey
WLA – Wasteload Allocation
WQS – Water Quality Standard

Appendix B

Standard Permit Conditions

Standard Permit Conditions

Standard permit conditions in Appendix B are consistent with the general permit provisions required under 40 CFR 122.41.

B.1. Duty To Comply

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

A. You must comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

B. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (61 FR 252, December 31, 1996, pp. 69359-69366, as corrected in 62 FR 54, March 20, 1997, pp.13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every 4 years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties following were adjusted for inflation starting in 1996.

1. *Criminal Penalties.*

   a. *Negligent Violations*. The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation or by imprisonment of not more than two years, or both.

   b. *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a

second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

c. *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than $250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision be subject to a fine of not more than $1,000,000 and can fined up to $2,000,000 for second or subsequent convictions.

d. *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

2. *Civil Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $32,500 per day for each violation).

3. *Administrative Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

3.1. *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $32,500).

3.2. *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $157,500).

B.2. Duty to Reapply

If you wish to continue an activity regulated by this permit after the expiration date of this permit, you must apply for and obtain a new permit.

B.3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.4. Duty to Mitigate

You must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

B.5. Proper Operation and Maintenance

You must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by you to achieve compliance with the conditions of this permit, including the requirements of your SWPPP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by you only when the operation is necessary to achieve compliance with the conditions of this permit.

B.6. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. Your filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B.7. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privileges.

B.8. Duty to Provide Information

You must furnish to EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), within a reasonable time, any information which EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. You must also furnish to EPA upon request, copies of records required to be kept by this permit.

B.9. Inspection and Entry

You must allow EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), upon presentation of credentials and other documents as may be required by law, to:

A. Enter upon your premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B.10. Monitoring and Records

A. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.

B. You must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of EPA at any time.

C. Records of monitoring information must include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed

4. The individual(s) who performed the analyses;

5. The analytical techniques or methods used; and

6. The results of such analyses.

D. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in the permit.

E. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

B.11. Signatory Requirements

A. All applications, including NOIs, must be signed as follows:

1. For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

3. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

B. All reports, including SWPPPs, inspection reports, annual reports, monitoring reports, reports on training and other information required by this permit must be signed by a person described in Appendix B, Subsection 11.A above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described in Appendix B, Subsection 11.A;

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

3. The signed and dated written authorization is included in the SWPPP. A copy must be submitted to EPA, if requested.

C. Changes to Authorization. If an authorization under Appendix B, Subsection 11.B is no longer accurate because a different operator has responsibility for the overall operation of the industrial facility, a new NOI satisfying the requirements of Subsection 11.B must be submitted to EPA prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Any person signing documents required under the terms of this permit must include the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

B.12. Reporting Requirements

A. Planned changes. You must give notice to EPA as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1).

B. Anticipated noncompliance. You must give advance notice to EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

C. Transfers. This permit is not transferable to any person except after notice to EPA. EPA may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)

D. Monitoring reports. Monitoring results must be reported at the intervals specified elsewhere in this permit.

1. Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms (paper or electronic) provided or specified by EPA for reporting results of monitoring of sludge use or disposal practices.

2. If you monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by EPA.

3. Calculations for all limitations which require averaging of measurements must use an arithmetic mean and non-detected results must be incorporated in calculations as the limit of quantitation for the analysis.

E. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.

F. Twenty-four hour reporting.

1. You must report any noncompliance which may endanger health or the environment. Any information must be provided orally within 24 hours

from the time you become aware of the circumstances. A written submission must also be provided within five days of the time you become aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. The following shall be included as information which must be reported within 24 hours under this paragraph.

   a. Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)

   b. Any upset which exceeds any effluent limitation in the permit

   c. Violation of a maximum daily discharge limitation for any of the pollutants listed by EPA in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).)

3. EPA may waive the written report on a case-by-case basis for reports under Appendix B, Subsection 12.F.2 if the oral report has been received within 24 hours.

G. Other noncompliance. You must report all instances of noncompliance not reported under Appendix B, Subsections 12.D, 12.E, and 12.F, at the time monitoring reports are submitted. The reports must contain the information listed in Appendix B, Subsection 12.F.

H. Other information. Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Permitting Authority, you must promptly submit such facts or information.

B.13. Bypass

A. Definitions.

1. Bypass means the intentional diversion of waste streams from any portion of a treatment facility

2. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

B. Bypass not exceeding limitations. You may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential

maintenance to assure efficient operation. These bypasses are not subject to the provisions of Appendix B, Subsections 13.C and 13.D.

C. Notice.

1. Anticipated bypass. If you know in advance of the need for a bypass, you must submit prior notice, if possible at least ten days before the date of the bypass.

2. Unanticipated bypass. You must submit notice of an unanticipated bypass as required in Appendix B, Subsection 12.F (24-hour notice).

D. Prohibition of bypass.

1. Bypass is prohibited, and EPA may take enforcement action against you for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. You submitted notices as required under Appendix B, Subsection 13.C.

2. EPA may approve an anticipated bypass, after considering its adverse effects, if EPA determines that it will meet the three conditions listed above in Appendix B, Subsection 13.D.1.

B.14. Upset

A. Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

B. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Appendix B, Subsection 14.C are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

C. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that you can identify the cause(s) of the upset;
2. The permitted facility was at the time being properly operated; and
3. You submitted notice of the upset as required in Appendix B, Subsection 12.F.2.b (24 hour notice).
4. You complied with any remedial measures required under Appendix B, Subsection 4.

D. Burden of proof. In any enforcement proceeding, you, as the one seeking to establish the occurrence of an upset, has the burden of proof.

APPENDIX C
ENDANGERED SPECIES GUIDANCE

A. Background

In order to meet its obligations under the Clean Water Act and the Endangered Species Act (ESA), and to promote the goals of those Acts, the Environmental Protection Agency (EPA) is seeking to ensure the activities regulated by this general permit do not adversely affect endangered and threatened species or critical habitat. Applicants applying for permit coverage must assess the impacts of their stormwater discharges and discharge-related activities on federally listed endangered and threatened species ("listed species") and designated critical habitat ("critical habitat") to ensure that those goals are met. Prior to obtaining general permit coverage, applicants must meet the ESA eligibility provisions of this permit by following the steps in this Appendix[1].

Applicants also have an independent ESA obligation to ensure that their activities do not result in any prohibited "take" of listed species[12]. The term "Take" is used in the ESA to include harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. "Harass" is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Many of the measures required in this general permit and in these instructions to protect species may also assist in ensuring that the applicant's activities do not result in a prohibited take of species in violation of section 9 of the ESA. If the applicant has plans or activities in an area where endangered and threatened species are located, they may wish to ensure that they are protected from potential take liability under ESA section 9 by obtaining an ESA section 10 permit or by requesting formal consultation under ESA section 7. Applicants that are unsure whether to pursue a section 10 permit or a section 7 consultation for takings protection should confer with the appropriate United States Fish and Wildlife Service (USFWS) office or the National Marine Fisheries Service (NMFS), (jointly the Services).

Currently, there are 20 species of concern for applicants applying for permit coverage, namely the Dwarf wedgemussel *(Alasmidonta heterodon)*, Northeastern bulrush (*Scirpus ancistrochaetus*), Sandplain gerardia *(Agalinis acuta)*, Piping Plover (*Charadrius melodus*), Roseate Tern (*Sterna dougallii*), Northern Red-bellied cooter (*Pseudemys rubriventis)*, Bog Turtle (*Glyptemys muhlenbergii*), Small whorled Pogonia (*Isotria medeoloides*), Puritan tiger beetle (*Cicindela puritana*), American burying beetle (*Nicrophorus americanus*), Northeastern beach tiger beetle (*Cicindela dorsalis*), Northern Long-eared Bat *(Myotis septentriolis)*Atlantic Sturgeon *(Acipenser oxyrinchus*), Shortnose Sturgeon *(Acipenser brevirostrum)*, North Atlantic Right Whale (*Eubalaena glacialis*) Humpback Whale *(Megaptera novaengliae)*, Fin Whale (*Balaenoptera physalus)*, Kemp's Ridley Sea Turtle *(Lepidochelys kempii)*, Loggerhead Sea Turtle *(Caretta caretta)*, Leatherback Sea Turtle *(Dermochelys coriacea)*, and the Green Turtle *(Chelonia*

[1] EPA strongly encourages applicants to begin this process at the earliest possible stage to ensure the notification requirements for general permit coverage are complete upon Notice of Intent (NOI) submission.
[2] Section 9 of the ESA prohibits any person from "taking" a listed species (e.g. harassing or harming it) unless: (1) the taking is authorized through an "incidental take statement" as part of completion of formal consultation according to ESA section 7; (2) where an incidental take permit is obtained under ESA section 10 (which requires the development of a habitat conversion plan; or (3) where otherwise authorized or exempted under the ESA. This prohibition applies to all entities including private individuals, businesses, and governments.

mydas). The Atlantic Sturgeon, Shortnose Sturgeon, North Atlantic Right Whale, Humpback Whale, Fin Whale, Loggerhead Sea Turtle, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle and Green Turtle are listed under the jurisdiction of NMFS. The Dwarf wedgemussel, Northeastern bulrush, Sandplain gerardia, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Small whorled Pogonia, Roseate Tern, Puritan tiger beetle, Northeastern beach tiger beetle, Northern Long-eared Bat and American burying beetle are listed under the jurisdiction of the U.S. Fish and Wildlife Service.

Any applicant seeking coverage under this general permit, must consult with the Services where appropriate. When listed species are present, permit coverage is only available if EPA determines, or the applicant determines and EPA concurs, that the discharge or discharge related activities will have "no affect" on the listed species or critical habitat, or the applicant or EPA determines that the discharge or discharge related activities are "not likely to adversely affect" listed species or critical habitat and formal or informal consultation with the Services has been concluded and results in written concurrence by the Services that the discharge is "not likely to adversely affect" an endangered or threatened species or critical habitat.

EPA may designate the applicants as non-Federal representatives for the general permit for the purpose of carrying out formal or informal consultation with the Services (See 50 CFR §402.08 and §402.13). By terms of this permit, EPA has automatically designated operators as non-Federal representatives for the purpose of conducting formal or informal consultation with the U.S. Fish and Wildlife Service. EPA has not designated operators as non-Federal representatives for the purpose of conducting formal or informal consultation with the National Marine Fisheries Service. EPA has determined that discharges from MS4s are not likely to adversely affect listed species or critical habitat under the jurisdiction of the National Marine Fisheries Service. EPA has initiated informal consultation with the National Marine Fisheries Service on behalf of all permittees and no further action is required by permittees in order to fulfill ESA requirements of this permit related to species under the jurisdiction of NMFS

B. The U.S. Fish and Wildlife Service ESA Eligibility Process

Before submitting a notice of intent (NOI) for coverage by this permit, applicants must determine whether they meet the ESA eligibility criteria by following the steps in Section B of this Appendix. Applicants that cannot meet the eligibility criteria in Section B must apply for an individual permit.

The USFWS ESA eligibility requirements of this permit relating to the Dwarf wedgemussel, Northeastern bulrush, Sandplain gerardia, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Small whorled Pogonia, Roseate Tern, Puritan tiger beetle, Northeastern beach tiger beetle, Northern Long-eared Bat and American burying beetle may be satisfied by documenting that one of the following criteria has been met:

USFWS Criterion A: No endangered or threatened species or critical habitat are in proximity to the stormwater discharges or discharge related activities.

USFWS Criterion B: In the course of formal or informal consultation with the Fish and Wildlife Service, under section 7 of the ESA, the consultation resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by USFWS on a finding that the stormwater discharges and

discharge related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation).

USFWS Criterion C: Using the best scientific and commercial data available, the effect of the stormwater discharge and discharge related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the applicant and affirmed by EPA, that the stormwater discharges and discharge related activities will have "no affect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the USFWS.

1. The Steps to Determine if the USFWS ESA Eligibility Criteria Can Be Met

To determine eligibility, you must assess the potential effects of your known stormwater discharges and discharge related activities on listed species or critical habitat, PRIOR to completing and submitting a Notice of Intent (NOI). You must follow the steps outlined below and document the results of your eligibility determination.

Step 1 – Determine if you can meet USFWS Criterion A

USFWS Criterion A: You can certify eligibility, according to USFWS Criterion A, for coverage by this permit if, upon completing the Information, Planning, and Conservation (IPaC) online system process, you printed and saved the preliminary determination which indicated that federally listed species or designated critical habitats are not present in the action area. See Attachment 1 to Appendix C for instructions on how to use IPaC.

If you have met USFWS Criterion A skip to Step # 4.

If you have not met USFWS Criterion A, go to Step # 2.

Step 2 – Determine if You Can Meet Eligibility USFWS Criteria B

USFWS Criterion B: You can certify eligibility according to USFWS Criteria B for coverage by this permit if you answer "Yes" to **all** of the following questions:

1) Does your action area contain one or more of the following species: Sandplain gerardia, Small whorled Pogonia, American burying beetle, Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?
   AND
2) Did your assessment of the discharge and discharge related activities indicate that the discharge or discharge related activities "may affect" or are "not likely to adversely affect" listed species or critical habitat?
   AND
3) Did you contact the USFWS and did the formal or informal consultation result in either a "no jeopardy" opinion by the USFWS (for formal consultation) or concurrence by the

USFWS that your activities would be "not likely to adversely affect" listed species or critical habitat (for informal consultation)?
AND

4) Do you agree to implement all measures upon which the consultation was conditioned?
5) Do you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the NOI that you will re-initiate informal or formal consultation with USFWS as necessary?

Use the guidance below Step 3 to understand effects determination and to answer these questions.

If you answered "Yes" to all four questions above, you have met eligibility USFWS Criteria B. Skip to Step 4.

If you answered "No" to any of the four questions above, go to Step 3.

Step 3 – Determine if You Can Meet Eligibility USFWS Criterion C

USFWS Criterion C: You can certify eligibility according to USFWS Criterion C for coverage by this permit if you answer "Yes" to both of the following question:

1) Does your action area contain one or more of the following species: Northern Long-eared Bat, Sandplain gerardia, Small whorled Pogonia and/or American burying beetle and **does not** contain one any following species: Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?[3]
OR
2) Did the assessment of your discharge and discharge related activities and indicate that there would be "no affect" on listed species or critical habitat and EPA provided concurrence with your determination?
3) Do you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the NOI that you will to conduct an endangered species screening for the proposed site and contact the USFWS if you determine that the new activity "may affect" or is "not likely to adversely affect" listed species or critical habitat under the jurisdiction of the USFWS.

Use the guidance below to understand effects determination and to answer these questions.

If you answered "Yes" to both the question above, you have met eligibility USFWS Criterion C. Go to Step 4.

If you answered "No" to either of the questions above, you are not eligible for coverage by this permit. You must submit an application for an individual permit for your stormwater discharges. (See 40 CFR 122.21).

USFWS Effects Determination Guidance:

If you are unable to certify eligibility under USFWS Criterion A, you must assess whether your stormwater discharges and discharge-related activities "may affect", will have "no affect" or are "not likely to adversely affect" listed species or critical habitat. "Discharge-related activities" include: activities which cause, contribute to, or result in point source stormwater pollutant discharges; and measures to provide treatment for stormwater discharges including the siting, construction and operational procedures to control, reduce or prevent water pollution. Please be aware that no protection from incidental take liability is provided under this criterion.

The scope of effects to consider will vary with each system. If you are having difficulty in determining whether your system is likely to cause adverse effects to a listed species or critical habitat, you should contact the USFWS for assistance. In order to complete the determination of effects it may be necessary to follow the formal or informal consultation procedures in section 7 of the ESA.

Upon completion of your assessment, document the results of your effects determination. If your results indicate that stormwater discharges or discharge related activities will have "no affect" on threatened or endangered species or critical habitat and EPA concurs with your determination, you are eligible under USFWS Criterion C of this Appendix. Your determination may be based on measures that you implement to avoid, eliminate, or minimized adverse effects.

If the determination is "May affect" or "not likely to adversely affect" you must contact the USFWS to discuss your findings and measures you could implement to avoid, eliminate, or minimize adverse effects. If you and the USFWS reach agreement on measures to avoid adverse effects, you are eligible under USFWS Criterion B. Any terms and/or conditions to protect listed species and critical habitat that you relied on in order to complete an adverse effects determination, must be incorporated into your Storm Water Management Program (required by this permit) and implemented in order to maintain permit eligibility.

If endangered species issues cannot be resolved: If you cannot reach agreement with the USFWS on measures to avoid or eliminate adverse effects then you are not eligible for coverage under this permit. You must seek coverage under an individual permit.

Effects from stormwater discharges and discharge-related activities which could pose an adverse effect include:

- *Hydrological:* Stormwater discharges may cause siltation, sedimentation, or induce other changes in receiving waters such as temperature, salinity or pH. These effects will vary with the amount of stormwater discharged and the volume and condition of the receiving water. Where a discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely.
- *Habitat:* Excavation, site development, grading and other surface disturbance activities, including the installation or placement of treatment equipment may adversely affect listed species or their habitat. Stormwater from the small MS4 may inundate a listed species habitat.

- *Toxicity:* In some cases, pollutants in the stormwater may have toxic effects on listed species.

Step 4 - Document Results of the Eligibility Determination

Once the USFWS ESA eligibility requirements have been met, you shall include documentation of USFWS ESA eligibility in the Storm Water Management Program required by the permit. Documentation for the various eligibility criteria are as follows:

- USFWS Criterion A: A copy of the IPaC generated preliminary determination letter indicating that no listed species or critical habitat is present within your action area. You shall also include a statement on how you determined that no listed species or critical habitat are in proximity to your stormwater system or discharges.
- USFWS Criterion B: A dated copy of the USFWS letter of concurrence on a finding of "no jeopardy" (for formal consultation) or "not likely to adversely affect" (for informal consultation) regarding the ESA section 7 consultation.
- USFWS Criterion C: A dated copy of the EPA concurrence with the operator's determination that the stormwater discharges and discharge-related activities will have "no affect" on listed species or critical habitat.

C. Submittal of Notice of Intent

Once the ESA eligibility requirements of Part C of this Appendix have been metyoumay submit the Notice of Intent indicating which Criterion you have met to be eligible for permit coverage. Signature and submittal of the NOI constitutes your certification, under penalty of law, of eligibility for permit coverage under 40 CFR 122.21.

D. Duty to Implement Terms and Conditions upon which Eligibility was Determined

You must comply with any terms and conditions imposed under the ESA eligibility requirements to ensure that your stormwater discharges and discharge related activities do not pose adverse effects or jeopardy to listed species and/or critical habitat. You must incorporate such terms and conditions into your Storm Water Management Program as required by this permit. If the ESA eligibility requirements of this permit cannot be met, then you may not receive coverage under this permit and must apply for an individual permit.

E. Services Information

United States Fish and Wildlife Service Office

National websites for Endangered Species Information:
Endangered Species home page: http://endangered.fws.gov
ESA Section 7 Consultations: http://endangered.fws.gov/consultation/index.html
Information, Planning, and Conservation System (IPAC): http://ecos.fws.gov/ipac/

U.S. FWS – Region 5
Supervisor

New England Field Office
U.S. Fish and Wildlife Services
70 Commercial Street, Suite 300
Concord, NH 03301

Natural Heritage Network

The Natural Heritage Network comprises 75 independent heritage program organizations located in all 50 states, 10 Canadian provinces, and 12 countries and territories located throughout Latin America and the Caribbean. These programs gather, manage, and distribute detailed information about the biological diversity found within their jurisdictions. Developers, businesses, and public agencies use natural heritage information to comply with environmental laws and to improve the environmental sensitivity of economic development projects. Local governments use the information to aid in land use planning.

The Natural Heritage Network is overseen by NatureServe, the Network's parent organization, and is accessible on-line at: http://www.natureserve.org/nhp/us_programs.htm, which provides websites and other access to a large number of specific biodiversity centers.

U.S. Fish and Wildlife IPaC system instructions

Use the following protocol to determine if any federally listed species or designated critical habitats under USFWS jurisdiction exist in your action area:

Enter your project specific information into the "Initial Project Scoping" feature of the Information, Planning, and Conservation (IPaC) system mapping tool, which can be found at the following location:

http://ecos.fws.gov/ipac/

a. Indicate the action area[1] for the MS4 by either:
    a. Drawing the boundary on the map or by uploading a shapefile.
    Select "Continue"

c. Click on the "SEE RESOURCE LIST" button and on the next screen you can export a trust resources list.This will provided a list of natural resources of concern, which will include an Endangered Species Act Species list. You may also request an official species list under "REGULATORY DOCUMENTS" Save copies and retain for your records

[1] The action area is defined by regulation as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action (50 CFR §402.02). This analysis is not limited to the "footprint" of the action nor is it limited by the Federal agency's authority. Rather, it is a biological determination of the reach of the proposed action on listed species. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area.

The documentation used by a Federal action agency to initiate consultation should contain a description of the action area as defined in the Services' regulations and explained in the Services' consultation handbook. If the Services determine that the action area as defined by the action agency is incorrect, the Services should discuss their rationale with the agency or applicant, as appropriate. Reaching agreement on the description of the action area is desirable but ultimately the Services can only consult when an action area is defined properly under the regulations.

For storm water discharges or discharge related activities, the action area should encompass the following:

- The immediate vicinity of, or nearby, the point of discharge into receiving waters.
- The path or immediate area through which or over which storm water flows from the municipality to the point of discharge into the receiving water. This includes areas in the receiving water downstream from the point of discharge.
- Areas that may be impacted by construction or repair activities. This extends as far as effects related to noise (from construction equipment, power tools, etc.) and light (if work is performed at night) may reach.

The action area will vary with the size and location of the outfall pipe, the nature and quantity of the storm water discharges, and the type of receiving waters, among other factors.

Appendix D
National Historic Preservation Act Guidance

Background

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of Federal "undertakings" on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. The term federal "undertaking" is defined in the NHPA regulations to include a project, activity, or program of a federal agency including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license or approval. See 36 CFR 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties. See 36 CFR 800.16(1).

EPA's issuance of a National Pollutant Discharge Elimination System (NPDES) General Permit is a federal undertaking within the meaning of the NHPA regulations and EPA has determined that the activities to be carried out under the general permit require review and consideration, in order to be in compliance with the federal historic preservation laws and regulations. Although individual submissions for authorization under the general permit do not constitute separate federal undertakings, the screening processes provides an appropriate site-specific means of addressing historic property issues in connection with EPA's issuance of the permit. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has included a screening process for applicants to identify whether properties listed or eligible for listing on the National Register of Historic Places are within the path of their discharges or discharge-related activities (including treatment systems or any BMPs relating to the discharge or treatment process) covered by this permit.

Applicants seeking authorization under this general permit must comply with applicable, State, Tribal, and local laws concerning the protection of historic properties and places and may be required to coordinate with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and others regarding effects of their discharges on historic properties.

Activities with No Potential to Have an Effect on Historic Properties

A determination that a federal undertaking has no potential to have an effect on historic properties fulfills an agency's obligations under NHPA. EPA has reason to believe that the vast majority of activities authorized under this general permit will have no potential effects on historic properties. This permit typically authorizes discharges from existing facilities and requires control of the pollutants discharged from the facility. EPA does not anticipate effects on historic properties from the pollutants in the authorized discharges. Thus, to the extent EPA's issuance of this general permit authorizes discharges of such constituents, confined to existing channels, outfalls or natural drainage areas, the permitting action does not have the potential to cause effects on historical properties.

In addition, the overwhelming majority of sources covered under this permit will be facilities that are seeking renewal of previous permit authorization. These existing dischargers should have already addressed NHPA issues in the previous general permit as they were required to certify that they were either not affecting historic properties or they had obtained written agreement from

the applicable SHPO or THPO regarding methods of mitigating potential impacts. To the extent this permit authorizes renewal of prior coverage without relevant changes in operations the discharge has no potential to have an effect on historic properties.

Activities with Potential to Have an Effect on Historic Properties

EPA believes this permit may have some potential to have an effect on historic properties the applicant undertakes the construction and/or installation of control measures that involve subsurface disturbance that involves less than 1 acre of land. (Ground disturbances of 1 acre or more require coverage under the Construction General Permit.) Where there is disturbance of land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if the applicant is establishing new or altering existing control measures to manage their discharge that will involve subsurface ground disturbance of less than 1 acre, they will need to ensure (1) that historic properties will not be impacted by their activities or (2) that they are in compliance with a written agreement with the SHPO, THPO, or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Examples of Control Measures Which Involve Subsurface Disturbance

The type of control measures that are presumptively expected to cause subsurface ground disturbance include:

- Dikes
- Berms
- Catch basins, drainage inlets
- Ponds, bioretention areas
- Ditches, trenches, channels, swales
- Culverts, pipes
- Land manipulation; contouring, sloping, and grading
- Perimeter Drains
- Installation of manufactured treatment devices

EPA cautions applicants that this list is non-inclusive. Other control measures that involve earth disturbing activities that are not on this list must also be examined for the potential to affect historic properties.

Certification

Upon completion of this screening process the applicant shall certify eligibility for this permit using one of the following criteria on their Notice of Intent for permit coverage:

> **Criterion A**: The discharges do not have the potential to cause effects on historic properties.

Criterion B: A historic survey was conducted. The survey concluded that no historic properties are present. Discharges do not have the potential to cause effects on historic properties.

Criterion C: The discharges and discharge related activities have the potential to have an effect on historic properties, and the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Authorization under the general permit is available only if the applicant certifies and documents permit eligibility using one of the eligibility criteria listed above. Small MS4s that cannot meet any of the eligibility criteria in above must apply for an individual permit.

Screening Process

Applicants or their consultant need to answer the questions and follow the appropriate procedures below to assist EPA in compliance with 36 CFR 800.

Question 1*:* Is the facility an existing facility authorized by the previous permit or a new facility and the applicant is not undertaking any activity involving subsurface land disturbance less than an acre?

YES - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.
The applicant should certify eligibility for this permit using Criterion A on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

NO- Go to Question 2.

Question 2*:* Is the property listed in the National Register of Historic Places or have prior surveys or disturbances revealed the existence of a historic property or artifacts?

NO - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.
The applicant should certify eligibility for this permit using Criterion B on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

YES - The applicant or their consultant should prepare a complete information submittal to the SHPO. The submittal consists of:

- Completed Project Notification Form- forms available at http://www.sec.state.ma.us/mhc/mhcform/formidx.htm;

- USGS map section with the actual project boundaries clearly indicated; and
- Scaled project plans showing existing and proposed conditions.

(1) Please note that the SHPO does not accept email for review. Please mail a paper copy of your submittal (Certified Mail, Return Receipt Requested) or deliver a paper copy of your submittal (and obtain a receipt) to:

State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Blvd.
Boston MA 02125.

(2) Provide a copy of your submittal and the proof of MHC delivery showing the date MHC received your submittal to:

NPDES Permit Branch Chief
US EPA Region 1 (OEP06-1)
5 Post Office Square, Suite 100
Boston MA 02109-3912.

The SHPO will comment within thirty (30) days of receipt of complete submittals, and may ask for additional information. Consultation, as appropriate, will include EPA, the SHPO and other consulting parties (which includes the applicant). The steps in the federal regulations (36 CFR 800.2 to 800.6, etc.) will proceed as necessary to conclude the Section 106 review for the undertaking. **The applicant should certify eligibility for this permit using Criterion C on their Notice of Intent for permit coverage.**

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part I: General Conditions

General Information

Name of Municipality or Organization: _____ State _____

EPA NPDES Permit Number: _____

Primary MS4 Program Manager Contact Information

Name: _____ Title: _____

Street Address Line 1 _____

Street Address Line 2 _____

City _____ State _____ Zip Code 12345-6789

Email: _____ Phone Number: (123) 456-7890

Fax Number: _____

Other Information

☐ Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

Stormwater Management Program (SWMP) Location (web address or physical location): _____

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? _____ Eligibility Criteria (check all that apply): ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F

National Historic Preservation Act (NHPA) Determination Complete? _____ Eligibility Criteria (check all that apply): ☐ A ☐ B ☐ C ☐ D

MS4 Infrastructure (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete? *(Part II,III,IV or V, Subpart B.3.(a.) of 2003 permit)* _____ If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY): _____

Web address where MS4 map is published: _____

If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

Regulatory Authorities (if covered under the 2003 permit)

Illicit Discharge Detection and Elimination (IDDE) Authority Adopted?: *(Part II,III,IV or V, Subpart B.3.(b.) of 2003 permit)* _____ Effective Date or Estimated Date of Adoption (MM/DD/YY): _____

Construction/Erosion and Sediment Control (ESC) Authority Adopted?: *(Part II,III,IV or V, Subpart B.4.(a.) of 2003 permit)* _____ Effective Date or Estimated Date of Adoption (MM/DD/YY): _____

Post- Construction Stormwater Management Adopted?: *(Part II,III,IV or V, Subpart B.5.(a.) of 2003 permit)* _____ Effective Date or Estimated Date of Adoption (MM/DD/YY): _____

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part II: Summary of Receiving Waters

Please list the waterbody segments to which your MS4 discharges. For each waterbody segment, please report the number of outfalls discharging into it and, if applicable, any impairments.
For Massachusetts list of impaired waters click here: Massachusetts 2010 List of Impaired: Waters http://www.mass.gov/dep/water/resources/10list6.pdf
For New Hampshire list of impaired waters click here: New Hampshire Final 303(d) Materials: http://des.nh.gov/organization/divisions/water/wmb/swqa/2010/index.htm
Source of pollutants column should be completed with a preliminary source evaluation of pollutants for discharges to impaired waterbodies (see above 303(d) lists) without an approved TMDL in accordance with Section 2.2.2a of the permit

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Pollutant list (select one at a time to add)	Click impairment at left to add, or at right to remove	Pollutant(s) causing impairment, if applicable (select one at a time to remove)
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	

		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total)	Add/Remove	

		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	

Click to lengthen table

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

Identify the Best Management Practices (BMPs) that will be employed to address each of the six Minimum Control Measures (MCMs). For municipalities/organizations whose MS4 discharges into a receiving water with an approved Total Maximum Daily Load (TMDL) and applicable waste lod allocation (WLA), identify any additional BMPs employed to specifically support the achievement of the WLA in the TMDL section at the end of Part III.

For each MCM list each existing or proposed BMP by category and provide a brief description, responsible parties/departments, measurable goals and the year the BMP will be employed (Public education and outreach BMPs also requires a target audience). **Use the drop-down menus in each table or enter your own text to override the drop down menu**

MCM 1: Public Education and Outreach

BMP Media/Category (enter your own text to override the drop down menu)	**BMP Description**	**Targeted Audience**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal**	**Beginning Year of BMP implementation**
		Residents			
		Businesses, Institutions and Commercial Facilities			
		Developers (construction)			
		Industrial Facilities			
		Residents			
		Businesses, Institutions and Commercial Facilities			
		Developers (construction)			
		Industrial Facilities			

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 2: Public Involvement and Participation

BMP Categorization	Brief BMP Description (enter your own text to override the drop down menu)	Responsible Department/ Parties	Additional Description/ Measurable Goal	Beginning Year of BMP implementation
Public Review	SWMP Review			
Public Participation				

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization (enter your own text to override the drop down menu)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)
SSO inventory			Develop SSO inventory within 1 year of effective date of permit
Storm sewer system map			Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit
Written IDDE program development			Complete within 1.5 years of the effective date of permit
Implement IDDE Program			Implement catchment investigations according to program and permit conditions
Employee Training			Train annually
Conduct dry weather screening			Conduct in accordance with outfall screening procedure and permit conditions
Conduct wet weather screening			Conduct in accordance with outfall screening procedure and permit conditions

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 4: Construction Site Stormwater Runoff Control

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/ Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP implementation**
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures		Complete by the end of Year 1	
Site plan review	Complete written procedures of site plan review and begin implementation		Complete by the end of Year 1	
Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program			
Waste Control	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes.			

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/ Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP implementation**
As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP.		Require submission of as-built plans for completed projects	
Inventory and priority ranking of MS4-owned properties that may be retrofitted with BMPs	Conduct detailed inventory of MS4 owned properties and rank for retrofit potential		Complete 4 years after permit effective date	
Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist		Complete 4 years after permit effective date	
Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.		Complete 4 years after permit effective date	
Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality.	Adoption, amendment or modification of a regulatory mechanism to meet permit requirements		Complete 2 years after permit effective date	

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 6: Municipal Good Housekeeping and Pollution Prevention

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/ Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP implementation**
Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment			Complete 2 years after permit effective date	
Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment			Complete 2 years after permit effective date	
Establish and implement program for repair and rehabilitation of MS4 infrastructure			Complete 2 years after permit effective date	
Stormwater Pollution Prevention Plan (SWPPP) for maintenance garages, transfer stations and other waste-handling facilities			Complete 2 years after permit effective date	
Catch Basin Cleaning				
Street Sweeping Program				
Road Salt use optimization program				

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

Actions for meeting Total Maximum Daily Load (TMDL) Requirements

Use the drop-down menus to select the best categorization of your BMP and responsible party. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Applicable TMDL	**Action Description**	**Responsible Department/ Parties** (enter your own text to override the drop down menu)

Use the drop-down menus to select the Pollutant causing the water quality limitation and enter the waterbody ID(s) experiencing excursions above water quality standards for that pollutant. Choose the action description from the dropdown menu and indicate the responsible party. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Actions for meeting Requirements Related to water Quality Limited Waters

Part III: Stormwater Management Program Summary

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Pollutant	Waterbody ID(s)	Action Description	Responsible Department/Parties (enter your own text to override the drop down menu)

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part IV: Notes and additional information

Use the space below to provide any additional information about your MS4 program

Click to add text

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part V: Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Title:

Signature Field Date:

NOI Submission

Please submit the form electronically via email using the "submit by Email" button below or send in a CD with your completed NOI. You may also print and submit via mail at the address below if you choose not to submit electronically. Outfall map required in Part I of the NOI (if applicable) can be submitted electronically as an email attachment OR as a paper copy.
Permittees that choose to submit their NOI electronically by email or by mailing a CD with the completed NOI form to EPA, will be able to download a partially filled Year 1 Annual Report at a later date from EPA.

Submit by Email — Submit by email using this button. Or, send an email with attachments to: stormwater.reports@epa.gov

Save — Save NOI for your records

EPA Submittal Address:

United States Environmental Protection Agency
5 Post Office Square - Suite 100
Mail Code - OEP06-1
Boston, Massachusetts 02109-3912
ATTN: Newton Tedder

State Submittal Address

Massachusetts Department of Environmental Protection
One Winter Street - 5th Floor
Boston, MA 02108
ATTN: Fred Civian

APPENDIX F

Requirements for Discharges to Impaired Waters with an Approved TMDL

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Attachment 1 – Method To Calculate Baseline Watershed Phosphorus Load For Lake And Pond Phosphorus TMDLs (Applicable To part II Of Appendix F Only) And Method To Calculate Increases in Phosphorus Load due to Development

Attachment 2 – Phosphorus Reduction Credits For Selected Enhanced Non-Structural BMPs

Attachment 3 - Phosphorus Reduction Credits For Selected Structural BMPs

A. Requirements for Discharges to Impaired Waters with an Approved MassDEP In State TMDL

I. Charles River Watershed Phosphorus TMDL Requirements

On October 17, 2007, EPA approved the *Final TMDL for Nutrients in the Lower Charles River Basin* (Lower Charles TMDL)[1] and on June 10, 2011 EPA approved the *Total Maximum Daily Load for Nutrients in the Upper/Middle Charles River* (Upper/Middle Charles TMDL)[2]. The following phosphorus reduction requirements address phosphorus in MS4 discharges.

1. To address the discharge of phosphorus from its MS4, the permittee shall develop a Phosphorus Control Plan (PCP) designed to reduce the amount of phosphorus in stormwater (SW) discharges from its MS4 to the Charles River and its tributaries. The PCP shall be completed in phases and the permittee shall add it as an attachment to its written SWMP upon completion and report in annual reports pursuant to part 4.4 of the Permit on its progress toward achieving its Phosphorus Reduction Requirement. The PCP shall be developed and fully implemented as soon as possible but no later than 20 years after the permit effective date in accordance with the phases and schedule outlined below. Each Phase shall contain the elements required of each phase as described in parts a.through c below. The timing of each phase over 20 years from the permit effective date is:

1-5 years after permit effective date	5-10 years after permit effective date	10-15 years after permit effective date	15-20 years after permit effective date
Create Phase 1 Plan	Implement Phase 1 Plan		
	Create Phase 2 Plan	Implement Phase 2 Plan	
		Create Phase 3 Plan	Implement Phase 3 Plan

a. Phase 1

1) The permittee shall complete a written Phase 1 plan of the PCP five years after the permit effective date and fully implement the Phase 1 plan of the PCP as soon as possible but no longer than 10 years after the permit effective date.
2) The Phase 1 plan of the PCP shall contain the following elements and has the following required milestones:

Item Number	Phase 1 of the PCP Component and Milestones	Completion Date
1-1	Legal analysis	2 years after permit effective date

[1] Massachusetts Department of Environmental Protection. 2007. *Final TMDL for Nutrients in the Lower Charles River Basin*. CN 301.1

[2] Massachusetts Department of Environmental Protection. 2011. *Total Maximum Daily Load for Nutrients in the Upper/Middle Charles River Basin, Massachusetts*. CN 272.0

1-2	Funding source assessment.	3 years after permit effective date
1-3	Define scope of PCP (PCP Area) Baseline Phosphorus Load and Phosphorus Reduction Requirement and Allowable Phosphorus Load	4 years after permit effective date
1-4	Description of Phase 1 planned nonstructural controls	5 years after permit effective date
1-5	Description of Phase 1 planned structural controls	5 years after permit effective date
1-6	Description of Operation and Maintenance program for structural controls	5 years after permit effective date
1-7	Phase 1 implementation schedule	5 years after permit effective date
1-8	Estimated cost for implementing Phase 1 of the PCP	5 years after permit effective date
1-9	Complete Written Phase 1 PCP	5 years after permit effective date
1-10	Full implementation of nonstructural controls	6 years after permit effective date
1-11	Performance Evaluation	6, and 7 years after permit effective date
1-12	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.80 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.80)$	8 years after permit effective date
1-13	Performance Evaluation	9 years after permit effective date
1-14	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.75	10 years after permit effective date

	$P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.75)$	

Table F-1:Phase 1 of the PCP components and Milestones

3) Description of Phase 1 PCP Components

Legal Analysis- The permittee shall develop and implement an analysis that identifies existing regulatory mechanisms available to the MS4 such as by-laws and ordinances, and describes any changes to regulatory mechanisms that may be necessary to effectively implement the entire PCP. This may include the creation or amendment of financial and regulatory authorities. The permittee shall adopt necessary regulatory changes by the end of the permit term.

Funding source assessment – The permittee shall describe known and anticipated funding mechanisms (e.g. general funding, enterprise funding, stormwater utilities) that will be used to fund PCP implementation. The permittee shall describe the steps it will take to implement its funding plan. This may include but is not limited to conceptual development, outreach to affected parties, and development of legal authorities.

Scope of the PCP, Baseline Phosphorus Load (P_{base}), Phosphorus Reduction Requirement (P_{RR}) and Allowable Phosphorus Load (P_{allow}) - The permittee shall indicate the area in which it plans to implement the PCP. The permittee must choose one of the following: (1) to implement its PCP in the entire area within its jurisdiction (for municipalities this would be the municipal boundary) within the Charles River Watershed; or (2) to implement its PCP only in the urbanized area portion of the permittee's jurisdiction within the Charles River Watershed. The implementation area selected by the permittee is known as the "PCP Area" for that permittee. Table F-2[3] and Table F-3[4] list the permittees subject to phosphorus reduction requirements along with the estimated Baseline Phosphorous Loads in mass/yr, the calculated Allowable Stormwater Phosphorus Load in mass/yr, the Stormwater Phosphorus Reduction Requirement in mass/yr and the respective percent reductions necessary. The two tables contain different reduction requirements for each permittee based on the PCP Area they choose (see above). If the permittee chooses to implement the PCP in its entire jurisdiction, the permittee may demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural and non-structural controls on discharges that occur outside the regulated area. If the permittee chooses to implement the PCP in its regulated area only, the permittee must demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural

[3] The estimated Baseline Phosphorus Load, Allowable Phosphorus Load, Phosphorus Reduction Requirement and percent reductions presented in Table F-2 apply to the entire watershed land area that drains to the Charles River and its tributaries within the permittee's jurisdiction.

[4] The estimated Baseline Phosphorus Load, Allowable Phosphorus Load, Phosphorus Reduction Requirement and percent reductions presented in Table F-3 apply only to the urbanized area portion of the permittee's jurisdiction that drains to the Charles River or its tributaries.

and non-structural controls on discharges that occur within the regulated area only.

The permittee shall select the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load that corresponds to the PCP Area selected. The selected Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load will be used to determine compliance with PCP milestones of this Phase and Phase 2 and Phase 3. If the permittee chooses to implement its PCP in all areas within its jurisdiction within the Charles River Watershed, then the permittee shall use Table F-2 to determine the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load for its PCP Area. If the permittee chooses to implement its PCP only within the regulated area within the Charles River Watershed, then the permittee shall use Table F-3 to determine the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load for its PCP Area.

The Permittee may submit more accurate land use data from 2005, which is the year chosen as the baseline land use for the purposes of permit compliance, for EPA to recalculate baseline phosphorus stormwater loads for use in future permit reissuances. Updated land use maps, land areas, characteristics, and MS4 area and catchment delineations shall be submitted to EPA along with the year 4 annual report in electronic GIS data layer form for consideration for future permit requirements[5]. Until such a time as future permit requirements reflect information submitted in the year 4 annual report, the permittee shall use the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load Table F-2 (if its PCP Area is the permittee's entire jurisdiction) or Table F-3 (if its PCP Area is the regulated area only) to calculate compliance with milestones for Phase 1, 2, and 3 of the PCP.

Description of Phase 1 planned non-structural controls – The permittee shall describe the non-structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-1. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation in units of mass/yr. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F.

Description of Phase 1 planned structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of structural phosphorus controls during Phase 1. The ranking shall be developed through the use of available

[5] This submission is optional and needs only be done if the permittee has more accurate land use information from 2005 than information provided by MassGIS (http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/lus2005.html, retrieved 10/1/2013) or the permittee has updated MS4 drainage area characteristics and the permittee would like to update the Baseline Phosphorus Load.

screening and monitoring results collected during the permit term either by the permittee or another entity and the mapping required pursuant to part 2.3.4.6 of the Permit. The permittee shall also include in this priority ranking a detailed assessment of site suitability for potential phosphorus control measures based on soil types and other factors. The permittee shall coordinate this activity with the requirements of part 2.3.6.8.b of the Permit. A description and the results of this priority ranking shall be included in Phase 1 of the PCP. The permittee shall describe the structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-1. The description of structural controls shall include the planned and existing measures, the areas where the measures will be implemented or are currently implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party may be included in a municipal PCP. Annual phosphorus reductions from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F.

Description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 1 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Phase 1 Implementation Schedule – A schedule for implementation of all planned Phase 1 BMPs, including, as appropriate: obtaining funding, training, purchasing, construction, inspections, monitoring, operation and maintenance activities, and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the Phase 1 Plan, and all non-structural BMPs shall be fully implemented within six years of the permit effective date. Structural BMPs shall be designed and constructed to ensure the permittee will comply with the 8 and 10 year phosphorus load milestones established in Table F-1. The Phase 1 plan shall be fully implemented as soon as possible, but no later than 10 years after the effective date of permit.

Estimated cost for implementing Phase 1 of the PCP – The permittee shall estimate the cost of implementing the Phase 1 non-structural and structural controls and associated Operation and Maintenance Program. This cost estimate can be used to assess the validity of the funding source assessment completed by year 3 after the permit effective date and to update funding sources as necessary to complete Phase 1.

Complete written Phase 1 Plan – The permittee must complete the written Phase 1 Plan of the PCP no later than 5 years after the permit effective date. The complete Phase 1 Plan shall include Phase 1 PCP item numbers 1-1 through 1-7 in Table F-1. The permittee shall make the Phase 1 Plan

available to the public for public comment during Phase 1 Plan development. EPA encourages the permittee to post the Phase I Plan online to facilitate public involvement.

Performance Evaluation –The permittee shall evaluate the effectiveness of the PCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs[6] and tracking increases resulting from development. Phosphorus reductions shall be calculated consistent with Attachment 2 to Appendix F (non-structural BMP performance) and Attachment 3 to Appendix F (structural BMP performance) for all BMPs implemented to date. Phosphorus export increases since 2005 due to development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus loading increases and reductions in unit of mass/yr shall be added or subtracted from the applicable Baseline Phosphorus Load given in Table F-2 or Table F-3 depending on the Scope of PCP chosen to estimate the yearly phosphorous export rate from the PCP Area. The permittee shall also include all information required in part I.2 of this Appendix in each performance evaluation. Performance evaluations will be included as part of each permittee's annual report as required by part 4.4 of the Permit.

Community Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed

Community	Baseline Phosphorus Load, kg/yr	Stormwater Phosphorus Load Reduction Requirement kg/yr	Allowable Phosphorus Load, kg/yr	Stormwater Percent Reduction in Phosphorus Load (%)
Arlington	106	57	49	53%
Ashland	67	23	44	34%
Bellingham	947	331	616	35%
Belmont	202	86	116	42%
Brookline	1,635	789	846	48 %
Cambridge	512	263	249	51%
Dedham	805	325	480	40%
Dover	831	137	694	17%
Foxborough	2	0	2	0%
Franklin	2,344	818	1,526	35%

[6] In meeting its phosphorus reduction requirements a permittee may quantify phosphorus reductions by actions undertaken by another entity, except where those actions are credited to MassDOT or another permittee identified in Appendix F Table F-2 or F-3.

Community Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed				
Community	**Baseline Phosphorus Load, kg/yr**	**Stormwater Phosphorus Load Reduction Requirement kg/yr**	**Allowable Phosphorus Load, kg/yr**	**Stormwater Percent Reduction in Phosphorus Load (%)**
Holliston	1,543	395	1,148	26%
Hopedale	107	37	70	35%
Hopkinton	292	66	226	22%
Lexington	530	194	336	37%
Lincoln	593	101	492	17%
Medfield	955	277	678	29%
Medway	1,063	314	749	30%
Mendon	29	9	20	31%
Milford	1,611	663	948	41%
Millis	969	248	721	26%
Natick	1,108	385	723	35%
Needham	1,772	796	976	45%
Newton	3,884	1,941	1,943	50%
Norfolk	1,004	232	772	23%
Somerville	646	331	315	51%
Sherborn	846	131	715	16%
Walpole	159	28	131	18%
Waltham	2,901	1,461	1,400	50%
Watertown	1,127	582	545	52%
Wayland	46	15	31	33%
Wellesley	1,431	661	770	46%
Weston	1,174	281	893	24%
Westwood	376	114	262	30%
Wrentham	618	171	447	28%
Mass-DCR	421	91	330	22%

Table F-2: Baseline Phosphorus Load, Phosphorus Reduction Requirement, Allowable Phosphorus Load and Percent Reduction in Phosphorus Load from Charles River Watershed. For use when PCP Area is chosen to be the entire community within the Charles River Watershed.

Urbanized Area Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed				
Community	**Baseline Watershed Phosphorus Load, kg/yr**	**Stormwater Phosphorus Load Reduction Requirement, kg/yr**	**Allowable Phosphorus Load, kg/yr**	**Stormwater Percent Reduction in Phosphorus Load (%)**
Arlington	106	57	49	53%
Ashland	67	23	44	34%
Bellingham	801	291	510	36%
Belmont	202	86	116	42%
Brookline	1,635	789	846	48 %
Cambridge	512	263	249	51%
Dedham	805	325	480	40%
Dover	282	54	228	19%
Foxborough	2	0	2	0%
Franklin	2,312	813	1,499	35%
Holliston	1,359	369	990	27%
Hopedale	107	37	70	35%
Hopkinton	280	65	215	23%
Lexington	525	193	332	37%
Lincoln	366	63	303	17%
Medfield	827	267	560	33%
Medway	1,037	305	732	29%
Mendon	10	5	5	50%
Milford	1,486	653	833	44%
Millis	501	159	342	32%
Natick	994	359	635	36%
Needham	1,771	795	976	45%
Newton	3,884	1,941	1,943	50%
Norfolk	1,001	231	770	23%
Somerville	646	331	315	51%
Sherborn	203	38	165	19%
Walpole	159	28	131	18%
Waltham	2,901	1,461	1,440	50%
Watertown	1,127	582	545	52%
Wayland	46	15	31	33%
Wellesley	1,431	661	770	46%

Urbanized Area Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed				
Community	**Baseline Watershed Phosphorus Load, kg/yr**	**Stormwater Phosphorus Load Reduction Requirement, kg/yr**	**Allowable Phosphorus Load, kg/yr**	**Stormwater Percent Reduction in Phosphorus Load (%)**
Weston	1,174	281	893	24%
Westwood	346	108	238	31%
Wrentham	556	159	397	29%
Mass DCR	396	89	307	22%

Table F-3: Baseline Phosphorus Load, Phosphorus Reduction Requirement, Allowable Phosphorus Load and Percent Reduction in Phosphorus Load from Charles River Watershed. For use when PCP Area is chosen to be only the urbanized area portion of a permittee's jurisdiction within the Charles River Watershed.

b. Phase 2

1) The permittee shall complete the Phase 2 Plan of the PCP 10 years after the permit effective date and fully implement the Phase 2 plan of the PCP as soon as possible but no longer than 15 years after the permit effective date.
2) The Phase 2 plan of the PCP shall be added to the Phase 1 Plan and contain the following elements and has the following required milestones:

Item Number	Phase 2 of the PCP Component and Milestones	Completion Date
2-1	Update Legal analysis	As necessary
2-2	Description of Phase 2 planned nonstructural controls	10 years after permit effective date
2-3	Description of Phase 2 planned structural controls	10 years after permit effective date
2-4	Updated description of Operation and Maintenance Program	10 years after permit effective date
2-5	Phase 2 implementation schedule	10 years after permit effective date
2-6	Estimated cost for implementing Phase 2 of the PCP	10 years after permit effective date

2-7	Complete written Phase 2 Plan	10 years after permit effective date
2-8	Performance Evaluation.	11, and 12 years after permit effective date
2-9	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.65 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.65)$	13 years after permit effective date
2-10	Performance Evaluation	14 years after permit effective date
2-11	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.50 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.50)$	15 years after permit effective date

Table F-4: Phase 2 of the PCP components and Milestones

3) Description of Phase 2 PCP Components

Updated Legal Analysis- The permittee shall update the legal analysis completed during Phase 1 of the PCP as necessary to include any new or augmented bylaws, ordinances or funding mechanisms the permittee has deemed necessary to implement the PCP. The permittee shall use experience gained during Phase 1 to inform the updated legal analysis. The permittee shall adopt necessary regulatory changes as soon as possible to implement the Phase 2 Plan.

Description of Phase 2 planned non-structural controls – The permittee shall describe the non-structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-4. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation in units of mass/yr. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F.

Description of planned Phase 2 structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of phosphorus control practices during Phase 2. The ranking shall build upon the ranking developed for Phase 1. The permittee shall describe the structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-4. The description of structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party[7] may be included in a municipal PCP. Annual phosphorus reductions from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F.

Updated description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1 and 2 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 2 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Phase 2 Implementation Schedule – A schedule for implementation of all planned Phase 2 BMPs, including, as appropriate: funding, training, purchasing, construction, inspections, monitoring, O&M activities and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the Phase 2 Plan. Structural BMPs shall be designed and constructed to ensure the permittee will comply with the 13 and 15 year milestones established in Table F-4. The Phase 2 plan shall be fully implemented as soon as possible, but no later than 15 years after the effective date of permit.

Estimated cost for implementing Phase 2 of the PCP – The permittee shall estimate the cost of implementing the Phase 2 non-structural and structural controls and associated Operation and Maintenance Program. This cost estimate can be used to plan for the full implementation of Phase 2.

Complete written Phase 2 Plan – The permittee must complete a written Phase 2 Plan of the PCP no later than 10 years after the permit effective date. The complete Phase 2 Plan shall include Phase 2 PCP item numbers 2-1 through 2-6 in Table F-4. The permittee shall make the Phase 2 Plan available to the public for public comment during Phase 2 plan development. EPA encourages the permittee to post the Phase 2 Plan online to facilitate public involvement.

[7] See footnote 6

Performance Evaluation – The permittee shall evaluate the effectiveness of the PCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs[8] and tracking increases resulting from development. Phosphorus reductions shall be calculated consistent with Attachment 2 to Appendix F (non-structural BMP performance) and Attachment 3 to Appendix F (structural BMP performance) for all BMPs implemented to date. Phosphorus export increases due to development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus loading increases and reductions in unit of mass/yr shall be added or subtracted from the applicable Baseline Phosphorus Load given in Table F-2 or Table F-3 depending on the Scope of PCP chosen to estimate the yearly phosphorous export rate from the PCP Area. The permittee shall also include all information required in part I.2 of this Appendix in each performance evaluation. Performance evaluations will be included as part of each permittee's annual report as required by part 4.4 of the Permit.

c. Phase 3

1) The permittee shall complete the Phase 3 Plan of the PCP 15 years after the permit effective date and fully implement the Phase 3 plan of the PCP as soon as possible but no longer than 20 years after the permit effective date.
2) The Phase 3 plan of the PCP shall be added to the Phase 1 Plan and the Phase 2 Plan to create the comprehensive PCP and contain the following elements and has the following required milestones:

Item Number	Phase 3 of the PCP Component and Milestones	Completion Date
3-1	Update Legal analysis	As necessary
3-2	Description of Phase 3 planned nonstructural controls	15 years after permit effective date
3-3	Description of Phase 3 planned structural controls	15 years after permit effective date
3-4	Updated description of Operation and Maintenance (O&M) Program	15 years after permit effective date
3-5	Phase 3 implementation schedule	15 years after permit effective date
3-6	Estimated cost for implementing Phase 3 of the PCP	15 years after permit effective date
3-7	Complete written Phase 3 Plan	15 years after permit effective date

[8] See footnote 9

3-8	Performance Evaluation.	16, and 17 years after permit effective date
3-9	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.30 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.30)$	18 years after permit effective date
3-10	Performance Evaluation	19 years after permit effective date
3-11	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load (P_{allow}) $P_{exp} \leq P_{allow}$	20 years after permit effective date

Table F-5:Phase 3 of the PCP components and Milestones

3) Description of Phase 3 PCP Components

Updated Legal Analysis- The permittee shall update the legal analysis completed during Phase 1 and Phase 2 of the PCP as necessary to include any new or augmented bylaws, ordinances or funding mechanisms the permittee has deemed necessary to implement the PCP. The permittee shall use experience gained during Phase 1 and Phase 2 to inform the updated legal analysis. The permittee shall adopt necessary regulatory changes as soon as possible to implement the Phase 3 Plan.

Description of Phase 3 planned non-structural controls – The permittee shall describe the non-structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-5. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation in units of mass/yr. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F.

Description of planned Phase 3 structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of phosphorus control practices during Phase 3. The ranking shall build upon the ranking developed for

Phase 1 and 2. The permittee shall describe the structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-5. The description of structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party may be included in a municipal PCP. Annual phosphorus reduction from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F.

Updated description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1, 2 and 3 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 3 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Phase 3 Implementation Schedule – A schedule for implementation of all planned Phase 3 BMPs, including, as appropriate: funding, training, purchasing, construction, inspections, monitoring, O&M activities and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the Phase 3 Plan. Structural BMPs shall be designed and constructed to ensure the permittee will comply with the 18 and 20 year milestones established in Table F-5. The Phase 3 plan shall be fully implemented as soon as possible, but no later than 20 years after the effective date of permit.

Estimated cost for implementing Phase 3 of the PCP – The permittee shall estimate the cost of implementing the Phase 3 non-structural and structural controls and associated Operation and Maintenance Program. This cost estimate can be used to plan for the full implementation of Phase 3.

Complete written Phase 3 Plan – The permittee must complete the written Phase 3 Plan of the PCP no later than 15 years after the permit effective date. The complete Phase 3 Plan shall include Phase 3 PCP item numbers 3-1 through 3-6 in Table F-5. The permittee shall make the Phase 3 Plan available to the public for public comment during Phase 3 Plan development. EPA encourages the permittee to post the Phase 3 Plan online to facilitate public involvement.

Performance Evaluation – The permittee shall evaluate the effectiveness of the PCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs[9] and tracking increases resulting from development. Phosphorus reductions shall be calculated consistent with Attachment 2 to Appendix F (non-structural BMP

[9] See footnote 9

performance) and Attachment 3 to Appendix F (structural BMP performance) for all BMPs implemented to date. Phosphorus export increases due to development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus loading increases and reductions in unit of mass/yr shall be added or subtracted from the applicable Baseline Phosphorus Load given in Table F-2 or Table F-3 depending on the Scope of PCP chosen to estimate the yearly phosphorous export rate from the PCP Area. The permittee shall also include all information required in part I.2 of this Appendix in each performance evaluation. Performance evaluations will be included as part of each permittee's annual report as required by part 4.4 of the Permit.

2. Reporting

Beginning 1 year after the permit effective date, the permittee shall include a progress report in each annual report on the planning and implementation of the PCP.

Beginning five (5) years after the permit effective date, the permittee shall include the following in each annual report submitted pursuant to part 4.4 of the Permit:

a. All non-structural control measures implemented during the reporting year along with the phosphorus reduction in mass/yr (P_{NSred}) calculated consistent with Attachment 2 to Appendix F
b. Structural controls implemented during the reporting year and all previous years including:
    a. Location information of structural BMPs (GPS coordinates or street address)
    b. Phosphorus reduction from all structural BMPs implemented to date in mass/yr (P_{Sred}) calculated consistent with Attachment 3 to Appendix F
    c. Date of last completed maintenance and inspection for each Structural control
c. Phosphorus load increases due to development over the previous reporting period and incurred since 2005 (P_{DEVinc}) calculated consistent with Attachment 1 to Appendix F.
d. Estimated yearly phosphorus export rate (P_{exp}) from the PCP Area calculated using Equation 2. Equation 2 calculates the yearly phosphorus export rate by subtracting yearly phosphorus reductions through implemented nonstructural controls and structural controls to date from the Baseline Phosphorus Load and adding loading increases incurred through development to date. This equation shall be used to demonstrate compliance with the phosphorus reduction milestones required as part of each phase of the PCP.

$$P_{exp}\left(\frac{mass}{yr}\right) = P_{base}\left(\frac{mass}{yr}\right) - \left(P_{Sred}\left(\frac{mass}{yr}\right) + P_{NSred}\left(\frac{mass}{yr}\right)\right) + P_{DEVinc}\left(\frac{mass}{yr}\right)$$

Equation 1. Equation used to calculate yearly phosphorus export rate from the chosen PCP Area. P_{exp}=Current phosphorus export rate from the PCP Area in mass/year. P_{base}=baseline phosphorus export rate from LPCP Area in mass/year. P_{Sred}= yearly phosphorus reduction from implemented structural controls in the PCP Area in mass/year. P_{NSred}= yearly phosphorus reduction from implemented non-structural controls in the PCP Area in mass/year. P_{DEVinc}= yearly phosphorus increase resulting from development since 2005 in the PCP Area in mass/year.

e. Certification that all structural BMPs are being inspected and maintained according to the O&M program specified as part of the PCP. The certification statement shall be:

I certify under penalty of law that all source control and treatment Best Management Practices being claimed for phosphorus reduction credit have been inspected, maintained and repaired in accordance with manufacturer or design specification. I certify that, to the best of my knowledge, all Best Management Practices being claimed for a phosphorus reduction credit are performing as originally designed.

f. Certification that all municipally owned and maintained turf grass areas are being managed in accordance with Massachusetts Regulation 331 CMR 31 pertaining to proper use of fertilizers on turf grasses (see http://www.mass.gov/courts/docs/lawlib/300-399cmr/330cmr31.pdf).

3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.I.1. as follows.
   a. The permittee is relieved of its additional requirements as of the date when the following conditions are met:
      i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
   b. When the criteria in Appendix F part A.I.3.a. are met, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part A.I.1 as of that date and the permittee shall comply with the following:
      i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.I.1 to date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
      ii. The permittee shall continue to implement all requirements of Appendix F part A.I.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications, and the reporting requirements of Appendix F part I.2. remain in place.

II. Lake and Pond Phosphorus TMDL Requirements

Between 1999 and 2010 EPA has approved 13 Lake TMDLs[10] completed by MassDEP covering 78 lakes and ponds within the Commonwealth of Massachusetts. Any permittee (traditional or non-traditional) that discharges to a waterbody segment in Table F-6 is subject to the requirements of this part.

1. Permittees that operate regulated MS4s (traditional and non-traditional) that discharge to the identified impaired waters or their tributaries must reduce phosphorus discharges to support achievement of phosphorus load reductions identified in the TMDLs. To address phosphorus, all permittees with a phosphorus reduction requirement greater than 0% shall develop a Lake Phosphorus Control Plan (LPCP) designed to reduce the amount of phosphorus in stormwater discharges from its MS4 to the impaired waterbody or its tributaries in accordance with the phosphorus load reduction requirements set forth in Table F-6 below. Permittees discharging to waterbodies in Table F-6 with an associated 0% Phosphorus Required Percent Reduction are subject to Appendix F part II.2.f and are relieved of the requirements of Appendix F part II.1.i through Appendix F part II.2.e Table F-6 identifies the primary municipalities[11] located within the watershed of the respective lake or pond and the percent phosphorus reductions necessary from urban stormwater sources. Any permittee (traditional or non-traditional) that discharges to a lake or pond listed in Table F-6 or its tributaries is subject to the same phosphorus percent reduction requirements associated with that lake or pond.

Primary Municipality	Waterbody Name	Required Percent Reduction
Auburn	Leesville Pond	31%
	Auburn Pond	24%
	Eddy Pond	0%
	Pondville Pond	8%
	Stoneville Pond	3%
Charlton	Buffumville Lake	28%
	Dresser Hill Pond	17%
	Gore Pond	14%
	Granite Reservoir	11%
	Jones Pond	13%
	Pierpoint Meadow Pond	27%
	Pikes Pond	38%
Dudley	Gore Pond	14%

[10] Final TMDLs for lakes and ponds in the Northern Blackstone River Watershed, Chicopee Basin, Connecticut Basin, French Basin, Millers Basin and Bare Hill Pond, Flint Pond, Indian Lake, Lake Boon, Leesville Pond, Salisbury Pond, White Island Pond, Quaboag Pond and Quacumquasit Pond can be found here: http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdls.html

[11] Primary municipalities indicate the municipality in which the majority of the lake or pond is located but does not necessarily indicate each municipality that has urbanized area that discharges to the lake or pond or its tributaries.

Primary Municipality	Waterbody Name	Required Percent Reduction
	Larner Pond	55%
	New Pond	56%
	Pierpoint Meadow Pond	27%
	Shepherd Pond	25%
	Tobins Pond	62%
	Wallis Pond	54%
Gardner	Hilchey Pond	27%
	Parker Pond	47%
	Bents Pond	52%
	Ramsdall Pond	49%
Grafton	Flint Pond/Lake Quinsigamond	59%
Granby	Aldrich Lake East	0%
Hadley	Lake Warner	24%
Harvard	Bare Hill Pond	2%
Hudson	Lake Boon	28%
Leicester	Smiths Pond	30%
	Southwick Pond	64%
	Cedar Meadow Pond	17%
	Dutton Pond	23%
	Greenville Pond	14%
	Rochdale Pond	8%
Ludlow	Minechoag Pond	48%
Millbury	Brierly Pond	14%
	Dorothy Pond	1%
	Howe Reservoir	48%
Oxford	Buffumville Lake	28%
	Hudson Pond	37%
	Lowes Pond	51%
	McKinstry Pond	79%
	Robinson Pond	8%
	Texas Pond	21%
Shrewsbury	Flint Pond/Lake Quinsigamond	49%
	Jordan Pond	60%
	Mill Pond	43%
	Newton Pond	19%
	Shirley Street Pond	30%
Spencer	Quaboag Pond	29%

Primary Municipality	Waterbody Name	Required Percent Reduction
	Quacumquasit Pond	2%
	Jones Pond	13%
	Sugden Reservoir	31%
Springfield	Loon Pond	10%
	Long Pond	56%
	Mona Lake	57%
Stow	Lake Boon	28%
Templeton	Brazell Pond	62%
	Depot Pond	50%
	Bourn-Hadley Pond	49%
	Greenwood Pond 2	56%
Wilbraham	Spectacle Pond	45%
Winchendon	Lake Denison	22%
	Stoddard Pond	24%
	Whitney Pond	16%
	Whites Mill Pond	21%

Table F-6: Phosphorus impaired Lakes or Ponds subject to a TMDL along with primary municipality and required percent reduction of phosphorus from urban stormwater sources

i. The LPCP shall be implemented in accordance with the following schedule and contain the following elements:

a. LPCP Implementation Schedule – The permittee shall complete its LPCP and fully implement all of the control measures in its LPCP as soon as possible but no later than 15 years after the effective date of the permit.

b. The LPCP shall be implemented in accordance with the following schedule and contain the following elements:

Number	LPCP Component and Milestones	Completion Date
1	Legal Analysis	2 years after permit effective date
2	Funding source assessment	3 years after permit effective date
3	Define LPCP scope (LPCP Area)	4 years after permit effective date
4	Calculate Baseline Phosphorus, Allowable Phosphorus Load and Phosphorus Reduction Requirement	4 years after permit effective date

5	Description of planned nonstructural and structural controls	5 years after permit effective date
6	Description of Operation and Maintenance (O&M) Program	5 years after permit effective date
7	Implementation schedule	5 years after permit effective date
8	Cost and Funding Source Assessment	5 years after permit effective date
9	Complete written LPCP	5 years after permit effective date
10	Full implementation of nonstructural controls.	6 years after permit effective date
11	Performance Evaluation.	6 and 7 years after permit effective date
12	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.80 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.80)$	8 years after permit effective date
13	Performance Evaluation	9 years after permit effective date
14	1. Performance Evaluation. 2. Update LPCP 3. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.60 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.60)$ OR that the permittee has reduced their phosphorus export rate by 30kg/year (whichever is greater, unless full Phosphorus Reduction Requirement has been met)	10years after permit effective date
15	Performance Evaluation	11 and 12 years after permit effective date
16	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable	13years after permit effective date

	Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.30 $P_{exp} \leq P_{allow} + (P_{RR}\ X\ 0.30)$	
17	Performance Evaluation	14 years after permit effective date
18	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) $P_{exp} \leq P_{allow}$	15years after permit effective date

Table F-7: LPCP components and milestones

c. Description of LPCP Components:

Legal Analysis- The permittee shall develop and implement an analysis that identifies existing regulatory mechanisms available to the MS4 such as by-laws and ordinances and describes any changes to these regulatory mechanisms that may be necessary to effectively implement the LPCP. This may include the creation or amendment of financial and regulatory authorities. The permittee shall adopt necessary regulatory changes by the end of the permit term.

Scope of the LPCP (LPCP Area) - The permittee shall indicate the area in which the permittee plans to implement the LPCP, this area is known as the "LPCP Area". The permittee must choose one of the following: 1) to implement its LPCP in the entire area within its jurisdiction discharging to the impaired waterbody (for a municipality this would be the municipal boundary) or 2) to implement its LPCP in only the urbanized area portion of its jurisdiction discharging to the impaired waterbody. If the permittee chooses to implement the LPCP in its entire jurisdiction discharging to the impaired waterbody, the permittee may demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural and non-structural controls on discharges that occur both inside and outside the urbanized area. If the permittee chooses to implement the LPCP in its urbanized area only discharging to the impaired waterbody, the permittee must demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural and non-structural controls on discharges that occur within the urbanized area only.

Calculate Baseline Phosphorus Load (P_{base}), Phosphorus Reduction Requirement (P_{RR}) and Allowable Phosphorus Load (P_{allow}) –Permittees shall calculate their numerical Allowable Phosphorus Load and Phosphorus Reduction Requirement in mass/yr by first estimating their Baseline Phosphorus Load in mass/yr from its LPCP Area consistent with the methodology in Attachment 1 to Appendix F, the baseline shall only be estimated using land use phosphorus export coefficients in Attachment 1 to Appendix F and not account for phosphorus reductions resulting from implemented structural BMPs completed to date. Table F-6 contains the

percent phosphorus reduction required from urban stormwater consistent with the TMDL of each impaired waterbody. The permittee shall apply the applicable required percent reduction in Table F-6 to the calculated Baseline Phosphorus Load to obtain the permittee specific Allowable Phosphorus Load. The Allowable Phosphorus Load shall then be subtracted from the Baseline Phosphorus Load to obtain the permittee specific Phosphorus Reduction Requirement in mass/yr.

Description of planned non-structural controls – The permittee shall describe the non-structural stormwater control measures to be implemented to support the achievement of the milestones in Table F-7. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F. The permittee shall update the description of planned non-structural controls as needed to support the achievement of the milestones in Table F-7, including an update in the updated written LPCP 10 years after the permit effective date.

Description of planned structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of phosphorus control practices. The ranking shall be developed through the use of available screening and monitoring results collected during the permit term either by the permittee or another entity and the mapping required pursuant to part 2.3.4.6 of the Permit. The permittee shall also include in this prioritization a detailed assessment of site suitability for potential phosphorus control measures based on soil types and other factors. The permittee shall coordinate this activity with the requirements of part 2.3.6.8.b of the Permit. A description and the result of this priority ranking shall be included in the LPCP. The permittee shall describe the structural stormwater control measures necessary to support achievement of the milestones in Table F-7. The description of structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party may be included in the LPCP. Annual phosphorus reduction from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F. The permittee shall update the description of planned structural controls as needed to support the achievement of the milestones in Table F-7, including an update in the updated written LPCP 10 years after the permit effective date.

Description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1 and 2 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 2 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Implementation Schedule – An initial schedule for implementing the BMPs, including, as appropriate: funding, training, purchasing, construction, inspections, monitoring, O&M and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the LPCP, and all non-structural BMPs shall be fully implemented within six years of the permit effective date. Where planned structural BMP retrofits or major drainage infrastructure projects are expected to take additional time to construct, the permittee shall within four years of the effective date of the permit have a schedule for completion of construction consistent with the reduction requirements in Table F-7. The permittee shall complete the implementation of its LPCP as soon as possible or at a minimum in accordance with the milestones set forth in Table F-7. The implementation schedule shall be updated as needed to support the achievement of the milestones in Table F-7, including an update in the updated written LPCP 10 years after the permit effective date.

Cost and funding source assessment – The permittee shall estimate the cost for implementing its LPCP and describe known and anticipated funding mechanisms. The permittee shall describe the steps it will take to implement its funding plan. This may include but is not limited to conceptual development, outreach to affected parties, and development of legal authorities.

Complete written LPCP – The permittee must complete the written LPCP 5 years after permit effective date. The complete LPCP shall include item numbers 1-8 in Table F-7. The permittee shall make the LPCP available to the public for public comment during the LPCP development. EPA encourages the permittee to post the LPCP online to facilitate public involvement. The LPCP shall be updated as needed with an update 10 years after the permit effective date at a minimum to reflect changes in BMP implementation to support achievement of the phosphorus export milestones in Table F-7. The updated LPCP shall build upon the original LPCP and include additional or new BMPs the permittee will use to support the achievement of the milestones in Table F-7.

Performance Evaluation – The permittee shall evaluate the effectiveness of the LPCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs[12] and tracking increases in phosphorus loading from the LPCP Area beginning six years after the effective date of the permit. Phosphorus reductions shall be calculated consistent with Attachment 2 (non-structural BMP performance), Attachment 3 (structural BMP performance) and Attachment 1 (reductions through land use change), to Appendix F for all BMPs implemented to date[13]. Phosphorus load increases resulting from development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus

[12] In meeting its phosphorus reduction requirements a permittee may quantify phosphorus reductions by actions undertaken by another entity, except where those actions are credited to MassDOT or another permittee identified in Appendix F Table F-7

[13] Annual phosphorus reductions from structural BMPs installed in the LPCP Area prior to the effective date of this permit shall be calculated consistent with Attachment 3 to Appendix F. Phosphorus Reduction Credit for previously installed BMPs will only be given if the Permittee demonstrates that the BMP is performing up to design specifications and certifies that the BMP is properly maintained and inspected according to manufacturer design or specifications. This certification shall be part of the annual performance evaluation during the year credit is claimed for the previously installed BMP.

loading increases and reductions in units of mass/yr shall be added or subtracted from the calculated Baseline Phosphorus Load to estimate the yearly phosphorous export rate from the LPCP Area in mass/yr. The permittee shall also include all information required in part II.2 of this Appendix in each performance evaluation.

2. Reporting

Beginning 1 year after the permit effective date, the permittee shall include a progress report in each annual report on the planning and implementation of the LPCP.

Beginning five (5) years after the permit effective date, the permittee shall include the following in each annual report submitted pursuant to part 4.4 of the Permit:

a. All non-structural control measures implemented during the reporting year along with the phosphorus reduction in mass/yr (P_{NSred}) calculated consistent with Attachment 2 to Appendix F
b. Structural controls implemented during the reporting year and all previous years including:
    a. Location information of structural BMPs (GPS coordinates or street address)
    b. Phosphorus reduction from all structural BMPs implemented to date in mass/yr (P_{Sred}) calculated consistent with Attachment 3 to Appendix F
    c. Date of last completed maintenance for each Structural control
c. Phosphorus load increases due to development over the previous reporting period and incurred to date (P_{DEVinc}) calculated consistent with Attachment 1 to Appendix F.
d. Estimated yearly phosphorus export rate (P_{exp}) from the LPCP Area calculated using Equation 2. Equation2 calculates the yearly phosphorus export rate by subtracting yearly phosphorus reductions through implemented nonstructural controls and structural controls to date from the Baseline Phosphorus Load and adding loading increases incurred through development to date. This equation shall be used to demonstrate compliance with the phosphorus reduction milestones required as part of each phase of the LPCP.

$$P_{exp}\left(\frac{mass}{yr}\right) = P_{base}\left(\frac{mass}{yr}\right) - \left(P_{Sred}\left(\frac{mass}{yr}\right) + P_{NSred}\left(\frac{mass}{yr}\right)\right) + P_{DEVinc}\left(\frac{mass}{yr}\right)$$

Equation 2. Equation used to calculate yearly phosphorus export rate from the chosen LPCP Area. P_{exp}=Current phosphorus export rate from the LPCP Area in mass/year. P_{base}=baseline phosphorus export rate from LPCP Area in mass/year. P_{Sred}= yearly phosphorus reduction from implemented structural controls in the LPCP Area in mass/year. P_{NSred}= yearly phosphorus reduction from implemented non-structural controls in the LPCP Area in mass/year. Area in mass/year. P_{DEVinc}= yearly phosphorus increase resulting from development since the year baseline loading was calculated in the LPCP Area in mass/year.

e. Certification that all structural BMPs are being inspected and maintained according to the O&M program specified as part of the PCP. The certification statement shall be:

I certify under penalty of law that all source control and treatment Best Management Practices being claimed for phosphorus reduction credit have been inspected, maintained and repaired in accordance with manufacturer or design specification. I certify that, to the best of my knowledge, all Best Management

Practices being claimed for a phosphorus reduction credit are performing as originally designed.

f. Certification that all municipally owned and maintained turf grass areas are being managed in accordance with Massachusetts Regulation 331 CMR 31 pertaining to proper use of fertilizers on turf grasses (see http://www.mass.gov/courts/docs/lawlib/300-399cmr/330cmr31.pdf).

3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.II.1. as follows:
   a. The permittee is relieved of its additional requirements as of the date when the following conditions are met:
      i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
   b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any additional remaining requirements of Appendix F part A.II.1 as of that date and the permittee shall comply with the following:
      i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.II.1 to date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
      ii. The permittee shall continue to implement all requirements of Appendix F part A.I.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications, and the reporting requirements of Appendix F part A.II.2. remain in place.

III. Bacteria and Pathogen TMDL Requirements

There are currently approved 16 approved bacteria (fecal coliform bacteria) or mixed pathogen (fecal coliform, E. coli, and/or enterococcus bacteria) TMDLs for certain waterbodies in Massachusetts.[14] Any permittee (traditional or non-traditional) that discharges to a waterbody segment in Table F-8 is subject to the requirements of this part.

1. Traditional and non-traditional MS4s operating in the municipalities listed in Table F-8 and/or that discharge to a waterbody listed on Table F-8 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:

    a. Enhanced BMPs

        i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:

            1. part 2.3.3. Public Education: The permittee shall supplement its Residential program with an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.IV, A.V, B.I, B.II and B.III where appropriate.

            2. part 2.3.4 Illicit Discharge: Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

Primary Municipality	Segment ID	Waterbody Name	Indicator Organism
Abington	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
Abington	MA62-33	Shumatuscacant River	Escherichia Coli (E. Coli)
Acushnet	MA95-31	Acushnet River	Escherichia Coli (E. Coli)
Acushnet	MA95-32	Acushnet River	Escherichia Coli (E. Coli)
Acushnet	MA95-33	Acushnet River	Fecal Coliform

[14] Final bacteria or pathogen TMDLs can be found here: http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdls.html

Andover	MA83-04	Rogers Brook	Fecal Coliform
Andover	MA83-15	Unnamed Tributary	Fecal Coliform
Andover	MA83-18	Shawsheen River	Fecal Coliform
Andover	MA83-19	Shawsheen River	Fecal Coliform
Avon	MA62-07	Trout Brook	Escherichia Coli (E. Coli)
Barnstable	MA96-01	Barnstable Harbor	Fecal Coliform
Barnstable	MA96-02	Bumps River	Fecal Coliform
Barnstable	MA96-04	Centerville River	Fecal Coliform
Barnstable	MA96-05	Hyannis Harbor	Fecal Coliform
Barnstable	MA96-06	Maraspin Creek	Fecal Coliform
Barnstable	MA96-07	Prince Cove	Fecal Coliform
Barnstable	MA96-08	Shoestring Bay	Fecal Coliform
Barnstable	MA96-36	Lewis Bay	Fecal Coliform
Barnstable	MA96-37	Mill Creek	Fecal Coliform
Barnstable	MA96-63	Cotuit Bay	Fecal Coliform
Barnstable	MA96-64	Seapuit River	Fecal Coliform
Barnstable	MA96-66	North Bay	Fecal Coliform
Barnstable	MA96-81	Snows Creek	Fecal Coliform
Barnstable	MA96-82	Hyannis Inner Harbor	Fecal Coliform
Barnstable	MA96-92	Santuit River	Fecal Coliform
Barnstable	MA96-93	Halls Creek	Fecal Coliform
Barnstable	MA96-94	Stewarts Creek	Fecal Coliform
Bedford	MA83-01	Shawsheen River	Fecal Coliform
Bedford	MA83-05	Elm Brook	Fecal Coliform
Bedford	MA83-06	Vine Brook	Fecal Coliform
Bedford	MA83-08	Shawsheen River	Fecal Coliform
Bedford	MA83-10	Kiln Brook	Fecal Coliform
Bedford	MA83-14	Spring Brook	Fecal Coliform
Bedford	MA83-17	Shawsheen River	Fecal Coliform
Bellingham	MA72-03	Charles River	Pathogens
Bellingham	MA72-04	Charles River	Pathogens
Belmont	MA72-28	Beaver Brook	Pathogens
Berkley	MA62-02	Taunton River	Fecal Coliform
Berkley	MA62-03	Taunton River	Fecal Coliform
Berkley	MA62-20	Assonet River	Fecal Coliform
Beverly	MA93-08	Bass River	Fecal Coliform
Beverly	MA93-09	Danvers River	Fecal Coliform
Beverly	MA93-20	Beverly Harbor	Fecal Coliform
Beverly	MA93-25	Salem Sound	Fecal Coliform
Billerica	MA83-14	Spring Brook	Fecal Coliform
Billerica	MA83-17	Shawsheen River	Fecal Coliform

Billerica	MA83-18	Shawsheen River	Fecal Coliform
Bourne	MA95-01	Buttermilk Bay	Fecal Coliform
Bourne	MA95-14	Cape Cod Canal	Fecal Coliform
Bourne	MA95-15	Phinneys Harbor	Fecal Coliform
Bourne	MA95-16	Pocasset River	Fecal Coliform
Bourne	MA95-17	Pocasset Harbor	Fecal Coliform
Bourne	MA95-18	Red Brook Harbor	Fecal Coliform
Bourne	MA95-47	Back River	Fecal Coliform
Bourne	MA95-48	Eel Pond	Fecal Coliform
Brewster	MA96-09	Quivett Creek	Fecal Coliform
Brewster	MA96-27	Namskaket Creek	Fecal Coliform
Bridgewater	MA62-32	Matfield River	Escherichia Coli (E. Coli)
Brockton	MA62-05	Salisbury Plain River	Escherichia Coli (E. Coli)
Brockton	MA62-06	Salisbury Plain River	Escherichia Coli (E. Coli)
Brockton	MA62-07	Trout Brook	Escherichia Coli (E. Coli)
Brockton	MA62-08	Salisbury Brook	Escherichia Coli (E. Coli)
Brockton	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
Brookline	MA72-11	Muddy River	Pathogens
Burlington	MA83-06	Vine Brook	Fecal Coliform
Burlington	MA83-11	Long Meadow Brook	Fecal Coliform
Burlington	MA83-13	Sandy Brook	Fecal Coliform
Cambridge	MA72-36	Charles River	Pathogens
Cambridge	MA72-38	Charles River	Pathogens
Canton	MA73-01	Neponset River	Fecal Coliform
Canton	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Canton	MA73-02	Neponset River	Fecal Coliform
Canton	MA73-05	East Branch	Fecal Coliform
Canton	MA73-20	Beaver Meadow Brook	Fecal Coliform
Canton	MA73-22	Pequid Brook	Fecal Coliform
Canton	MA73-25	Pecunit Brook	Escherichia Coli (E. Coli)
Canton	MA73-27	Ponkapog Brook	Fecal Coliform
Chatham	MA96-11	Stage Harbor	Fecal Coliform
Chatham	MA96-41	Mill Creek	Fecal Coliform
Chatham	MA96-42	Taylors Pond	Fecal Coliform
Chatham	MA96-43	Harding Beach Pond	Fecal Coliform
Chatham	MA96-44	Bucks Creek	Fecal Coliform
Chatham	MA96-45	Oyster Pond	Fecal Coliform
Chatham	MA96-46	Oyster Pond River	Fecal Coliform
Chatham	MA96-49	Frost Fish Creek	Pathogens
Chatham	MA96-50	Ryder Cove	Fecal Coliform
Chatham	MA96-51	Muddy Creek	Pathogens

Chatham	MA96-79	Cockle Cove Creek	Fecal Coliform
Chatham	MA96-79	Cockle Cove Creek	Enterococcus Bacteria
Cohasset	MA94-01	Cohasset Harbor	Fecal Coliform
Cohasset	MA94-19	The Gulf	Fecal Coliform
Cohasset	MA94-20	Little Harbor	Fecal Coliform
Cohasset	MA94-32	Cohasset Cove	Fecal Coliform
Concord	MA83-05	Elm Brook	Fecal Coliform
Danvers	MA93-01	Waters River	Fecal Coliform
Danvers	MA93-02	Crane Brook	Escherichia Coli (E. Coli)
Danvers	MA93-04	Porter River	Fecal Coliform
Danvers	MA93-09	Danvers River	Fecal Coliform
Danvers	MA93-36	Frost Fish Brook	Escherichia Coli (E. Coli)
Danvers	MA93-41	Crane River	Fecal Coliform
Dartmouth	MA95-13	Buttonwood Brook	Escherichia Coli (E. Coli)
Dartmouth	MA95-34	Slocums River	Fecal Coliform
Dartmouth	MA95-38	Clarks Cove	Fecal Coliform
Dartmouth	MA95-39	Apponagansett Bay	Fecal Coliform
Dartmouth	MA95-40	East Branch Westport River	Escherichia Coli (E. Coli)
Dartmouth	MA95-62	Buzzards Bay	Fecal Coliform
Dedham	MA72-07	Charles River	Pathogens
Dedham	MA72-21	Rock Meadow Brook	Pathogens
Dedham	MA73-02	Neponset River	Fecal Coliform
Dennis	MA96-09	Quivett Creek	Fecal Coliform
Dennis	MA96-12	Bass River	Fecal Coliform
Dennis	MA96-13	Sesuit Creek	Fecal Coliform
Dennis	MA96-14	Swan Pond River	Fecal Coliform
Dennis	MA96-35	Chase Garden Creek	Fecal Coliform
Dighton	MA62-02	Taunton River	Fecal Coliform
Dighton	MA62-03	Taunton River	Fecal Coliform
Dighton	MA62-50	Broad Cove	Fecal Coliform
Dighton	MA62-51	Muddy Cove Brook	Fecal Coliform
Dighton	MA62-55	Segreganset River	Fecal Coliform
Dighton	MA62-56	Three Mile River	Escherichia Coli (E. Coli)
Dighton	MA62-57	Three Mile River	Fecal Coliform
Dover	MA72-05	Charles River	Pathogens
Dover	MA72-06	Charles River	Pathogens
Duxbury	MA94-15	Duxbury Bay	Fecal Coliform
Duxbury	MA94-30	Bluefish River	Fecal Coliform
East Bridgewater	MA62-06	Salisbury Plain River	Escherichia Coli (E. Coli)
East Bridgewater	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
East Bridgewater	MA62-32	Matfield River	Escherichia Coli (E. Coli)

East Bridgewater	MA62-33	Shumatuscacant River	Escherichia Coli (E. Coli)
East Bridgewater	MA62-38	Meadow Brook	Escherichia Coli (E. Coli)
Eastham	MA96-15	Boat Meadow River	Fecal Coliform
Eastham	MA96-16	Rock Harbor Creek	Fecal Coliform
Eastham	MA96-34	Wellfleet Harbor	Fecal Coliform
Eastham	MA96-68	Town Cove	Fecal Coliform
Essex	MA93-11	Essex River	Fecal Coliform
Essex	MA93-16	Essex Bay	Fecal Coliform
Essex	MA93-45	Alewife Brook	Escherichia Coli (E. Coli)
Essex	MA93-46	Alewife Brook	Fecal Coliform
Everett	MA93-51	Unnamed Tributary	Enterococcus Bacteria
Fairhaven	MA95-33	Acushnet River	Fecal Coliform
Fairhaven	MA95-42	New Bedford Inner Harbor	Fecal Coliform
Fairhaven	MA95-62	Buzzards Bay	Fecal Coliform
Fairhaven	MA95-63	Outer New Bedford Harbor	Fecal Coliform
Fairhaven	MA95-64	Little Bay	Fecal Coliform
Fairhaven	MA95-65	Nasketucket Bay	Fecal Coliform
Fall River	MA61-06	Mount Hope Bay	Fecal Coliform
Fall River	MA62-04	Taunton River	Fecal Coliform
Falmouth	MA95-20	Wild Harbor	Fecal Coliform
Falmouth	MA95-21	Herring Brook	Fecal Coliform
Falmouth	MA95-22	West Falmouth Harbor	Fecal Coliform
Falmouth	MA95-23	Great Sippewisset Creek	Fecal Coliform
Falmouth	MA95-24	Little Sippewisset Marsh	Fecal Coliform
Falmouth	MA95-25	Quissett Harbor	Fecal Coliform
Falmouth	MA95-46	Harbor Head	Fecal Coliform
Falmouth	MA96-17	Falmouth Inner Harbor	Fecal Coliform
Falmouth	MA96-18	Great Harbor	Fecal Coliform
Falmouth	MA96-19	Little Harbor	Fecal Coliform
Falmouth	MA96-20	Quashnet River	Fecal Coliform
Falmouth	MA96-21	Waquoit Bay	Fecal Coliform
Falmouth	MA96-53	Perch Pond	Fecal Coliform
Falmouth	MA96-54	Great Pond	Fecal Coliform
Falmouth	MA96-55	Green Pond	Fecal Coliform
Falmouth	MA96-56	Little Pond	Fecal Coliform
Falmouth	MA96-57	Bournes Pond	Fecal Coliform
Falmouth	MA96-58	Hamblin Pond	Fecal Coliform
Falmouth	MA96-62	Oyster Pond	Fecal Coliform
Foxborough	MA62-39	Rumford River	Escherichia Coli (E. Coli)
Foxborough	MA62-47	Wading River	Escherichia Coli (E. Coli)
Foxborough	MA73-01	Neponset River	Fecal Coliform

Foxborough	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Franklin	MA72-04	Charles River	Pathogens
Freetown	MA62-04	Taunton River	Fecal Coliform
Freetown	MA62-20	Assonet River	Fecal Coliform
Gloucester	MA93-12	Annisquam River	Fecal Coliform
Gloucester	MA93-16	Essex Bay	Fecal Coliform
Gloucester	MA93-18	Gloucester Harbor	Fecal Coliform
Gloucester	MA93-28	Mill River	Fecal Coliform
Hanover	MA94-05	North River	Fecal Coliform
Hanover	MA94-21	Drinkwater River	Escherichia Coli (E. Coli)
Hanover	MA94-24	Iron Mine Brook	Escherichia Coli (E. Coli)
Hanover	MA94-27	Third Herring Brook	Escherichia Coli (E. Coli)
Hanson	MA62-33	Shumatuscacant River	Escherichia Coli (E. Coli)
Harwich	MA96-22	Herring River	Fecal Coliform
Harwich	MA96-23	Saquatucket Harbor	Fecal Coliform
Harwich	MA96-51	Muddy Creek	Pathogens
Holliston	MA72-16	Bogastow Brook	Pathogens
Hopedale	MA72-03	Charles River	Pathogens
Hopkinton	MA72-01	Charles River	Pathogens
Ipswich	MA93-16	Essex Bay	Fecal Coliform
Kingston	MA94-14	Jones River	Fecal Coliform
Kingston	MA94-15	Duxbury Bay	Fecal Coliform
Lawrence	MA83-19	Shawsheen River	Fecal Coliform
Lexington	MA72-28	Beaver Brook	Pathogens
Lexington	MA83-06	Vine Brook	Fecal Coliform
Lexington	MA83-10	Kiln Brook	Fecal Coliform
Lincoln	MA83-05	Elm Brook	Fecal Coliform
Lincoln	MA83-08	Shawsheen River	Fecal Coliform
Lynn	MA93-24	Nahant Bay	Fecal Coliform
Lynn	MA93-44	Saugus River	Fecal Coliform
Lynn	MA93-52	Lynn Harbor	Fecal Coliform
Lynnfield	MA93-30	Beaverdam Brook	Escherichia Coli (E. Coli)
Lynnfield	MA93-32	Hawkes Brook	Escherichia Coli (E. Coli)
Lynnfield	MA93-34	Saugus River	Escherichia Coli (E. Coli)
Lynnfield	MA93-35	Saugus River	Escherichia Coli (E. Coli)
Malden	MA93-51	Unnamed Tributary	Enterococcus Bacteria
Manchester	MA93-19	Manchester Harbor	Fecal Coliform
Manchester	MA93-25	Salem Sound	Fecal Coliform
Manchester	MA93-29	Cat Brook	Escherichia Coli (E. Coli)
Manchester	MA93-47	Causeway Brook	Escherichia Coli (E. Coli)
Mansfield	MA62-39	Rumford River	Escherichia Coli (E. Coli)

Mansfield	MA62-47	Wading River	Escherichia Coli (E. Coli)
Mansfield	MA62-49	Wading River	Escherichia Coli (E. Coli)
Marblehead	MA93-21	Salem Harbor	Fecal Coliform
Marblehead	MA93-22	Marblehead Harbor	Fecal Coliform
Marblehead	MA93-25	Salem Sound	Fecal Coliform
Marion	MA95-05	Weweantic River	Fecal Coliform
Marion	MA95-07	Sippican River	Fecal Coliform
Marion	MA95-08	Sippican Harbor	Fecal Coliform
Marion	MA95-09	Aucoot Cove	Fecal Coliform
Marion	MA95-56	Hammett Cove	Fecal Coliform
Marshfield	MA94-05	North River	Fecal Coliform
Marshfield	MA94-06	North River	Fecal Coliform
Marshfield	MA94-09	South River	Fecal Coliform
Marshfield	MA94-11	Green Harbor	Fecal Coliform
Mashpee	MA96-08	Shoestring Bay	Fecal Coliform
Mashpee	MA96-21	Waquoit Bay	Fecal Coliform
Mashpee	MA96-24	Mashpee River	Fecal Coliform
Mashpee	MA96-39	Popponesset Creek	Fecal Coliform
Mashpee	MA96-58	Hamblin Pond	Fecal Coliform
Mashpee	MA96-61	Little River	Fecal Coliform
Mashpee	MA96-92	Santuit River	Fecal Coliform
Mattapoisett	MA95-09	Aucoot Cove	Fecal Coliform
Mattapoisett	MA95-10	Hiller Cove	Fecal Coliform
Mattapoisett	MA95-35	Mattapoisett Harbor	Fecal Coliform
Mattapoisett	MA95-60	Mattapoisett River	Fecal Coliform
Mattapoisett	MA95-61	Eel Pond	Fecal Coliform
Mattapoisett	MA95-65	Nasketucket Bay	Fecal Coliform
Medfield	MA72-05	Charles River	Pathogens
Medfield	MA72-10	Stop River	Pathogens
Medfield	MA73-09	Mine Brook	Fecal Coliform
Medway	MA72-04	Charles River	Pathogens
Medway	MA72-05	Charles River	Pathogens
Melrose	MA93-48	Bennetts Pond Brook	Escherichia Coli (E. Coli)
Mendon	MA72-03	Charles River	Pathogens
Milford	MA72-01	Charles River	Pathogens
Millis	MA72-05	Charles River	Pathogens
Millis	MA72-16	Bogastow Brook	Pathogens
Milton	MA73-02	Neponset River	Fecal Coliform
Milton	MA73-03	Neponset River	Fecal Coliform
Milton	MA73-04	Neponset River	Fecal Coliform
Milton	MA73-26	Unquity Brook	Fecal Coliform

Milton	MA73-29	Pine Tree Brook	Fecal Coliform
Milton	MA73-30	Gulliver Creek	Fecal Coliform
Nahant	MA93-24	Nahant Bay	Fecal Coliform
Nahant	MA93-52	Lynn Harbor	Fecal Coliform
Nahant	MA93-53	Lynn Harbor	Fecal Coliform
Natick	MA72-05	Charles River	Pathogens
Natick	MA72-06	Charles River	Pathogens
Needham	MA72-06	Charles River	Pathogens
Needham	MA72-07	Charles River	Pathogens
Needham	MA72-18	Fuller Brook	Pathogens
Needham	MA72-21	Rock Meadow Brook	Pathogens
Needham	MA72-25	Rosemary Brook	Pathogens
New Bedford	MA95-13	Buttonwood Brook	Escherichia Coli (E. Coli)
New Bedford	MA95-33	Acushnet River	Fecal Coliform
New Bedford	MA95-38	Clarks Cove	Fecal Coliform
New Bedford	MA95-42	New Bedford Inner Harbor	Fecal Coliform
New Bedford	MA95-63	Outer New Bedford Harbor	Fecal Coliform
Newton	MA72-07	Charles River	Pathogens
Newton	MA72-23	Sawmill Brook	Pathogens
Newton	MA72-24	South Meadow Brook	Pathogens
Newton	MA72-29	Cheese Cake Brook	Pathogens
Newton	MA72-36	Charles River	Pathogens
Norfolk	MA72-05	Charles River	Pathogens
Norfolk	MA72-10	Stop River	Pathogens
North Andover	MA83-19	Shawsheen River	Fecal Coliform
Norton	MA62-49	Wading River	Escherichia Coli (E. Coli)
Norton	MA62-56	Three Mile River	Escherichia Coli (E. Coli)
Norwell	MA94-05	North River	Fecal Coliform
Norwell	MA94-27	Third Herring Brook	Escherichia Coli (E. Coli)
Norwell	MA94-31	Second Herring Brook	Fecal Coliform
Norwood	MA73-01	Neponset River	Fecal Coliform
Norwood	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Norwood	MA73-02	Neponset River	Fecal Coliform
Norwood	MA73-15	Germany Brook	Fecal Coliform
Norwood	MA73-16	Hawes Brook	Fecal Coliform
Norwood	MA73-17	Traphole Brook	Fecal Coliform
Norwood	MA73-24	Purgatory Brook	Fecal Coliform
Norwood	MA73-33	Unnamed Tributary	Escherichia Coli (E. Coli)
Orleans	MA96-16	Rock Harbor Creek	Fecal Coliform
Orleans	MA96-26	Little Namskaket Creek	Fecal Coliform
Orleans	MA96-27	Namskaket Creek	Fecal Coliform

Orleans	MA96-68	Town Cove	Fecal Coliform
Orleans	MA96-72	Paw Wah Pond	Fecal Coliform
Orleans	MA96-73	Pochet Neck	Fecal Coliform
Orleans	MA96-76	The River	Fecal Coliform
Orleans	MA96-78	Little Pleasant Bay	Fecal Coliform
Peabody	MA93-01	Waters River	Fecal Coliform
Peabody	MA93-05	Goldthwait Brook	Escherichia Coli (E. Coli)
Peabody	MA93-39	Proctor Brook	Escherichia Coli (E. Coli)
Pembroke	MA94-05	North River	Fecal Coliform
Plymouth	MA94-15	Duxbury Bay	Fecal Coliform
Plymouth	MA94-16	Plymouth Harbor	Fecal Coliform
Plymouth	MA94-34	Ellisville Harbor	Fecal Coliform
Raynham	MA62-02	Taunton River	Fecal Coliform
Rehoboth	MA53-03	Palmer River	Pathogens
Rehoboth	MA53-04	Palmer River	Pathogens
Rehoboth	MA53-05	Palmer River	Pathogens
Rehoboth	MA53-07	Palmer River - West Branch	Pathogens
Rehoboth	MA53-08	Palmer River - East Branch	Pathogens
Rehoboth	MA53-09	Rumney Marsh Brook	Pathogens
Rehoboth	MA53-10	Beaver Dam Brook	Pathogens
Rehoboth	MA53-11	Bad Luck Brook	Pathogens
Rehoboth	MA53-12	Fullers Brook	Pathogens
Rehoboth	MA53-13	Clear Run Brook	Pathogens
Rehoboth	MA53-14	Torrey Creek	Pathogens
Rehoboth	MA53-15	Old Swamp Brook	Pathogens
Rehoboth	MA53-16	Rocky Run	Pathogens
Revere	MA93-15	Pines River	Fecal Coliform
Revere	MA93-44	Saugus River	Fecal Coliform
Revere	MA93-51	Unnamed Tributary	Enterococcus Bacteria
Revere	MA93-52	Lynn Harbor	Fecal Coliform
Revere	MA93-53	Lynn Harbor	Fecal Coliform
Rockland	MA94-03	French Stream	Escherichia Coli (E. Coli)
Rockport	MA93-17	Rockport Harbor	Fecal Coliform
Salem	MA93-09	Danvers River	Fecal Coliform
Salem	MA93-20	Beverly Harbor	Fecal Coliform
Salem	MA93-21	Salem Harbor	Fecal Coliform
Salem	MA93-25	Salem Sound	Fecal Coliform
Salem	MA93-39	Proctor Brook	Escherichia Coli (E. Coli)
Salem	MA93-40	Proctor Brook	Enterococcus Bacteria
Salem	MA93-42	North River	Fecal Coliform
Sandwich	MA95-14	Cape Cod Canal	Fecal Coliform

Sandwich	MA96-30	Scorton Creek	Fecal Coliform
Sandwich	MA96-84	Old Harbor Creek	Fecal Coliform
Sandwich	MA96-85	Mill Creek	Fecal Coliform
Sandwich	MA96-86	Dock Creek	Fecal Coliform
Sandwich	MA96-87	Springhill Creek	Fecal Coliform
Saugus	MA93-15	Pines River	Fecal Coliform
Saugus	MA93-33	Hawkes Brook	Escherichia Coli (E. Coli)
Saugus	MA93-35	Saugus River	Escherichia Coli (E. Coli)
Saugus	MA93-43	Saugus River	Fecal Coliform
Saugus	MA93-44	Saugus River	Fecal Coliform
Saugus	MA93-48	Bennetts Pond Brook	Escherichia Coli (E. Coli)
Saugus	MA93-49	Shute Brook	Fecal Coliform
Saugus	MA93-50	Shute Brook	Escherichia Coli (E. Coli)
Scituate	MA94-01	Cohasset Harbor	Fecal Coliform
Scituate	MA94-02	Scituate Harbor	Fecal Coliform
Scituate	MA94-05	North River	Fecal Coliform
Scituate	MA94-06	North River	Fecal Coliform
Scituate	MA94-07	Herring River	Fecal Coliform
Scituate	MA94-09	South River	Fecal Coliform
Scituate	MA94-19	The Gulf	Fecal Coliform
Scituate	MA94-32	Cohasset Cove	Fecal Coliform
Scituate	MA94-33	Musquashcut Pond	Fecal Coliform
Seekonk	MA53-01	Runnins River	Fecal Coliform
Seekonk	MA53-12	Fullers Brook	Pathogens
Seekonk	MA53-13	Clear Run Brook	Pathogens
Seekonk	MA53-14	Torrey Creek	Pathogens
Sharon	MA62-39	Rumford River	Escherichia Coli (E. Coli)
Sharon	MA73-17	Traphole Brook	Fecal Coliform
Sharon	MA73-31	Unnamed Tributary	Fecal Coliform
Sherborn	MA72-05	Charles River	Pathogens
Somerset	MA61-01	Lee River	Fecal Coliform
Somerset	MA61-02	Lee River	Fecal Coliform
Somerset	MA61-06	Mount Hope Bay	Fecal Coliform
Somerset	MA62-03	Taunton River	Fecal Coliform
Somerset	MA62-04	Taunton River	Fecal Coliform
Somerset	MA62-50	Broad Cove	Fecal Coliform
Stoughton	MA73-20	Beaver Meadow Brook	Fecal Coliform
Stoughton	MA73-32	Unnamed Tributary	Escherichia Coli (E. Coli)
Swampscott	MA93-24	Nahant Bay	Fecal Coliform
Swansea	MA53-03	Palmer River	Pathogens
Swansea	MA53-06	Warren River Pond	Fecal Coliform

Swansea	MA53-16	Rocky Run	Pathogens
Swansea	MA61-01	Lee River	Fecal Coliform
Swansea	MA61-02	Lee River	Fecal Coliform
Swansea	MA61-04	Cole River	Fecal Coliform
Swansea	MA61-07	Mount Hope Bay	Fecal Coliform
Swansea	MA61-08	Kickemuit River	Pathogens
Taunton	MA62-02	Taunton River	Fecal Coliform
Taunton	MA62-56	Three Mile River	Escherichia Coli (E. Coli)
Taunton	MA62-57	Three Mile River	Fecal Coliform
Tewksbury	MA83-07	Strong Water Brook	Fecal Coliform
Tewksbury	MA83-15	Unnamed Tributary	Fecal Coliform
Tewksbury	MA83-18	Shawsheen River	Fecal Coliform
Wakefield	MA93-31	Mill River	Escherichia Coli (E. Coli)
Wakefield	MA93-34	Saugus River	Escherichia Coli (E. Coli)
Wakefield	MA93-35	Saugus River	Escherichia Coli (E. Coli)
Walpole	MA72-10	Stop River	Pathogens
Walpole	MA73-01	Neponset River	Fecal Coliform
Walpole	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Walpole	MA73-06	School Meadow Brook	Fecal Coliform
Walpole	MA73-09	Mine Brook	Fecal Coliform
Walpole	MA73-17	Traphole Brook	Fecal Coliform
Waltham	MA72-07	Charles River	Pathogens
Waltham	MA72-28	Beaver Brook	Pathogens
Wareham	MA95-01	Buttermilk Bay	Fecal Coliform
Wareham	MA95-02	Onset Bay	Fecal Coliform
Wareham	MA95-03	Wareham River	Fecal Coliform
Wareham	MA95-05	Weweantic River	Fecal Coliform
Wareham	MA95-07	Sippican River	Fecal Coliform
Wareham	MA95-29	Agawam River	Fecal Coliform
Wareham	MA95-49	Broad Marsh River	Fecal Coliform
Wareham	MA95-50	Wankinco River	Fecal Coliform
Wareham	MA95-51	Crooked River	Fecal Coliform
Wareham	MA95-52	Cedar Island Creek	Fecal Coliform
Wareham	MA95-53	Beaverdam Creek	Fecal Coliform
Watertown	MA72-07	Charles River	Pathogens
Watertown	MA72-30	Unnamed Tributary	Pathogens
Watertown	MA72-32	Unnamed Tributary	Pathogens
Watertown	MA72-36	Charles River	Pathogens
Wellesley	MA72-06	Charles River	Pathogens
Wellesley	MA72-07	Charles River	Pathogens
Wellesley	MA72-18	Fuller Brook	Pathogens

Wellesley	MA72-25	Rosemary Brook	Pathogens
Wellfleet	MA96-32	Duck Creek	Fecal Coliform
Wellfleet	MA96-33	Herring River	Fecal Coliform
Wellfleet	MA96-34	Wellfleet Harbor	Fecal Coliform
West Bridgewater	MA62-06	Salisbury Plain River	Escherichia Coli (E. Coli)
Weston	MA72-07	Charles River	Pathogens
Westport	MA95-37	West Branch Westport River	Fecal Coliform
Westport	MA95-40	East Branch Westport River	Escherichia Coli (E. Coli)
Westport	MA95-41	East Branch Westport River	Fecal Coliform
Westport	MA95-44	Snell Creek	Escherichia Coli (E. Coli)
Westport	MA95-45	Snell Creek	Escherichia Coli (E. Coli)
Westport	MA95-54	Westport River	Fecal Coliform
Westport	MA95-58	Bread And Cheese Brook	Escherichia Coli (E. Coli)
Westport	MA95-59	Snell Creek	Fecal Coliform
Westwood	MA72-21	Rock Meadow Brook	Pathogens
Westwood	MA73-02	Neponset River	Fecal Coliform
Westwood	MA73-15	Germany Brook	Fecal Coliform
Westwood	MA73-24	Purgatory Brook	Fecal Coliform
Westwood	MA73-25	Pecunit Brook	Escherichia Coli (E. Coli)
Westwood	MA73-27	Ponkapog Brook	Fecal Coliform
Whitman	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
Whitman	MA62-33	Shumatuscacant River	Escherichia Coli (E. Coli)
Whitman	MA62-38	Meadow Brook	Escherichia Coli (E. Coli)
Wilmington	MA83-18	Shawsheen River	Fecal Coliform
Winthrop	MA93-53	Lynn Harbor	Fecal Coliform
Yarmouth	MA96-12	Bass River	Fecal Coliform
Yarmouth	MA96-35	Chase Garden Creek	Fecal Coliform
Yarmouth	MA96-36	Lewis Bay	Fecal Coliform
Yarmouth	MA96-37	Mill Creek	Fecal Coliform
Yarmouth	MA96-38	Parkers River	Fecal Coliform
Yarmouth	MA96-80	Mill Creek	Fecal Coliform
Yarmouth	MA96-82	Hyannis Inner Harbor	Fecal Coliform

Table F-8: Bacteria or pathogens impaired waterbody names and segment IDs along with primary municipality and indicator organism identified by the applicable TMDL. The term primary municipality indicates the municipality in which the majority of the segment is located, but does not necessarily indicate each municipality that has regulated discharges to the waterbody segment.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.III.1. as follows:
    a. The permittee is relieved of additional requirements as of the date when the following conditions are met:
        i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable to the receiving water

that indicates that no additional stormwater controls for bacteria/pathogens are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL

b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any additional remaining requirements of Appendix F part A.III.1 as of that date and the permittee shall comply with the following:
    i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.III.1 to date to reduce bacteria/pathogens in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
    ii. The permittee shall continue to implement all requirements of Appendix F part A.III.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

IV. Cape Cod Nitrogen TMDL Requirements

There are 19 approved TMDLs for nitrogen for various watersheds, ponds and bays on Cape Cod.[15] The following measuress are needed to ensure that current nitrogen loads from MS4 stormwater discharged into the impaired waterbodies do not increase.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-9 or any other MS4 (traditional and non-traditional) that discharges to any waterbody listed in Table F-9 or their tributaries shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:

    a. Enhanced BMPs

        i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:

            1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the Fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.V, B.I, B.II and B.III where appropriate.

            2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges.

[15] Final nitrogen TMDLs for Cape Cod can be found here: http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdls.html

3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: establish requirements for use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in in part 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two (2) times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

Municipality	**Waterbody Name**
Barnstable	Centerville River
Barnstable	Popponesset Bay
Barnstable	Shoestring Bay
Barnstable	Cotuit Bay
Barnstable	North Bay
Barnstable	Prince Cove
Barnstable	West Bay
Barnstable	Hyannis Inner Harbor
Barnstable	Lewis Bay
Bourne	Phinneys Harbor
Chatham	Crows Pond
Chatham	Bucks Creek
Chatham	Harding Beach Pond
Chatham	Mill Creek
Chatham	Mill Pond
Chatham	Oyster Pond
Chatham	Oyster Pond River
Chatham	Stage Harbor
Chatham	Taylors Pond
Chatham	Frost Fish Creek
Chatham	Ryder Cove
Falmouth	Bournes Pond
Falmouth	Great Pond
Falmouth	Green Pond
Falmouth	Perch Pond
Falmouth	Little Pond
Falmouth	Oyster Pond
Falmouth	Quashnet River
Falmouth	Inner West Falmouth Harbor

Municipality	Waterbody Name
Falmouth	West Falmouth Harbor
Falmouth	Snug Harbor
Falmouth	Harbor Head
Harwich	Muddy Creek - Lower
Harwich	Muddy Creek - Upper
Harwich	Round Cove
Mashpee	Mashpee River
Mashpee	Great River
Mashpee	Hamblin Pond
Mashpee	Jehu Pond
Mashpee	Little River
Orleans	Areys Pond
Orleans	Little Pleasant Bay
Orleans	Namequoit River
Orleans	Paw Wah Pond
Orleans	Pleasant Bay
Orleans	Pochet Neck
Orleans	Quanset Pond
Yarmouth	Mill Creek
Yarmouth	Hyannis Inner Harbor
Yarmouth	Lewis Bay

Table F-9: Waterbodies subject to a Cape Cod nitrogen TMDL and the primary municipalities

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.IV.1. applicable to it when in compliance with this part.
    a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
        i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of nitrogen are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
    b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part A.IV.1 as of that date and the permittee shall comply with the following:
        i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.IV.1 to date to reduce nitrogen in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
        ii. The permittee shall continue to implement all requirements of Appendix F part A.IV.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing

implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

V. Assabet River Phosphorus TMDL Requirements

On September 23, 2004 EPA approved the *Assabet River Total Maximum Daily Load for Total Phosphorus*[16]. The following measures are needed to ensure that current phosphorus loads from MS4 stormwater discharged directly or indirectly via tributaries into the Assabet River do not increase.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-10 within the Assabet River Watershed shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:

    a. Enhanced BMPs

        i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:

            1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, B.I, B.II and B.III where appropriate.

            2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.

            3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: Establish program to properly

[16] Massachusetts Department of Environmental Protection, 2004. *Assabet River Total Maximum Daily Load for Total Phosphorus.* CN 201.0

manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

Municipality
Acton
Berlin
Bolton
Boxborough
Boylston
Carlisle
Clinton
Concord
Grafton
Harvard
Hudson
Littleton
Marlborough
Maynard
Northborough
Shrewsbury
Stow
Westborough
Westford

Table F-10: Municipalities located in the Assabet River Watershed

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.V.1. as follows.
    a. The permittee is relieved of its additional requirements as of the date when following conditions are met:
        i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
    b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part A.V.1 as of that date and the permittee shall comply with the following:
        i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.V.1 to

date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs

ii. The permittee shall continue to implement all requirements of Appendix F part A.V.1 required to be implemented prior to the date of the newly approved TMDL including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

B. Requirements for Discharges to Impaired Waters with an Approved Out of State TMDL

I. Nitrogen TMDL Requirements

Discharges from MS4s in Massachusetts to waters that are tributaries to the Long Island Sound, which has an approved TMDL for nitrogen[17], are subject to the requirements of this part.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-11 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:

    a. Enhanced BMPs

        i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:

            1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the Fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, A.V, B.II and B.III where appropriate.

            2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges.

            3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: establish requirements for use of

[17] Connecticut Department of Environmental Protection. 2000. *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound*

slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in in part 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two (2) times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Nitrogen Source Identification Report

i. Within four years of the permit effective date the permittee shall complete a Nitrogen Source Identification Report. The report shall include the following elements:

1. Calculation of total urbanized area within the permittee's jurisdiction that is within the Connecticut River Watershed, the Housatonic River Watershed, or the Thames River Watershed, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
3. Impervious area and DCIA for the target catchment
4. Identification, delineation and prioritization of potential catchments with high nitrogen loading
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during re-development

ii. The final Nitrogen Source Identification Report shall be submitted to EPA as part of the year 4 annual report.

c. Structural BMPs

i. Within five years of the permit effective date, the permittee shall evaluate all properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii. or identified in the Nitrogen Source Identification Report. The evaluation shall include:

1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
2. The estimated cost of redevelopment or retrofit BMPs; and
3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual

report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high nitrogen load potential. The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

iii. Any structural BMPs listed in Table 4-3 of Attachment 1 to Appendix H installed in the urbanized area by the permittee or its agents shall be tracked and the permittee shall estimate the nitrogen removal by the BMP consistent with Attachment 1 to Appendix H. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP in each annual report.

Adams	North Adams
Agawam	Northampton
Amherst	Oxford
Ashburnham	Palmer
Ashby	Paxton
Auburn	Pelham
Belchertown	Pittsfield
Charlton	Richmond
Cheshire	Russell
Chicopee	Rutland
Dalton	South Hadley
Douglas	Southampton
Dudley	Southbridge
East Longmeadow	Southwick
Easthampton	Spencer
Gardner	Springfield
Granby	Sturbridge
Hadley	Sutton
Hampden	Templeton
Hatfield	Ware
Hinsdale	Webster
Holyoke	West Springfield
Lanesborough	Westfield
Leicester	Westhampton
Lenox	Westminster
Longmeadow	Wilbraham
Ludlow	Williamsburg
Millbury	Winchendon

Monson	

Table F-11: Massachusetts municipalities in which MS4 discharges are within the Connecticut River Watershed, the Housatonic River Watershed, or the Thames River Watershed.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.I.1. as follows:
    a. The permittee is relieved of its additional requirements as of the date when the following conditions are met:
        i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of nitrogen are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
    b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.I.1 as of that date and the permittee shall comply with the following:
        i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.I.1 to date to reduce nitrogen in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
        ii. The permittee shall continue to implement all requirements of Appendix F part B.I.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

II. Phosphorus TMDL Requirements

There are currently eight approved phosphorus TMDLs for certain waterbody segments in Rhode Island that identify urban stormwater discharges in Massachusetts as sources that are contributing phosphorus to the impaired segments. The TMDLs include the Kickemuit Reservoir, Upper Kikemuit River, Kickemuit River, Ten Mile River, Central Pond, Turner Reservoir, Lower Ten Mile River, and Omega Pond TMDLs[18]. Table F-12 lists municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing phosphorus to the impaired waterbody segments in Rhode Island, the impaired receiving water, and the approved TMDL name. Any permittee (traditional or non-traditional) that operates an MS4 in a municipality listed in Table F-12 and that discharges to a waterbody or tributary of a waterbody listed on Table F-12 is subject to the requirements of this part.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-12 and that discharge to a waterbody or a tributary of a waterbody identified on Table F-12 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:

    a. Enhanced BMPs

        i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:

            1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, A.V, B.I, and B.III where appropriate.

            2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for

[18] See http://www.dem.ri.gov/programs/benviron/water/quality/rest/reports.htm for all RI TMDL documents. (retrieved 6/30/2014)

adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.

3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: Establish program to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Phosphorus Source Identification Report

i. Within four years of the permit effective date the permittee shall complete a Phosphorus Source Identification Report. The report shall include the following elements:

1. Calculation of total urbanized area draining to the water quality limited receiving water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
3. Impervious area and DCIA for the target catchment
4. Identification, delineation and prioritization of potential catchments with high phosphorus loading
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during re development, including the removal of impervious area of permittee owned properties

ii. The phosphorus source identification report shall be submitted to EPA as part of the year 4 annual report.

c. Structural BMPs

i. Within five years of the permit effective date, the permittee shall evaluate all permittee owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries. The evaluation shall include:

1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
2. The estimated cost of redevelopment or retrofit BMPs; and
3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential. The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

iii. Any structural BMPs installed in the urbanized area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 3 to Appendix F. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each annual report.

Municipality	Receiving Water	TMDL Name
Attleboro	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
North Attleborough	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Plainville	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Rehoboth	Upper Kikemuit River, Kickemuit River, Kickemuit Reservoir	Fecal Coliform and Total Phosphorus TMDLs:

Municipality	Receiving Water	TMDL Name
		Kickemuit Reservoir, Rhode Island (RI0007034L-01) Upper Kickemuit River (RI 0007034R-01) Kickemuit River (MA 61-08_2004)
Seekonk	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Swansea	Upper Kikemuit River, Kickemuit River, Kickemuit Reservoir	Fecal Coliform and Total Phosphorus TMDLs: Kickemuit Reservoir, Rhode Island (RI0007034L-01) Upper Kickemuit River (RI 0007034R-01) Kickemuit River (MA 61-08_2004)

Table F-12: Municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing phosphorus to the impaired waterbody segments in Rhode Island, the impaired receiving water, and the approved TMDL name.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.II.1. as follows:
    a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
        i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
    b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.II.1 as of that date and the permittee shall comply with the following:
        i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.II.1 to date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
        ii. The permittee shall continue to implement all requirements of Appendix F part B.II.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

III. Bacteria and Pathogen TMDL Requirements

There are currently six approved bacteria (fecal coliform bacteria) or pathogen (fecal coliform and/or enterococcus bacteria) TMDLs for certain waterbody segments in Rhode Island that identify urban stormwater discharges in Massachusetts as sources that are contributing bacteria or pathogens to the impaired segments. The TMDLs include the Kickemuit Reservoir, Upper Kikemuit River, Ten Mile River, Lower Ten Mile River and Omega Pond TMDLs[19] Table F-13 lists municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing bacteria or pathogens to the impaired waterbody segments in Rhode Island,, the impaired receiving water, and the approved TMDL name. Any permittee (traditional or non-traditional) that operates an MS4 in a municipality listed in Table F-13 and that discharges to a waterbody or a tributary of a waterbody listed on Table F-13 is subject to the requirements of this part.

1) Traditional and non-traditional MS4s operating in the municipalities identified in Table F-13 and that discharge to a waterbody or a tributary of a waterbody identified on Table F-13 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below::

    a. Enhanced BMPs

        i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:

            1. part 2.3.3. Public Education: The permittee shall supplement its Residential program with an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, A.V, B.I, and B.II where appropriate.

            2. part 2.3.4 Illicit Discharge: Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

[19] See http://www.dem.ri.gov/programs/benviron/water/quality/rest/reports.htm for all RI TMDL documents. (retrieved 6/30/2014)

Municipality	Receiving Water	TMDL Name
Attleboro	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
North Attleborough	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Plainville	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Rehoboth	Upper Kikemuit River, Kickemuit Reservoir	Fecal Coliform and Total Phosphorus TMDLs: Kickemuit Reservoir, Rhode Island (RI0007034L-01) Upper Kickemuit River (RI 0007034R-01) Kickemuit River (MA 61-08_2004)
Seekonk	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed

Table F-13: Municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing bacteria or pathogens to the impaired waterbody segments in Rhode Island,, the impaired receiving water, and the approved TMDL name

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.III.1. applicable to it when in compliance with this part.
    a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
        i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of bacteria/pathogens are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
    b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.III.1 as of that date and the permittee shall comply with the following:
        i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.III.1 to date to reduce bacteria/pathogens in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
        ii. The permittee shall continue to implement all requirements of Appendix F part B.III.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation

of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

IV. Metals TMDL Requirements

There are currently five approved metals TMDL for a waterbody segment in Rhode Island that that identifies urban stormwater discharges in Massachusetts as sources that are contributing metals (Cadmium, Lead, Aluminum, Iron) to the impaired segment. The TMDLs include the Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir and Omega Pond TMDLs.[20] Table F-14 lists municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing metals to the impaired waterbody segments in Rhode Island, the impaired receiving water, the approved TMDL name, and the pollutant of concern. Any permittee (traditional or non-traditional) that operates an MS4 in a municipality listed in Table F-14 and the discharge is to a waterbody or tributary of a waterbody listed on Table F-14 is subject to the requirements of this part.

1) Traditional and non-traditional MS4s operating in the municipalities identified in Table F-14 and that discharge to a waterbody or a tributary of a waterbody identified on Table F-14 shall identify and implement BMPs designed to reduce metals discharges from its MS4. To address metals discharges, each permittee shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:

    a. Enhanced BMPs

        i. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:

            1. part 2.3.6, Stormwater Management in New Development and Redevelopment: stormwater management systems designed on commercial and industrial land use area draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event. EPA also encourages the permittee to require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.

            2. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: increased street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads. This may include, but is not limited to, increased street sweeping frequency in commercial areas and high density residential areas, or

[20] See http://www.dem.ri.gov/programs/benviron/water/quality/rest/reports.htm for all RI TMDL documents. (retrieved 6/30/2014)

drainage areas with a large amount of impervious area. Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full. Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.

Municipality	Receiving Water	TMDL Name
Attleboro	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
North Attleborough	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Plainville	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Seekonk	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed

Table F-14: Municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing metals to the impaired waterbody segments in Rhode Island, the impaired receiving water, the approved TMDL name, and the pollutant of concern.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.IV.1. applicable to it when in compliance with this part.
    a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
        i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of metals (Cadmium, Lead, Aluminum, Iron) are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL

b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.IV.1 as of that date and the permittee shall comply with the following:
    i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.IV.1 to date to reduce metals (Cadmium, Lead, Aluminum, Iron) in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
    ii. The permittee shall continue to implement all requirements of Appendix F part B.IV.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

C. Requirements for Discharges to Impaired Waters with a Regional TMDL

I. The "Northeast Regional Mercury TMDL (2007)"

The Northeast Regional Mercury TMDL does not specify a wasteload allocation or other requirements either individually or categorically for the MS4 discharges and specifies that load reductions are to be achieved through reduction in atmospheric deposition sources. No requirements related to this TMDL are imposed on MS4 discharges under this part. However, if the permittee becomes aware, or EPA or MassDEP determines, that an MS4 discharge is causing or contributing to such impairment to an extent that cannot be explained by atmospheric deposition (e.g. chemical spill, acid landfill leachate or other sources), the permittee shall comply with the requirements of part 2.1.1.d and 2.3.4 of the permit.

ATTACHMENT 1 TO APPENDIX F

Method to Calculate Baseline Phosphorus Load (Baseline), Phosphorus Reduction Requirements and Phosphorus load increases due to development (P_{DEVinc})

The methods and annual phosphorus load export rates presented in Attachments 1, 2 and 3 are for the purpose of measuring load reductions for various stormwater BMPs treating runoff from different site conditions (i.e. impervious or pervious) and land uses (e.g. commercial, industrial, residential). The estimates of annual phosphorus load and load reductions due to BMPs are intended for use by the permittee to measure compliance with its Phosphorus Reduction Requirement under the permit.

This attachment provides the method to calculate a baseline phosphorus load discharging in stormwater for the impaired municipalities subject to Lakes and Ponds TMDL. A complete list of municipalities subject to these TMDLs is presented in Appendix F, Table F-6. This method shall be used to calculate the following annual phosphorus loads:

1) Baseline Phosphorus Load for Permittees
2) Phosphorus Reduction Requirement

This attachment also provides the method to calculate stormwater phosphorus load increases due to development for the municipalities subject to the Charles River TMDL requirements and the Lakes & Ponds TMDL requirements:

3) Phosphorus Load Increases due to Development

The **Baseline Phosphorus Load** is a measure of the annual phosphorus load discharging in stormwater from the impervious and pervious areas of the impaired Lake Phosphorus Control Plan (LPCP) Area.

The **Baseline Phosphorus Pounds Reduction** referred to as the permittee's **Phosphorus Reduction Requirement** represents the required reduction in annual phosphorus load in stormwater to meet the WLA for the impaired watershed. The percent phosphorus reduction for each watershed (identified in Appendix F, Table F-6) is applied to the Baseline Phosphorus Load to calculate the Phosphorus Pounds Reduction.

The **Phosphorus load increases due to development (P_{DEVinc})** is the stormwater phosphorus load increases due to development over the previous reporting period and incurred to date. Increases in stormwater phosphorus load from development will increase the permittee's baseline phosphorus load and therefore, the phosphorus reduction requirement.

Examples are provided to illustrate use of the methods. Table 1-1 below provides annual composite phosphorus load export rates (PLERs) by land use category for the Baseline Load and Phosphorus Reduction Requirement calculations. The permittee shall select the land use category that most closely represents the actual use of the watershed. For watersheds with institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial land use category for the purpose of calculating phosphorus loads. Table 1-2 provides annual PLERs by land use category for impervious and pervious areas. The permittee shall select the land use category that most closely represents the actual use of the watershed. For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value. If the HSG is not known, assume HSG C conditions for the phosphorus load export rate. For watersheds with

institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial/industrial land use category for the purpose of calculating phosphorus loads. Table 1-3 provides a crosswalk table of land use codes between Tables 1-1 and 1-2 and the codes used by MassGIS.

The composite PLERs in Table 1-1 to be used for calculating Baseline Phosphorus Load are based on the specified directly connected impervious area (DCIA). If the permittee determines through mapping and site investigations that the overall DCIA for the collective area for each land use category is different than the corresponding values in Table 1-1, then the permittee is encouraged to submit this information in its annual report and request EPA to recalculate the composite PLERs for the permittees to use in refining the Baseline Phosphorus Load calculation for the LPCP.

(1) Baseline Phosphorus Load: The permittee shall calculate the **Baseline Phosphorus Load** by the following procedure:

1) Determine the total area (acre) associated with the impaired watershed;

2) Sort the total area associated with the watershed into land use categories;

3) Calculate the annual phosphorus load associated with each land use category by multiplying the total area of land use by the appropriate land use-based composite phosphorus load export rate provided in Table 1-1; and

4) Determine the Baseline Phosphorus Load by summing the land use loads.

Example 1-1 to determine Baseline Phosphorus Load:
Watershed A is 18.0 acres, with 11.0 acres of industrial area (e.g. access drives, buildings, and parking lots), 3.0 acres of medium-density residential and 4.0 acres of unmanaged wooded area.

The **Baseline Phosphorus Load** = (Baseline P Load $_{IND}$) + (Baseline P Load $_{MDR}$) + (Baseline P Load $_{FOR}$)

Where:
Baseline P Load $_{IND}$ = (TA_{IND}) x (PLER for industrial use (Table 1-1))
= 11.0 acre x 1.27 lbs/acre/year
= 14.0 lbs P/year

Baseline P Load $_{MDR}$ = (TA_{MDR}) x (PLER for medium density residential (Table 1-1))
= 3.0 acre x 0.49 lbs/acre/year
= 1.5 lbs P/year

Baseline P Load $_{FOR}$ = (TA_{FOR}) x (PLER for forest (Table 1-1))
= 4.0 acre x 0.12 lbs/acre/year
= 0.5 lbs P/year

Baseline Phosphorus Load = 14.0 lbs P/year + 1.5 lbs P/year + 0.5 lbs P/year
= **16.0 lbs P/year**

(2) Baseline Phosphorus Pounds Reduction (Phosphorus Reduction Requirement): The Baselines Phosphorus Reduction requirement is the amount of reduction in annual phosphorus load (in pounds) that the permittee is required to achieve in the Watershed. The permittee shall calculate the **Phosphorus Reduction Requirement** by multiplying the **Baseline Phosphorus Load** by the applicable percent phosphorus reduction for that watershed specified in Table F-6 (Appendix F).

Example 1-2 to determine Watershed Phosphorus Reduction Requirement:
Table F-6 identifies Watershed A's percent phosphorus reduction as 45%; therefore the Watershed Phosphorus Reduction Requirement is:

Phosphorus Reduction Requirement = (Baseline Phosphorus Load) x (0.45)
= (16.0 lbs P/year) x (0.45)
= **7.2 lbs P/year**

(3) Phosphorus load increases due to development (P_{DEVinc}): To estimate the increases in stormwater phosphorus load due to development in the Watershed (either PCP or LPCP Area), the permittee will use the following procedure:

1) Determine the total area of development by land use category and calculate the baseline load from that area using the composite PLERs in Table 1-1;

2) Distribute the total development area into impervious and pervious subareas by land use category;

3) Calculate the phosphorus load due to development (P_{DEV}) for each land use-based impervious and pervious subarea by multiplying the subarea by the appropriate phosphorus load export rate provided in Table 1-2; and

4) Determine the phosphorus load increase (P_{DEVinc}) by subtracting the baseline phosphorus load from the increased phosphorus load due to development.

Note: If structural BMPs are installed as part of new development, the P_{DEVinc} will be reduced by the amount of BMP load treated by that BMP as calculated in Attachment 3.

Example 1-3 to determine Phosphorus Load Increases: For the same 15.11 acre Watershed A as specified in Example 1-1, a permittee has tracked development in the LPCP Area in the last year that resulted in 1.5 acres of medium density residential area and 0.5 acres of forest land being converted to high density residential impervious area as detailed below. The undeveloped MDR area is pervious area, HSG C soil and the undeveloped forest area is pervious, HSG B soil.

Land Use Category	Baseline Area (acres)	P export rate (lbs P/acre/yr)*	Baseline area unchanged (acres)	P export rate (lbs P/acre/yr)**	Developed Area converted to HDR IA (acres)	P export rate (lbs P/acre/yr)**
Industrial	11.0	1.27	No change	--	No change	--
MDR	3.0	0.49	1.5	0.21	1.5	2.32

Forest	4.0	0.12	3.5	0.12	0.5	2.32

*From Table 1-1; ** From Table 1-2

The phosphorus load increase is calculated as:

Baseline Load = (Baseline P Load $_{IND}$) +
(Baseline P Load $_{MDR}$) +
(Baseline P Load $_{FOR}$)
= **16.0 lb/year** (determined in Example 1-1)

P_{DEV} = $(TA_{IND} \times PLER_{IND})+(IA_{HDR} \times PLER_{HDR})+(PA_{MDR} \times PLER_{MDR})+(PA_{FOR} \times PLER_{For})$
= (11.0 acres * 1.27) + (2.0 acres * 2.32) + (1.5 acres * 0.21) + (3.5 * 0.12)
= **19.0 lbs P/year**

$\mathbf{P_{DEVinc}}$ = P_{DEV} – Baseline Load
= 19.0 – 16.0
= **3.0 lbs/year**

Table 1-1. Annual composite phosphorus load export rates

Land Cover	Representative DCIA, %	Composite PLERs, lb/ac/yr	Composite PLERs, kg/ha/yr
Commercial	**57**	**1.13**	**1.27**
Industrial	**67**	**1.27**	**1.42**
High Density Residential	**36**	**1.04**	**1.16**
Medium Density Residential	**16**	**0.49**	**0.55**
Low Density Residential	**11**	**0.30**	**0.34**
Freeway	**44**	**0.73**	**0.82**
Open Space	**8**	**0.26**	**0.29**
Agriculture	**0.4**	**0.45**	**0.50**
Forest	**0.1**	**0.12**	**0.13**

Table 1-2: Proposed average annual distinct P Load export rates for use in estimating P Load reduction credits the MA MS4 Permit

Phosphorus Source Category by Land Use	Land Surface Cover	P Load Export Rate, lbs/acre/year	P Load Export Rate, kg/ha/yr
Commercial (Com) and Industrial (Ind)	Directly connected impervious	1.78	2.0
	Pervious	See* DevPERV	See* DevPERV
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	2.6
	Pervious	See* DevPERV	See* DevPERV
Medium -Density Residential (MDR)	Directly connected impervious	1.96	2.2
	Pervious	See* DevPERV	See* DevPERV
Low Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Highway (HWY)	Directly connected impervious	1.34	1.5
	Pervious	See* DevPERV	See* DevPERV
Forest (For)	Directly connected impervious	1.52	1.7
	Pervious	0.13	0.13
Open Land (Open)	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Agriculture (Ag)	Directly connected impervious	1.52	1.7
	Pervious	0.45	0.5
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group A	Pervious	0.03	0.03
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group B	Pervious	0.12	0.13
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C	Pervious	0.21	0.24
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C/D	Pervious	0.29	0.33
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group D	Pervious	0.37	0.41

Table 1-3: Crosswalk of MassGIS land-use categories to land-use groups for P Load Calculations

Mass GIS Land Use LU_CODE	Description	Land Use group for calculating P Load - 2013/14 MA MS4
1	Crop Land	Agriculture
2	Pasture (active)	Agriculture
3	Forest	Forest
4	Wetland	Forest
5	Mining	Industrial
6	Open Land includes inactive pasture	open land
7	Participation Recreation	open land
8	spectator recreation	open land
9	Water Based Recreation	open land
10	Multi-Family Residential	High Density Residential
11	High Density Residential	High Density Residential
12	Medium Density Residential	Medium Density Residential
13	Low Density Residential	Low Density Residential
14	Saltwater Wetland	Water
15	Commercial	Commercial
16	Industrial	Industrial
17	Urban Open	open land
18	Transportation	Highway
19	Waste Disposal	Industrial
20	Water	Water
23	cranberry bog	Agriculture
24	Powerline	open land
25	Saltwater Sandy Beach	open land
26	Golf Course	Agriculture
29	Marina	Commercial
31	Urban Public	Commercial
34	Cemetery	open land
35	Orchard	Forest
36	Nursery	Agriculture
37	Forested Wetland	Forest
38	Very Low Density residential	Low Density Residential
39	Junkyards	Industrial
40	Brush land/Successional	Forest

ATTACHMENT 2 TO APPENDIX F

Phosphorus Reduction Credits for Selected Enhanced Non-Structural BMPs

The permittee shall use the following methods to calculate phosphorus load reduction credits for the following enhanced non-structural control practices implemented in the Watershed:

1) Enhanced Sweeping Program;
2) Catch Basin Cleaning;
   and
3) Organic Waste and Leaf Litter Collection program

The methods include the use of default phosphorus reduction factors that EPA has determined are acceptable for calculating phosphorus load reduction credits for these practices.

The methods and annual phosphorus load export rates presented in this attachment are for the purpose of counting load reductions for various BMPs treating storm water runoff from varying site conditions (i.e., impervious or pervious surfaces) and different land uses (e.g. industrial and commercial) within the impaired watershed. Table 2-1 below provides annual phosphorus load export rates by land use category for impervious and pervious areas. The estimates of annual phosphorus load and load reductions resulting from BMP implementation are intended for use by the permittee to measure compliance with its Phosphorus Reduction Requirement under the permit.

Examples are provided to illustrate use of the methods. In calculating phosphorus export rates, the permittee shall select the land use category that most closely represents the actual use for the area in question. For watersheds with institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial land use category for the purpose of calculating phosphorus loads. Table 2-2 provides a crosswalk table of land use codes between land use groups in Table 2-1 and the codes used by Mass GIS. For pervious areas, permittees should use the appropriate value for the hydrologic soil group (HSG) if known, otherwise, assume HSG C conditions.

Alternative Methods and/or Phosphorus Reduction Factors: A permittee may propose alternative methods and/or phosphorus reduction factors for calculating phosphorus load reduction credits for these non-structural practices. EPA will consider alternative methods and/or phosphorus reduction factors, provided that the permittee submits adequate supporting documentation to EPA. At a minimum, supporting documentation shall consist of a description of the proposed method, the technical basis of the method, identification of alternative phosphorus reduction factors, supporting calculations, and identification of references and sources of information that support the use of the alternative method and/or factors in the Watershed. If EPA determines that the alternative methods and/or factors are not adequately supported, EPA will notify the permittee and the permittee may receive no phosphorus reduction credit other than a reduction credit calculated by the permittee following the methods in this attachment for the identified practices.

Table 2-1: Proposed average annual distinct P Load export rates for use in estimating P Load reduction credits in the MA MS4 Permit

Phosphorus Source Category by Land Use	Land Surface Cover	P Load Export Rate, lbs/acre/year	P Load Export Rate, kg/ha/yr
Commercial (Com) and Industrial (Ind)	Directly connected impervious	1.78	2.0
	Pervious	See* DevPERV	See* DevPERV
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	2.6
	Pervious	See* DevPERV	See* DevPERV
Medium -Density Residential (MDR)	Directly connected impervious	1.96	2.2
	Pervious	See* DevPERV	See* DevPERV
Low Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Highway (HWY)	Directly connected impervious	1.34	1.5
	Pervious	See* DevPERV	See* DevPERV
Forest (For)	Directly connected impervious	1.52	1.7
	Pervious	0.13	0.13
Open Land (Open)	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Agriculture (Ag)	Directly connected impervious	1.52	1.7
	Pervious	0.45	0.5
*Developed Land Pervious (DevPERV) – HSG A	Pervious	0.03	0.03
*Developed Land Pervious (DevPERV) – HSG B	Pervious	0.12	0.13
*Developed Land Pervious (DevPERV) – HSG C	Pervious	0.21	0.24
*Developed Land Pervious (DevPERV) – HSG C/D	Pervious	0.29	0.33
*Developed Land Pervious (DevPERV) – HSG D	Pervious	0.37	0.41

Notes:

- For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value from this table. If the HSG is not known, assume HSG C conditions for the phosphorus load export rate.
- Agriculture includes row crops. Actively managed hay fields and pasture lands. Institutional land uses such as government properties, hospitals and schools are to be included in the commercial and industrial land use grouping for the purpose of calculating phosphorus loading.
- Impervious surfaces within the forest land use category are typically roadways adjacent to forested pervious areas.

Table 2-2: Crosswalk of Mass GIS land use categories to land use groups for P load calculations

Mass GIS Land Use LU_CODE	Description	Land Use group for calculating P Load - 2013/14 MA MS4
1	Crop Land	Agriculture
2	Pasture (active)	Agriculture
3	Forest	Forest
4	Wetland	Forest
5	Mining	Industrial
6	Open Land includes inactive pasture	open land
7	Participation Recreation	open land
8	spectator recreation	open land
9	Water Based Recreation	open land
10	Multi-Family Residential	High Density Residential
11	High Density Residential	High Density Residential
12	Medium Density Residential	Medium Density Residential
13	Low Density Residential	Low Density Residential
14	Saltwater Wetland	Water
15	Commercial	Commercial
16	Industrial	Industrial
17	Urban Open	open land
18	Transportation	Highway
19	Waste Disposal	Industrial
20	Water	Water
23	cranberry bog	Agriculture
24	Powerline	open land
25	Saltwater Sandy Beach	open land
26	Golf Course	Agriculture
29	Marina	Commercial
31	Urban Public	Commercial
34	Cemetery	open land
35	Orchard	Forest
36	Nursery	Agriculture
37	Forested Wetland	Forest
38	Very Low Density residential	Low Density Residential
39	Junkyards	Industrial
40	Brush land/Successional	Forest

(1) Enhanced Sweeping Program: The permittee may earn a phosphorus reduction credit for conducting an enhanced sweeping program of impervious surfaces. Table 2-2 below outlines the default phosphorus removal factors for enhanced sweeping programs. The credit shall be calculated by using the following equation:

$$Credit_{sweeping} = IA_{swept} \times PLE_{IC\text{-}land\ use} \times PRF_{sweeping} \times AF \qquad \textbf{(Equation 2-1)}$$

Where:

$Credit_{sweeping}$ = Amount of phosphorus load removed by enhanced sweeping program (lb/year)

IA_{swept} = Area of impervious surface that is swept under the enhanced sweeping program (acres)

$PLE_{IC\text{-}land\ use}$ = Phosphorus Load Export Rate for impervious cover and specified land use (lb/acre/yr) (see Table 2-1)

$PRF_{sweeping}$ = Phosphorus Reduction Factor for sweeping based on sweeper type and frequency (see Table 2-3).

AF = Annual Frequency of sweeping. For example, if sweeping does not occur in Dec/Jan/Feb, the AF would be 9 mo./12 mo. = 0.75. For year-round sweeping, AF=1.0[1]

As an alternative, the permittee may apply a credible sweeping model of the Watershed and perform continuous simulations reflecting build-up and wash-off of phosphorus using long-term local rainfall data.

Table 2-3: Phosphorus reduction efficiency factors ($PRF_{sweeping}$) for sweeping impervious areas

Frequency[1]	Sweeper Technology	$PRF_{sweeping}$
2/year (spring and fall)[2]	Mechanical Broom	0.01
2/year (spring and fall)[2]	Vacuum Assisted	0.02
2/year (spring and fall)[2]	High-Efficiency Regenerative Air-Vacuum	0.02
Monthly	Mechanical Broom	0.03
Monthly	Vacuum Assisted	0.04
Monthly	High Efficiency Regenerative Air-Vacuum	0.08
Weekly	Mechanical Broom	0.05
Weekly	Vacuum Assisted	0.08
Weekly	High Efficiency Regenerative Air-Vacuum	0.10

[1]For full credit for monthly and weekly frequency, sweeping must be conducted year round. Otherwise, the credit should be adjusted proportionally based on the duration of the sweeping season (using AF factor).

[2] In order to earn credit for semi-annual sweeping the sweeping must occur in the spring following snow-melt and road sand applications to impervious surfaces and in the fall after leaf-fall and prior to the onset to the snow season.

Example 2-1: Calculation of enhanced sweeping program credit (Credit $_{sweeping}$): A permittee proposes to implement an enhanced sweeping program and perform weekly sweeping from March 1 – December 1 (9 months) in their Watershed, using a vacuum assisted sweeper on 20.3 acres of parking lots and roadways in a high-density residential area of the Watershed. For this site the needed information is:

IA_{swept}	= 20.3 acres
$PLE_{IC\text{-}HDR}$	= 2.32 lb/acre/yr (from Table 2-1)
$PRF_{sweeping}$	= 0.08 (from Table 2-3)
AF	= (9 months / 12 months) = 0.75

Substitution into equation 2-1 yields a $Credit_{sweeping}$ of 3.2 pounds of phosphorus removed per year.

$Credit_{sweeping}$ = IA_{swept} x $PLE_{land\ use}$ x $PRF_{sweeping}$ x AF
= 20.3 acres x 2.32 lbs/acre/yr x 0.08 x 0.75
= 2.8 lbs/yr

(2) Catch Basin Cleaning: The permittee may earn a phosphorus reduction credit, $Credit_{CB}$, by removing accumulated materials from catch basins (i.e., catch basin cleaning) in the Watershed such that a minimum sump storage capacity of 50% is maintained throughout the year. The credit shall be calculated by using the following equation:

$$Credit_{CB} = IA_{CB} \times PLE_{IC\text{-}land\ use} \times PRF_{CB} \quad \textbf{(Equation 2-2)}$$

Where:

$Credit_{CB}$	=	Amount of phosphorus load removed by catch basin cleaning (lb/year)
IA_{CB}	=	Impervious drainage area to catch basins (acres)
$PLE_{IC\text{-}and\ use}$	=	Phosphorus Load Export Rate for impervious cover and specified land use (lb/acre/yr) (see Table 2-1)
PRF_{CB}	=	Phosphorus Reduction Factor for catch basin cleaning (see Table 2-4)

Table 2-4: Phosphorus reduction efficiency factor (PRF_{CB}) for semi-annual catch basin cleaning

Frequency	Practice	PRF_{CB}
Semi-annual	Catch Basin Cleaning	0.02

Example 2-2: Calculation for catch basin cleaning credit (Credit $_{CB}$):
A permittee proposes to clean catch basins in their Watershed (i.e., remove accumulated sediments and contaminants captured in the catch basins) that drain runoff from 15.3 acres of medium-density residential impervious area. For this site the needed information is:

IA_{CB}	= 15.3 acre
$PLE_{IC\text{-}MDR}$	= 1.96 lbs/acre/yr (from Table 2-1)
PRF_{CB}	= 0.02 (from Table 2-4)

Substitution into equation 2-2 yields a Credit $_{CB}$ of 0.6 pounds of phosphorus removed per year:

Credit $_{CB}$	= IA_{CB} x $PLE_{IC\text{-}MDR}$ x PRF_{CB}
	= 15.3 acre x 1.96 lbs/acre/yr x 0.02
	= 0.6 lbs/yr

(3) Enhanced Organic Waste and Leaf Litter Collection program: The permittee may earn a phosphorus reduction credit by performing regular gathering, removal and disposal of landscaping wastes, organic debris, and leaf litter from impervious surfaces from which runoff discharges to the TMDL waterbody or its tributaries. In order to earn this credit (Credit $_{leaf\ litter}$), the permittee must gather and remove all landscaping wastes, organic debris, and leaf litter from impervious roadways and parking lots at least once per week during the period of September 1 to December 1 of each year. Credit can only be earned for those impervious surfaces that are cleared of organic materials in accordance with the description above. The gathering and removal shall occur immediately following any landscaping activities in the Watershed and at additional times when necessary to achieve a weekly cleaning frequency. The permittee must ensure that the disposal of these materials will not contribute pollutants to any surface water discharges. The permittee may use an enhanced sweeping program (e.g., weekly frequency) as part of earning this credit provided that the sweeping is effective at removing leaf litter and organic materials. The Credit $_{leaf\ litter}$ shall be determined by the following equation:

$$Credit_{leaf\ litter} = (Watershed\ Area) \times (PLE_{IC\text{-}land\ use}) \times (0.05) \qquad \textbf{(Equation 2-3)}$$

Where:

Credit $_{leaf\ litter}$	= Amount of phosphorus load reduction credit for organic waste and leaf litter collection program (lb/year)
Watershed Area	= All impervious area (acre) from which runoff discharges to the TMDL waterbody or its tributaries in the Watershed
$PLE_{IC\text{-}land\ use}$	= Phosphorus Load Export Rate for impervious cover and specified land use (lbs/acre/yr) (see Table 2-1)
0.05	= 5% phosphorus reduction factor for organic waste and leaf litter collection program in the Watershed

Example 2-3: Calculation for organic waste and leaf litter collection program credit (Credit $_{\text{leaf litter}}$): A permittee proposes to implement an organic waste and leaf litter collection program by sweeping the parking lots and access drives at a minimum of once per week using a mechanical broom sweeper for the period of September 1 to December 1 over 12.5 acres of impervious roadways and parking lots in an industrial/commercial area of the Watershed. Also, the permittee will ensure that organic materials are removed from impervious areas immediately following all landscaping activities at the site. For this site the needed information to calculate the Credit $_{\text{leaf litter}}$ is:

Watershed Area = 12.5 acres; and
PLE $_{\text{IC-commercial}}$ = 1.78 lbs/acre/yr (from Table 2-1)

Substitution into equation 2-4 yields a Credit $_{\text{leaf litter}}$ of 1.1 pounds of phosphorus removed per year:

Credit $_{\text{leaf litter}}$ = (12.5 acre) x (1.78 lbs/acre/yr) x (0.05)
= 1.1 lbs/yr

The permittee also may earn a phosphorus reduction credit for enhanced sweeping of roads and parking lot areas (i.e., Credit $_{\text{sweeping}}$) for the three months of use. Using equation 2-1, Credit $_{\text{sweeping}}$ is:

Credit $_{\text{sweeping}}$ = IA $_{\text{swept}}$ x PLE $_{\text{IC-land use}}$ x PRF $_{\text{sweeping}}$ x AF **(Equation 2-1)**
IA $_{\text{swept}}$ = 12.5 acre
PLE $_{\text{IC-commercial}}$ = 1.78 lbs/acre/yr (from Table 2-1)
PRF $_{\text{sweeping}}$ = 0.05 (from Table 2-3)
AF = 3 mo./12 mo. = 0.25

Substitution into equation 2-1 yields a Credit $_{\text{sweeping}}$ of 0.28 pounds of phosphorus removed per year.

Credit $_{\text{sweeping}}$ = IA $_{\text{swept}}$ x PLE $_{\text{IC-commercial}}$ x PRF $_{\text{sweeping}}$ x AF
= 12.5 acre x 1.78 lbs/acre/yr x 0.05 x 0.25
= 0.3 lbs/yr

ATTACHMENT 3 TO APPENDIX F

Methods to Calculate Phosphorus Load Reductions for Structural Stormwater Best Management Practices

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Methods to Calculate Phosphorus Load Reductions for Structural Stormwater Best Management Practices in the Watershed

This attachment provides methods to determine design storage volume capacities and to calculate phosphorus load reductions for the following structural Best Management Practices (structural BMPs) for a Watershed:

1) Infiltration Trench;
2) Infiltration Basin or other surface infiltration practice;
3) Bio-filtration Practice;
4) Gravel Wetland System;
5) Porous Pavement;
6) Wet Pond or wet detention basin;
7) Dry Pond or detention basin; and
8) Dry Water Quality Swale/ Grass Swale.

Additionally, this attachment provides methods to design and quantify associated phosphorus load reduction credits for the following four types of semi-structural/non-structural BMPs

9) Impervious Area Disconnection through Storage (e.g., rain barrels, cisterns, etc);
10) Impervious Area Disconnection;
11) Conversions of Impervious Area to Permeable Pervious Area; and
12) Soil Amendments to Enhance Permeability of Pervious Areas.

Methods and examples are provided in this Attachment to calculate phosphorus load reductions for structural BMPs for the four following purposes:

1) To determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area is 100% impervious;
2) To determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area is 100% impervious;
3) To determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces; and
4) To determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area has impervious and pervious surfaces.

Examples are also provided for estimating phosphorus load reductions associated with the four semi-structural/non-structural BMPs.

Also, this attachment provides the methodology for calculating the annual stormwater phosphorus load that will be delivered to BMPs for treatment (BMP Load) and to be used for quantifying phosphorus load reduction credits. The methods and annual phosphorus export load rates presented in this attachment are for the purpose of counting load reductions for various BMPs treating storm water runoff from varying site conditions (i.e., impervious or pervious surfaces) and different land uses (e.g. commercial and industrial). The estimates of annual phosphorus load and load reductions by BMPs are to demonstrate compliance with the permittee's Phosphorus Reduction Requirement under the permit.

Structural BMP performance credits: For each structural BMP type identified above (BMPs 1-8), long-term cumulative performance information is provided to calculate phosphorus load reductions or to determine needed design storage volumes to achieve a specified reduction target (e.g., 65% phosphorus load reduction). The performance information is expressed as cumulative phosphorus load removed (% removed) depending on the physical storage capacity of the structural BMP (expressed as inches of runoff from impervious area) and is provided at the end of this Attachment (see Tables 3-1 through 3-18 and performance curves Figures 3-1 through 3-17). Multiple tables and performance curves are provided for the infiltration practices to represent cumulative phosphorus load reduction performance for six infiltration rates (IR), 0.17, 0.27, 0.53, 1.02, 2.41, and 8.27 inches/hour. These infiltration rates represent the saturated hydraulic conductivity of the soils. The permittee may use the performance curves provided in this attachment to interpolate phosphorus load removal reductions for field measured infiltration rates that are different than the infiltration rates used to develop the performance curves. Otherwise, the permittee shall use the performance curve for the IR that is nearest, but less than, the field measured rate. Physical storage capacity equals the total physical storage volume of the control structure to contain water at any instant in time. Typically, this storage capacity is comprised of the surface ponding storage volume prior to overflow and subsurface storage volumes in storage units and pore spaces of coarse filter media. Table 3-30 provides the formulae to calculate physical storage capacities for the structural control types for using the performance curves.

Semi-Structural/Non-structural BMP performance credits: For each semi-structural/non-structural BMP type identified above (BMPs 9-12), long-term cumulative performance information is provided to calculate phosphorus load reductions or to determine needed design specifications to achieve a desired reduction target (e.g., 50% phosphorus load reduction). The performance information is expressed as cumulative runoff volume reduction (% removed) depending on the design specifics and actual field conditions. Cumulative percent runoff volume reduction is being used to estimate the cumulative phosphorus load reduction credit for these BMPs. To represent a wide range of potential conditions for implementing these types of BMPs, numerous performance tables and curves have been developed to reflect a wide range of potential conditions and designs such as varying storage volumes (expressed in terms of varying ratios of storage volume to impervious area (0.1 to 2.0 inches)); varying ratios of impervious source area to receiving pervious area based on hydrologic soil groups (HSGs) A, B, C and D (8:1, 6:1, 4:1, 2: 1 and 1:1); and varying discharge time periods for temporary storage (1, 2 or 3 days) . The default credits are provided at the end of this Attachment (see Tables 3-19 through 3-26 and performance curves Figures 3-18 through 3-38).

EPA will consider phosphorus load reductions calculated using the methods provided below to be valid for the purpose of complying with the terms of this permit for BMPs that have not been explicitly modeled if the desired BMP has functionality that is similar to one of the simulated BMP types. Please note that only the surface infiltration and the infiltration trench BMP types were simulated to direct storm water runoff into the ground (i.e., infiltration). All of the other simulated BMPs represent practices that have either under-drains or impermeable liners and therefore, are not hydraulically connected to the sub-surface soils (i.e., no infiltration). Following are some simple guidelines for selecting the BMP type and/or determining whether the results of any of the BMP types provided are appropriate for another BMP of interest.

Infiltration Trench is a practice that provides temporary storage of runoff using the void spaces within the soil/sand/gravel mixture that is used to backfill the trench for subsequent infiltration into the surrounding sub-soils. Performance results for the infiltration trench can be used for all subsurface infiltration practices including systems that include pipes and/or chambers that provide temporary storage. Also, the results for this BMP type can be used for bio-retention systems that rely on infiltration when the majority of the temporary storage capacity is provided in the void spaces of the soil filter media and porous pavements that allow infiltration to occur.

Surface Infiltration represents a practice that provides temporary surface storage of runoff (e.g., ponding) for subsequent infiltration into the ground. Appropriate practices for use of the surface infiltration performance estimates include infiltration basins, infiltration swales, rain gardens and bio-retention systems that rely on infiltration and provide the majority of storage capacity through surface-ponding. If an infiltration system includes both surface storage through ponding and a lessor storage volume within the void spaces of a coarse filter media, then the physical storage volume capacity used to determine the long-term cumulative phosphorus removal efficiency from the infiltration basin performance curves would be equal to the sum of the surface storage volume and the void space storage volume. General design specifications for various surface infiltration systems are provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf).

Bio-filtration is a practice that provides temporary storage of runoff for filtering through an engineered soil media. The storage capacity is typically made of void spaces in the filter media and temporary ponding at the surface of the practice. Once the runoff has passed through the filter media it is collected by an under-drain pipe for discharge. The performance curve for this control practice assumes zero infiltration. If a filtration system has subsurface soils that are suitable for infiltration, then user should use the either performance curves for the infiltration trench or the infiltration basin depending on the predominance of storage volume made up by free standing storage or void space storage. Depending on the design of the filter media manufactured or packaged bio-filter systems such as tree box filters may be suitable for using the bio-filtration performance results. Design specifications for bio-filtration systems are provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf).

Gravel Wetland performance results should be used for practices that have been designed in accordance or share similar features with the design specifications for gravel wetland systems provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf).

Porous Pavement performance results represent systems with an impermeable under-liner and an under-drain. *If porous pavement systems do not have an impermeable under-liner so that filtered runoff can infiltrate into sub-soils then the performance results for an infiltration trench may be used for these systems.* Design specifications for porous pavement systems are provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf).

Extended Dry Detention Pond performance results should only be used for practices that have been designed in accordance with the design specifications for extended dry detention ponds provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf)

Dry Water Quality Swale/ Grass Swale performance results should only be used for practices that have been designed in accordance with the design specifications for a water quality dry swale provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf)

Impervious Area Disconnection using Storage (e.g., rain barrels, cistern, etc) performance results are for collecting runoff volumes from impervious areas such as roof tops, providing temporary storage of runoff volume using rain barrels, cisterns or other storage containers, and discharging stored volume to adjacent permeable pervious surfaces over an extended period of time.

Impervious Area Disconnection performance results are for diverting runoff volumes from impervious areas such as roadways, parking lots and roof tops, and discharging it to adjacent vegetated permeable surfaces that are of sufficient size with adequate soils to receive the runoff without causing negative impacts to adjacent down-gradient properties. Careful consideration must be given to the ratio of impervious area to the pervious area that will receive the discharge. Also, devices such as level spreaders to disperse the discharge and provide sheet flow should be employed whenever needed to increase recharge and avoid flow concentration and short circuiting through the pervious area. Soil testing is needed to classify the permeability of the receiving pervious area in terms of HSG.

Conversion of Impervious Area to Permeable Pervious Area phosphorus load reduction credits are for replacing existing impervious surfaces (such as traditional pavements and buildings with roof tops) with permeable surfaces. To be eligible for credit, it is essential that the area previously covered with impervious surface be restored to provide natural or enhanced hydrologic functioning so that the surface is permeable. Sub-soils beneath pavements are typically highly compacted and will require reworking to loosen the soil and the possible addition of soil amendments to restore permeability. Soil testing is needed to classify the permeability (in terms of HSG) of the restored pervious area.

Soil Amendments to Increase Permeability of Pervious Areas performance results are for the practice of improving the permeability of pervious areas through incorporation of soil amendments, tilling and establishing dense vegetation. This practice may be used to compliment other practices such as impervious area disconnection to improve overall performance and increase reduction credits earned. Soil testing is needed to classify the permeability (in terms of HSG) of the restored pervious area.

Alternative Methods:

A permittee may propose alternative long-term cumulative performance information or alternative methods to calculate phosphorus load reductions for the structural BMPs identified above or for other structural BMPs not identified in this Attachment.

EPA will consider alternative long-term cumulative performance information and alternative methods to calculate phosphorus load reductions for structural BMPs provided that the permittee provides EPA with adequate supporting documentation. At a minimum, the supporting documentation shall include:

1) Results of continuous BMP model simulations representing the structural BMP, using a verified BMP model and representative long-term (i.e., 10 years) climatic data including hourly rainfall data;
2) Supporting calculations and model documentation that justify use of the model, model input parameters, and the resulting cumulative phosphorus load reduction estimate;
3) If pollutant removal performance data are available for the specific BMP, model calibration results should be provided; and
4) Identification of references and sources of information that support the use of the alternative information and method.

If EPA determines that the long-term cumulative phosphorus load reductions developed based on alternative information are not adequately supported, EPA will notify the permittee in writing, and the permittee may receive no phosphorus reduction credit other than a reduction credit calculated by the permittee using the default phosphorus reduction factors provided in this attachment for the identified practices. The permittee is required to submit to EPA valid phosphorus load reductions for structural BMPs in the watershed in accordance with the submission schedule requirements specified in the permit and Appendix F.

Method to Calculate Annual Phosphorus Load Delivered to BMPs (BMP Load)

The **BMP Load** is the annual phosphorus load from the drainage area to each proposed or existing BMP used by permittee to claim credit against its stormwater phosphorus load reduction requirement (i.e., Phosphorus Reduction Requirement). The BMP Load is the starting point from which the permittee calculates the reduction in phosphorus load achieved by each existing and proposed BMP.

Examples are provided to illustrate use of the methods. Table 3-1 below provides annual phosphorus load export rates (PLERs) by land use category for impervious and pervious areas. The permittee shall select the land use category that most closely represents the actual use of the watershed. For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value. If the HSG is not known, assume HSG C conditions for the phosphorus load export rate. For watersheds with institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial/industrial land use category for the purpose of calculating phosphorus loads. Table 3-2 provides a crosswalk table of land use codes between land use groups in Table 3-1 and the codes used by MassGIS.

BMP Load: To estimate the annual phosphorus load reduction that a storm water BMP can achieve, it is first necessary to estimate the amount of annual phosphorus load that the BMP will receive or treat (BMP Load).
For a given BMP:

1) Determine the total drainage area to the BMP;

2) Distribute the total drainage area into impervious and pervious subareas by land use category as defined by Tables 3-1 and 3-2;

3) Calculate the phosphorus load for each land use-based impervious and pervious subarea by multiplying the subarea by the appropriate phosphorus load export rate provided in Table 3-1; and

4) Determine the total annual phosphorus load to the BMP by summing the calculated impervious and pervious subarea phosphorus loads.

Example 3-1 to determine phosphorus load to a proposed BMP: A permittee is proposing a surface stormwater infiltration system that will treat runoff from an industrial site with an area of 12.87 acres (5.21 hectares) and is made up of 10.13 acres of impervious cover (e.g., roadways, parking areas and rooftops), 1.85 acres of landscaped pervious area and 0.89 acres of wooded area both with HSG C soils. The drainage area information for the proposed BMP is:

BMP Subarea ID	Land Use Category	Cover Type	Area (acres)	P export rate (lb/acre/yr)*
1	Industrial	impervious	10.13	1.78
2	Landscaped (HSG C)	pervious	1.85	0.21
3	Forest (HSG C)	pervious	0.89	0.12

*From Table 3-1

The phosphorus load to the proposed BMP (BMP Load) is calculated as:

BMP Load $= (IA_{Ind} \times PLER_{Ind}) + (PA_{Ind} \times PLER_{Ind}) + (PA_{FOREST} \times PLER_{For})$
$= (10.13 \times 1.78) + (1.85 \times 0.21) + (0.89 \times 0.12)$
= 18.53 lbs P/year

Table 3-1: Average annual distinct phosphorus load (P Load) export rates for use in estimating phosphorus load reduction credits the MA MS4 Permit

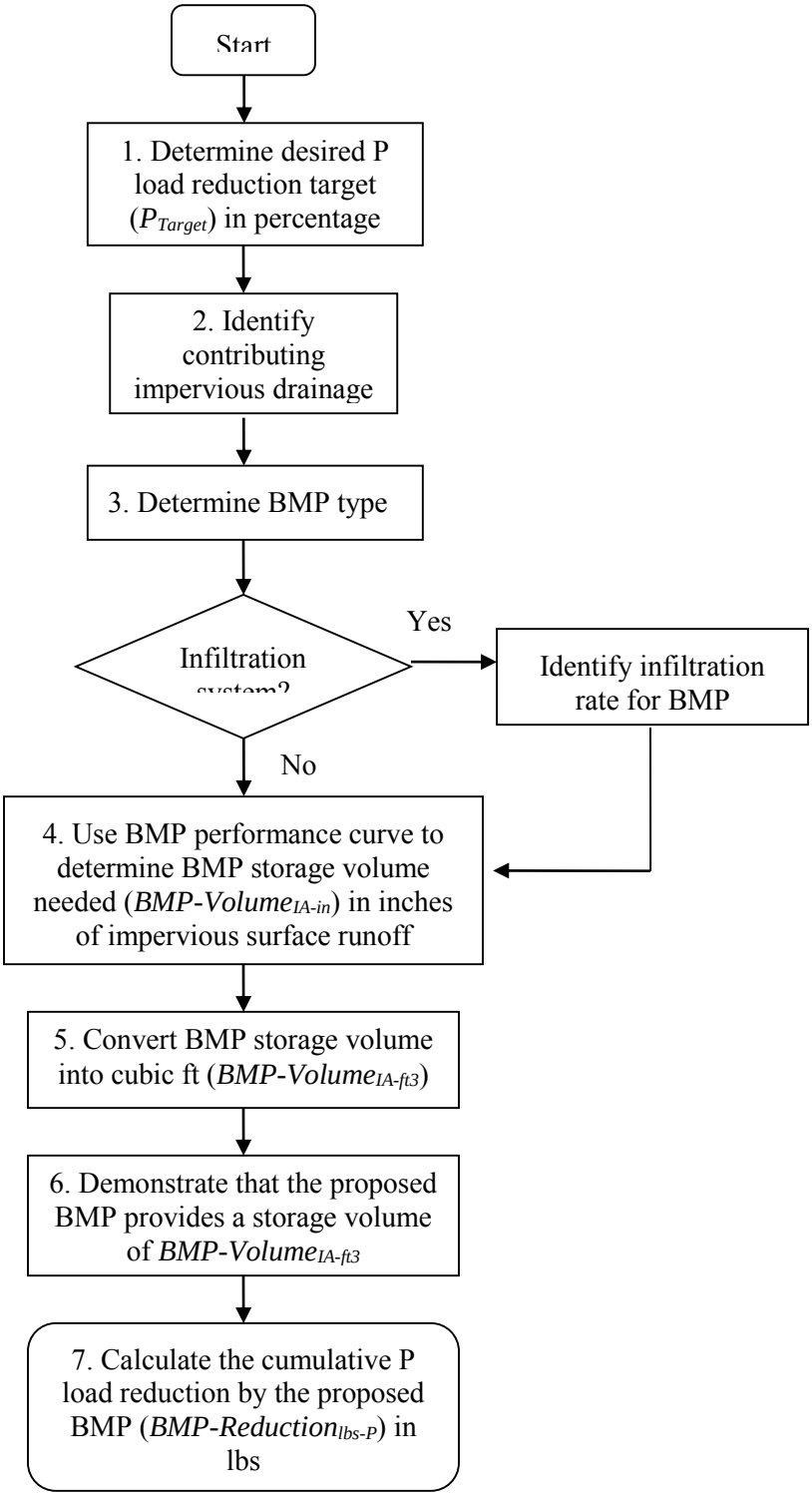
Phosphorus Source Category by Land Use	Land Surface Cover	P Load Export Rate, lbs/acre/year	P Load Export Rate, kg/ha/yr
Commercial (Com) and Industrial (Ind)	Directly connected impervious	1.78	2.0
	Pervious	See* DevPERV	See* DevPERV
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	2.6
	Pervious	See* DevPERV	See* DevPERV
Medium -Density Residential (MDR)	Directly connected impervious	1.96	2.2
	Pervious	See* DevPERV	See* DevPERV
Low Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Highway (HWY)	Directly connected impervious	1.34	1.5
	Pervious	See* DevPERV	See* DevPERV
Forest (For)	Directly connected impervious	1.52	1.7
	Pervious	0.13	0.13
Open Land (Open)	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Agriculture (Ag)	Directly connected impervious	1.52	1.7
	Pervious	0.45	0.5
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group A	Pervious	0.03	0.03
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group B	Pervious	0.12	0.13
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C	Pervious	0.21	0.24
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C/D	Pervious	0.29	0.33
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group D	Pervious	0.37	0.41

Table 3- 2: MassGIS land-use categories with associated land-use groups for phosphorus load calculations

Mass GIS Land Use LU_CODE	Description	Land Use group for calculating P Load - 2013/14 MA MS4
1	Crop Land	Agriculture
2	Pasture (active)	Agriculture
3	Forest	Forest
4	Wetland	Forest
5	Mining	Industrial
6	Open Land includes inactive pasture	open land
7	Participation Recreation	open land
8	spectator recreation	open land
9	Water Based Recreation	open land
10	Multi-Family Residential	High Density Residential
11	High Density Residential	High Density Residential
12	Medium Density Residential	Medium Density Residential
13	Low Density Residential	Low Density Residential
14	Saltwater Wetland	Water
15	Commercial	Commercial
16	Industrial	Industrial
17	Urban Open	open land
18	Transportation	Highway
19	Waste Disposal	Industrial
20	Water	Water
23	cranberry bog	Agriculture
24	Powerline	open land
25	Saltwater Sandy Beach	open land
26	Golf Course	Agriculture
29	Marina	Commercial
31	Urban Public	Commercial
34	Cemetery	open land
35	Orchard	Forest
36	Nursery	Agriculture
37	Forested Wetland	Forest
38	Very Low Density residential	Low Density Residential
39	Junkyards	Industrial
40	Brush land/Successional	Forest

(1) Method to determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area is 100% impervious:

Flow Chart 1 illustrates the steps to determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area is 100% impervious.



Flow Chart 1: Method to determine BMP design volume to achieve a known phosphorous load reduction when contributing drainage area is 100% impervious.

1) Determine the desired cumulative phosphorus load reduction target (P_{target}) in percentage for the structural BMP;

2) Determine the contributing impervious drainage area (IA) in acres to the structural BMP;

3) Determine the structural BMP type (e.g., infiltration trench, gravel wetland). For infiltration systems, determine the appropriate infiltration rate for the location of the BMP in the Watershed;

4) Using the cumulative phosphorus removal performance curve for the selected structural BMP (Figures 3-1 through 3-18), determine the storage volume for the BMP (BMP-Volume $_{IA\text{-}in}$), in inches of runoff, needed to treat runoff from the contributing IA to achieve the reduction target;

5) Calculate the corresponding BMP storage volume in cubic feet (BMP-Volume $_{IA\text{-}ft^3}$) using BMP-Volume $_{IA\text{-}in}$ determined from step 4 and equation 3-1:

BMP-Volume $_{IA\text{-}ft^3}$ = IA (acre) x BMP-Volume $_{IA\text{-}in}$ x 3630 ft^3/ac-in **(Equation 3-1)**

6) Provide supporting calculations using the dimensions and specifications of the proposed structural BMP showing that the necessary storage volume, BMP-Volume $_{IA\text{-}ft^3}$, determined from step 5 will be provided to achieve the P_{Target}; and

7) Calculate the cumulative phosphorus load reduction in pounds of phosphorus (BMP-Reduction $_{lbs\text{-}P}$) for the structural BMP using the BMP Load (as calculated from the procedure in Attachment 1 to Appendix F) and P_{target} by using equation 3-2:

BMP-Reduction $_{lbs\text{-}P}$ = BMP Load x (P_{target} /100) **(Equation 3-2)**

Example 3-2 to determine design volume of a structural BMP with a 100% impervious drainage area to achieve a known phosphorus load reduction target:

A permittee is considering a surface infiltration practice to capture and treat runoff from 2.57 acres (1.04 ha) of commercial impervious area that will achieve a 70% reduction in annual phosphorus load. The infiltration practice would be located adjacent to the impervious area. The permittee has measured an infiltration rate (IR) of 0.39 inches per hour (in/hr) in the vicinity of the proposed infiltration practice. Determine the:

A) Design storage volume needed for an surface infiltration practice to achieve a 70% reduction in annual phosphorus load from the contributing drainage area (BMP-Volume $_{IA\text{-}ft^3}$); and

B) Cumulative phosphorus reduction in pounds that would be accomplished by the BMP (BMP-Reduction $_{lbs\text{-}P}$)

Solution:

1) Contributing impervious drainages area (IA) = 2.57 acres

BMP type is a surface infiltration practice (i.e., basin) with an infiltration rate (IR) of 0.39 in/hr

Solution continued:

3) Phosphorus load reduction target (P_{target}) = 70%

4) The performance curve for the infiltration basin (i.e., surface infiltration practice), Figure 3-8, IR = 0.27 in/hr is used to determine the design storage volume of the BMP (BMP-Volume $_{IA\text{-}in}$) needed to treat runoff from the contributing IA and achieve a P_{target} = 70%. The curve for an infiltration rate of 0.27 in/hr is chosen because 0.27 in/hr is the nearest simulated IR that is less than the field measured IR of 0.39 in/hr. From Figure 3-8, the BMP-Volume $_{IA\text{-}in}$ for a P_{target} = 70% is 0.36 in.

5) The BMP-Volume $_{IA\text{-}in}$ is converted to cubic feet (BMP-Volume $_{IA\text{-}ft^3}$) using Equation 3-1:

BMP-Volume $_{IA\text{-}ft^3}$ = IA (acre) x BMP-Volume $_{IA\text{-}in}$ x 3,630 ft^3/acre-in
BMP-Volume $_{IA\text{-}ft^3}$ = 2.57 acre x 0.36 in x 3,630 ft^3/acre-in
= **3,359 ft^3**

6) A narrow trapezoidal infiltration basin with the following characteristics is proposed to achieve the P_{Target} of 70%:

Length (ft)	Design Depth (ft)	Side Slopes	Bottom area (ft^2)	Pond surface area (ft^2)	Design Storage Volume (ft^3)
355	1.25	3:1	1,387	4,059	3,404

The volume of the proposed infiltration practice, 3,404 ft^3, exceeds the BMP-Volume $_{IA\text{-}ft^3}$ needed, 3,359 ft^3 and is sufficient to achieve the P Target of 70%.

7) The cumulative phosphorus load reduction in pounds of phosphorus for the infiltration practice (BMP-Reduction $_{lbs\text{-}P}$) is calculated using Equation 3-2. The BMP Load is first determined using the method described above.

BMP Load = IA x impervious cover phosphorus export loading rate for commercial use (see Table 3-1)
= 2.57 acres x 1.78 lbs/acre/yr
= 4.58 lbs/yr

BMP-Reduction $_{lbs\text{-}P}$ = BMP Load x (P_{target} /100)
BMP-Reduction $_{lbs\text{-}P}$ = 4.58 lbs/yr x (70/100)
= **3.21 lbs/yr**

Alternate Solution: Alternatively, the permittee could determine the design storage volume needed for an IR = 0.39 in/hr by performing interpolation of the results from the surface

infiltration performance curves for IR = 0.27 in/hr and IR = 0.52 in/hr as follows (replacing steps 3 and 4 on the previous page):

Alternate solution continued:

Using the performance curves for the infiltration basin (i.e., surface infiltration practice), Figures 3-8, IR = 0.27 in/hr and 3-9, IR = 0.52 in/hr, interpolate between the curves to determine the design storage volume of the BMP (BMP-Volume $_{IA\text{-}in}$) needed to treat runoff from the contributing IA and achieve a P_{target} = 70%.

First calculate the interpolation adjustment factor (IAF) to interpolate between the infiltration basin performance curves for infiltration rates of 0.27 and 0.52 in/hr:

$$IAF = (0.39 - 0.27)/ (0.52 – 0.27) = 0.48$$

From the two performance curves, develop the following table to estimate the general magnitude of the needed storage volume for an infiltration swale with an IR = 0.39 in/hr and a P_{target} of 70%.

Table Example 3-1-1: Interpolation Table for determining design storage volume of infiltration basin with IR = 0.39 in/hr and a phosphorus load reduction target of 70%

BMP Storage Volume	% Phosphorus Load Reduction IR = 0.27 in/hr ($PR_{IR=0.27}$)	% Phosphorus Load Reduction IR = 0.52 in/hr ($PR_{IR=0.52}$)	Interpolated % Phosphorus Load Reduction IR = 0.39 in/hr ($PR_{IR=0.39}$) $PR_{IR=0.39} = IAF(PR_{IR=0.52} - PR_{IR=0.27}) + PR_{IR=0.27}$
0.3	64%	67%	65%
0.4	74%	77%	75%
0.5	79%	82%	80%

As indicated from Table Example 3-1, the BMP-Volume $_{IA\text{-}in}$ for $PR_{IR=0.39}$ of 70% is between 0.3 and 0.4 inches and can be determined by interpolation:

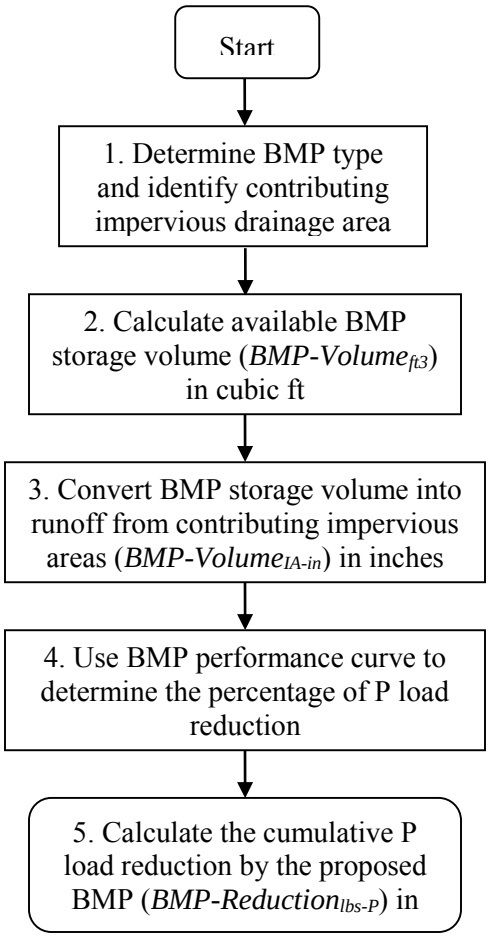
$$\text{BMP-Volume}_{IA\text{-}in} = (70\% - 65\%)/ (75\% - 65\%) \times (0.4 \text{ in} – 0.3 \text{ in}) + 0.3 \text{ in}$$
$$= 0.35 \text{ inches}$$

5 alternative) Convert the resulting BMP-Volume $_{IA\text{-}in}$ to cubic feet (BMP-Volume $_{IA\text{-}ft^3}$) using equation 3-1:

$$\text{BMP-Volume}_{IA\text{-}ft^3} = 2.57 \text{ acre} \times 0.35 \text{ in} \times 3{,}630 \text{ ft}^3/\text{acre-in}$$
$$= \mathbf{3{,}265 \text{ ft}^3}$$

(2) Method to determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area is 100% impervious:

Flow Chart 2 illustrates the steps to determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area is 100% impervious.



Flow Chart 2: Method to determine the phosphorus load reduction for a BMP with a known design volume when contributing drainage area is 100% impervious.

1) Identify the structural BMP type and contributing impervious drainage area (IA);

2) Document the available storage volume (ft^3) of the structural BMP (BMP-Volume $_{ft^3}$) using the BMP dimensions and design specifications (e.g., maximum storage depth, filter media porosity);

3) Convert BMP-Volume $_{ft^3}$ into inches of runoff from the contributing impervious area (BMP-Volume $_{IA\text{-}in}$) using equation 3-3:

BMP-Volume $_{IA\text{-}in}$ = BMP-Volume $_{ft^3}$/ IA (acre) x 12 in/ft x 1 acre/43560 ft^2 **(Equation 3-3)**

4) Determine the % phosphorus load reduction for the structural BMP (BMP Reduction $_{\%\text{-}P}$) using the appropriate BMP performance curve (Figures 3-1 through 3-18) and the BMP-Volume $_{IA\text{-}in}$ calculated in step 3; and

5) Calculate the cumulative phosphorus load reduction in pounds of phosphorus for the structural BMP (BMP Reduction $_{lbs\text{-}P}$) using the BMP Load as calculated from the procedure described above and the percent phosphorus load reduction determined in step 4 by using equation 3-4:

BMP Reduction $_{lbs\text{-}P}$ = BMP Load x (BMP Reduction $_{\%\text{-}P}$/100) **(Equation 3-4)**

Example 3-2: Determine the phosphorus load reduction for a structural BMP with a known storage volume capacity when the contributing drainage area is 100% impervious:

A permittee is considering a bio-filtration system to treat runoff from 1.49 acres of high density residential (HDR) impervious area. Site constraints would limit the bio-filtration system to have a surface area of 1200 ft^2 and the system would have to be located next to the impervious drainage area to be treated. The design parameters for the bio-filtration system are presented in Table Example 3-2-1.

Table Example 3-2-1: Design parameters for bio-filtration system for Example 3-2

Components of representation	Parameters	Value
Ponding	Maximum depth	0.5 ft
	Surface area	1200 ft^2
	Vegetative parameter[a]	85-95%
Soil mix	Depth	2.5 ft
	Porosity	0.40
	Hydraulic conductivity	4 inches/hour
Gravel layer	Depth	0.67 ft
	Porosity	0.40
	Hydraulic conductivity	14 inches/hour
Orifice #1	Diameter	0.5 ft

[a] Refers to the percentage of surface covered with vegetation

Determine the:

A) Percent phosphorus load reduction (BMP Reduction $_{\%\text{-}P}$) for the specified bio-filtration system and contributing impervious drainage area; and

B) Cumulative phosphorus reduction in pounds that would be accomplished by the bio-filtration system (BMP-Reduction $_{lbs\text{-}P}$)

Solution:

1) The BMP is a bio-filtration system that will treat runoff from 1.49 acres of impervious area (IA = 1.49 acre);

2) The available storage volume capacity (ft^3) of the bio-filtraton system (BMP-Volume $_{BMP\text{-}ft^3}$) is determined using the surface area of the system, depth of ponding, and the porosity of the filter media:

BMP-Volume $_{BMP\text{-}ft^3}$ = (surface area x pond maximum depth) + ((soil mix depth + gravel layer depth)/12 in/ft) x surface area x gravel layer porosity)
= (1,200 ft^2 x 0.5 ft) + ((38/12) x 1,200 ft^2 x 0.4)
= 2,120 ft^3

Solution continued:

3) The available storage volume capacity of the bio-filtration system in inches of runoff from the contributing impervious area (BMP-Volume $_{IA\text{-}in}$) is calculated using equation 3-3:

BMP-Volume $_{IA\text{-}in}$ = (BMP-Volume $_{ft}^3$/ IA (acre) x 12 in/ft x 1 acre/43560 ft^2
BMP-Volume $_{IA\text{-}in}$ = (2120 ft^3/1.49 acre) x 12 in/ft x 1 acre/43560 ft^2
= 0.39 in

4) Using the bio-filtration performance curve shown in Figure 3-13, a **51%** phosphorus load reduction (BMP Reduction %-P) is determined for a bio-filtration system sized for 0.39 in of runoff from 1.49 acres of impervious area; and

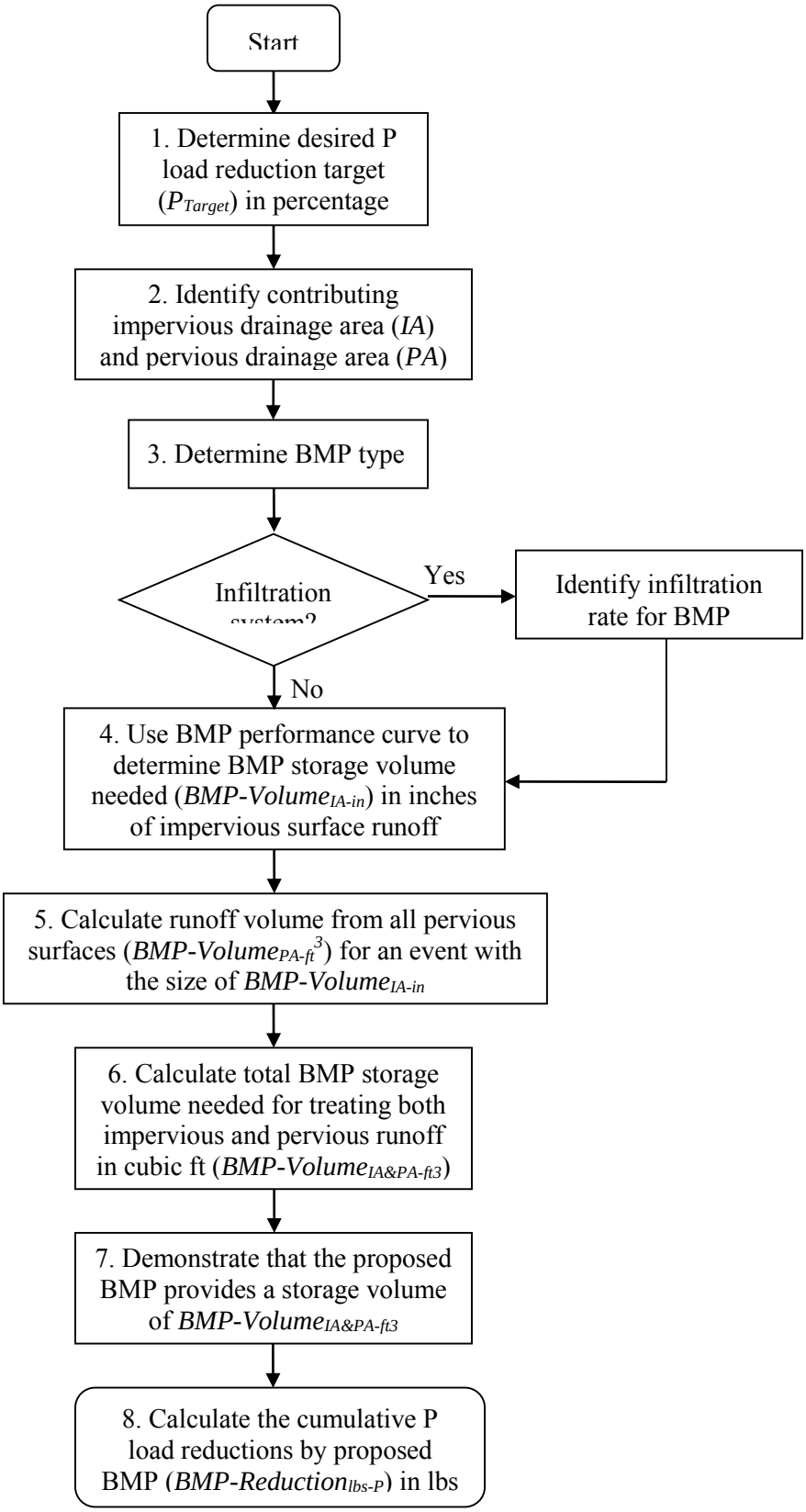
5) Calculate the cumulative phosphorus load reduction in pounds of phosphorus for the bio-filtration system (BMP Reduction $_{lbs\text{-}P}$) using the BMP Load as calculated from the procedure described above and the BMP Reduction $_{\%\text{-}P}$ determined in step 4 by using equation 3-4. First, the BMP Load is determined as specified above:

BMP Load = IA x impervious cover phosphorus export loading rate for HDR (see Table 3-1) = 1.49 acres x 2.32 lbs/acre/yr
= 3.46 lbs/yr

BMP Reduction $_{lbs\text{-}P}$ = BMP Load x (BMP Reduction $_{\%\text{-}P}$/100)
BMP Reduction $_{lbs\text{-}P}$ = 3.46 lbs/yr x (51/100)
= **1.76 lbs/yr**

(3) Method to determine the design storage volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces:

Flow Chart 3 illustrates the steps to determine the design storage volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces.


Start
1. Determine desired P load reduction target (P_{Target}) in percentage
2. Identify contributing impervious drainage area (*IA*) and pervious drainage area (*PA*)
3. Determine BMP type
Infiltration system?
Yes
Identify infiltration rate for BMP
No
4. Use BMP performance curve to determine BMP storage volume needed (*BMP-Volume*$_{IA\text{-}in}$) in inches of impervious surface runoff
5. Calculate runoff volume from all pervious surfaces (*BMP-Volume*$_{PA\text{-}ft}{}^{3}$) for an event with the size of *BMP-Volume*$_{IA\text{-}in}$
6. Calculate total BMP storage volume needed for treating both impervious and pervious runoff in cubic ft (*BMP-Volume*$_{IA\&PA\text{-}ft3}$)
7. Demonstrate that the proposed BMP provides a storage volume of *BMP-Volume*$_{IA\&PA\text{-}ft3}$
8. Calculate the cumulative P load reductions by proposed BMP (*BMP-Reduction*$_{lbs\text{-}P}$) in lbs

Flow Chart 3: Method to determine the design storage volume of a BMP to reach a known P load reduction when both impervious and pervious drainage areas are present.

1) Determine the desired cumulative phosphorus load reduction target (P_{target}) in percentage for the structural BMP;
2) Characterize the contributing drainage area to the structural BMP by identifying the following information for the impervious and pervious surfaces:
   Impervious area (IA) - Area (acre) and land use (e.g., commercial)

   Pervious area (PA) – Area (acre) and runoff depths based on hydrologic soil group (HSG) and rainfall depth. Table 3-3 provides values of runoff depth from pervious areas for various rainfall depths and HSGs. Soils are assigned to an HSG on the basis of their permeability. HSG A is the most permeable, and HSG D is the least permeable. HSG categories for pervious areas in the drainage area shall be estimated by consulting local soil surveys prepared by the National Resource Conservation Service (NRCS) or by a storm water professional evaluating soil testing results from the drainage area. If the HSG condition is not known, a HSG D soil condition should be assumed.

Table 3- 3: Developed Land Pervious Area Runoff Depths based on Precipitation depth and Hydrological Soil Groups (HSGs)

Developed Land Pervious Area Runoff Depths based on Precipitation depth and Hydrological Soil Groups					
Rainfall Depth, Inches	Runoff Depth, inches				
	Pervious HSG A	Pervious HSG B	Pervious HSG C	Pervious HSG C/D	Pervious HSG D
0.10	0.00	0.00	0.00	0.00	0.00
0.20	0.00	0.00	0.01	0.02	0.02
0.40	0.00	0.00	0.03	0.05	0.06
0.50	0.00	0.01	0.05	0.07	0.09
0.60	0.01	0.02	0.06	0.09	0.11
0.80	0.02	0.03	0.09	0.13	0.16
1.00	0.03	0.04	0.12	0.17	0.21
1.20	0.04	0.05	0.14	0.27	0.39
1.50	0.08	0.11	0.39	0.55	0.72
2.00	0.14	0.22	0.69	0.89	1.08

Notes: Runoff depths derived from combination of volumetric runoff coefficients from Table 5 of *Small Storm Hydrology and Why it is Important for the Design of Stormwater Control Practices*, (Pitt, 1999), and using the Stormwater Management Model (SWMM) in continuous model mode for hourly precipitation data for Boston, MA, 1998-2002.

3) Determine the structural BMP type (e.g., infiltration trench, gravel wetland). For infiltration systems, determine the appropriate infiltration rate for the location of the BMP in the Watershed;
4) Using the cumulative phosphorus removal performance curve for the selected structural BMP, determine the storage volume capacity of the BMP in inches needed to treat runoff from the contributing impervious area (BMP-Volume $_{IA\text{-}in}$);

5) Using Equation 3-5 below and the pervious area runoff depth information from Table 3-3-1, determine the total volume of runoff from the contributing pervious drainage area in cubic feet (BMP Volume $_{PA\text{-}ft^3}$) for a rainfall size equal to the sum of BMP Volume $_{IA\text{-}in}$, determined in step 4. The runoff volume for each distinct pervious area must be determined;

   BMP-Volume $_{PA\ ft^3}$ = $\sum$ (PA x (runoff depth) x 3,630 ft^3/acre-in) $_{(PA1,\ldots\ PAn)}$ **(Equation 3-5)**

6) Using equation 3-6 below, calculate the BMP storage volume in cubic feet (BMP-Volume $_{IA\&PA\text{-}ft^3}$) needed to treat the runoff depth from the contributing impervious (IA) and pervious areas (PA);

   BMP-Volume $_{IA\&PA\text{-}ft^3}$ = BMP Volume $_{PA\text{-}ft^3}$ + (BMP Volume $_{IA\text{-}in}$ x IA (acre) x 3,630 ft^3/acre-in) **(Equation 3-6)**

7) Provide supporting calculations using the dimensions and specifications of the proposed structural BMP showing that the necessary storage volume determined in step 6, BMP-Volume $_{IA\&PA\text{-}ft^3}$, will be provided to achieve the P $_{Target}$; and

8) Calculate the cumulative phosphorus load reduction in pounds of phosphorus (BMP-Reduction $_{lbs\text{-}P}$) for the structural BMP using the BMP Load (as calculated from the procedure in Attachment 1 to Appendix F) and the P $_{target}$ by using equation 3-2:

BMP-Reduction $_{lbs\text{-}P}$ = BMP Load x (P $_{target}$ /100) **(Equation 3-2)**

Example 3-3: Determine the design storage volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces

A permittee is considering a gravel wetland system to treat runoff from a high-density residential (HDR) site. The site is 7.50 acres of which 4.00 acres are impervious surfaces and 3.50 acres are pervious surfaces. The pervious area is made up of 2.5 acres of lawns in good condition surrounding cluster housing units and 1.00 acre of stable unmanaged woodland. Soils information indicates that all of the woodland and 0.50 acres of the lawn is hydrologic soil group (HSG) B and the other 2.00 acres of lawn are HSG C. The permittee wants to size the gravel wetland system to achieve a cumulative phosphorus load reduction (P $_{Target}$) of 55% from the entire 7.50 acres.

Determine the:

A) Design storage volume needed for a gravel wetland system to achieve a 55% reduction in annual phosphorus load from the contributing drainage area (BMP-Volume $_{IA\&PA\text{-}ft^3}$); and
B) Cumulative phosphorus reduction in pounds that would be accomplished by the BMP (BMP-Reduction $_{lbs\text{-}P}$)

Example 3-3 continued:
Solution:

1) The BMP type is gravel wetland system.

2) The phosphorus load reduction target (P_{Target}) = 55%.

3) Using the cumulative phosphorus removal performance curve for the gravel wetland system shown in Figure 3-14, the storage volume capacity in inches needed to treat runoff from the contributing impervious area (BMP Volume $_{IA\text{-}in}$) is 0.71 in;

Using equation 3-5 and the pervious runoff depth information from Table 3-3, the volume of runoff from the contributing pervious drainage area in cubic feet (BMP Volume $_{PA-ft^3}$) for a rainfall size equal to 0.71 in is summarized in Table Example 3-3-A. As indicated from Table 3-3, the runoff depth for a rainfall size equal to 0.71 inches is between 0.6 and 0.8 inches and can be determined by interpolation (example shown for runoff depth of HSG C):

Runoff depth (HSG C) = (0.71 – 0.6)/(0.8 – 0.6) x (0.09 in – 0.06 in) + 0.06 in
= 0.07 inches

Table Example 3-3-A: Runoff contributions from pervious areas for HDR site

ID	Type	Pervious Area (acre)	HSG	Runoff (in)	Runoff = (runoff) x PA (acre-in)	Runoff = Runoff (acre-in) x 3630 ft^3/acre-in (ft^3)
PA1	Grass	2.00	C	0.07	0.14	508
PA2	Grass	0.50	B	0.01	0.0	0.0
PA3	Woods	1.00	B	0.01	0.0	0.0
Total	-----	**3.50**	-----	-----	**0.14**	**508**

4) Using equation 3-6, determine the BMP storage volume in cubic feet (BMP-Volume $_{IA\&PA\text{-}ft^3}$) needed to treat 0.71 inches of runoff from the contributing impervious area (IA) and the runoff of 0.14 acre-in from the contributing pervious areas, determined in step 5 is:

BMP $Volume_{IA\&PA\text{-}ft^3}$ = BMP Volume $_{PA\ ac\text{-}in}$ + (BMP Volume $_{IA\text{-}in}$ x IA (acre)) x 3,630 ft^3/acre-in)

BMP $Volume_{IA\&PA\text{-}ft^3}$ = (508 ft^3+ (0.71 in x 4.00 acre)) x 3,630 ft^3/acre-in
= 10,817 ft^3

5) Table Example 3-3-B provides design details for of a potential gravel wetland system

Solution continued:

Table Example 3-3-B: Design details for gravel wetland system

Gravel Wetland System Components	Design Detail	Depth (ft)	Surface Area (ft^2)	Volume (ft^3)
Sediment Forebay	**10% of Treatment Volume**			
Pond area	**----**	1.33	896	1,192
Wetland Cell #1	**45% of Treatment Volume**	----------	----------	----------
Pond area	**----**	2.00	1,914	3,828
Gravel layer	porosity = 0.4	2.00	1,914	1,531
Wetland Cell #2	**45% of Treatment Volume**	----------	----------	----------
Pond area	**----**	2.00	1,914	3,828
Gravel layer	porosity = 0.4	2.00	1,914	1,531

The total design storage volume for the proposed gravel wetland system identified in Table Example 3-3-C is 11,910 ft^3. This volume is greater than 11,834 ft^3 ((BMP-Volume $_{IA\&PA\text{-}ft^3}$), calculated in step 6) and is therefore sufficient to achieve a P_{Target} of 55%.

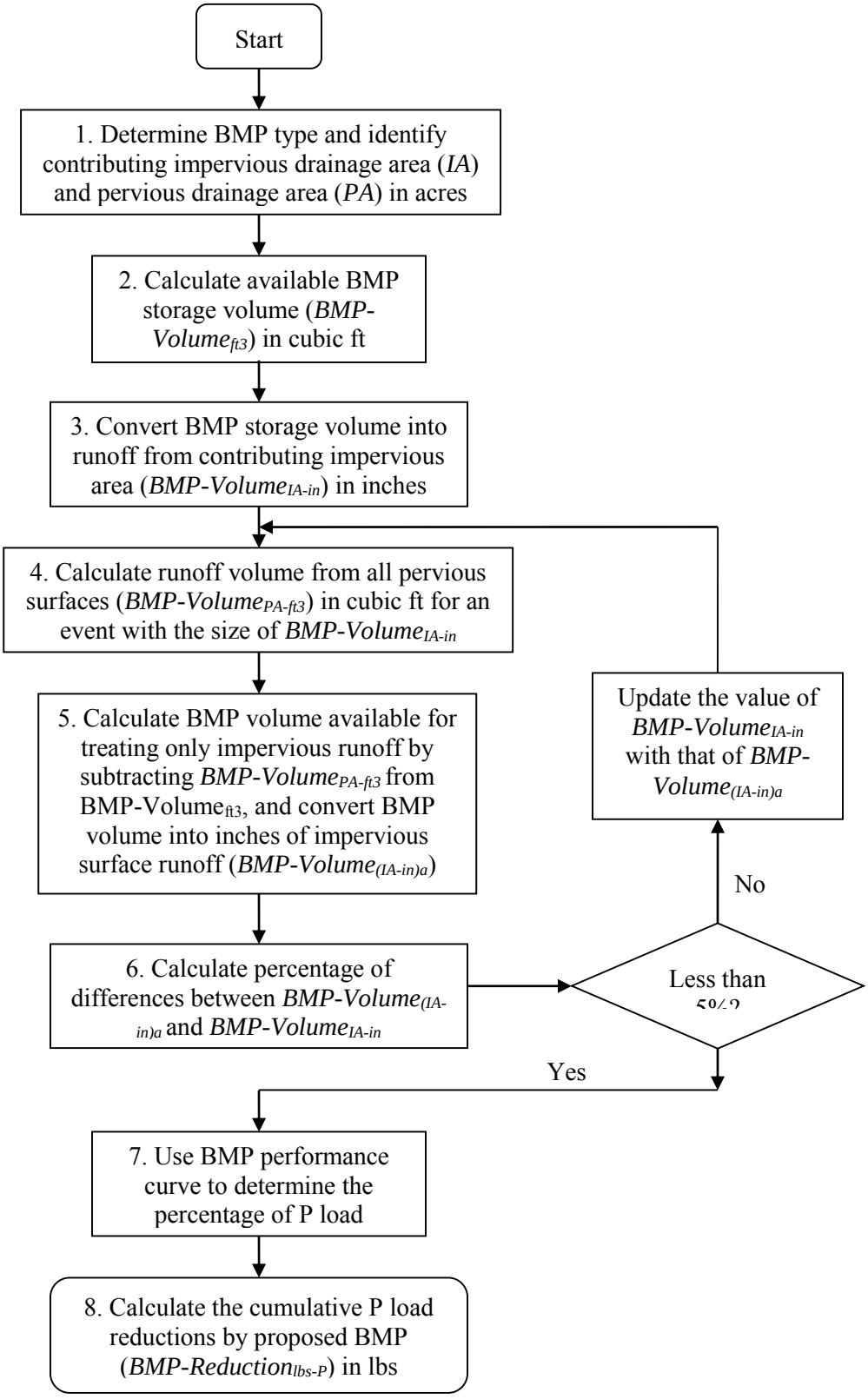
6) The cumulative phosphorus load reduction in pounds of phosphorus (BMP-Reduction $_{lbs\text{-}P}$) for the proposed gravel wetland system is calculated by using equation 3-2 with the BMP Load and the P_{target} = 55%.

BMP-Reduction $_{lbs\text{-}P}$ = BMP Load x (P_{target} /100) (**Equation 3-2**)

Using Table 3-1, the BMP Load is calculated:
BMP Load = (IA x PLER $_{HDR}$) + (PA lawn $_{HSG\,B}$ x PLER $_{HSG\,B}$) + (PA lawn $_{HSG\,C}$ x PLER $_{HSG\,C}$) +(PA forest x PA PLER $_{For}$)
= (4.00 acre x 2.32 lbs/acre/yr) + (0.50 acres x 0.12 lbs/acre/yr) + (1.00 acre x 0.21 lbs/acre/yr) + (1.00 acres x 0.13)
= 9.68 lbs/yr
BMP-Reduction $_{lbs\text{-}P}$ = BMP Load x (P_{target} /100)
BMP-Reduction $_{lbs\text{-}P}$ = 9.68 lbs/yr x 55/100
= **5.32 lbs/yr**

(4) Method to determine the phosphorus load reduction for a structural BMP with a known storage volume when the contributing drainage area has impervious and pervious surfaces:

Flow Chart 4 illustrates the steps to determine the phosphorus load reduction for a structural BMP with a known storage volume when the contributing drainage area has impervious and pervious surfaces.


Start
1. Determine BMP type and identify contributing impervious drainage area (*IA*) and pervious drainage area (*PA*) in acres
2. Calculate available BMP storage volume (*BMP-Volume*$_{ft3}$) in cubic ft
3. Convert BMP storage volume into runoff from contributing impervious area (*BMP-Volume*$_{IA\text{-}in}$) in inches
4. Calculate runoff volume from all pervious surfaces (*BMP-Volume*$_{PA\text{-}ft3}$) in cubic ft for an event with the size of *BMP-Volume*$_{IA\text{-}in}$
5. Calculate BMP volume available for treating only impervious runoff by subtracting *BMP-Volume*$_{PA\text{-}ft3}$ from BMP-Volume$_{ft3}$, and convert BMP volume into inches of impervious surface runoff (*BMP-Volume*$_{(IA\text{-}in)a}$)
6. Calculate percentage of differences between *BMP-Volume*$_{(IA\text{-}in)a}$ and *BMP-Volume*$_{IA\text{-}in}$
Less than
No
Update the value of *BMP-Volume*$_{IA\text{-}in}$ with that of *BMP-Volume*$_{(IA\text{-}in)a}$
Yes
7. Use BMP performance curve to determine the percentage of P load
8. Calculate the cumulative P load reductions by proposed BMP (*BMP-Reduction*$_{lbs\text{-}P}$) in lbs

Flow Chart 4: Method to determine the phosphorus load reduction for a BMP with known storage volume when both pervious and impervious drainage areas are present.

1) Identify the type of structural BMP and characterize the contributing drainage area to the structural BMP by identifying the following information for the impervious and pervious surfaces:

Impervious area (IA) – Area (acre) and land use (e.g., commercial)

Pervious area (PA) – Area (acre) and runoff depth based on hydrologic soil group (HSG) and size of rainfall event. Table 3-3 provides values of runoff depth for various rainfall depths and HSGs. Soils are assigned to an HSG based on their permeability. HSG categories for pervious areas in the Watershed shall be estimated by consulting local soil surveys prepared by the National Resource Conservation Service (NRCS) or by a storm water professional evaluating soil testing results from the Watershed. If the HSG condition is not known, a HSG C/D soil condition should be assumed.

2) Determine the available storage volume (ft^3) of the structural BMP (BMP-Volume $_{ft^3}$) using the BMP dimensions and design specifications (e.g., maximum storage depth, filter media porosity);

3) To estimate the phosphorus load reduction of a BMP with a known storage volume capacity, it is first necessary to determine the portion of available BMP storage capacity (BMP-Volume $_{ft^3}$) that would treat the runoff volume generated from the contributing impervious area (IA) for a rainfall event with a depth of *i* inches (in). This will require knowing the corresponding amount of runoff volume that would be generated from the contributing pervious area (PA) for the same rainfall event (depth of *i* inches). Using equation 3-6a below, solve for the BMP capacity that would be available to treat runoff from the contributing imperious area for the unknown rainfall depth of *i* inches (see equation 3-6b):

$$\text{BMP-Volume}_{ft^3} = \text{BMP-Volume}_{(IA\text{-}ft^3)i} + \text{BMP-Volume}_{(PA\text{-}ft^3)i} \quad \textbf{(Equation 3-6a)}$$

Where:

BMP-Volume $_{ft^3}$= the available storage volume of the BMP;

BMP-Volume $_{(IA\text{-}ft^3)i}$ = the available storage volume of the BMP that would fully treat runoff generated from the contributing impervious area for a rainfall event of size *i* inches; and

BMP-Volume $_{(PA\text{-}ft^3)i}$ = the available storage volume of the BMP that would fully treat runoff generated from the contributing pervious area for a rainfall event of size *i* inches

Solving for BMP-Volume $_{(IA\text{-}ft^3)i}$:

$$\text{BMP-Volume}_{(\text{IA-ft}^3)i} = \text{BMP-Volume}_{\text{ft}^3} - \text{BMP-Volume}_{(\text{PA-ft}^3)i} \quad \textbf{(Equation 3-6b)}$$

To determine $\text{BMP-Volume}_{(\text{IA-ft}^3)i}$, requires performing an iterative process of refining estimates of the rainfall depth used to calculate runoff volumes until the rainfall depth used results in the sum of runoff volumes from the contributing IA and PA equaling the available BMP storage capacity ($\text{BMP-Volume}_{\text{ft}^3}$). For the purpose of estimating BMP performance, it will be considered adequate when the IA runoff depth (in) is within 5% IA runoff depth used in the previous iteration.

For the first iteration (1), convert the $\text{BMP-Volume}_{\text{ft}^3}$ determined in step 2 into inches of runoff from the contributing impervious area ($\text{BMP Volume}_{(\text{IA-in})1}$) using equation 3-7a.

$$\text{BMP-Volume}_{(\text{IA-in})1} = (\text{BMP-Volume}_{\text{ft}^3}/\text{IA (acre)}) \times (12 \text{ in/ft} / 43{,}560 \text{ ft}^2/\text{acre}) \quad \textbf{(Equation 3-7a)};$$

For iterations 2 through n (2…n), convert the $\text{BMP Volume}_{(\text{IA-ft}^3)2\ldots n}$, determined in step 5a below, into inches of runoff from the contributing impervious area ($\text{BMP Volume}_{(\text{IA-in})2\ldots n}$) using equation 3-7b.

$$\text{BMP-Volume}_{(\text{IA-in})2\ldots n} = (\text{BMP-Volume}_{(\text{IA-ft}^3)2\ldots n} / \text{IA (acre)}) \times (12 \text{ in/ft} / 43{,}560 \text{ ft}^2/\text{acre}) \quad \textbf{(Equation 3-7b)};$$

4) For 1 to n iterations, use the pervious runoff depth information from Table 3-3 and equation 3-8 to determine the total volume of runoff (ft^3) from the contributing PA ($\text{BMP Volume}_{\text{PA-ft}^3}$) for a rainfall size equal to the sum of $\text{BMP-Volume}_{(\text{IA-in})1}$, determined in step 3. The runoff volume for each distinct pervious area must be determined.

$$\text{BMP Volume}_{(\text{PA-ft}^3)1\ldots n} = \sum ((\text{PA} \times (\text{runoff depth})_{(\text{PA1, PA2..PAn})} \times (3{,}630 \text{ ft}^3/\text{acre-in}) \quad \textbf{(Equation 3-8)}$$

5) For iteration 1, estimate the portion of BMP Volume that is available to treat runoff from only the IA by subtracting $\text{BMP-Volume}_{\text{PA-ft}^3}$, determined in step 4, from $\text{BMP-Volume}_{\text{ft}^3}$, determined in step 2, and convert to inches of runoff from IA (see equations 3-9a and 3-9b):

$$\text{BMP-Volume}_{(\text{IA-ft}^3)2} = ((\text{BMP-Volume}_{\text{ft}^3} - \text{BMP Volume}_{(\text{PA-ft}^3)1}) \quad \textbf{(Equation 3-9a)}$$

$$\text{BMP-Volume}_{(\text{IA-in})2} = (\text{BMP-Volume}_{(\text{IA-ft}^3)2}/\text{IA (acre)}) \times (12 \text{ in/ft} \times 1 \text{ acre}/43{,}560 \text{ ft}^2) \quad \textbf{(Equation 3-9b)}$$

If additional iterations (i.e., 2 through n) are needed, estimate the portion of BMP volume that is available to treat runoff from only the IA ($\text{BMP-Volume}_{(\text{IA-in})3..n+1}$) by subtracting $\text{BMP Volume}_{(\text{PA-ft}^3)2..n}$, determined in step 4, from $\text{BMP Volume}_{(\text{IA-ft}^3)3..n+1}$, determined in step 5, and by converting to inches of runoff from IA using equation 3-9b):

6) For iteration a (an iteration between 1 and n+1), compare BMP Volume $_{(IA\text{-}in)a}$ to BMP Volume $_{(IA\text{-}in)a\text{-}1}$ determined from the previous iteration (a-1). If the difference in these values is greater than 5% of BMP Volume $_{(IA\text{-}in)a}$ then repeat steps 4 and 5, using BMP Volume $_{(IA\text{-}in)a}$ as the new starting value for the next iteration (a+1). If the difference is less than or equal to 5 % of BMP Volume $_{(IA\text{-}in)a}$ then the permittee may proceed to step 7;

7) Determine the % phosphorus load reduction for the structural BMP (BMP Reduction $_{\%\text{-}P}$) using the appropriate BMP performance curve and the BMP-Volume $_{(IA\text{-}in)n}$ calculated in the final iteration of step 5; and

8) Calculate the cumulative phosphorus load reduction in pounds of phosphorus for the structural BMP (BMP Reduction $_{lbs\text{-}P}$) using the BMP Load as calculated from the procedure in Attachment 1 to Appendix F and the percent phosphorus load reduction (BMP Reduction $_{\%\text{-}P}$) determined in step 7 by using equation 3-4:

BMP Reduction $_{lbs\text{-}P}$ = BMP Load x (BMP Reduction $_{\%\text{-}P}$/100) **(Equation 3-4)**

Example 3-4: Determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area has impervious and pervious surfaces

A permittee is considering an infiltration basin to capture and treat runoff from a portion of the medium density residential area (MDR). The contributing drainage area is 16.55 acres and has 11.75 acres of impervious area and 4.8 acres of pervious area (PA) made up mostly of lawns and landscaped areas that is 80% HSG D and 20% HSG C. An infiltration basin with the following specifications can be placed at the down-gradient end of the contributing drainage area where soil testing results indicates an infiltration rate (IR) of 0.28 in/hr:

Table Example 3-4-A: Infiltration basin characteristics

Structure	Bottom area (acre)	Top surface area (acre)	Maximum pond depth (ft)	Design storage volume (ft^3)	Infiltration Rate (in/hr)
Infiltration basin	0.65	0.69	1.65	48,155	0.28

Determine the:

A) Percent phosphorus load reduction (BMP Reduction $_{\%\text{-}P}$) for the specified infiltration basin and the contributing impervious and pervious drainage area; and

B) Cumulative phosphorus reduction in pounds that would be accomplished by the BMP (BMP-Reduction $_{lbs\text{-}P}$)

Example continued:

Solution:

1) A surface infiltration basin is being considered. Information for the contributing impervious (IA) and pervious (PA) areas are summarized in Tables Example 3-4-A and Example 3-4-B, respectively.

Table Example 3-4-B: Impervious area characteristics

ID	Land use	Area (acre)
IA1	MDR	11.75

Table Example 3-4-C: Pervious area characteristics

ID	Area (acre)	Hydrologic Soil Group (HSG)
PA1	3.84	D
PA2	0.96	C

2) The available storage volume (ft^3) of the infiltration basin (BMP-Volume $_{ft^3}$) is determined from the design details and basin dimensions; BMP-Volume $_{ft^3} = 48{,}155\ ft^3$.

3) To determine what the BMP design storage volume is in terms of runoff depth (in) from IA, an iterative process is undertaken:

Solution Iteration 1

For the first iteration (1), the BMP-Volume$_{ft^3}$ is converted into inches of runoff from the contributing impervious area (BMP Volume $_{(IA\text{-}in)1}$) using equation 3-5a.

BMP Volume $_{(IA\text{-}in)1}$ = (48,155 ft^2/ 11.75 acre) x (12 in/ft /43,560 ft^2/acre)
= 1.13 in

4-1) The total volume of runoff (ft^3) from the contributing PA (BMP Volume $_{PA\text{-}ft^3}$) for a rainfall size equal to the sum of BMP Volume $_{(IA\text{-}in)1}$ determined in step 3 is determined for each distinct pervious area identified in Table Example 3-4-B using the information from Table 3-3 and equation 3-5. Interpolation was used to determine runoff depths.

BMP Volume $_{(PA\text{-}ft^3)1}$ = ((3.84 acre x (0.33 in) + (0.96 acre x (0.13 in)) x 3,630 ft^3/acre-in
= 5052 ft^3

5-1) For iteration 1, the portion of BMP Volume that is available to treat runoff from only the IA is estimated by subtracting the BMP Volume $_{(PA\text{-}ft^3)1}$, determined in step 4-1, from BMP Volume$_{ft^3}$, determined in step 2, and converted to inches of runoff from IA:

BMP Volume $_{(IA\text{-}ft^3)\,2}$ = 48,155 ft^3 – 5052 ft^3
= 43,103 ft^3
BMP Volume $_{(IA\text{-}in)\,2}$ = (43,103 ft^3/11.75 acre) x (12 in/ft x 1 acre/43,560 ft^2)
= 1.01 in

Solution continued:

6-1) The % difference between BMP Volume $_{(IA\text{-}in)\,2}$, 1.01 in, and BMP Volume $_{(IA\text{-}in)1}$, 1.13 in is determined and found to be significantly greater than 5%:

% Difference = ((1.13 in – 1.01 in)/1.01 in) x 100
= 12%

Therefore, steps 4 through 6 are repeated starting with BMP Volume $_{(IA\text{-}in)\,2}$ = 1.01 in.

Solution Iteration 2

4-2) BMP-Volume $_{(PA\text{-}ft^3)2}$ = ((3.84 acre x 0.21 in) + (0.96 acre x 0.12 in)) x 3,630 ft^3/acre-in
= 3,358 ft^3

5-2) BMP-Volume $_{(IA\text{-}ft^3)\,3}$ = 48,155 ft^3 – 3,358 ft^3
= 44,797 ft^3
BMP-Volume $_{(IA\text{-}in)\,3}$ = (44,797 ft^3/11.75 acre) x (12 in/ft x 1 acre/43,560 ft^2)
= 1.05 in

6-2) % Difference = ((1.05 in – 1.01 in)/1.05 in) x 100
= 4%

The difference of 4% is acceptable.

7) The % phosphorus load reduction for the infiltration basin (BMP Reduction $_{\%\text{-}P}$) is determined by using the infiltration basin performance curve for an infiltration rate of 0.27 in/hr and the treatment volume (BMP-Volume $_{Net\ IA\text{-}in}$ = 1.05 in) calculated in step 5-2 and is **BMP Reduction $_{\%\text{-}P}$ = 93%**.

The performance curve for IR = 0.27 is used rather than interpolating between the performance curves for IR = 0.27 in/hr and 0.52 in/hr to estimate performance for IR = 0.28 in/hr. An evaluation of the performance curves for IR = 0.27 in/hr and IR = 0.52 in/hr for a design storage volume of 1.05 in indicate a small difference in estimated performance (BMP Reduction $_{\%\text{-}P}$ = 93% for IR = 0.27 in/hr and BMP Reduction $_{\%\text{-}P}$ = 95% for IR = 0.52 in/hr).

8) The cumulative phosphorus load reduction in pounds of phosphorus (BMP-Reduction $_{lbs\text{-}P}$) for the proposed infiltration basin is calculated by using equation 3-2 with the BMP Load and the P $_{target}$ of 93%.
BMP-Reduction $_{lbs\text{-}P}$ = BMP Load x (P $_{target}$ /100) **(Equation 3-2)**

Using Table 3-1, the BMP load is calculated:
BMP Load = (IA x impervious cover phosphorus export loading rate for industrial)
+ (PA $_{HSG\,D}$ x pervious cover phosphorus export loading rate for HSG D)
+ (PA $_{HSG\,C}$ x pervious cover phosphorus export loading rate for HSG C)

Solution continued:

= (11.75 acre x 1.96 lbs/acre/yr) + (3.84 acre x 0.37 lbs/acre/yr)
+ (0.96 acre x 0.21 lbs/acre/yr)
= 24.65 lbs/yr

BMP-Reduction $_{lbs\text{-}P}$ = 24.22 lbs/yr x 93/100 = **22.93 lbs/yr**

Example 3-5: Determine the phosphorus load reduction for disconnecting impervious area using storage with delayed release.

A commercial operation has an opportunity to divert runoff from 0.75 acres of impervious roof top to a 5000 gallon (668.4 ft^3) storage tank for temporary storage and subsequent release to 0.09 acres of pervious area (PA) with HSG C soils.
Determine the:

A) Percent phosphorus load reduction rates (BMP Reduction $_{\%\text{-}P}$) for the specified impervious area (IA) disconnection and storage system assuming release times of 1, 2 and 3 days for the stored volumes to discharge to the pervious area; and
B) Cumulative phosphorus reductions in pounds that would be accomplished by the system (BMP-Reduction $_{lbs\text{-}P}$) for the three storage release times, 1, 2 and 3 days.

Solution:

1. Determine the storage volume in units of inches of runoff depth from contributing impervious area:
   Storage Volume $_{IA\text{-}in}$ = (668.4 ft^3/(0.75 acre x 43.560 ft^2/acre)) x 12 inch/ft
   = 0.25 inches

2. Determine the ratio of the contributing impervious area to the receiving pervious area:
   IA:PA = 0.75 acres/0.09 acres
   = 8.3
3. Using Table 3-21 for a IA:PA ratio of 8:1, determine the phosphorus load reduction rates for a storage volume of 0.25 inches that discharges to HSG C with release rates of 1, 2 and 3 days: Using interpolation the reduction rates are shown in Table 3-5-A:

Table Example 3-5-A: Reduction Rates

Percent Phosphorus load reduction for IA disconnection with storage HSG C			
Storage Volume $_{IA\text{-}in}$	Storage release rate, days		
	1	2	3
0.25	39%	42%	43%

4. The cumulative phosphorus load reduction in pounds of phosphorus for the IA disconnection with storage (BMP-Reduction $_{lbs\text{-}P}$) is calculated using Equation 3-2. The BMP Load is first determined using the method described above.

Solution continued:

BMP Load = IA x phosphorus export loading rate for commercial IA (see Table 3-1)
= 0.75 acres x 1.78 lbs/acre/yr
= 1.34 lbs/yr

BMP Reduction $_{lbs-P}$ = BMP Load x (BMP Reduction $_{\%-P}$/100)

BMP Reduction $_{lbs-P}$ = 1.34 lbs/yr x (39/100)
= **0.53 lbs/yr**

Table Example 3-5-B presents the BMP Reduction $_{lbs-P}$ for each of the release rates:

Table Example 3-5-B: Reduction Load

Phosphorus load reduction for IA disconnection with storage HSG C, lbs			
Storage Volume $_{IA-in}$	Storage release rate, days		
	1	2	3
0.25	0.53	0.56	0.58

Example 3-6: Determine the phosphorus load reduction for disconnecting impervious area with and without soil augmentation in the receiving pervious area.

The same commercial property as in example 3-5 wants to evaluate disconnecting drainage from the 0.75 acre impervious roof top and discharging it directly to 0.09 acres of pervious area (PA) with HSG C. Also, the property has the opportunity to purchase a small adjoining area (0.06 acres), also HSG C,to increase the size of the receiving PA from 0.09 to 0.15 acres and to allow the property owner to avoid having to install a drainage structure to capture overflow runoff from the PA. The property owner has been informed that the existing PA soil can be tilled and augmented with soil amendments to support denser vegetative growth and improve hydrologic function to approximate HSG B.

Determine the:

A) Percent phosphorus load reduction rates (BMP Reduction $_{\%-P}$) for the specified impervious area (IA) disconnection to both the 0.09 and 0.15 acre receiving PAs with and without soil augmentation; and
B) Cumulative phosphorus reductions in pounds that would be accomplished by the IA disconnection for the various scenarios (BMP-Reduction $_{lbs-P}$).

Solution:

1. Determine the ratio of the contributing impervious area to the receiving pervious area:
   IA:PA = 0.75 acres/0.09 acres
   = 8.3
   IA:PA = 0.75 acres/0.15 acres
   = 5.0

Solution Continued:

2. Using Table 3-26 and Figure 3-40 for a IA:PA ratios of 8:1 and 5:1, respectively, determine the phosphorus load reduction rates for IA disconnections to HSG C and HSG B:

Table Example 3-6-A: Reduction Rates

Percent Phosphorus load reduction rates for IA disconnection		
Receiving PA	**IA:PA**	
	8:1	5:1
HSG C	7%	14%
HSG B (soil augmentation)	14%	22%

3. The cumulative phosphorus load reduction in pounds of phosphorus for the IA disconnection with storage (BMP-Reduction $_{lbs-P}$) is calculated using Equation 3-2. The BMP Load was calculated in example 3-5 and is 1.34 lbs/yr.

BMP Reduction $_{lbs-P}$ = BMP Load x (BMP Reduction $_{\%-P}$/100)
For PA of 0.09 acres HSG C the BMP Reduction $_{lbs-P}$ is calculated as follows:
BMP Reduction $_{lbs-P(0.09ac- HSG C)}$ = 1.34 lbs/yr x (7/100)
= **0.09 lbs/yr**
Table Example 3-6-B presents the BMP Reduction $_{lbs-P}$ for each of the scenarios:

Table Example 3-6-B: Reduction

Pounds Phosphorus load reduction for IA disconnection, lbs/yr		
Receiving PA	**Area of Receiving PA, acres**	
	0.09	**0.15**
HSG C	0.09	0.19
HSG B (soil augmentation)	0.19	0.29

Example 3-7: Determine the phosphorus load reduction for converting impervious area to permeable/pervious area.

A municipality is planning upcoming road reconstruction work in medium density residential (MDR) neighborhoods and has identified an opportunity to convert impervious surfaces to permeable/pervious surfaces by narrowing the road width of 3.7 miles (mi) of roadway from 32 feet (ft) to 28 ft and eliminating 3.2 miles of 4 ft wide paved sidewalk (currently there are sidewalks on both sides of the roadways targeted for restoration). The newly created permeable/pervious area will be tilled and treated with soil amendments to support vegetated growth in order to restore hydrologic function to at least HSG B.
Determine the:

A) Percent phosphorus load reduction rate (BMP Reduction $_{\%\text{-}P}$) for the conversion of impervious area (IA) to permeable/pervious area (PA); and
B) Cumulative phosphorus reduction in pounds that would be accomplished by the project (BMP-Reduction $_{lbs\text{-}P}$).

Solution:

1. Determine the area of IA to be converted to PA:
   New PA = (((3.7 mi x 4 ft) + (3.2 mi x 4 ft)) x 5280 ft/mi)/43,560 ft^2/acre
   = 3.35 acres

2. Using Table 3-27, the phosphorus load reduction rate for converting IA to HSG B is 94.1%
3. The BMP Load is first determined using the method described above.
   BMP Load = IA x phosphorus export loading rate for MDR IA (see Table 3-1)
   = 3.35 acres x 1.96 lbs/acre/yr
   = 6.57 lbs/yr
4. The cumulative phosphorus load reduction in pounds of phosphorus for the IA conversion (BMP-Reduction $_{lbs\text{-}P}$) is calculated using Equation 3-2.
   BMP Reduction $_{lbs\text{-}P}$ = BMP Load x (BMP Reduction $_{\%\text{-}P}$/100)
   BMP Reduction $_{lbs\text{-}P}$ = 6.57 lbs/yr x (94.1/100)
   = 6.18 lbs/yr

Table 3- 4: Infiltration Trench (IR = 0.17 in/hr) BMP Performance Table

Infiltration Trench (IR = 0.17 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	14.7%	27.6%	48.6%	64.1%	74.9%	82.0%	91.6%	95.4%
Cumulative Phosphorus Load Reduction	18%	33%	57%	73%	83%	90%	97%	99%

Figure 3- 1: BMP Performance Curve: Infiltration Trench (infiltration rate = 0.17 in/hr)

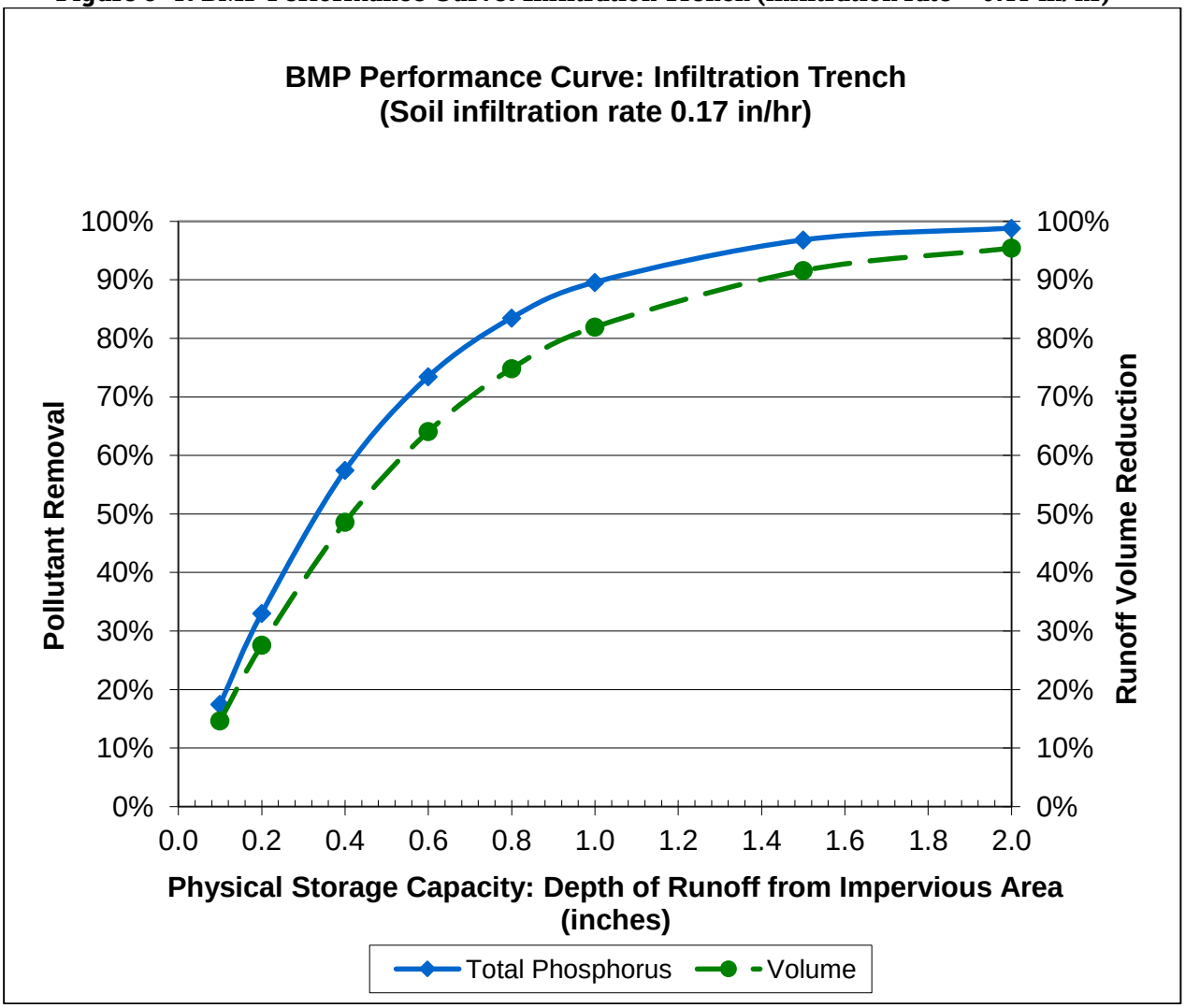


Table 3- 5: Infiltration Trench (IR = 0.27 in/hr) BMP Performance Table

Infiltration Trench (IR = 0.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	17.8%	32.5%	55.0%	70.0%	79.3%	85.2%	93.3%	96.3%
Cumulative Phosphorus Load Reduction	20%	37%	63%	78%	86%	92%	97%	99%

Figure 3- 2: BMP Performance Curve: Infiltration Trench (infiltration rate = 0.27 in/hr)

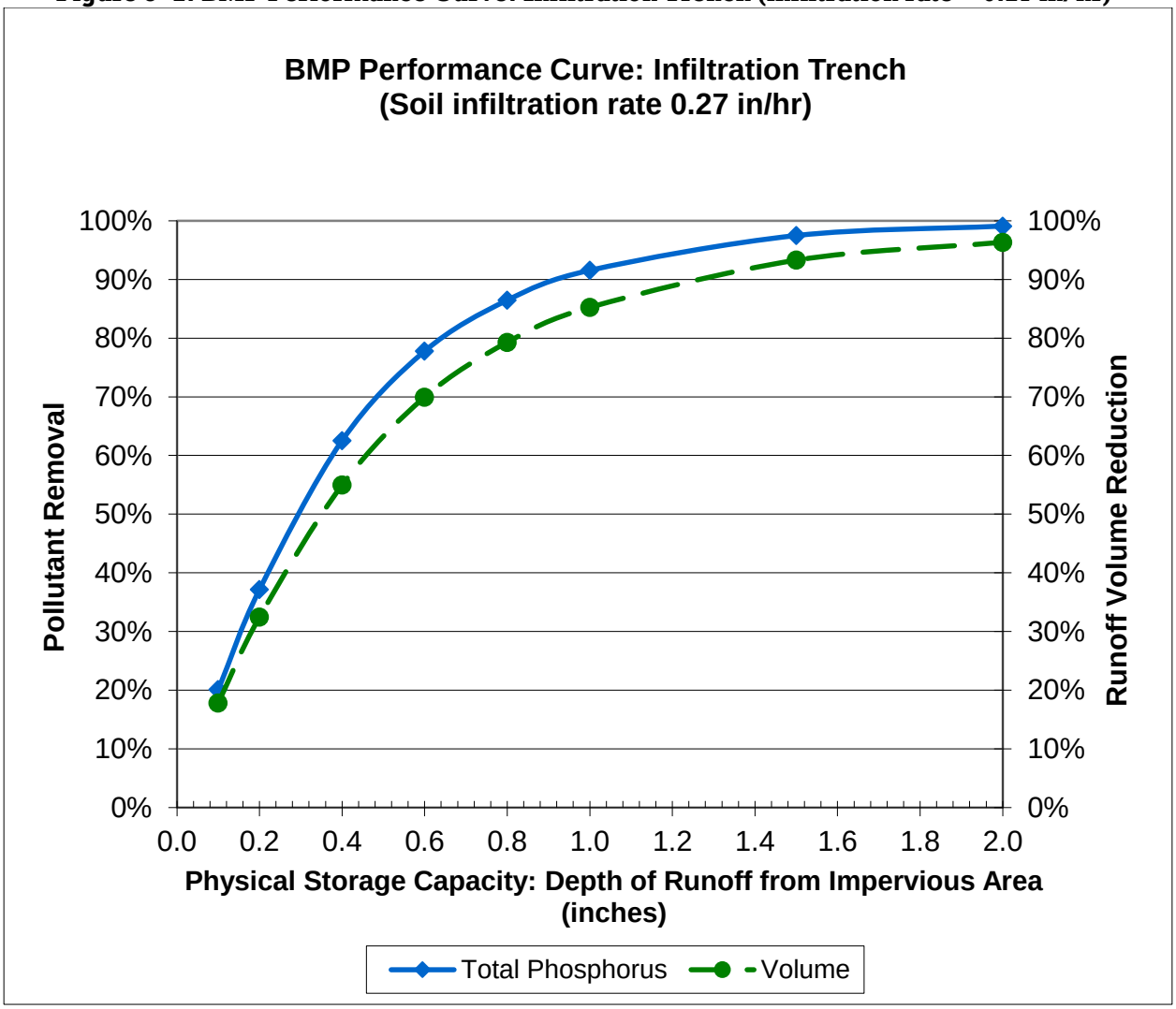


Table 3- 6: Infiltration Trench (IR = 0.52 in/hr) BMP Performance Table

Infiltration Trench (IR = 0.52 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	22.0%	38.5%	61.8%	75.7%	83.7%	88.8%	95.0%	97.2%
Cumulative Phosphorus Load Reduction	23%	42%	68%	82%	89%	94%	98%	99%

Figure 3- 3: BMP Performance Curve: Infiltration Trench (infiltration rate = 0.52 in/hr)

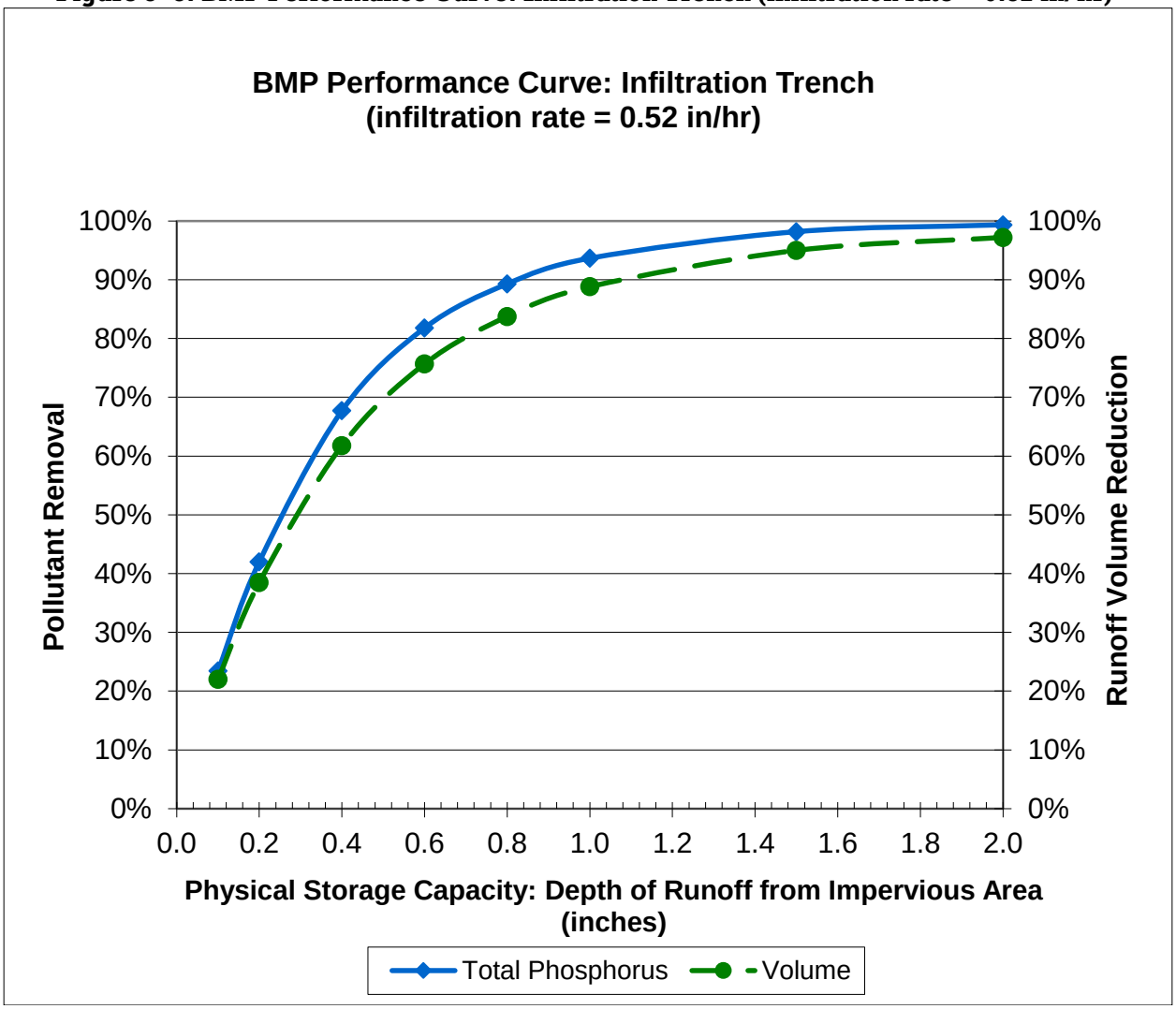


Table 3- 7: Infiltration Trench (IR = 1.02 in/hr) BMP Performance Table

Infiltration Trench (IR = 1.02 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	26.3%	44.6%	68.2%	81.0%	88.0%	92.1%	96.5%	98.3%
Cumulative Phosphorus Load Reduction	27%	47%	73%	86%	92%	96%	99%	100%

Figure 3- 4: BMP Performance Curve: Infiltration Trench (infiltration rate = 1.02 in/hr)

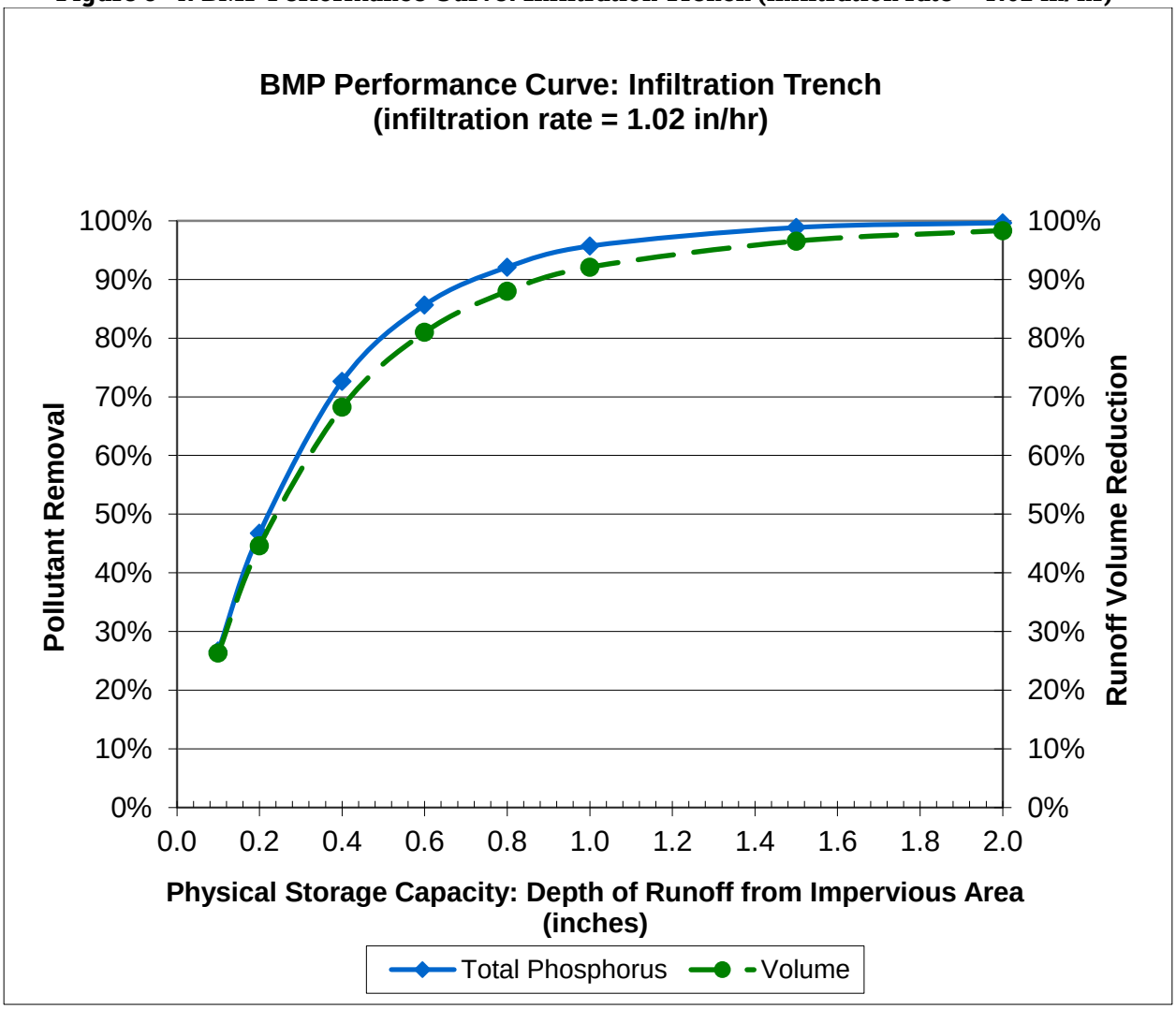


Table 3- 8: Infiltration Trench (IR = 2.41 in/hr) BMP Performance Table

Infiltration Trench (IR = 2.41 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	34.0%	54.7%	78.3%	88.4%	93.4%	96.0%	98.8%	99.8%
Cumulative Phosphorus Load Reduction	33%	55%	81%	91%	96%	98%	100%	100%

Figure 3- 5: BMP Performance Curve: Infiltration Trench (infiltration rate = 2.41 in/hr)

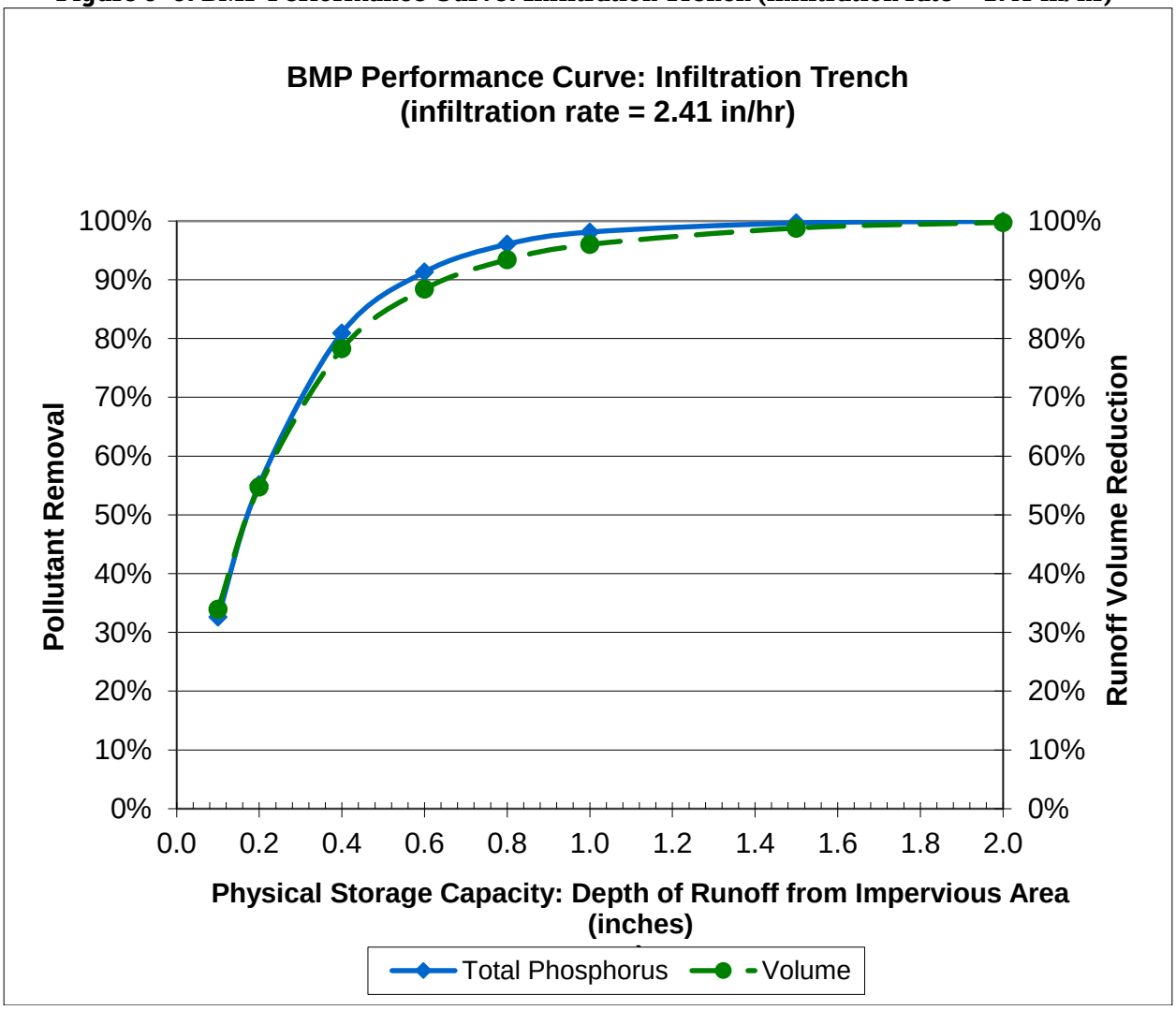


Table 3- 9: Infiltration Trench (8.27 in/hr) BMP Performance Table

Infiltration Trench (8.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	53.6%	76.1%	92.6%	97.2%	98.9%	99.5%	100.0%	100.0%
Cumulative Phosphorus Load Reduction	50%	75%	94%	98%	99%	100%	100%	100%

Figure 3- 6: BMP Performance Curve: Infiltration Trench (infiltration rate = 8.27 in/hr)

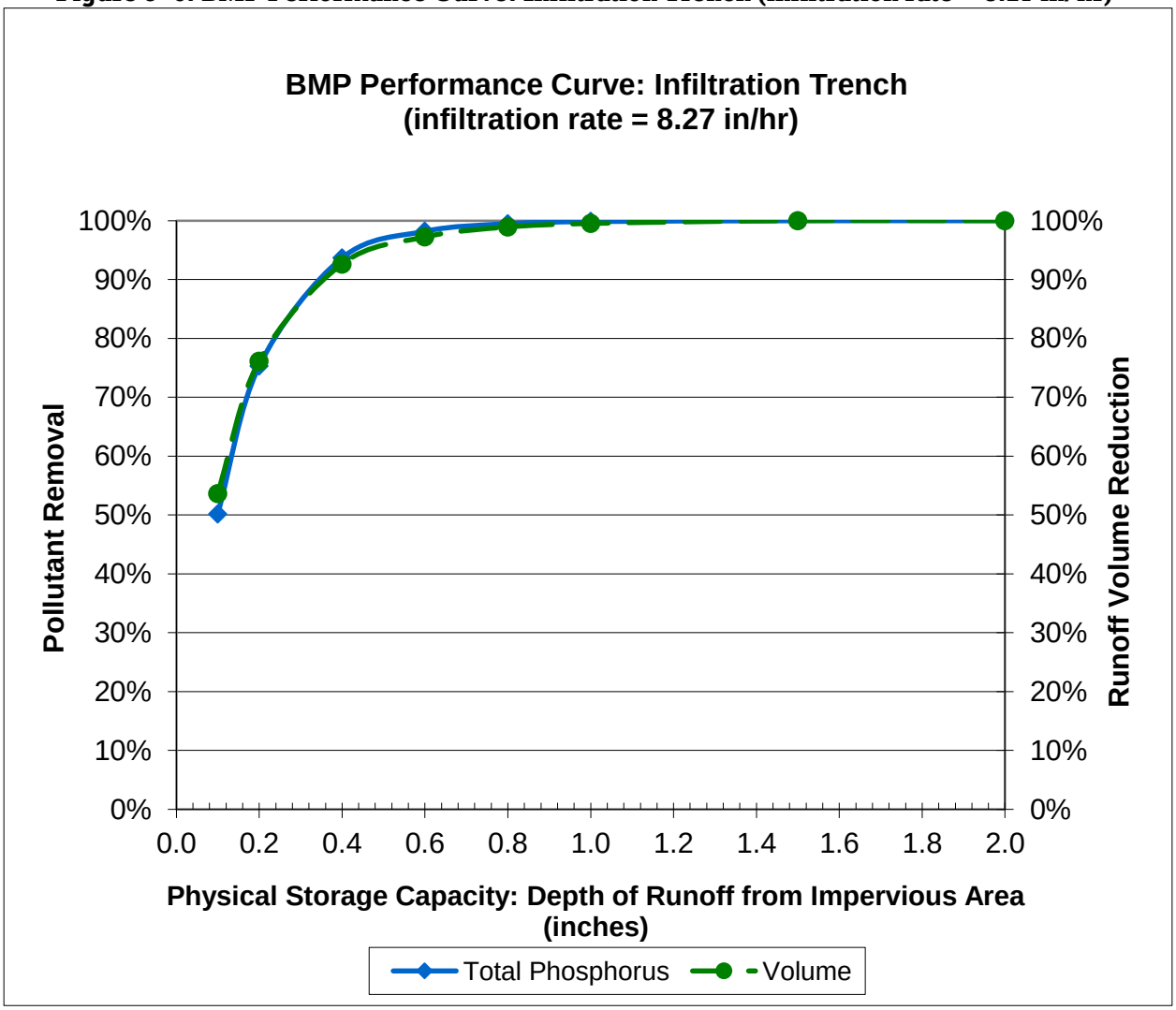


Table 3- 10: Infiltration Basin (0.17 in/hr) BMP Performance Table

Infiltration Basin (0.17 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	13.0%	24.6%	44.2%	59.5%	70.6%	78.1%	89.2%	93.9%
Cumulative Phosphorus Load Reduction	35%	52%	72%	82%	88%	92%	97%	99%

Figure 3- 7: BMP Performance Curve: Infiltration Basin (infiltration rate = 0.17 in/hr)

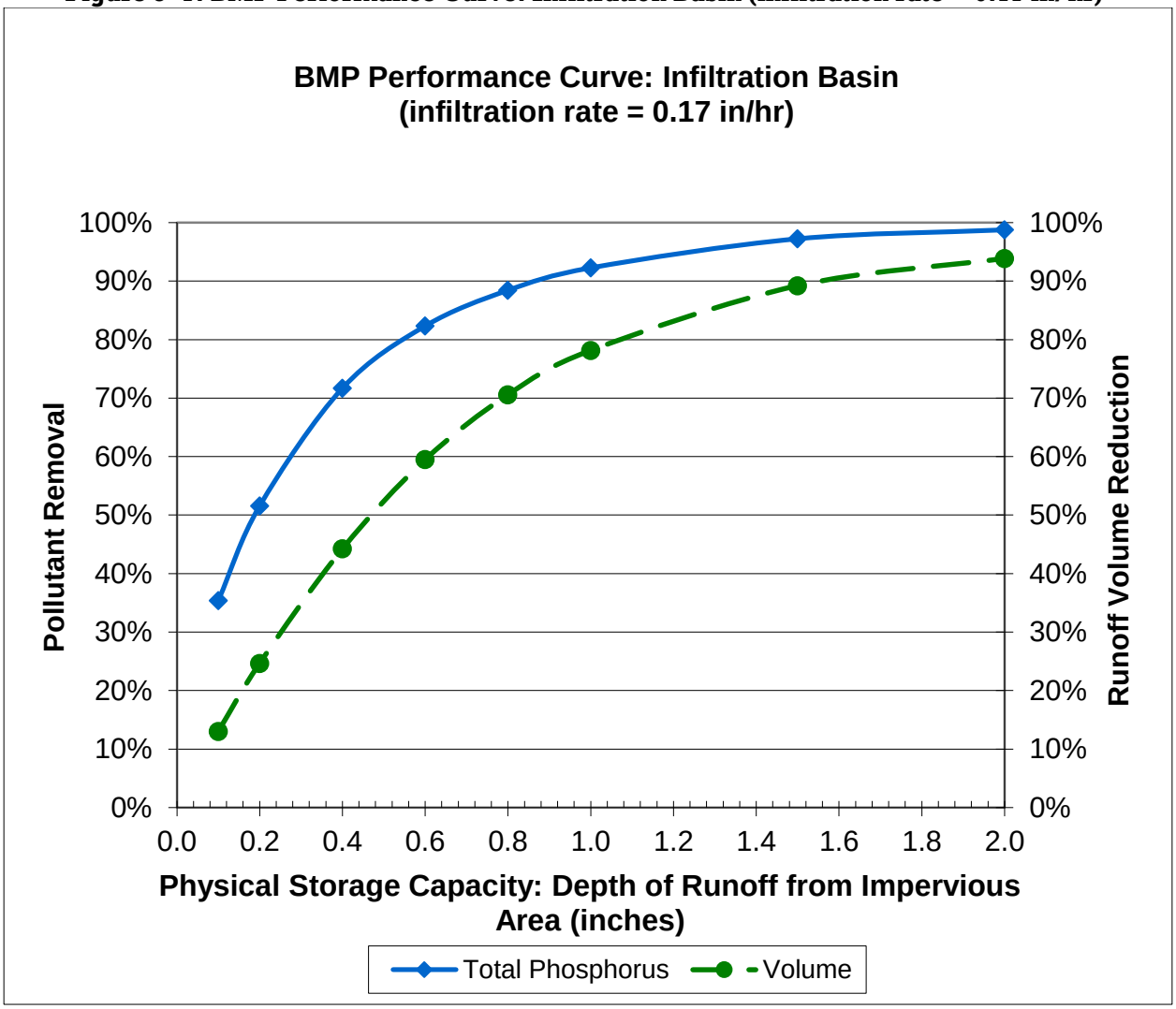


Table 3- 11: Infiltration Basin (0.27 in/hr) BMP Performance Table

Infiltration Basin (0.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	16.3%	29.8%	51.0%	66.0%	76.0%	82.4%	91.5%	95.2%
Cumulative Phosphorus Load Reduction	37%	54%	74 %	85%	90%	93%	98%	99%

Figure 3- 8: BMP Performance Curve: Infiltration Basin (infiltration rate = 0.27 in/hr)

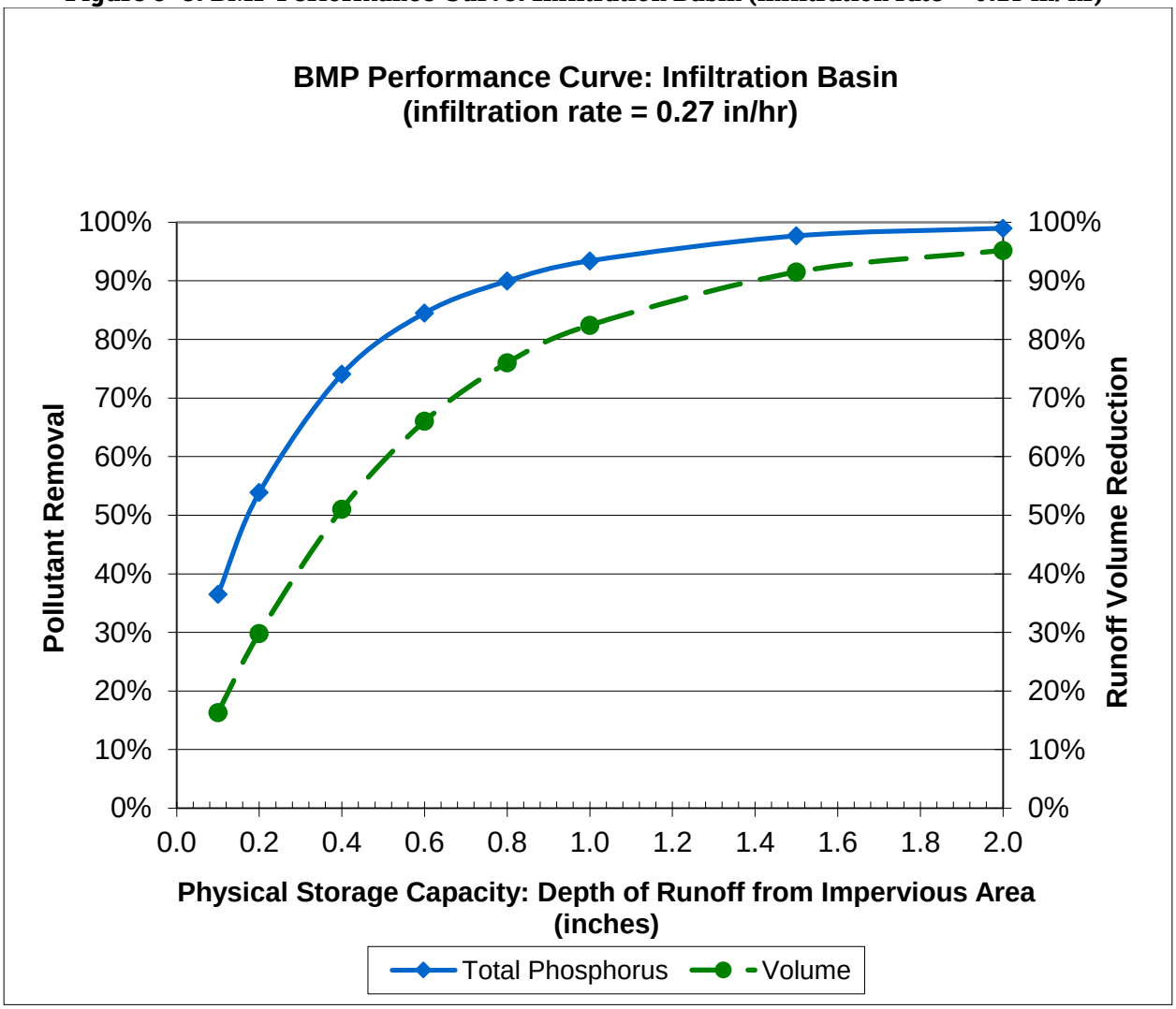


Table 3- 12: Infiltration Basin (0.52 in/hr) BMP Performance Table

Infiltration Basin (0.52 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	20.2%	35.6%	58.0%	72.6%	81.3%	86.9%	94.2%	96.7%
Cumulative Phosphorus Load Reduction	38%	56%	77%	87%	92%	95%	98%	99%

Figure 3- 9: BMP Performance Curve: Infiltration Basin (infiltration rate = 0.52 in/hr)

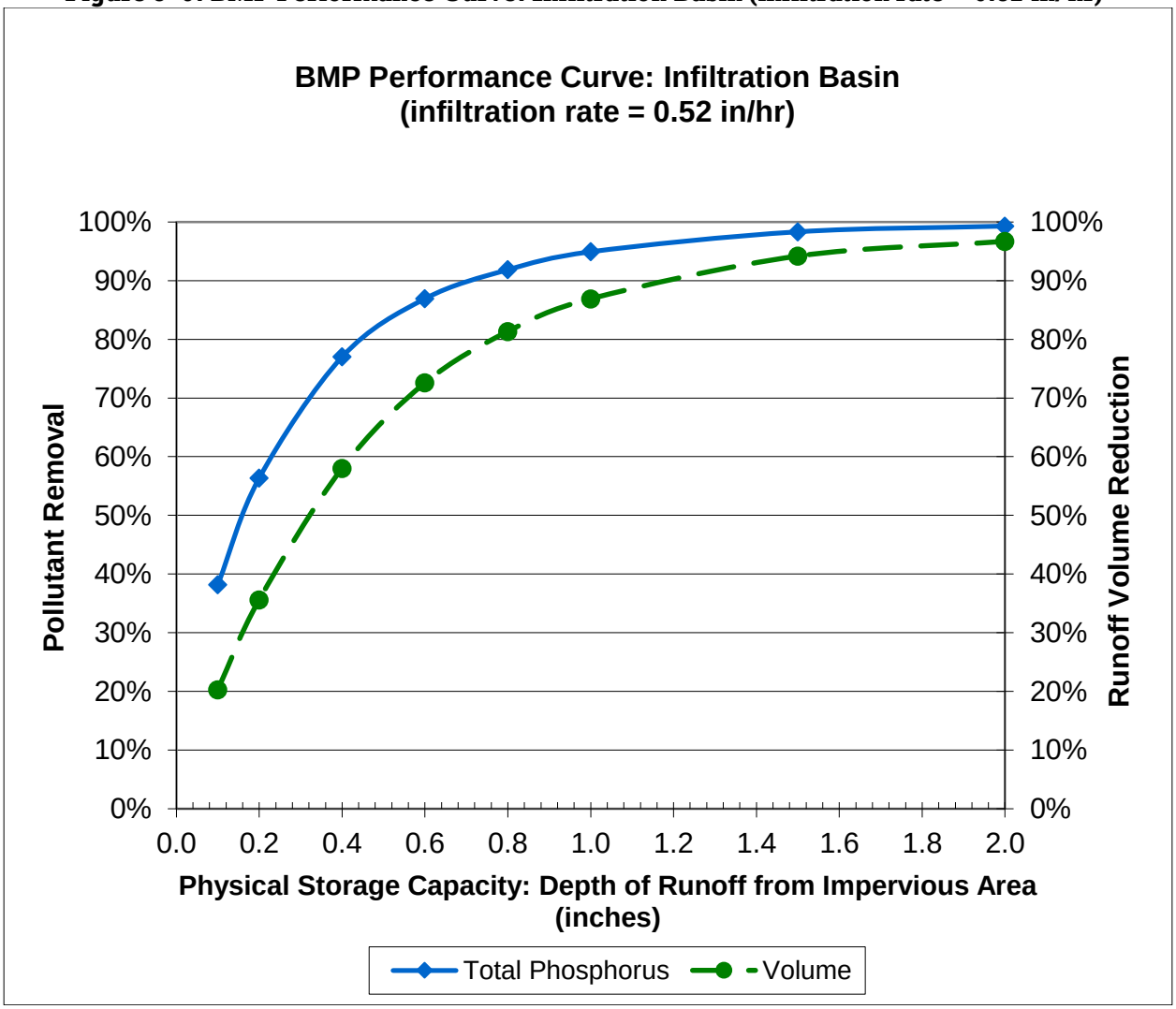


Table 3- 13: Infiltration Basin (1.02 in/hr) BMP Performance Table

Infiltration Basin (1.02 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	24.5%	42.0%	65.6%	79.4%	86.8%	91.3%	96.2%	98.1%
Cumulative Phosphorus Load Reduction	41%	60%	81%	90%	94%	97%	99%	100%

Figure 3- 10: BMP Performance Curve: Infiltration Basin (Soil infiltration rate = 1.02 in/hr)

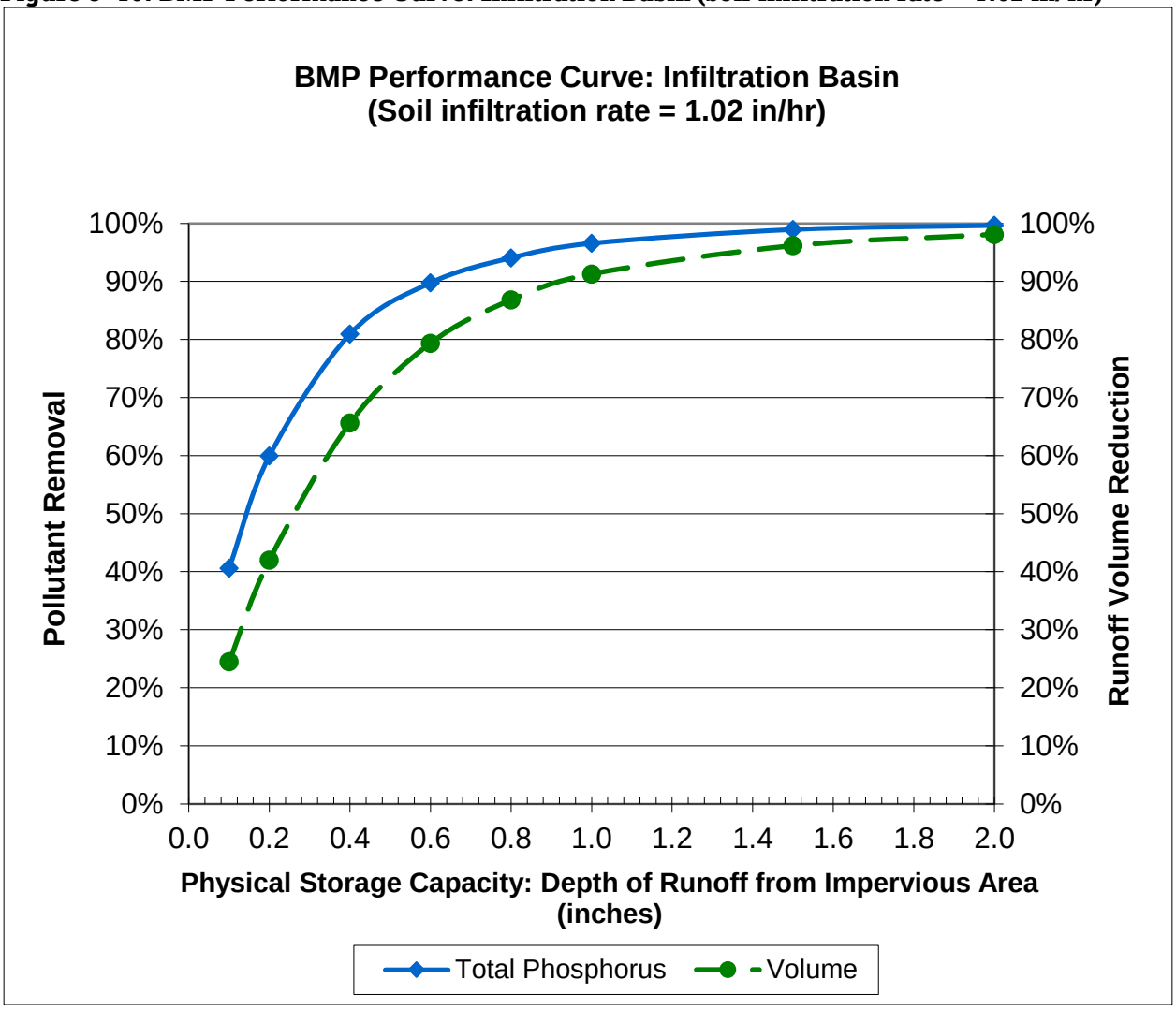


Table 3- 14: Infiltration Basin (2.41 in/hr) BMP Performance Table

Infiltration Basin (2.41 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	32.8%	53.8%	77.8%	88.4%	93.4%	96.0%	98.8%	99.8%
Cumulative Phosphorus Load Reduction	46%	67%	87%	94%	97%	98%	100%	100%

Figure 3- 11: BMP Performance Curve: Infiltration Basin (infiltration rate = 2.41 in/hr)

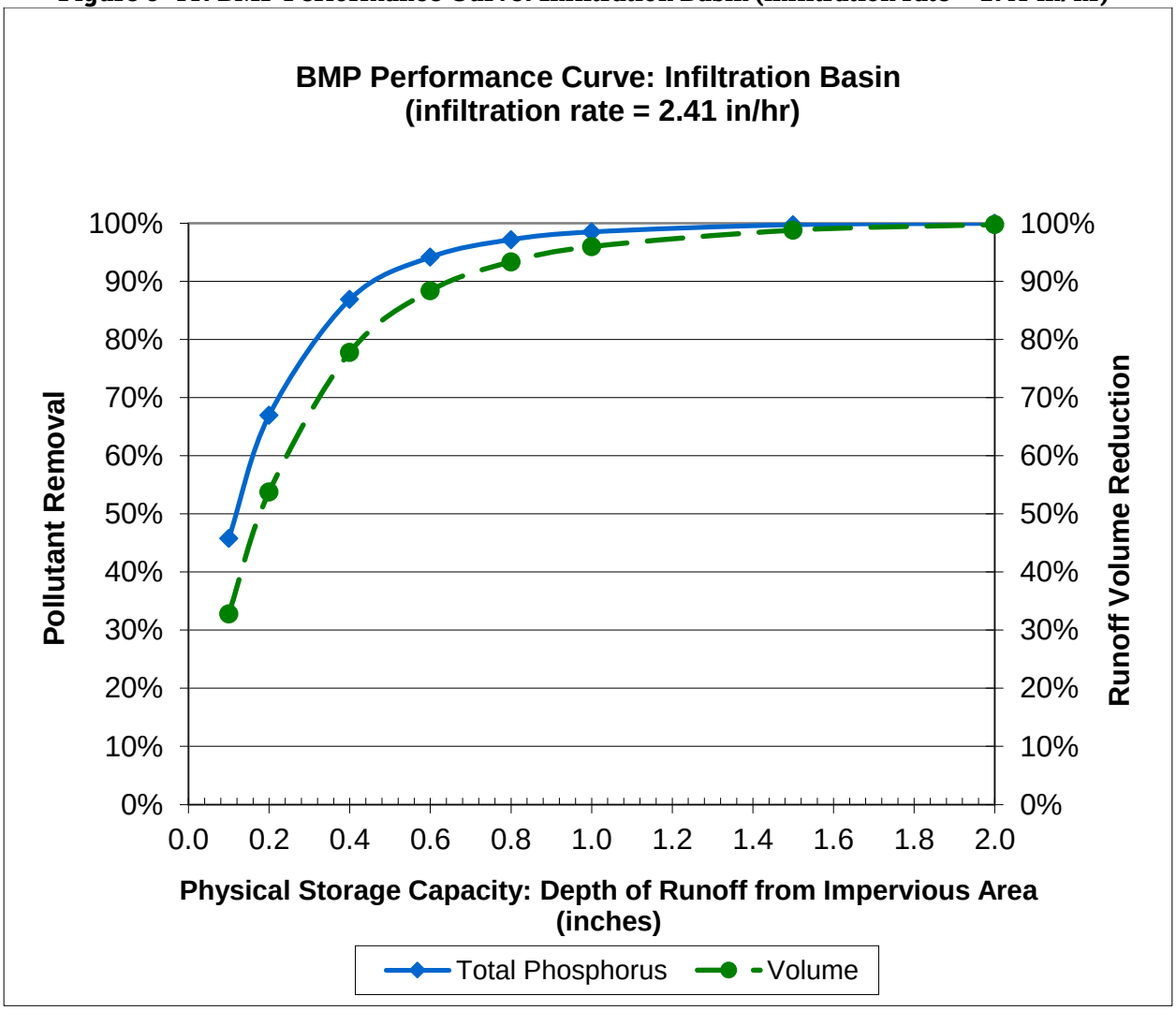


Table 3- 15: Infiltration Basin (8.27 in/hr) BMP Performance Table

Infiltration Basin (8.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	54.6%	77.2%	93.4%	97.5%	99.0%	99.6%	100.0%	100.0%
Cumulative Phosphorus Load Reduction	59%	81%	96%	99%	100%	100%	100%	100%

Figure 3- 12: BMP Performance Curve: Infiltration Basin (infiltration rate = 8.27 in/hr)

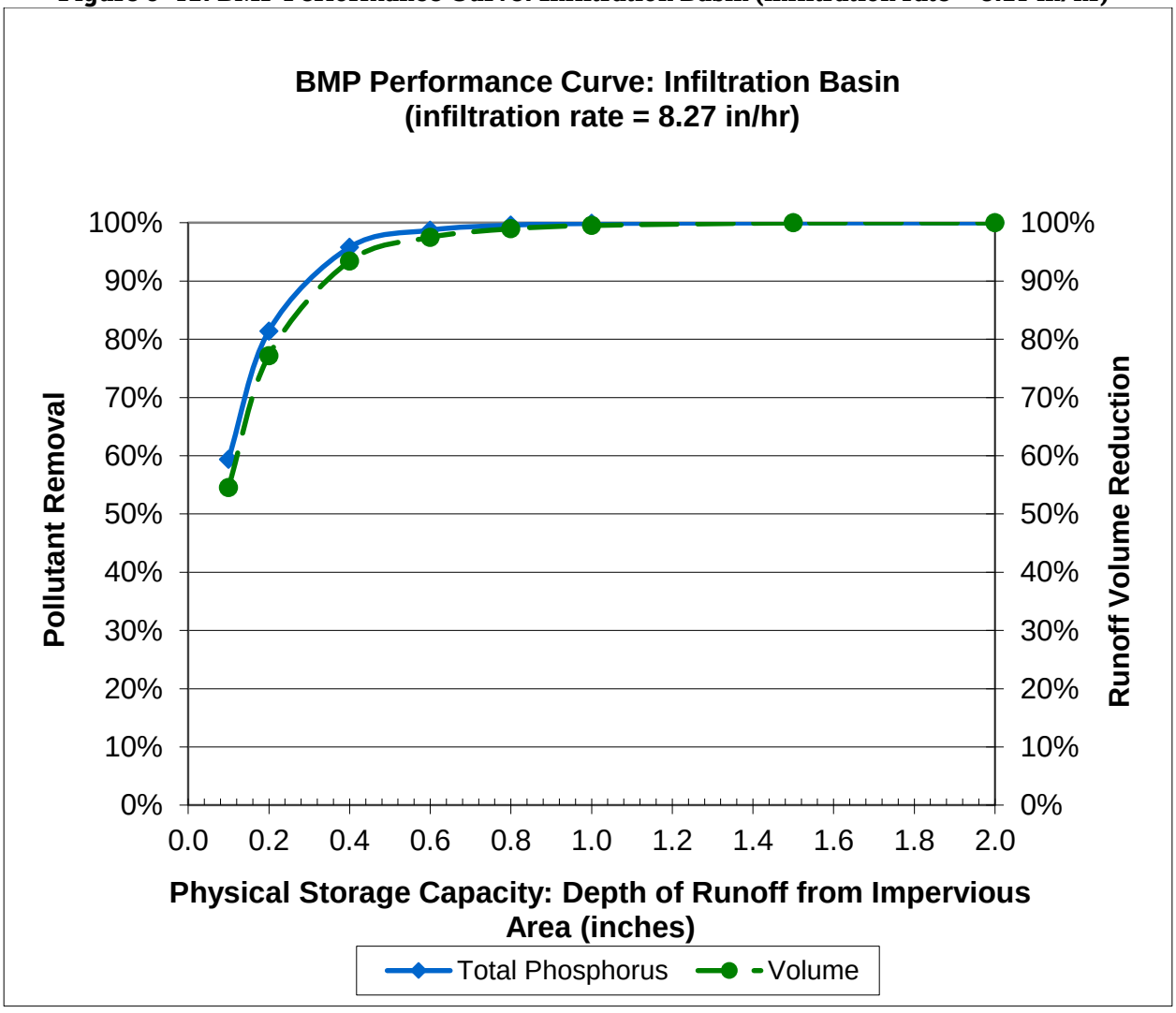


Table 3- 16: Biofiltration BMP Performance Table

Biofiltration BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	19%	34%	53%	64%	71%	76%	84%	89%

Figure 3- 13: BMP Performance Curve: Biofiltration

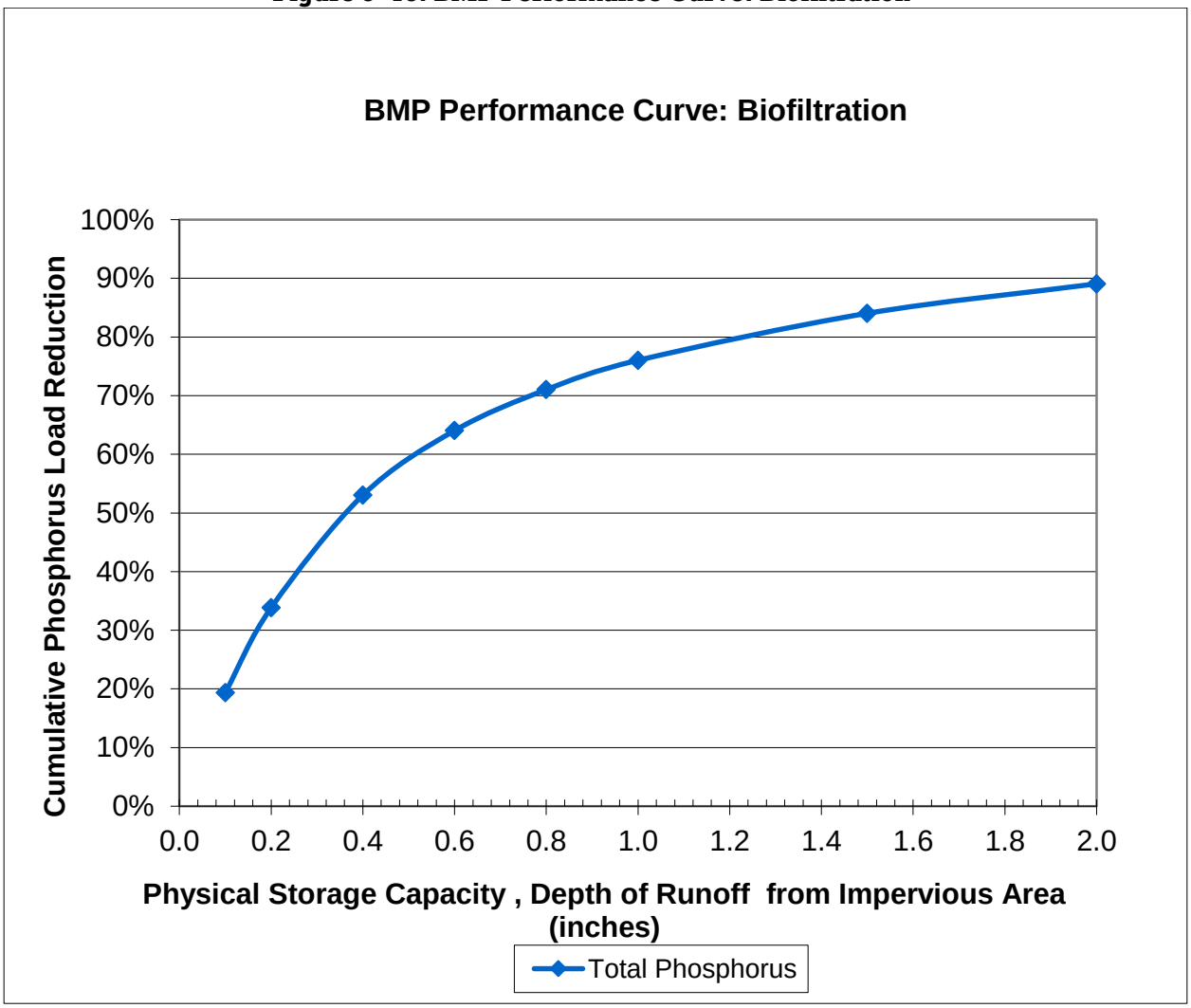


Table 3- 17: Gravel Wetland BMP Performance Table

Gravel Wetland BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	19%	26%	41%	51%	57%	61%	65%	66%

Figure 3- 14: BMP Performance Curve: Gravel Wetland

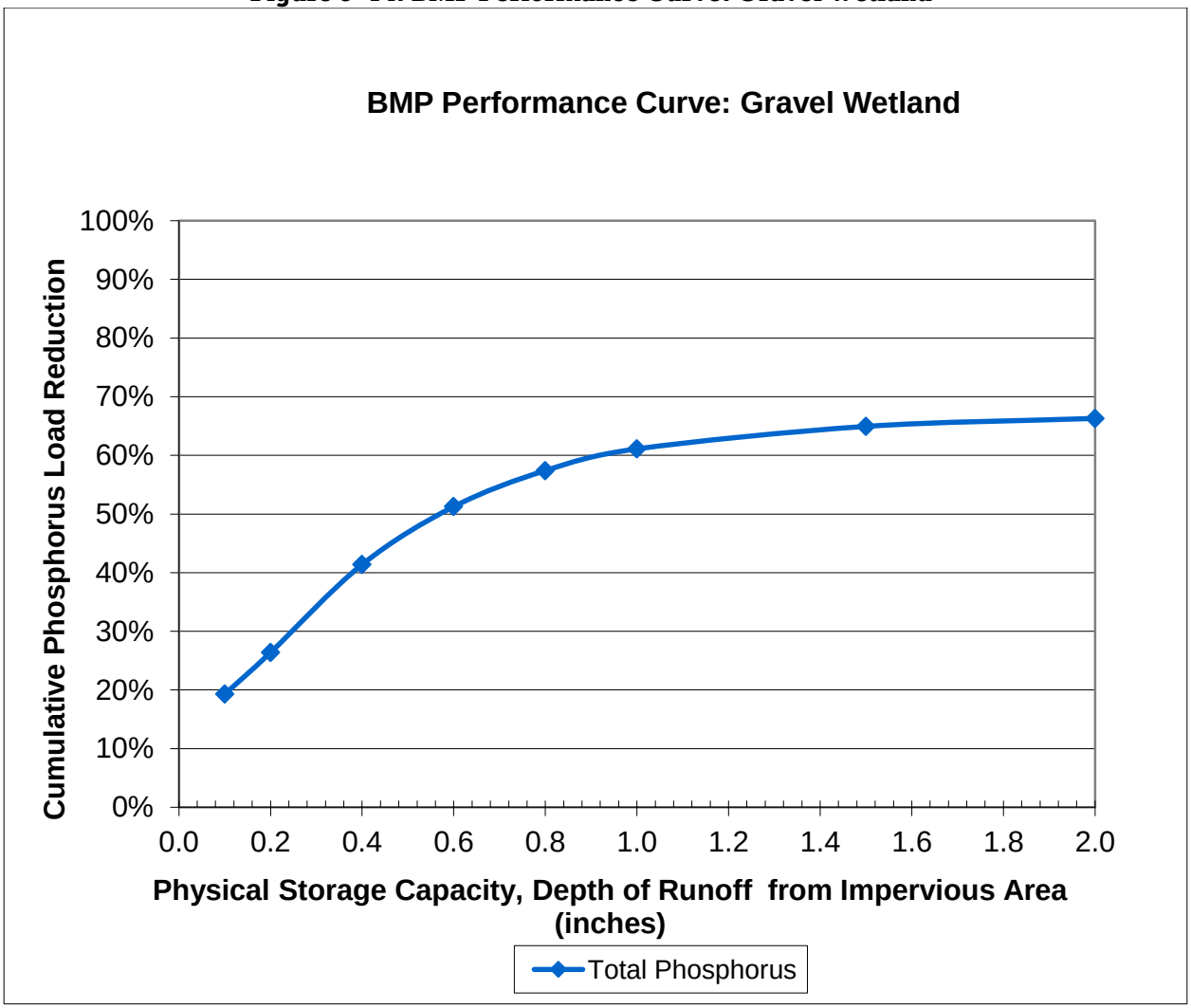


Table 3- 18: Porous Pavement BMP Performance Table

Porous Pavement BMP Performance Table: Long-Term Phosphorus Load Reduction				
BMP Capacity: Depth of Filter Course Area (inches)	12.0	18.0	24.0	32.0
Cumulative Phosphorus Load Reduction	62%	70%	75%	78%

Figure 3- 15: BMP Performance Curve: Porous Pavement

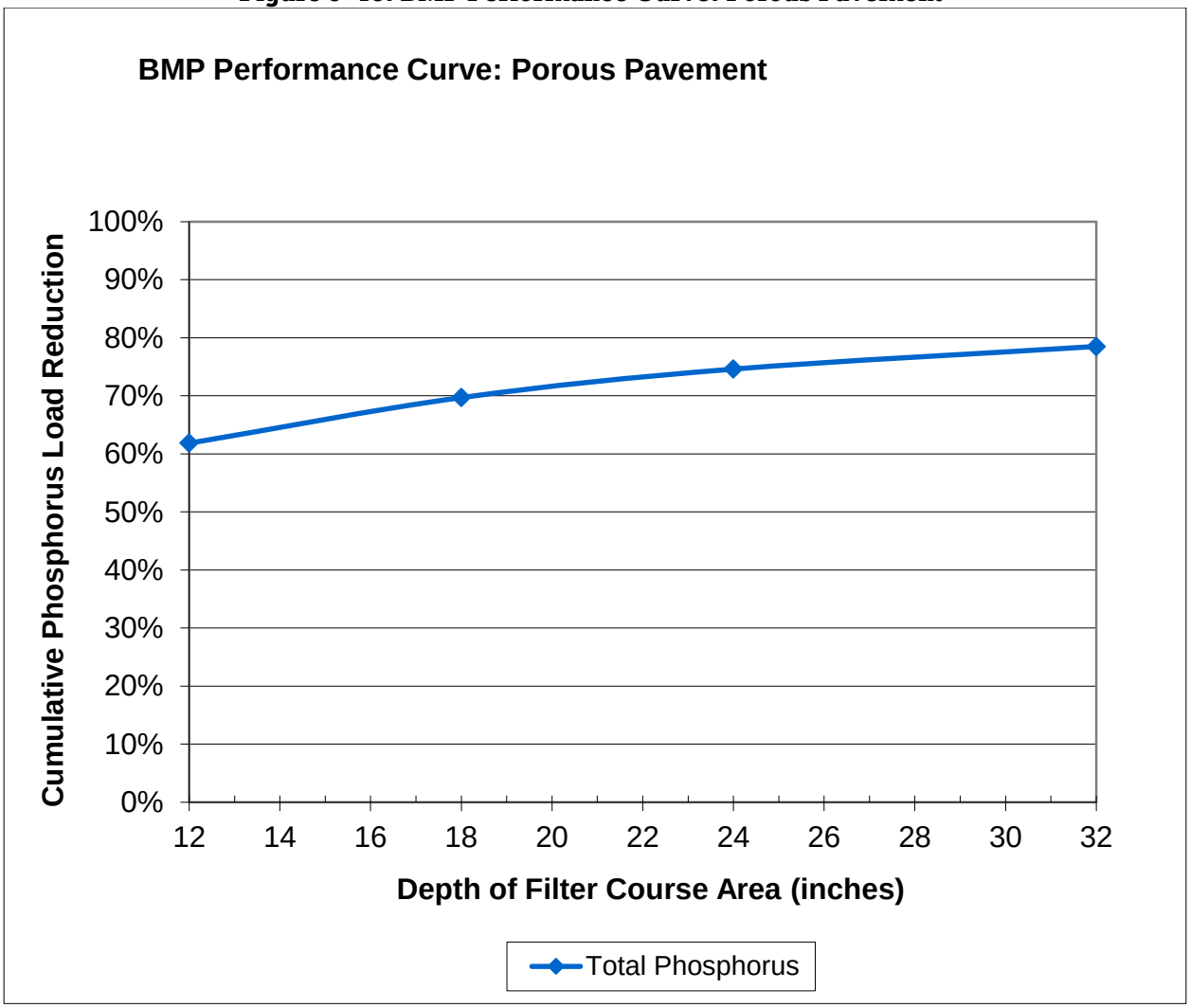


Table 3- 19: Wet Pond BMP Performance Table

Wet Pond BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	14%	25%	37%	44%	48%	53%	58%	63%

Table 3- 20: Dry Pond BMP Performance Table

Dry Pond BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	3%	6%	8%	9%	11%	12%	13%	14%

Figure 3- 16: BMP Performance Curve: Dry Pond

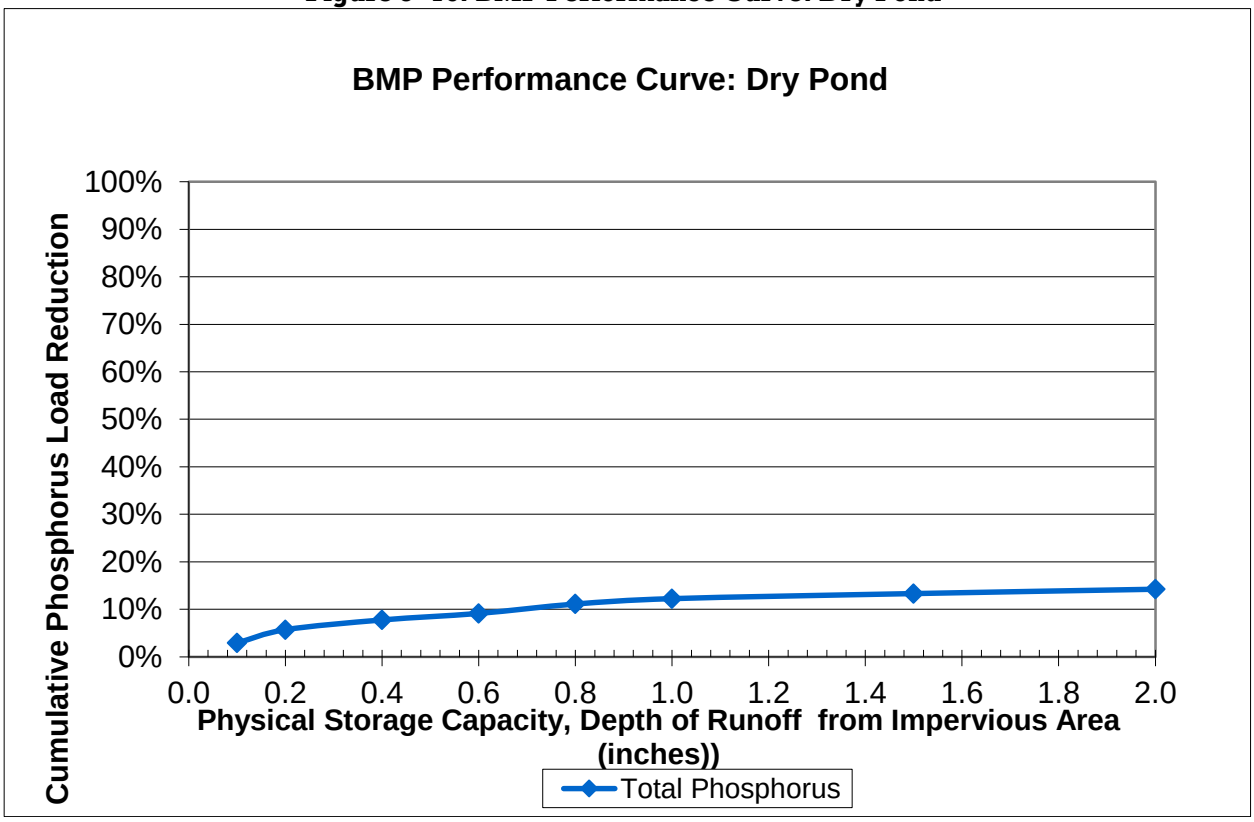


Table 3- 21: Grass Swale BMP Performance Table

Grass Swale BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	2%	5%	9%	13%	17%	21%	29%	36%

Figure 3- 17: BMP Performance Curve: Grass Swale

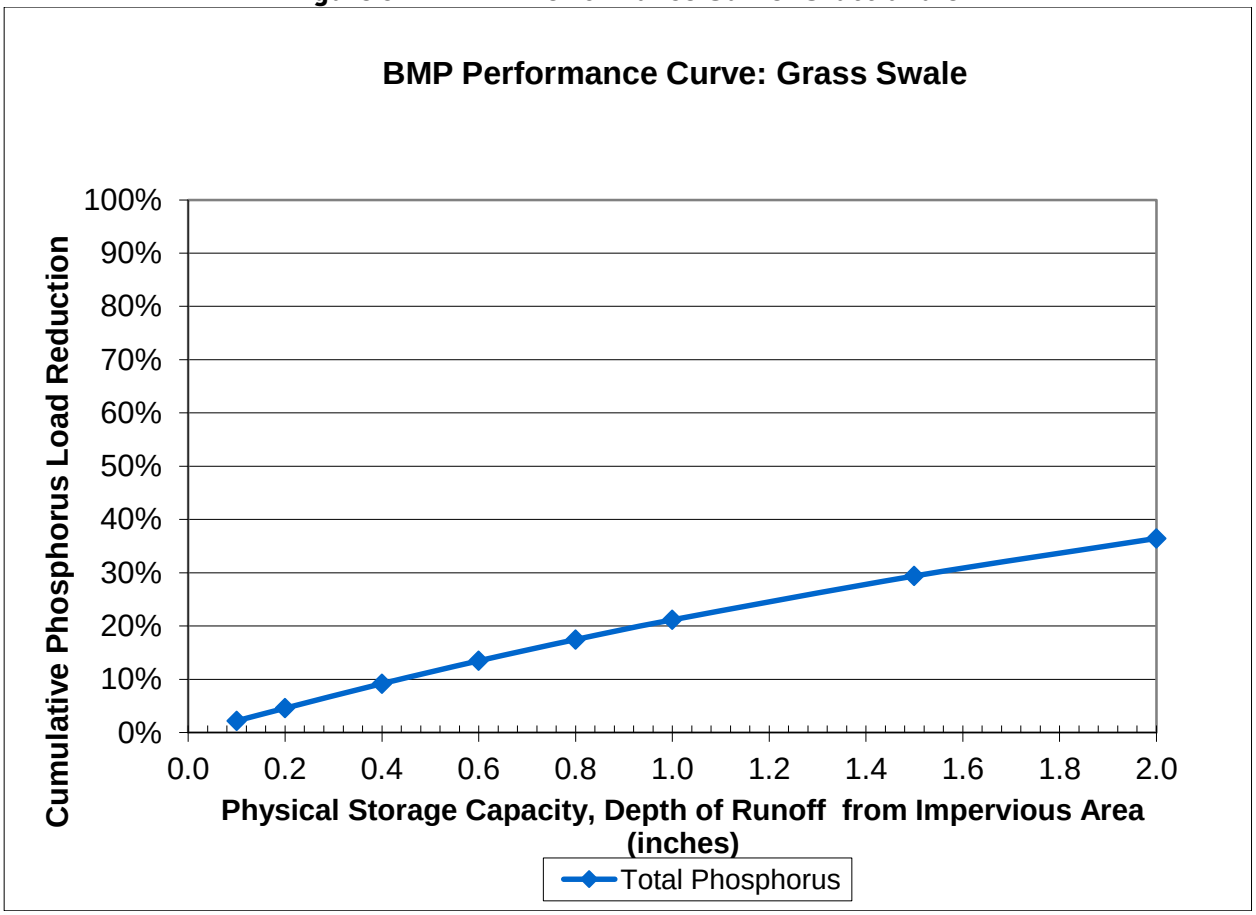


Table 3- 22: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1

Impervious Area Disconnection through Storage : Impervious Area to Pervious Area Ratio = 8:1												
Storage volume to impervious area ratio	Total Runoff Volume (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	22%	22%	21%
0.2 in	40%	38%	37%	40%	38%	37%	37%	38%	37%	24%	26%	27%
0.3 in	52%	50%	49%	52%	50%	49%	40%	46%	49%	24%	26%	27%
0.4 in	61%	59%	58%	59%	59%	58%	40%	48%	54%	24%	26%	27%
0.5 in	67%	66%	64%	62%	66%	64%	40%	48%	56%	24%	26%	27%
0.6 in	70%	71%	70%	62%	70%	70%	40%	48%	56%	24%	26%	27%
0.8 in	71%	78%	77%	62%	73%	77%	40%	48%	56%	24%	26%	27%
1.0 in	71%	80%	80%	62%	73%	79%	40%	48%	56%	24%	26%	27%
1.5 in	71%	81%	87%	62%	73%	81%	40%	48%	56%	24%	26%	27%
2.0 in	71%	81%	88%	62%	73%	81%	40%	48%	56%	24%	26%	27%

Figure 3- 18: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG A Soils

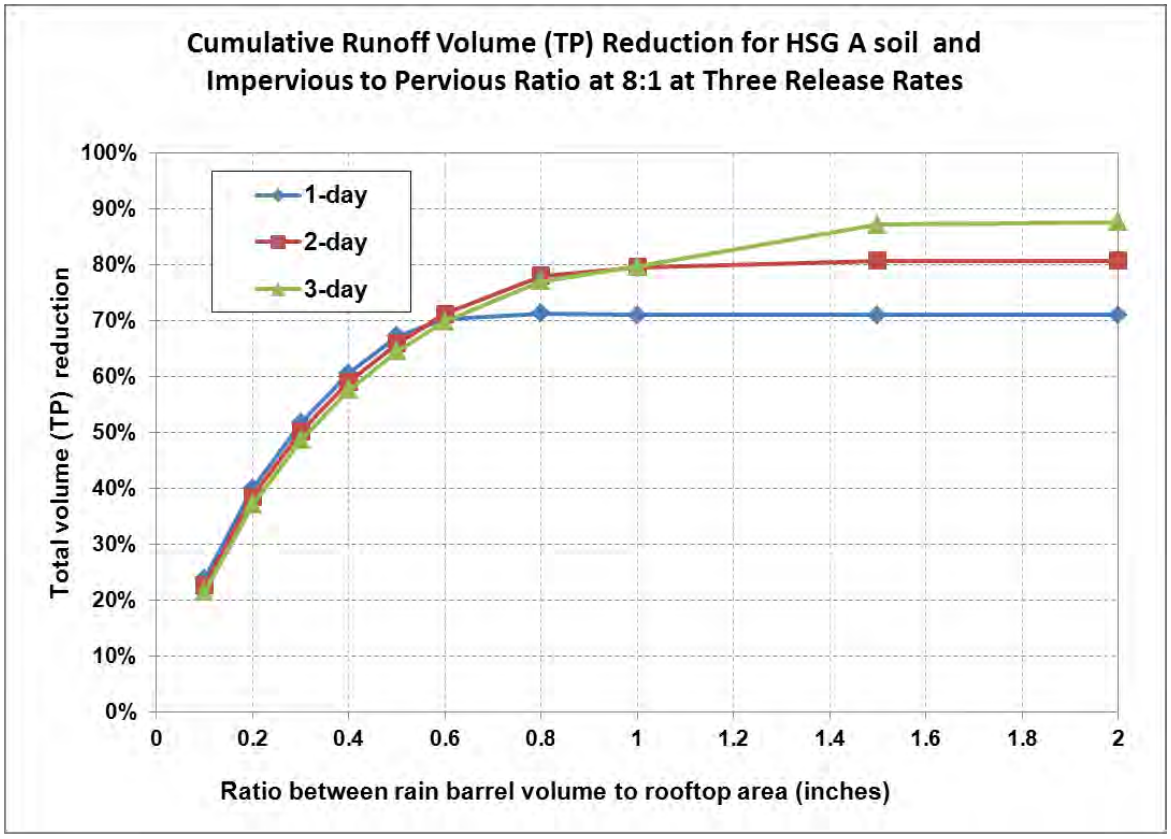


Figure 3- 19: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG B Soils

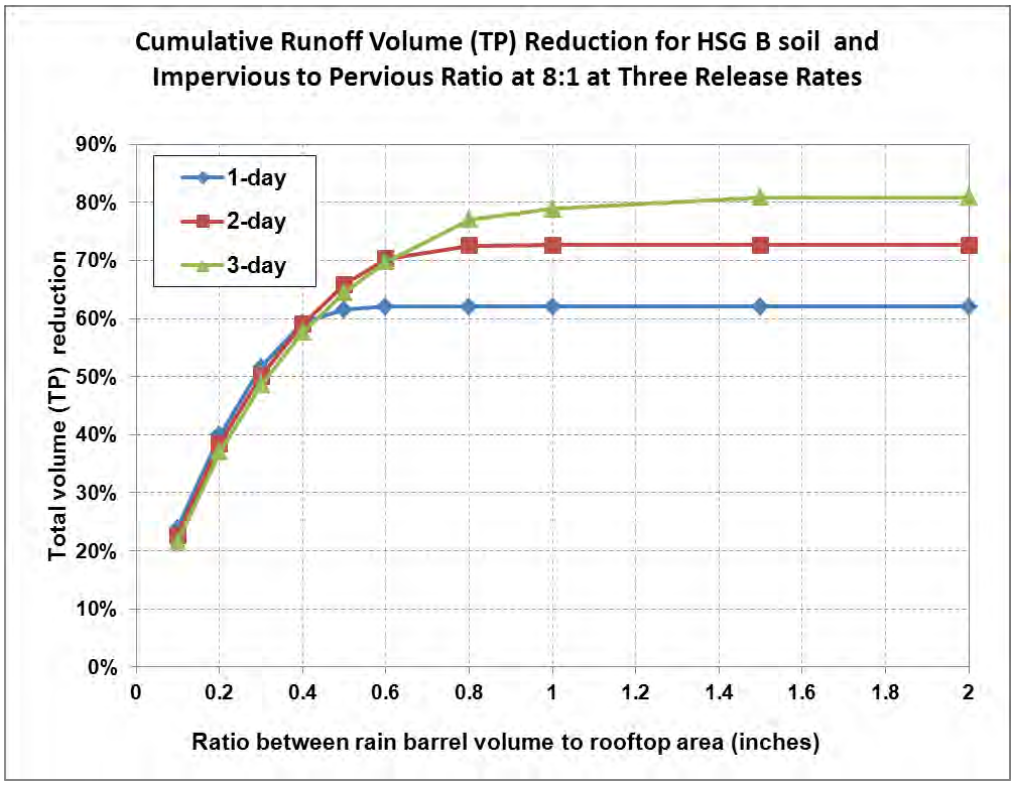


Figure 3- 20: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG C Soils

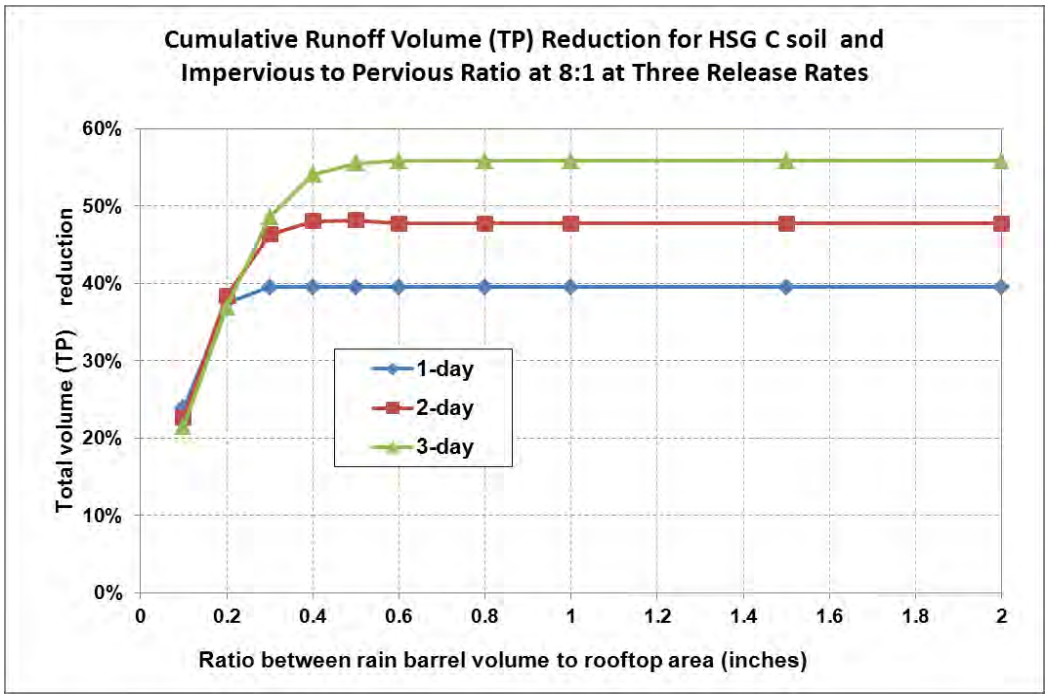


Figure 3- 21: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG D Soils

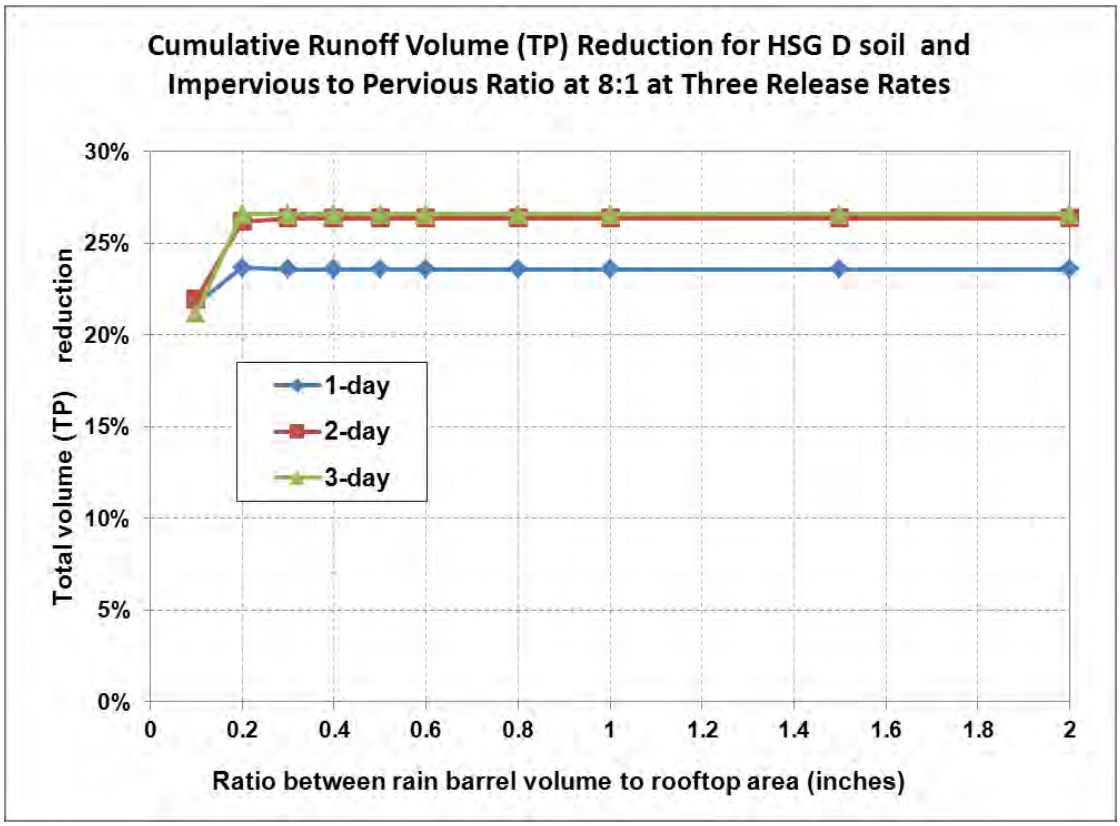


Table 3- 23: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1												
Rain barrel volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	23%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	28%	30%	33%
0.3 in	52%	50%	49%	52%	50%	49%	47%	50%	49%	29%	31%	34%
0.4 in	61%	59%	58%	61%	59%	58%	48%	55%	58%	29%	31%	34%
0.5 in	67%	66%	64%	67%	66%	64%	48%	57%	63%	29%	31%	34%
0.6 in	73%	71%	70%	70%	71%	70%	48%	57%	65%	29%	31%	34%
0.8 in	78%	78%	77%	71%	78%	77%	48%	57%	66%	29%	31%	34%
1.0 in	79%	81%	80%	71%	79%	80%	48%	57%	66%	29%	31%	34%
1.5 in	79%	87%	88%	71%	80%	87%	48%	57%	66%	29%	31%	34%
2.0 in	79%	87%	91%	71%	80%	87%	48%	57%	66%	29%	31%	34%

Figure 3- 22: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG A Soils

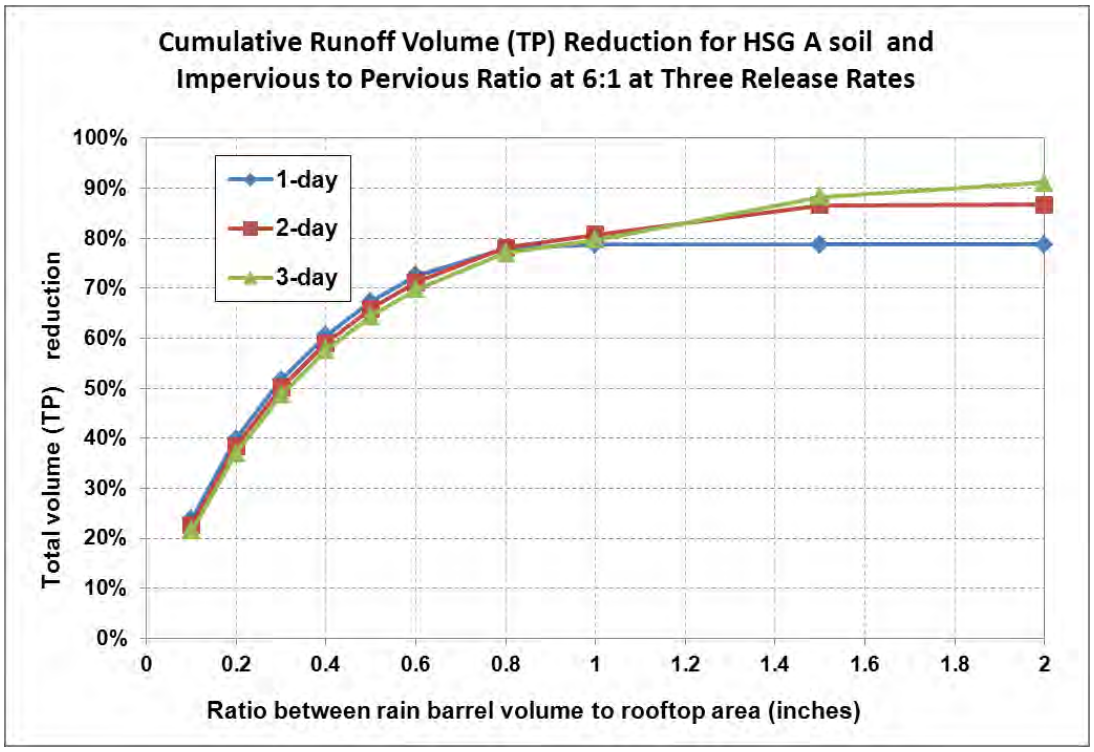


Figure 3- 23: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG B Soils

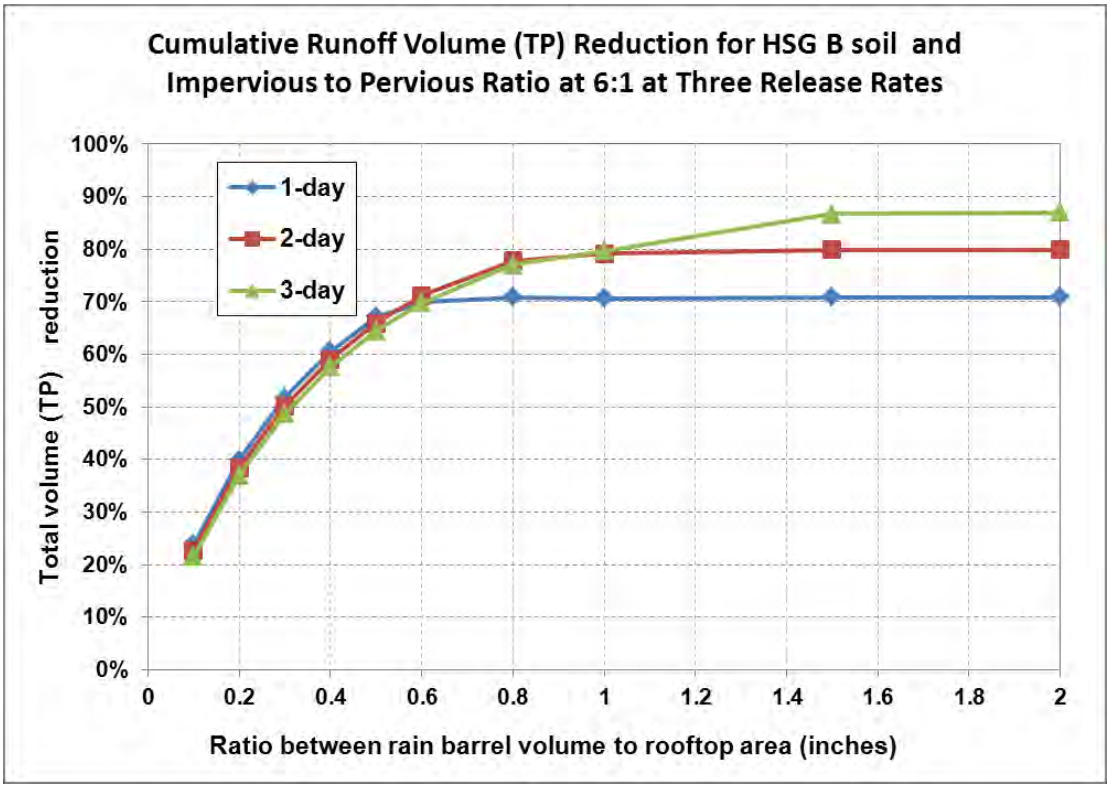


Figure 3- 24: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG C Soils

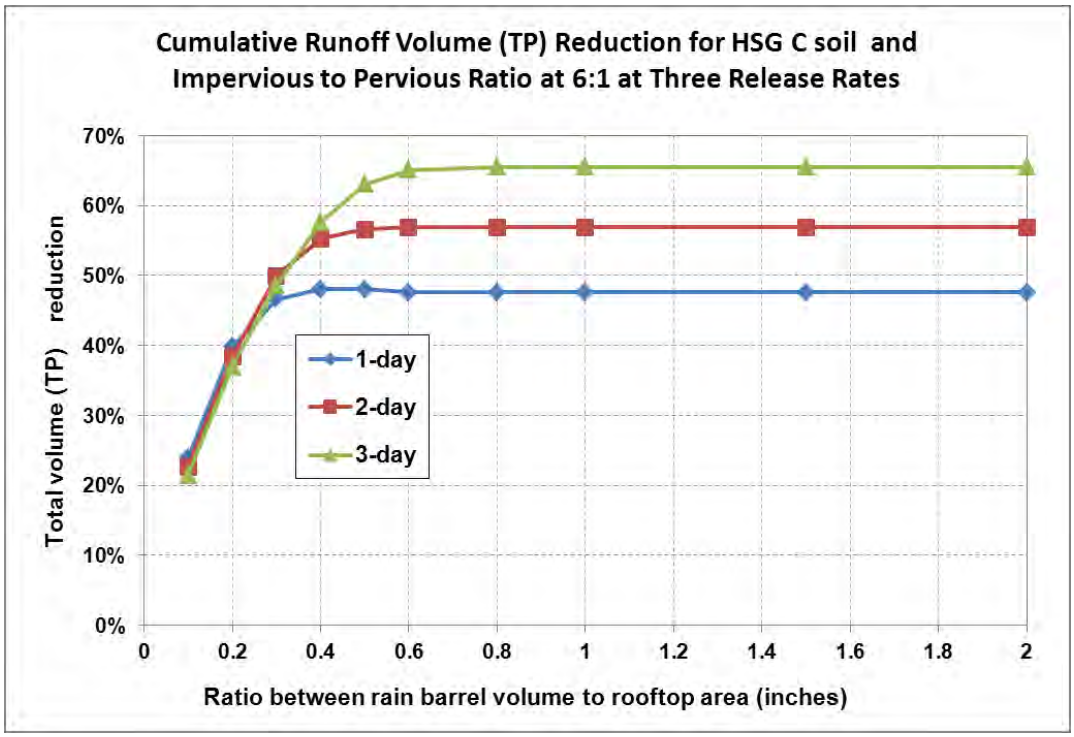


Figure 3- 25: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG D Soils

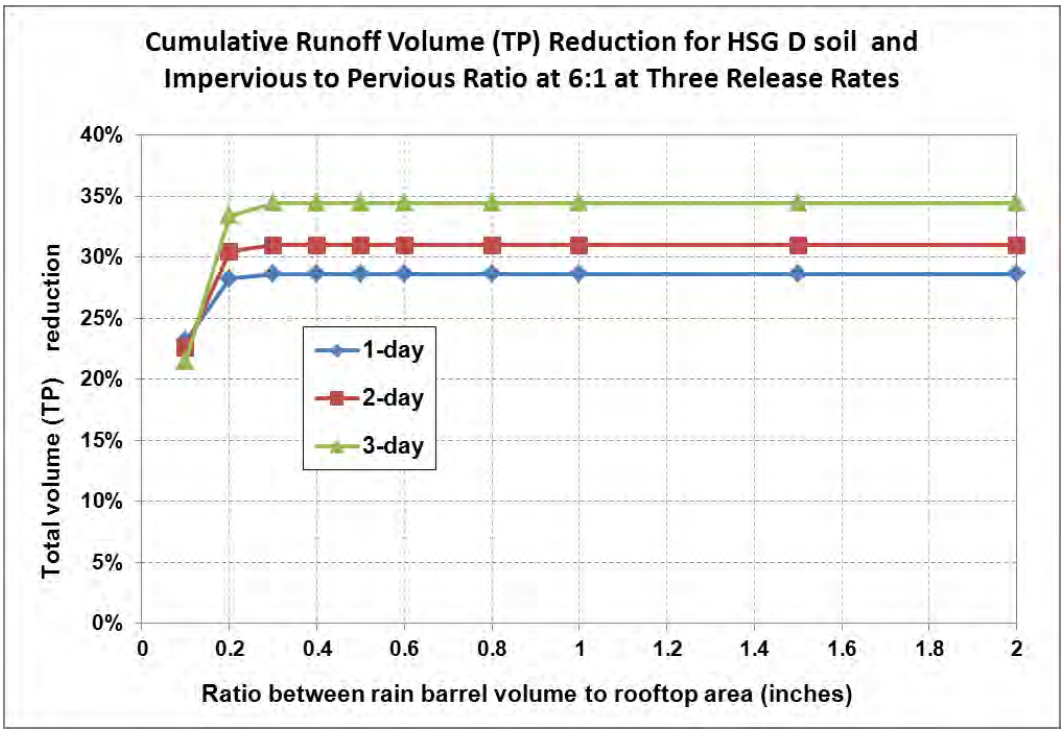


Table 3- 24: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1												
Storage volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	24%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	37%	37%	37%
0.3 in	52%	50%	49%	52%	50%	49%	52%	50%	49%	39%	42%	45%
0.4 in	61%	59%	58%	61%	59%	58%	58%	59%	58%	39%	42%	47%
0.5 in	67%	66%	64%	67%	66%	64%	60%	65%	64%	40%	42%	47%
0.6 in	73%	71%	70%	73%	71%	70%	61%	68%	70%	40%	42%	47%
0.8 in	79%	78%	77%	79%	78%	77%	61%	69%	75%	40%	42%	47%
1.0 in	82%	81%	80%	80%	81%	80%	61%	69%	76%	40%	42%	47%
1.5 in	87%	89%	88%	80%	87%	88%	61%	69%	76%	40%	42%	47%
2.0 in	87%	91%	91%	80%	88%	91%	61%	69%	76%	40%	42%	47%

Figure 3- 26: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG A Soils

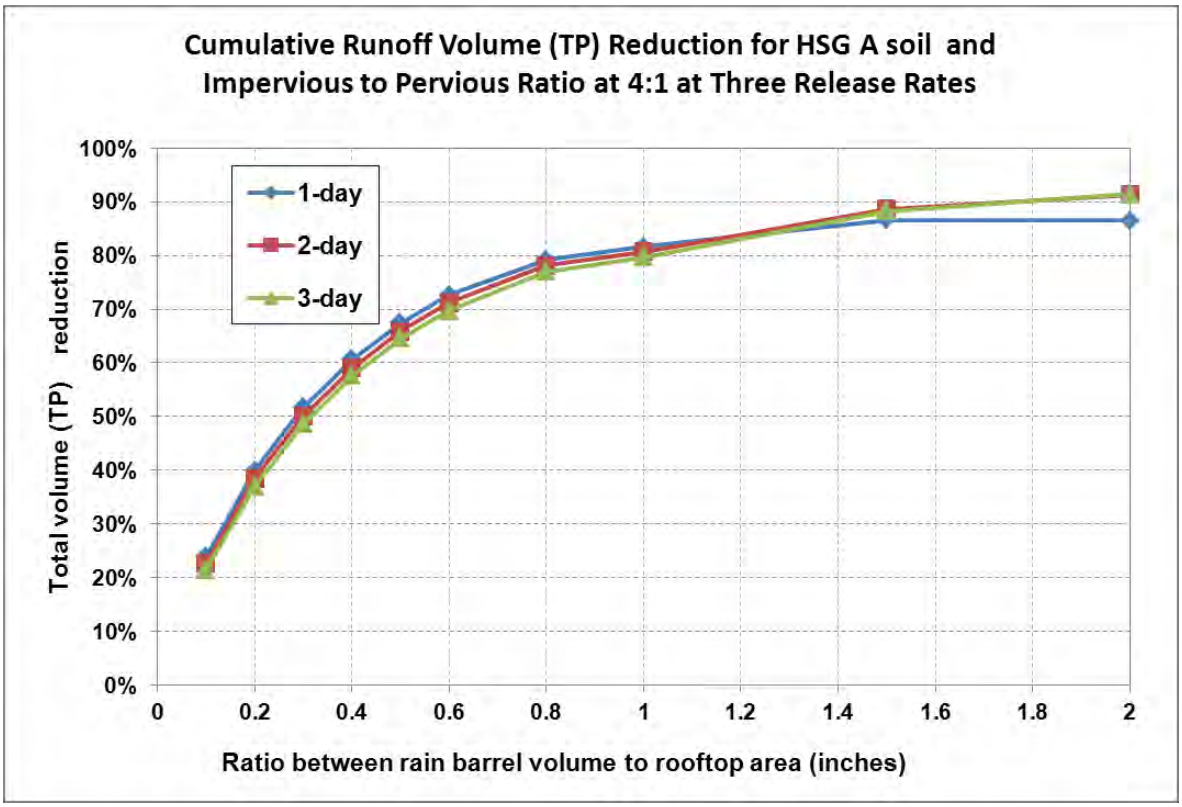


Figure 3- 27: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG B Soils

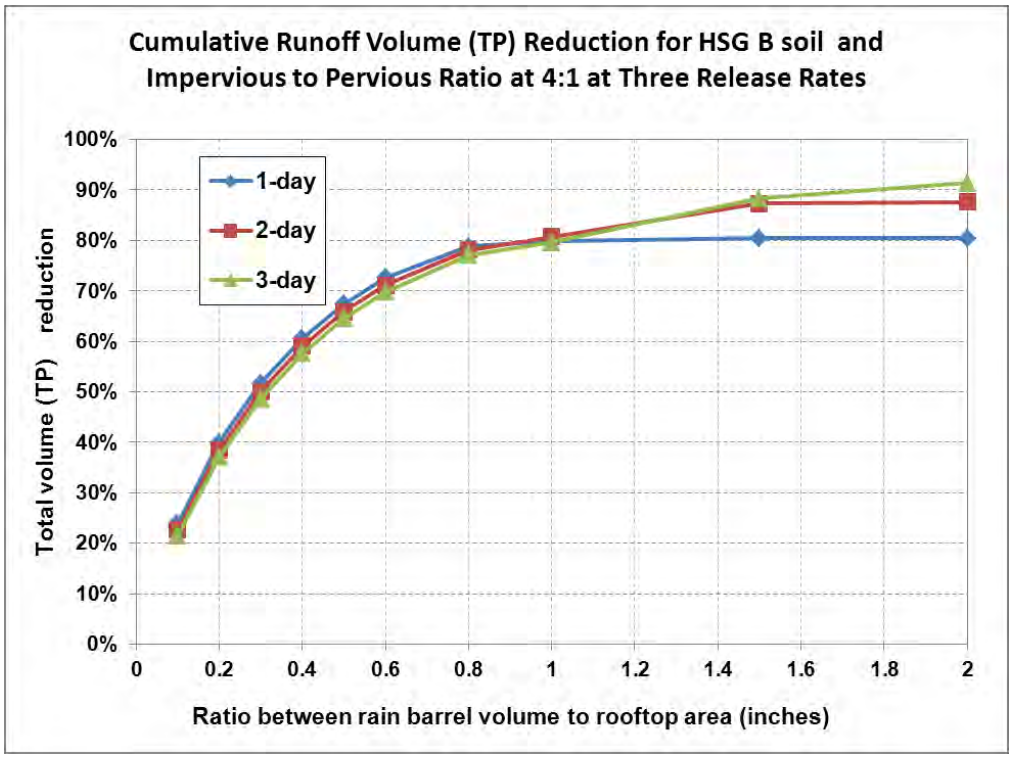


Figure 3- 28: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG C Soils

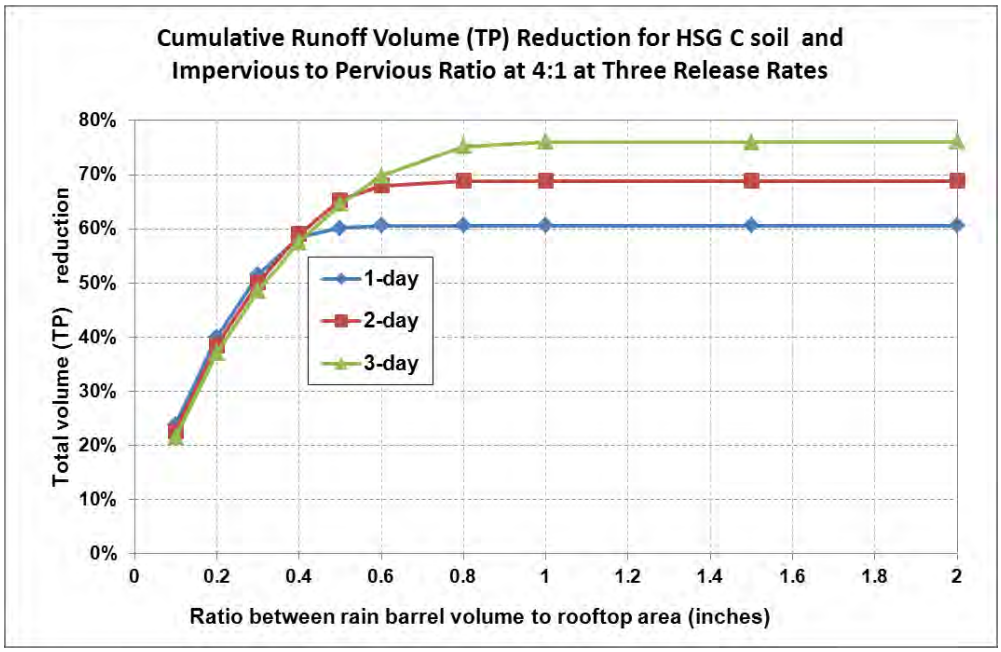


Figure 3- 29: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG D Soils

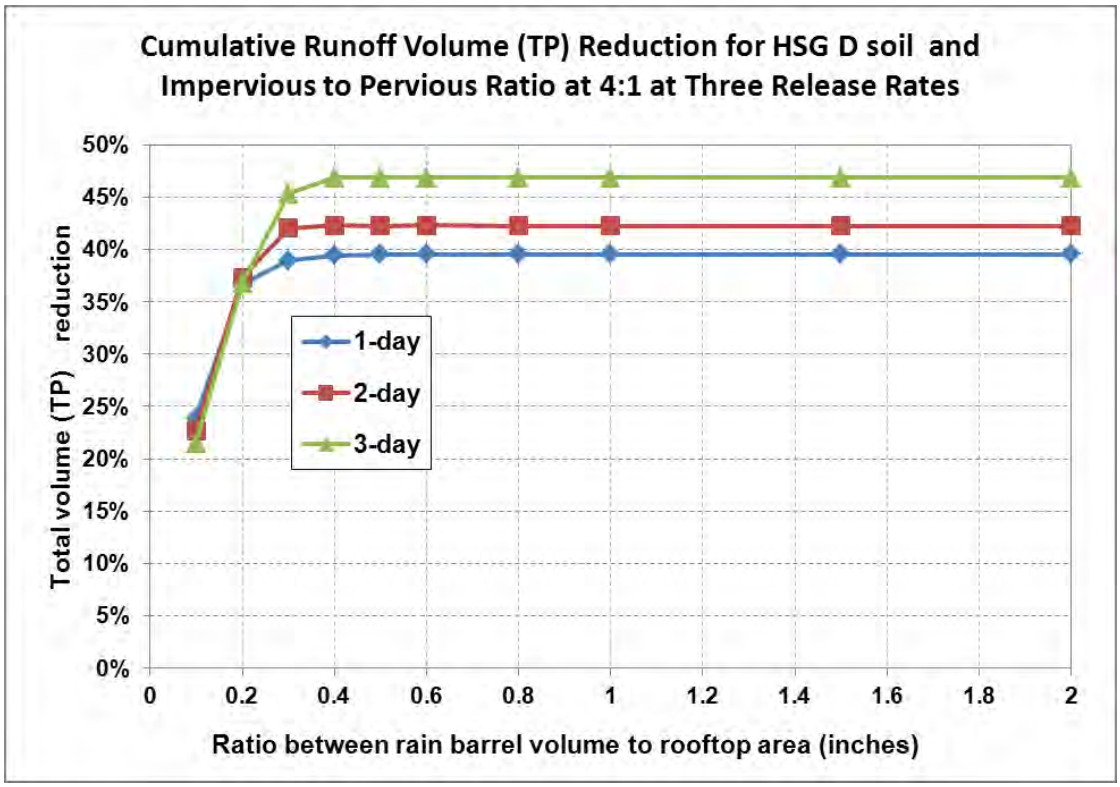


Table 3- 25: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 2:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 2:1												
Storage volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	24%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	40%	38%	37%
0.3 in	52%	50%	49%	52%	50%	49%	52%	50%	49%	51%	50%	49%
0.4 in	61%	59%	58%	61%	59%	58%	61%	59%	58%	57%	58%	57%
0.5 in	67%	66%	64%	67%	66%	64%	67%	66%	64%	59%	62%	63%
0.6 in	73%	71%	70%	73%	71%	70%	72%	71%	70%	59%	62%	67%
0.8 in	79%	78%	77%	79%	78%	77%	77%	78%	77%	59%	62%	67%
1.0 in	82%	81%	80%	82%	81%	80%	78%	81%	80%	59%	62%	67%
1.5 in	89%	89%	88%	89%	89%	88%	78%	84%	88%	59%	62%	67%
2.0 in	92%	92%	91%	91%	92%	91%	78%	84%	89%	59%	62%	67%

Figure 3- 30: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG A Soils

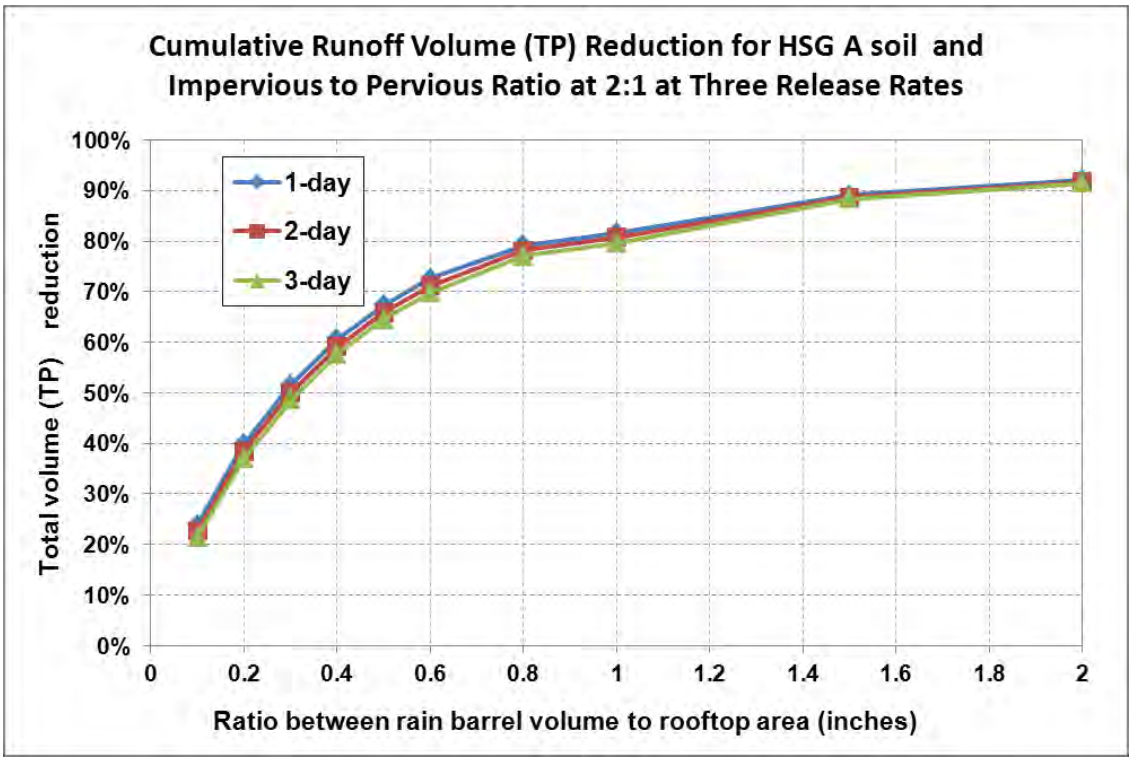


Figure 3- 31: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG B Soils

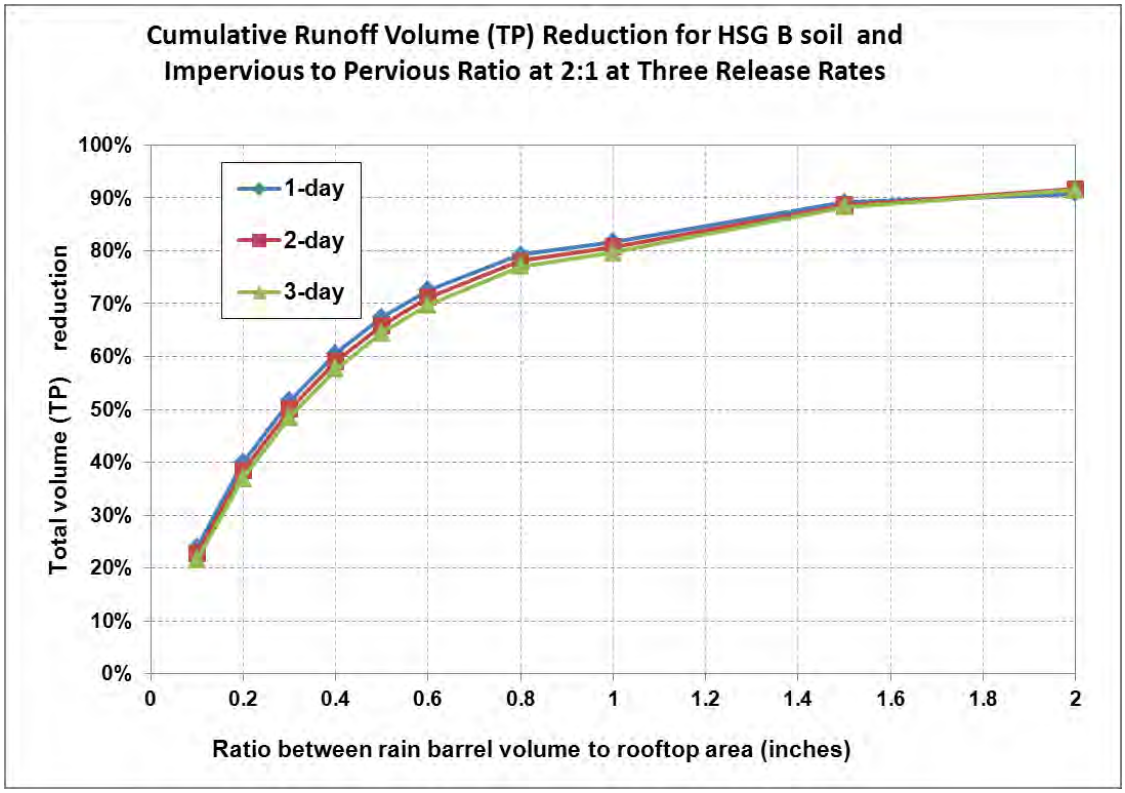


Figure 3- 32: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG C Soils

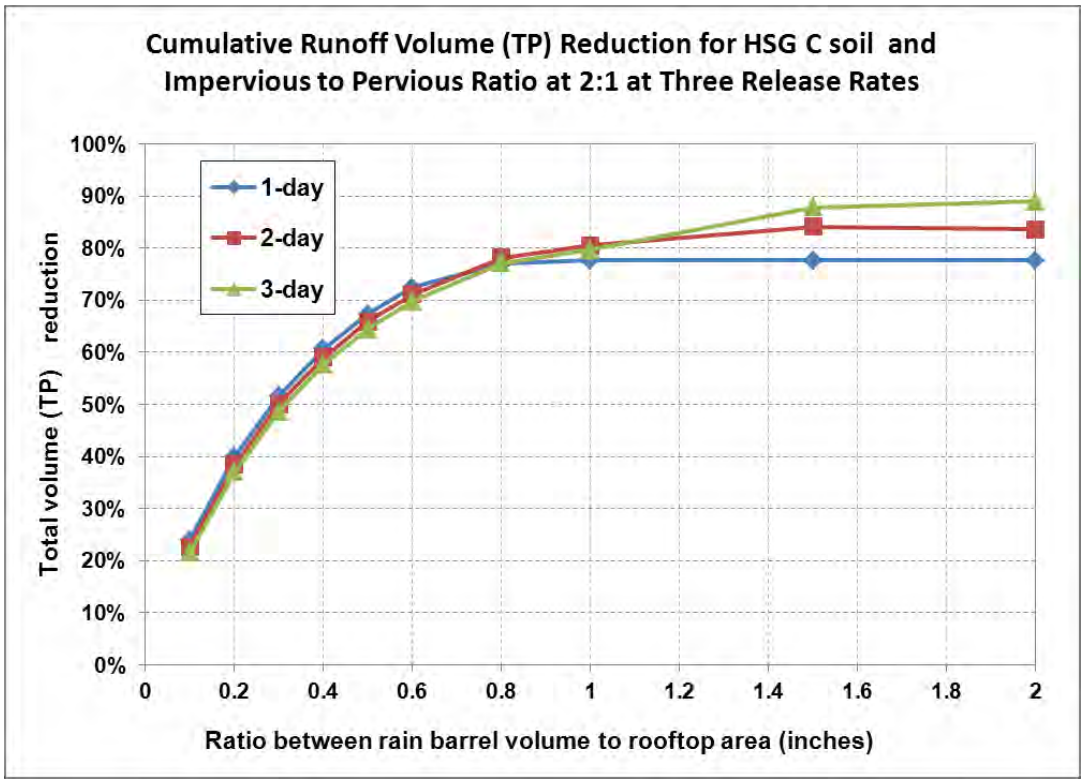


Figure 3- 33: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG D Soils

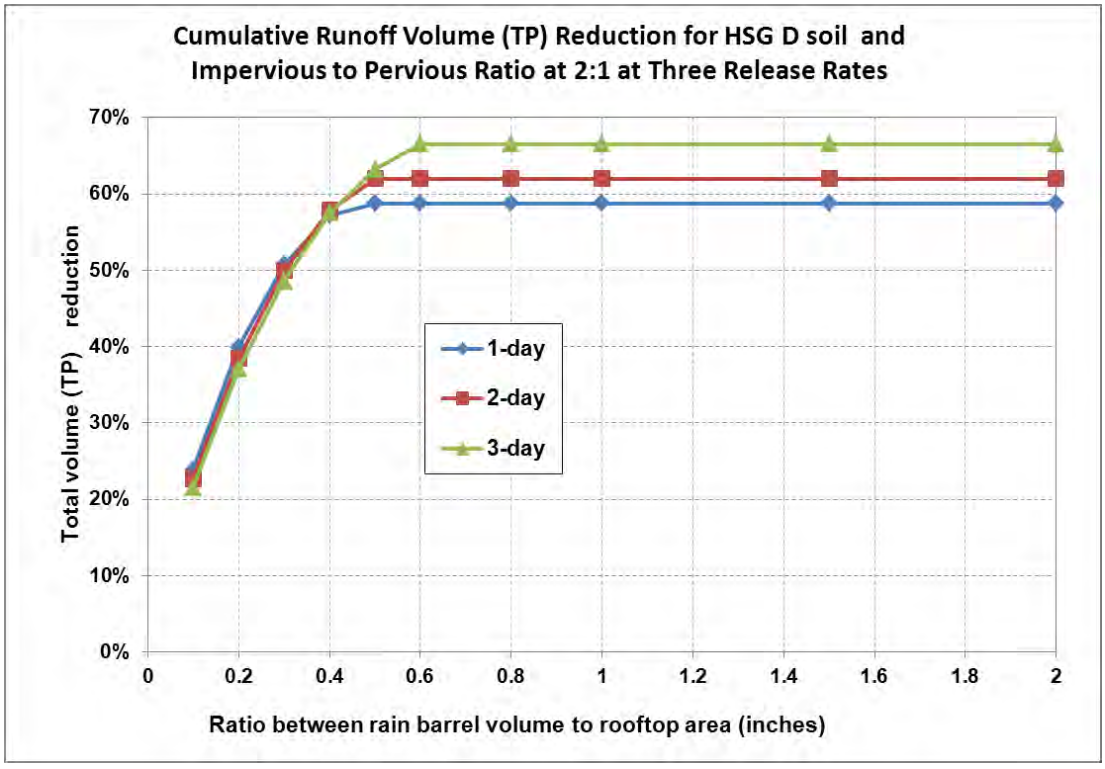


Table 3- 26: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1												
Storage volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	24%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	40%	38%	37%
0.3 in	52%	50%	49%	52%	50%	49%	52%	50%	49%	52%	50%	49%
0.4 in	61%	59%	58%	61%	59%	58%	61%	59%	58%	61%	59%	58%
0.5 in	67%	66%	64%	67%	66%	64%	67%	66%	64%	67%	66%	64%
0.6 in	73%	71%	70%	73%	71%	70%	73%	71%	70%	72%	71%	70%
0.8 in	79%	78%	77%	79%	78%	77%	79%	78%	77%	78%	78%	77%
1.0 in	82%	81%	80%	82%	81%	80%	82%	81%	80%	79%	80%	80%
1.5 in	89%	89%	88%	89%	89%	88%	89%	89%	88%	80%	82%	86%
2.0 in	92%	92%	91%	92%	92%	91%	91%	92%	91%	80%	82%	86%

Figure 3- 34: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG A Soils

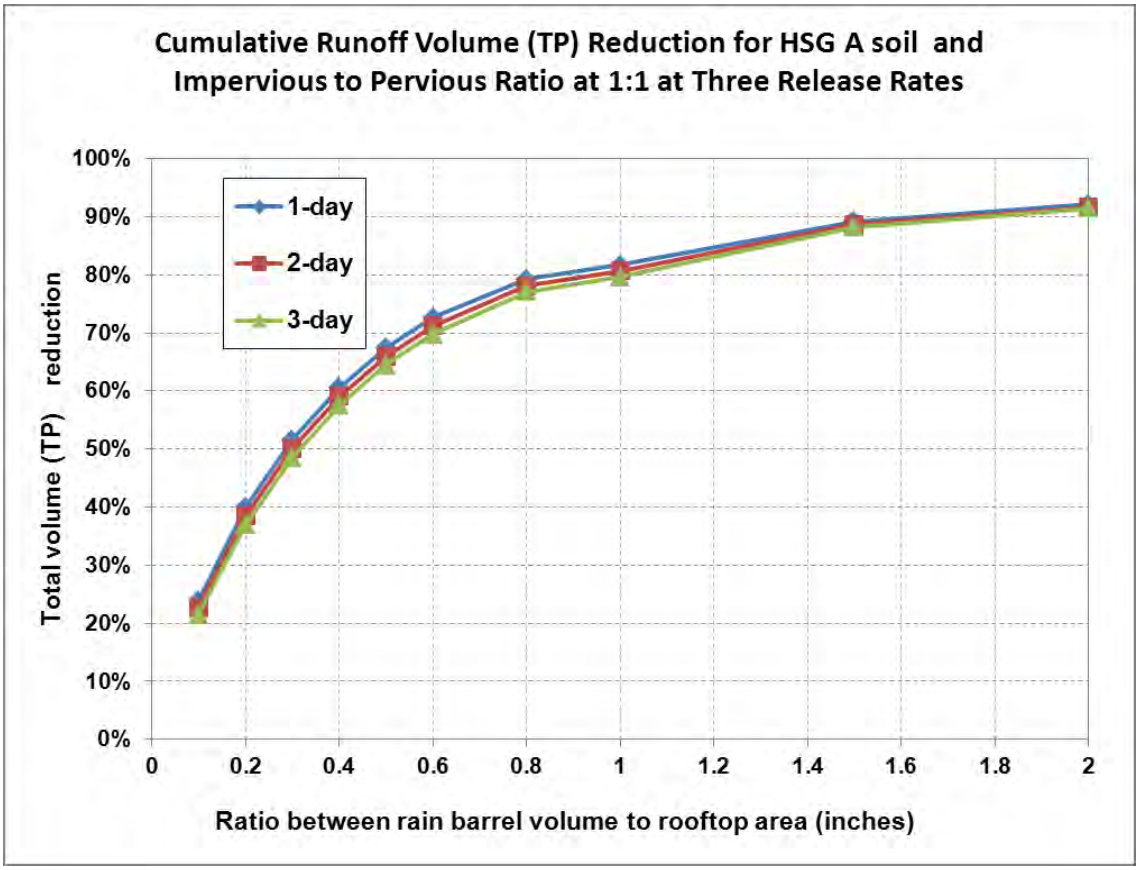


Figure 3- 35: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG B Soils

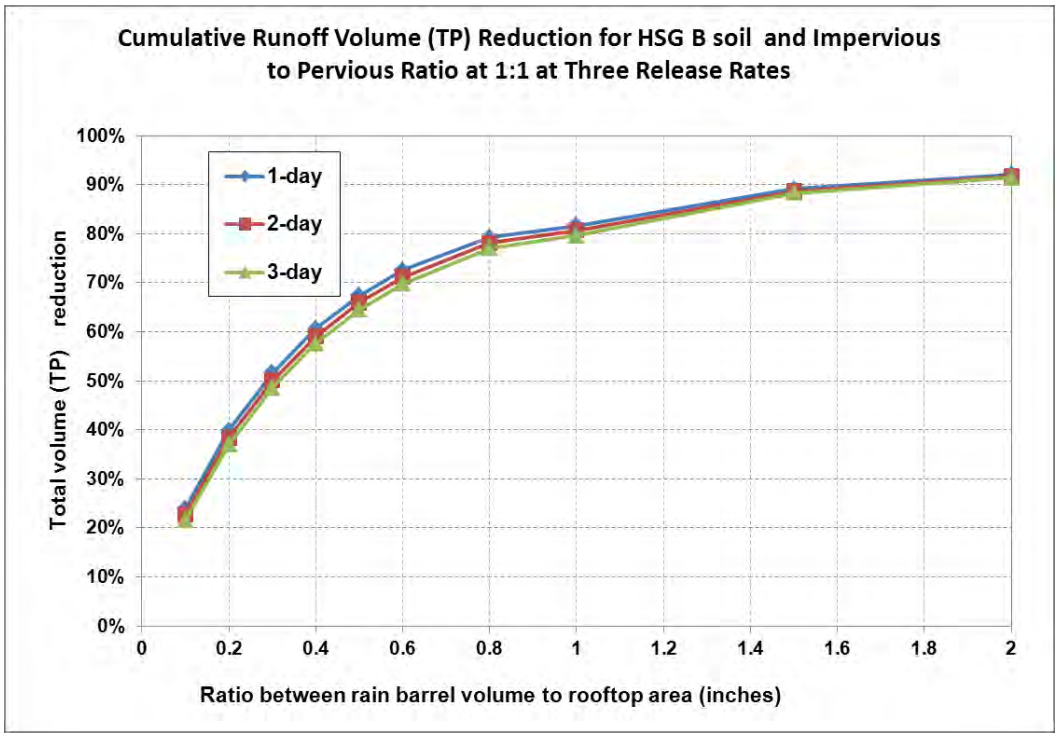


Figure 3- 36: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG C Soils

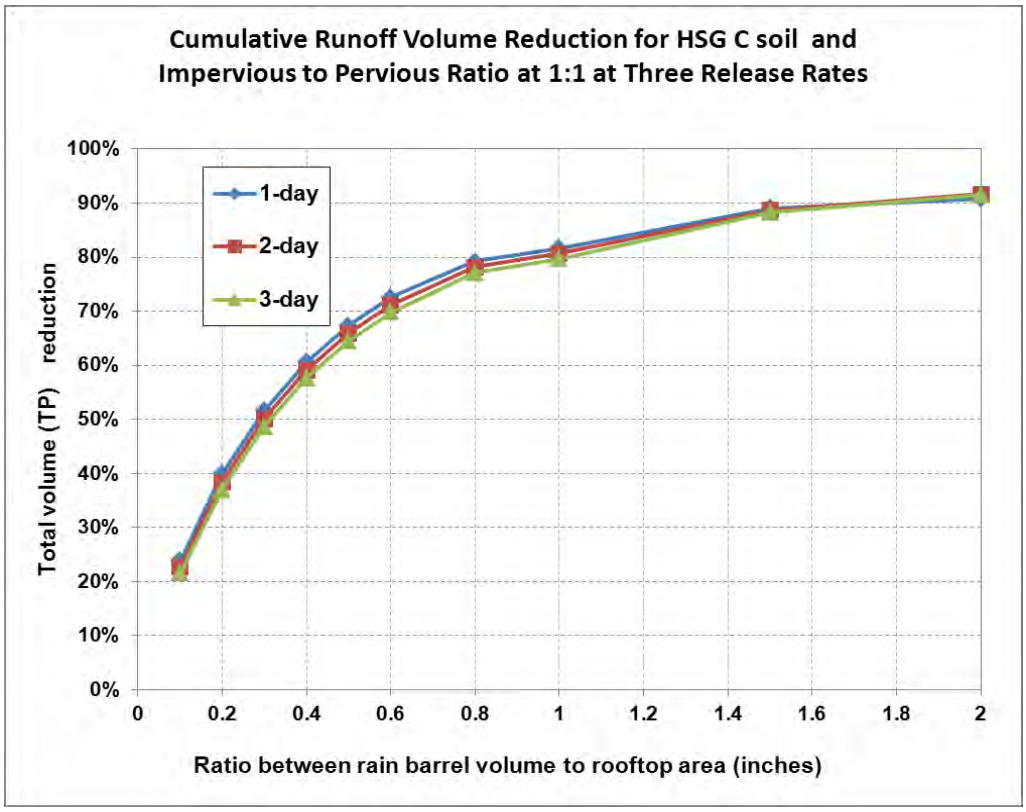


Figure 3- 37: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG D Soils

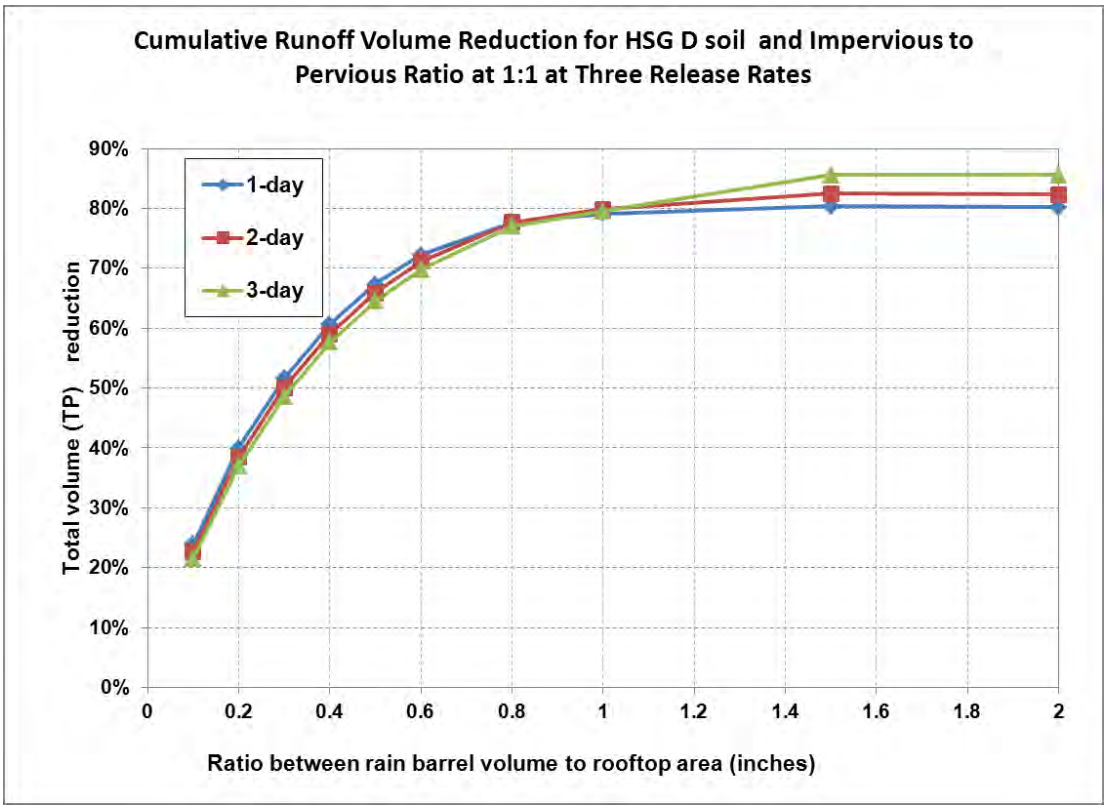


Table 3- 27: Impervious Area Disconnection Performance Table

Impervious area to pervious area ratio	Soil type of Receiving Pervious Area			
	HSG A	HSG B	HSG C	HSG D
8:1	30%	14%	7%	3%
6:1	37%	18%	11%	5%
4:1	48%	27%	17%	9%
2:1	64%	45%	33%	21%
1:1	74%	59%	49%	36%
1:2	82%	67%	60%	49%
1:4	85%	72%	67%	57%

Figure 3- 38: Impervious Area Disconnection Performance Curves

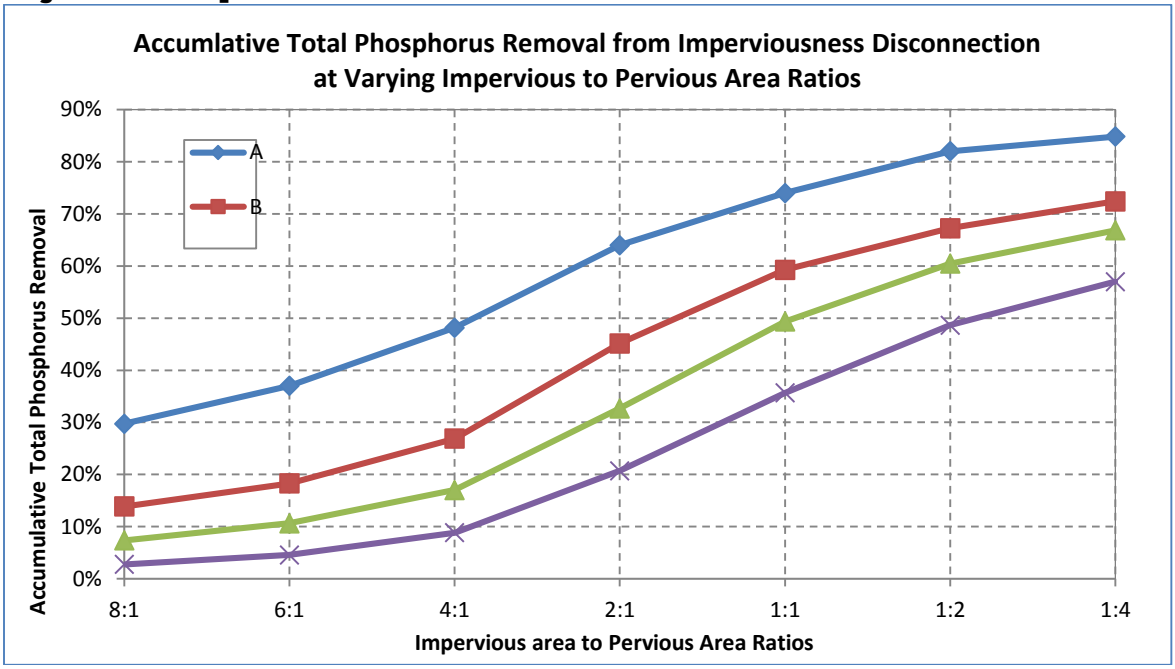


Table 3- 28: Performance Table for Conversion of Impervious Areas to Pervious Area based on Hydrological Soil Groups

Land-Use Group	Cumulative Reduction in Annual Stormwater Phosphorus Load				
	Conversion of impervious area to pervious area-HSG A	Conversion of impervious area to pervious area-HSG B	Conversion of impervious area to pervious area-HSG C	Conversion of impervious area to pervious area-HSG C/D	Conversion of impervious area to pervious area-HSG D
Commercial (Com) and Industrial (Ind)	98.5%	93.5%	88.0%	83.5%	79.5%
Multi-Family (MFR) and High-Density Residential (HDR)	98.8%	95.0%	90.8%	87.3%	84.2%
Medium -Density Residential (MDR)	98.6%	94.1%	89.1%	85.0%	81.4%
Low Density Residential (LDR) - "Rural"	98.2%	92.4%	85.9%	80.6%	75.9%
Highway (HWY)	98.0%	91.3%	84.0%	78.0%	72.7%
Forest (For)	98.2%	92.4%	85.9%	80.6%	75.9%
Open Land (Open)	98.2%	92.4%	85.9%	80.6%	75.9%
Agriculture (Ag)	70.6%	70.6%	70.6%	70.6%	70.6%

Table 3- 29: Performance Table for Conversion of Low Permeable Pervious Area to High Permeable Pervious Area based on Hydrological Soil Group

Land Cover	Cumulative Reduction in Annual SW Phosphorus Load from Pervious Area				
	Conversion of pervious area HSG D to pervious area-HSG A	Conversion of pervious area HSG D to pervious area-HSG B	Conversion of pervious area HSG D to pervious area-HSG C	Conversion of pervious area HSG C to pervious area-HSG A	Conversion of pervious area HSG C to pervious area-HSG B
Developed Pervious Land	92.7%	68.3%	41.5%	83.5%	79.5%

Table 3-30 Method for determining stormwater control design volume (DSV) (i.e., capacity) using Long-term cumulative performance curves

Stormwater Control Type	Description	Applicable Structural Stormwater Control Performance Curve	Equation for calculating Design Storage Capacity for Estimating Cumulative Reductions using Performances Curves
Infiltration Trench	Provides temporary storage of runoff using the void spaces within the soil/sand/gravel mixture that is used to backfill the trench for subsequent infiltration into the surrounding sub-soils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = void space volumes of gravel and sand layers DSV = (L x W x D_{stone} x n_{stone})+ (L x W x D_{sand} x n_{sand})
Subsurface Infiltration	Provides temporary storage of runoff using the combination of storage structures (e.g., galleys, chambers, pipes, etc.) and void spaces within the soil/sand/gravel mixture that is used to backfill the system for subsequent infiltration into the surrounding sub-soils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Water storage volume of storage units and void space volumes of backfill materials. Example for subsurface galleys backfilled with washed stone: DSV = (L x W x $D)_{galley}$ + (L x W x D_{stone} x n_{stone})
Surface Infiltration	Provides temporary storage of runoff through surface ponding storage structures (e.g., basin or swale) for subsequent infiltration into the underlying soils.	Infiltration Basin (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Water volume of storage structure before bypass. Example for linear trapezoidal vegetated swale DSV = (L x ((W_{bottom}+$W_{top@Dmax}$)/2) x D)
Rain Garden/Bio-retention (no underdrains)	Provides temporary storage of runoff through surface ponding and possibly void spaces within the soil/sand/gravel mixture that is used to filter runoff prior to infiltration into underlying soils.	Infiltration Basin (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Ponding water storage volume and void space volumes of soil filter media. Example for raingarden : DSV = (A_{pond} x D_{pond}) + (A_{soil} x D_{soil} x $n_{soil\ mix}$)
Tree Filter (no underdrain)	Provides temporary storage of runoff through surface ponding and void spaces within the soil/sand/gravel mixture that is used to filter runoff prior to infiltration into underlying soils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Ponding water storage volume and void space volumes of soil filter media. DSV = (L x W x $D_{ponding}$) + (L x W x D_{soil} x $n_{soil\ mix}$)
Bio-Filtration (w/underdrain)	Provides temporary storage of runoff for filtering through an engineered soil media. The storage capacity includes void spaces in the filter media and temporary ponding at the surface. After runoff has passed through the filter media it is collected by an under-drain pipe for discharge. Manufactured or packaged bio-filter systems such as tree box filters may be suitable for using the bio-filtration performance results.	Bio-filtration	DSV = Ponding water storage volume and void space volume of soil filter media. Example of a linear biofilter: DSV = (L x W x $D_{ponding}$)+ (L x W x D_{soil} x n_{soil})
Gravel Wetland	Based on design by the UNH Stormwater Center (UNHSC). Provides temporary surface ponding storage of runoff in a vegetated wetland cell that is eventually routed to an underlying saturated gravel internal storage reservoir (ISR) for nitrogen treatment. Outflow is controlled by an elevated orifice that has its invert elevation equal to the top of the ISR layer and provides a retention time of at least 24 hours.	Gravel Wetland	DSV = pretreatment volume + ponding volume + void space volume of gravel ISR. DSV = ($A_{pretreatment}$ x $D_{preTreatment}$)+ ($A_{wetland}$ x $D_{ponding}$)+ (A_{ISR} x D_{gravel} x n_{gravel})
Porous Pavement with subsurface infiltration	Provides filtering of runoff through a filter course and temporary storage of runoff within the void spaces of a subsurface gravel reservoir prior to infiltration into subsoils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = void space volumes of gravel layer DSV = (L x W x D_{stone} x n_{stone})
Porous pavement w/ impermeable underliner w/underdrain	Provides filtering of runoff through a filter course and temporary storage of runoff within the void spaces prior to discharge by way of an underdrain.	Porous Pavement	Depth of Filter Course = D_{FC}
Wet Pond	Provides treatment of runoff through routing through permanent pool.	Wet Pond	DSV= Permanent pool volume prior to high flow bypass DSV=A_{pond} x D_{pond} (does not include pretreatment volume)
Extended Dry Detention Basin	Provides temporary detention storage for the design storage volume to drain in 24 hours through multiple out let controls.	Dry Pond	DSV= Ponding volume prior to high flow bypass DSV=A_{pond} x D_{pond} (does not include pretreatment volume)
Dry Water Quality Swale/Grass Swale	Based on MA design standards. Provides temporary surface ponding storage of runoff in an open vegetated channel through permeable check dams. Treatment is provided by filtering of runoff by vegetation and check dams and infiltration into subsurface soils.	Grass swale	DSV = Volume of swale at full design depth DSV=Lswale x Aswale
Definitions: DSV= Design Storage Volume = physical storage capacity to hold water; **VSV** = Void Space Volume; **L** = length, **W** = width, **D** = depth at design capacity before bypass, **n** = porosity fill material, **A**= average surface area for calculating volume; **Infiltration rate** = saturated soil hydraulic conductivity			

Appendix G
Massachusetts Small MS4 Permit Monitoring Requirements
For Discharges into Impaired Waters – Parameters and Methods

Pollutant Causing Impairment	Monitoring Parameter	EPA or Approved Method No.
Aluminum	Aluminum, Total	200.7; 200.8; 200.9
Ammonia (Un-ionized)	Ammonia – Nitrogen	350.1
Arsenic	Arsenic, Total	200.7; 200.8; 200.9
Cadmium	Cadmium, Total	200.7; 200.8; 200.9
Chlordane	NMR	608; 625
Chloride	Chloride	300
Chromium (total)	Chromium, Total	200.7; 200.8; 200.9
Copper	Copper, Total	200.7; 200.8; 200.9
DDT	NMR	608; 625
DEHP (Di-sec-octyl phthalate)	NMR	---
Dioxin (including 2,3,7,8-TCDD)	NMR	613; 1613
Dioxin (2,3,7,8-Tetrachlorodibenzo-p-dioxin only)	NMR	613
Lead	Lead, Total	200.7; 200.8; 200.9
Mercury in Water Column	NMR unless potentially present such (e.g., salvage yards crushing vehicles with Hg switches)	200.7; 200.8; 200.9
Nitrogen (Total)	Nitrogen, Total	351.1/351.2 + 353.2
Pentachlorophenol (PCP)	NMR	---
Petroleum Hydrocarbons	Oil and Grease	1664
Phosphorus (Total)	Phosphorus, Total	365.1; 365.2; 365.3; SM 4500-P-E
Polychlorinated biphenyls	NMR	---
Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)	PAHs	610; 1625
Sulfide-Hydrogen Sulfide	NMR	---
Mercury in Fish Tissue	NMR	---
PCB in Fish Tissue	NMR	---
Total Dissolved Solids	Total Dissolved Solids	160.1
Total Suspended Solids (TSS)	Total Suspended Solids	160.2, 180.1
Turbidity	Total Suspended Solids and Turbidity	160.2, 180.1
Secchi disk transparency	Total Suspended Solids	160.2
Sediment Screening Value (Exceedence)	Total Suspended Solids	160.2

Sedimentation/Siltation	Total Suspended Solids	160.2
Bottom Deposits	Total Suspended Solids	160.2
Color	NMR	---
pH, High	pH	150.2
pH, Low	pH	150.2
Taste and Odor	NMR	---
Temperature, water	NMR	---
Salinity	Specific Conductance	120.1
Enterococcus	Enterococcus	1106.1; 1600; Enterolert® 12 22.
Escherichia coli	E. coli	1103.1; 1603; Colilert® 12 16, Colilert-18® 12 15 16.; mColiBlue-24®17.
Fecal Coliform	Fecal Coliform	1680; 1681
Organic Enrichment (Sewage) Biological Indicators	Enterococcus (marine waters) or E. coli (freshwater)	1106.1; 1600
Debris/Floatables/Trash	NMR	or
Foam/Flocs/Scum/Oil Slicks	Contact MassDEP	1103.1; 1603
Oil and Grease	Oil and Grease	---
Chlorophyll-a	Total Phosphorus (freshwater)	---
	Total Nitrogen (marine waters)	1664
Nutrient/Eutrophication Biological Indicators	Total Phosphorus (freshwater)	365.1; 365.2; 365.3
	Total Nitrogen (marine waters)	351.1/351.2 + 353.2
Dissolved oxygen saturation / Oxygen, Dissolved	Dissolved Oxygen	365.1; 365.2; 365.3
	Temperature	351.1/351.2 + 353.2
	BOD_5	360.1; 360.2
	Total Phosphorus (freshwater)	SM-2550
	Total Nitrogen (marine waters)	SM-5210
Excess Algal Growth	Total Phosphorus (freshwater)	365.1; 365.2; 365.3
	Total Nitrogen (marine waters)	351.1/351.2 + 353.2
Aquatic Plants (Macrophytes)	NMR	---

Abnormal Fish deformities, erosions, lesions, tumors (DELTS)	NMR	---
Abnormal Fish Histology (Lesions)	NMR	---
Estuarine Bioassessments	Contact MassDEP	---
Fishes Bioassessments	Contact MassDEP	---
Aquatic Macroinvertebrate Bioassessments	Contact MassDEP	---
Combined Biota/Habitat Bioassessments	Contact MassDEP	---
Habitat Assessment (Streams)	Contact MassDEP	---
Lack of a coldwater assemblage	Contact MassDEP	---
Fish Kills	Contact MassDEP	---
Whole Effluent Toxicity (WET)	Contact MassDEP	---
Ambient Bioassays -- Chronic Aquatic Toxicity	Contact MassDEP	---
Sediment Bioassays -- Acute Toxicity Freshwater	Contact MassDEP	---
Sediment Bioassays -- Chronic Toxicity Freshwater	Contact MassDEP	---
Fish-Passage Barrier	NMR	---
Alteration in stream-side or littoral vegetative covers	NMR	---
Low flow alterations	NMR	---
Other flow regime alterations	NMR	---
Physical substrate habitat alterations	NMR	---
Other anthropogenic substrate alterations	NMR	---
Non-Native Aquatic Plants	NMR	---
Eurasian Water Milfoil, Myriophyllum spicatum	NMR	---
Zebra mussel, Dreissena polymorph	NMR	---
Other	Contact MassDEP	---

Notes:

NMR" indicates no monitoring required

"Total Phosphorus (freshwater)" indicates monitoring required for total phosphorus where stormwater discharges to a water body that is freshwater

"Total Nitrogen (marine water)" indicates monitoring required for total nitrogen where stormwater discharges to a water body that is a marine or estuarine water

APPENDIX H

Requirements Related to Discharges to Certain Water Quality Limited Waterbodies

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Attachment 1- Nitrogen Reduction Credits For Selected Structural BMPs

I. Discharges to water quality limited waterbodies and their tributaries where nitrogen is the cause of the impairment

1. Part 2.2.2.a.i. of the permit identifies the permittees subject to additional requirements to address nitrogen in their stormwater discharges because they discharge to waterbodies that are water quality limited due to nitrogen, or their tributaries, without an EPA approved TMDL. Permittees identified in part 2.2.2.a.i of the permit must identify and implement BMPs designed to reduce nitrogen discharges in the impaired catchment(s). To address nitrogen discharges each permittee shall comply with the following requirements:

    a. Additional or Enhanced BMPs

        i. The permittee remains subject to all the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:

            1. Part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the Fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual

message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part II and III as well as Appendix F part A.III, A.IV, A.V, B.I, B.II and B.III where appropriate.

2. Part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges.

3. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: establish requirements for use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Nitrogen Source Identification Report

i. Within four years of the permit effective date the permittee shall complete a Nitrogen Source Identification Report. The report shall include the following elements:

1. Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
3. Impervious area and DCIA for the target catchment
4. Identification, delineation and prioritization of potential catchments with high nitrogen loading
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment

ii. The final Nitrogen Source Identification Report shall be submitted to EPA as part of the year 4 annual report.

c. Potential Structural BMPs

i. Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii. or identified in the Nitrogen Source Identification Report that are within the drainage area of the impaired water or its tributaries. The evaluation shall include:

1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
2. The estimated cost of redevelopment or retrofit BMPs; and
3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high nitrogen load potential. The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

iii. Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the nitrogen removal by the BMP consistent with Attachment 1 to Appendix H. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP in each annual report.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part I.1. applicable to it when in compliance with this part.

a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
   i. The receiving water and all downstream segments are determined to no longer be impaired due to nitrogen by MassDEP and EPA concurs with such determination.
   ii. An EPA approved TMDL for the receiving water or downstream receiving water indicates that no additional stormwater controls for the control of nitrogen are necessary for the permittee's discharge based on wasteload allocations as part of the approved TMDL.

b. In such a case, the permittee shall document the date of the determination provided for in paragraph a. above or the approved TMDL date in its SWMP and is relieved of any additional requirements of Appendix H part I.1. as of the applicable date and the permittee shall comply with the following:

i. The permittee shall identify in its SWMP all activities that have been implemented in accordance with the requirements of Appendix H part I.1. as of the applicable date to reduce nitrogen in its discharges, including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs

ii. The permittee shall continue to implement all requirements of Appendix H part I.1. required to be done prior to the date of determination or the date of the approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

II. Discharges to water quality limited waterbodies and their tributaries where phosphorus is the cause of the impairment

1. Part 2.2.2.b.i. of the permit identifies the permittees subject to additional requirements to address phosphorus in their stormwater discharges because they discharge to waterbodies that are water quality limited due to phosphorus, or their tributaries, without an EPA approved TMDL. Permittees identified in part 2.2.2.b.i. of the permit must identify and implement BMPs designed to reduce phosphorus discharges in the impaired catchment(s). To address phosphorus discharges each permittee shall comply with the following requirements:

    a. Additional or Enhanced BMPs

        i. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:

            1. Part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I and III as well as Appendix F part A.III, A.IV, A.V, B.I, B.II and B.III where appropriate.

            2. Part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.

            3. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a

minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Phosphorus Source Identification Report

i. Within four years of the permit effective date the permittee shall complete a Phosphorus Source Identification Report. The report shall include the following elements:

1. Calculation of total MS4 area draining to the water quality limited receiving water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
3. Impervious area and DCIA for the target catchment
4. Identification, delineation and prioritization of potential catchments with high phosphorus loading
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment, including the removal of impervious area

ii. The phosphorus source identification report shall be submitted to EPA as part of the year 4 annual report.

c. Potential Structural BMPs

i. Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries. The evaluation shall include:

1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
2. The estimated cost of redevelopment or retrofit BMPs; and
3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.

ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential. The permittee shall install the

remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

iii. Any structural BMPs installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 3 to Appendix F. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each annual report.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part II.1. applicable to it when in compliance with this part.

a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
   i. The receiving water and all downstream segments are determined to no longer be impaired due to phosphorus by MassDEP and EPA concurs with such determination.
   ii. An EPA approved TMDL for the receiving water or downstream receiving water indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations as part of the approved TMDL.

b. In such a case, the permittee shall document the date of the determination provided for in paragraph a. above or the approved TMDL date in its SWMP and is relieved of any additional requirements of Appendix H part II.1. as of the applicable date and the permittee shall comply with the following:
   i. The permittee shall identify in its SWMP all activities that have been implemented in accordance with the requirements of Appendix H part II.1. as of the applicable date to reduce phosphorus in its discharges, including implementation schedules for non structural BMPs and any maintenance requirements for structural BMPs
   ii. The permittee shall continue to implement all requirements of Appendix H part II.1. required to be done prior to the date of determination or the date of the approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

III. Discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment

1. Consistent with part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to bacteria or pathogens, without an EPA approved TMDL, are subject to the following additional requirements to address bacteria or pathogens in their stormwater discharges.

2. Additional or Enhanced BMPs

    a. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:

        i. Part 2.3.2. Public Education and outreach: The permittee shall supplement its Residential program with an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens. All public education messages can be combined with requirements of Appendix H part I and II as well as Appendix F part A.III, A.IV, A.V, B.I, B.II and B.III where appropriate.

        ii. Part 2.3.4 Illicit Discharge: The permittee shall implement the illicit discharge program required by this permit. Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part III.2. applicable to it when in compliance with this part.

    a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
        i. The receiving water is determined to be no longer impaired due to bacteria or pathogens by MassDEP and EPA concurs with such a determination.
        ii. An EPA approved TMDL for the receiving water indicates that no additional stormwater controls are necessary for the control of bacteria or pathogens from the permittee's discharge based on wasteload allocations as part of the approved TMDL.
        iii. The permittee's discharge is determined to be below applicable water quality criteria[1] and EPA agrees with such a determination. The permittee shall submit data to EPA that accurately characterizes the concentration of bacteria or pathogens in their discharge. The characterization shall include water quality

[1] Applicable water quality criteria are the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at http://www.epa.gov/waterscience/standards/wqslibrary/

and flow data sufficient to accurately assess the concentration of bacteria or pathogens in all seasons during storm events of multiple sizes and for the duration of the storm events including the first flush, peak storm flow and return to baseflow.

b. In such a case, the permittee shall document the date of the determination, date of approved TMDL or date of EPA concurrence that the discharge meets water quality criteria in its SWMP and is relieved of any additional requirements of Appendix H part III.2. as of that date and the permittee shall comply with the following:
    i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix H part III.2. to date to reduce bacteria or pathogens in its discharges, including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
    ii. The permittee shall continue to implement all requirements of Appendix H part III.3. required to be done prior to the date of determination date, date of approved TMDL, or date of EPA concurrence that the discharge meets water quality criteria, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications

IV. Discharges to water quality limited waterbodies where chloride is the cause of the impairment

1. Consistent with part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to chloride, without an EPA approved TMDL, are subject to the following additional requirements to address chloride in their stormwater discharges.

2. Permittees discharging to a waterbody listed as impaired due to chloride in categories 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act sections 303(d) and 305(b) shall develop a Salt Reduction Plan that includes specific actions designed to achieve salt reduction on municipal roads and facilities, and on private facilities that discharge to its MS4 in the impaired catchment(s). The Salt Reduction Plan shall be completed within three years of the effective date of the permit and include the BMPs in part IV.4. below. The Salt Reduction Plan shall be fully implemented five years after the effective date of the permit.

3. Permittees that, during the permit term, become aware that their discharge is to a waterbody that is impaired due to chloride must update their Salt Reduction Plan within 60 days of becoming aware of the situation to include salt reduction practices targeted at lowering chloride in discharges to the impaired waterbody. If the permittee does not have a Salt Reduction Plan already in place, then the permittee shall complete a Salt Reduction Plan that includes the BMPs in part IV 4) below within 3 years of becoming aware of the situation and fully implement the Salt Reduction Plan within 5 years of becoming aware of the situation.

4. Additional or Enhanced BMPs

    a. For municipally maintained surfaces:

        i. Tracking of the types and amount of salt applied to all permittee owned and maintained surfaces and reporting of salt use beginning in the year of the completion of the Salt Reduction Plan in the permittee's annual reports;

        ii. Planned activities for salt reduction on municipally owned and maintained surfaces, which shall include but are not limited to the following unless the permittee determines one or more of the following is not applicable to its system and documents that determination as part of the Salt Reduction Plan:
            - Operational changes such as pre-wetting, pre-treating the salt stockpile, increasing plowing prior to de-icing, monitoring of road surface temperature, etc.;
            - Implementation of new or modified equipment providing pre-wetting capability, better calibration rates, or other capability for minimizing salt use;
            - Training for municipal staff and/or contractors engaged in winter maintenance activities;
            - Adoption of guidelines for application rates for roads and parking lots (see *Winter Parking Lot and Sidewalk Maintenance*

Manual (Revised edition June 2008) http://www.pca.state.mn.us/publications/parkinglotmanual.pdf; and the application guidelines on page 17 of *Minnesota Snow and Ice Control: Field Handbook for Snow Operators (September 2012)* http://www.mnltap.umn.edu/publications/handbooks/documents/snowice.pdf for examples);

- Regular calibration of spreading equipment;
- Designation of no-salt and/or low salt zones;
- Measures to prevent exposure of salt stockpiles (if any) to precipitation and runoff; and
- An estimate of the total tonnage of salt reduction expected by each activity.

b. For privately maintained facilities that discharge to the MS4:

i. Establish an ordinance, bylaw, or other regulatory mechanism requiring measures to prevent exposure of any salt stockpiles to precipitation and runoff at all commercial and industrial properties within the regulated area.

ii. Part 2.3.2. Public Education and Outreach: The permittee shall supplement its Commercial/Industrial education program with an annual message to private road salt applicators and commercial and industrial site owners on the proper storage and application rates of winter deicing material. The educational materials shall be disseminated in the November/December timeframe and shall describe steps that can be taken to minimize salt use and protect local waterbodies.

iii. Part 2.3.6, Stormwater Management in New Development and Redevelopment – establish procedures and requirements to minimize salt usage and require the use of salt alternatives where the permittee deems necessary.

c. The completed Salt Reduction Plan shall be submitted to EPA along with the annual report following the Salt Reduction Plan's completion. Each subsequent annual report shall include an update on Plan implementation progress, any updates to the Salt Reduction Plan deemed necessary by the permittee, as well as the types and amount of salt applied to all permittee owned and maintained surfaces.

5. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part IV as follows:

a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
   i. The receiving water is determined to be no longer impaired due to chloride by MassDEP and EPA concurs with such a determination.
   ii. An EPA approved TMDL for the receiving water indicates that no additional stormwater controls are necessary for the control of chloride from the

permittee's discharge based on wasteload allocations as part of the approved TMDL.

iii. The permittee's discharge is determined to be below applicable water quality criteria[2] and EPA agrees with such a determination. The permittee shall submit data to EPA that accurately characterizes the concentration of chloride in their discharge during the deicing season (November – March). The characterization shall include water quality and flow data sufficient to accurately assess the concentration of chloride in the deicing season during storm events of multiple sizes and for the duration of the storm events including the first flush, peak storm flow and return to baseflow and include samples collected during deicing activities.

b. In such a case, the permittee shall document the date of the determination, date of approved TMDL or date of EPA concurrence that the discharge meets water quality criteria in its SWMP and is relieved of any additional requirements of Appendix H part IV as of that date and the permittee shall comply with the following:

i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix H part IV to date to reduce chloride in its discharges, including implementation schedules for non-structural BMPs

ii. The permittee shall continue to implement all requirements of Appendix H part IV required to be done by the date of determination date, date of approved TMDL, or date of EPA concurrence that the discharge meets water quality criteria, including ongoing implementation of identified non-structural BMPs

[2] Applicable water quality criteria are the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at http://www.epa.gov/waterscience/standards/wqslibrary/

V. Discharges to water quality limited waterbodies and their tributaries where solids, oil and grease (hydrocarbons), or metals is the cause of the impairment

1. Consistent with part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to solids, metals, or oil and grease (hydrocarbons), without an EPA approved TMDL, are subject to the following additional requirements to address solids, metals, or oil and grease (hydrocarbons) in their stormwater discharges.

2. Additional or Enhanced BMPs

    a. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:

        i. Part 2.3.6, Stormwater Management in New Development and Redevelopment: stormwater management systems designed on commercial and industrial land use area draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event. EPA also encourages the permittee to require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.

        ii. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: increased street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads. This may include, but is not limited to, increased street sweeping frequency in commercial areas and high density residential areas, or drainage areas with a large amount of impervious area. Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full. Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.

3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part V.2. applicable to it when in compliance with this part.

    a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
        i. The receiving water is determined to be no longer impaired due to solids, metals, or oil and grease (hydrocarbons) by MassDEP and EPA concurs with such a determination.
        ii. An EPA approved TMDL for the receiving water indicates that no additional stormwater controls are necessary for the control of solids, metals, or oil and grease (hydrocarbons) from the permittee's discharge based on wasteload allocations as part of the approved TMDL.

iii. The permittee's discharge is determined to be below applicable water quality criteria and EPA agrees with such a determination[3]. The permittee shall submit data to EPA that accurately characterizes the concentration of bacteria or pathogens in their discharge. The characterization shall include water quality and flow data sufficient to accurately assess the concentration of bacteria or pathogens in all seasons during storm events of multiple sizes and for the duration of the storm events including the first flush, peak storm flow and return to baseflow.

b. In such a case, the permittee shall document the date of the determination, date of approved TMDL or date of EPA concurrence that the discharge meets water quality criteria in its SWMP and is relieved of any additional requirements of Appendix H part V.2. as of that date and the permittee shall comply with the following:

iv. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix H part V.2. to date to reduce solids, metals, or oil and grease (hydrocarbons) in its discharges, including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs

v. The permittee shall continue to implement all requirements of Appendix H part V.3. required to be done by the date of determination date, date of approved TMDL, or date of EPA concurrence that the discharge meets water quality criteria, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications

[3] Applicable water quality criteria are the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at http://www.epa.gov/waterscience/standards/wqslibrary/

ATTACHMENT 1 TO APPENDIX H

The estimates of nitrogen load reductions resulting from BMP installation are intended for informational purposes only and there is no associated permittee-specific required nitrogen load reduction in the Draft Permit. Nitrogen load reduction estimates calculated consistent with the methodologies below may be used by the permittee to comply with future permit requirements providing the EPA determines the calculated reductions are appropriate for demonstrating compliance with future permit requirements. This attachment provides the method and an example to calculate the BMP nitrogen load as well as methods to calculate nitrogen load reductions for structural BMPs in an impaired watershed.

BMP N Load:

The **BMP N Load** is the annual nitrogen load from the drainage area to each proposed or existing BMP used by permittee. This measure is used to estimate the amount of annual nitrogen load that the BMP will receive or treat (BMP N Load).

To calculate the BMP N Load for a given BMP:

1) Determine the total drainage area to the BMP and sort the total drainage area into two categories: total impervious area (IA) and total pervious area (PA);

2) Calculate the nitrogen load associated with impervious area (N Load $_{IA}$) and the pervious area (N Load $_{PA}$) by multiplying the IA and PA by the appropriate land use-based nitrogen load export rate provided in Table 1; and

3) Determine the total nitrogen load to the BMP by summing the calculated impervious and pervious subarea nitrogen loads.

Table 1: Annual nitrogen load export rates

Nitrogen Source Category by Land Use	Land Surface Cover	Nitrogen Load Export Rate, lbs/ac/yr	Nitrogen Load Export Rate, kg/ha/yr
All Impervious Cover	Impervious	14.1	15.8
*Developed Land Pervious (DevPERV)- HSG A	Pervious	0.3	0.3
*Developed Land Pervious (DevPERV)- HSG B	Pervious	1.2	1.3
*Developed Land Pervious (DevPERV) – HSG C	Pervious	2.4	2.7
*Developed Land Pervious (DevPERV) - HSG C/D	Pervious	3.0	3.4
*Developed Land Pervious (DevPERV) - HSG D	Pervious	3.7	4.1
Notes: For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value from this table. If the HSG is not known, assume HSG C/D conditions for the nitrogen load export rate.			

Example 1 to determine nitrogen load to a proposed BMP when the contributing drainage area is 100% impervious: A permittee is proposing a storm water infiltration system that will treat runoff from 1.49 acres of impervious area.

Table 1-1: Design parameters for Bio-filtration w/ ISR systems for Example 1

Components of representation	Parameters	Value
Ponding	Maximum depth	0.33 ft
	Surface area	645 ft^2
Soil mix	Depth	2.0 ft
	Porosity	0.24
	Hydraulic conductivity	2.5 inches/hour
Stone Reservoir (ISR)	Depth	2.50 ft
	Porosity	0.42
	Hydraulic conductivity	500 inches/hour
ISR Volume: System Storage Volume	Ratio	0.56
Orifices	Diameter	12 in
		Installed 2.5 above impermeable soil layer

Determine:

A) Percent nitrogen load reduction (BMP Reduction $_{\%\text{-}N}$) for the specified bio-filtration w/ISR system and contributing impervious drainage area; and

B) Nitrogen reduction in pounds that would be accomplished by the bio-filtration w/ISR system (BMP-Reduction $_{lbs\text{-}N}$)

Solution:

1) The BMP is a bio-filtration w/ISR system that will treat runoff from 1.49 acres of impervious area (IA = 1.49 acre);

2) The available storage volume capacity (ft^3) of the bio-filtration w/ISR system (BMP-Volume $_{BMP\text{-}ft^3}$) is determined using the surface area of the system, depth of ponding, the porosity of the filter media and the porosity of the stone reservoir:

BMP-Volume $_{BMP\text{-}ft^3}$ =Surface area x (pond maximum depth + (soil mix depth x soil mix porosity) + stone reservoir depth x gravel layer porosity))
= 520 ft^2 x (0.33 ft + (2.0ft x 0.24) + (2.5 ft x 0.42))
= 1,200 ft^3

3) The available storage volume capacity of the bio-filtration w/ISR system in inches of runoff from the contributing impervious area (BMP-Volume $_{IA\text{-}in}$) is calculated using equation 1:

BMP-Volume $_{IA\text{-}in}$ = (BMP-Volume $_{ft^3}$/ IA (acre) x 12 in/ft x 1 acre/43560 ft^2 **(Equation 1)**

Example 1 Continued:

BMP-Volume $_{IA\text{-}in}$ = (1,200 ft^3/1.49 acre) x 12 in/ft x 1 acre/43560 ft^2
= 0.22 in

4) Using the Regional Performance Curve shown in Figure 1 for a bio-filtration w/ ISR system, a **61%** nitrogen load reduction (BMP Reduction %-N) is determined for a bio-filtration w/ ISR systems sized for 0.22 in of runoff from 1.49 acres of impervious area; and

5) Calculate the nitrogen load reduction in pounds of nitrogen for the bio-filtration w/ISR system (BMP Reduction $_{lbs\text{-}N}$) using the BMP Load calculation method shown above in Example 1 and the BMP Reduction $_{\%\text{-}N}$ determined in step 4 by using equation 2.

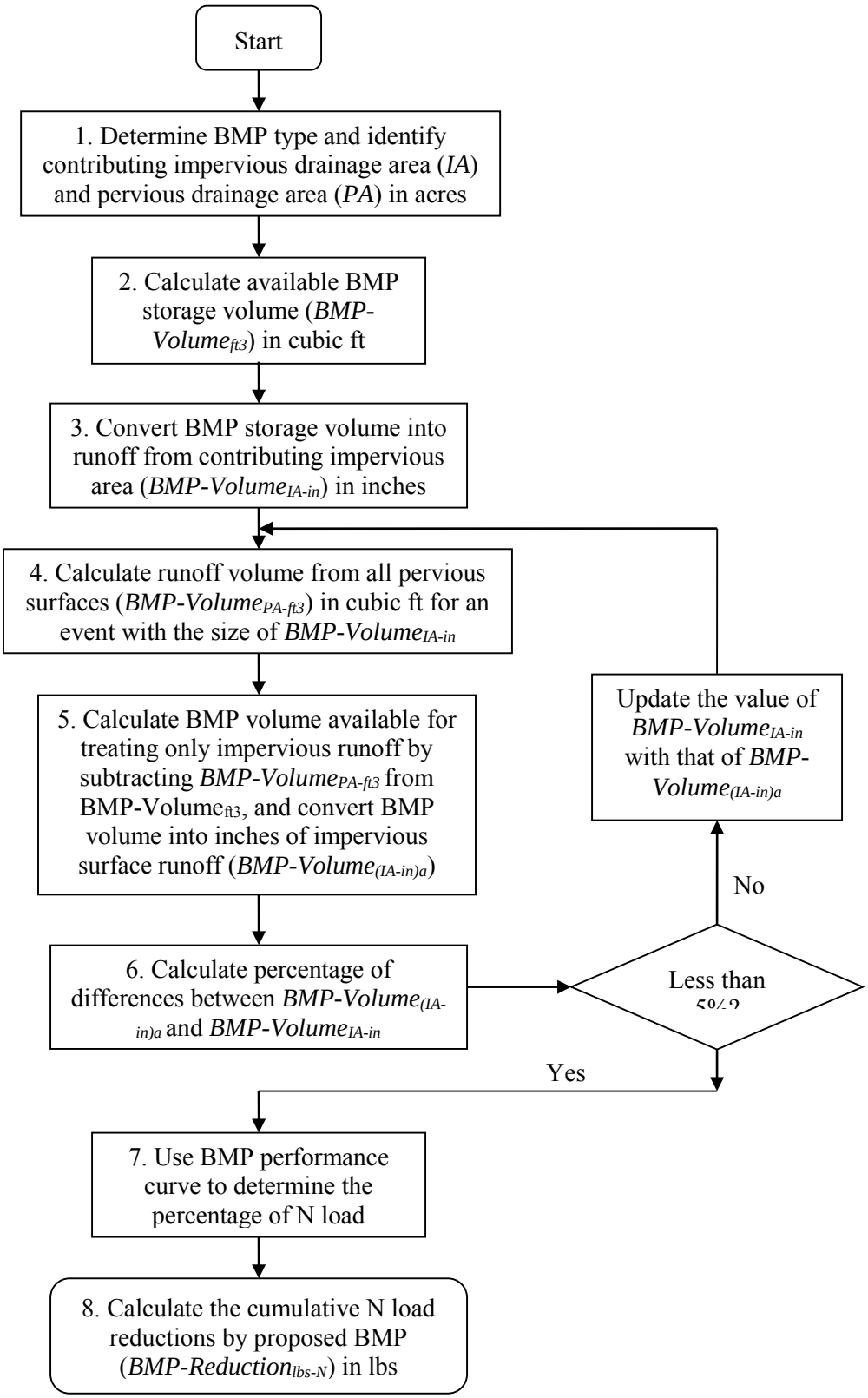
First, the BMP Load is determined as specified in Example 1:

BMP Load = IA (acre) x 14.1 lb/ac/yr
= 1.49 acres x 14.1 lbs/acre/yr
= 21.0 lbs/yr

BMP Reduction $_{lbs\text{-}N}$ = BMP Load x (BMP Reduction $_{\%\text{-}N}$/100) **(Equation 2)**

BMP Reduction $_{lbs\text{-}N}$ = 21 lbs/yr x (61/100)
= **12.8 lbs/yr**

Method to determine the nitrogen load reduction for a structural BMP with a known storage volume when the contributing drainage area has impervious and pervious surfaces



Flow Chart 2 (previous page). Method to determine the nitrogen load reduction for a BMP with known storage volume when both pervious and impervious drainage areas are present.

1) Identify the type of structural BMP and characterize the contributing drainage area to the structural BMP by identifying the following information for the impervious and pervious surfaces:

Impervious area (IA) – Area (acre) and export rate (Table 1)

Pervious area (PA) – Area (acre) and runoff depth based on hydrologic soil group (HSG) and size of rainfall event. Table 2 provides values of runoff depth for various rainfall depths and HSGs. Soils are assigned to an HSG based on their permeability. HSG categories for pervious areas in the Watershed shall be estimated by consulting local soil surveys prepared by the National Resource Conservation Service (NRCS) or by a storm water professional evaluating soil testing results from the Watershed. If the HSG condition is not known, a HSG D soil condition should be assumed.

Table 2: Developed Land Pervious Area Runoff Depths based on Precipitation depth and Hydrological Soil Groups (HSGs)

Rainfall Depth, Inches	Runoff Depth, inches		
	Pervious HSG A/B	Pervious HSG C	Pervious HSG D
0.10	0.00	0.00	0.00
0.20	0.00	0.01	0.02
0.40	0.00	0.03	0.06
0.50	0.00	0.05	0.09
0.60	0.01	0.06	0.11
0.80	0.02	0.09	0.16
1.00	0.03	0.12	0.21
1.20	0.04	0.14	0.39
1.50	0.11	0.39	0.72
2.00	0.24	0.69	1.08

Notes: Runoff depths derived from combination of volumetric runoff coefficients from Table 5 of *Small Storm Hydrology and Why it is Important for the Design of Stormwater Control Practices*, Pitt, 1999 and using the Stormwater Management Model (SWMM) in continuous model mode for hourly precipitation data for Boston, MA, 1998-2002.

2) Determine the available storage volume (ft^3) of the structural BMP (BMP-Volume $_{ft^3}$) using the BMP dimensions and design specifications (e.g., maximum storage depth, filter media porosity);

3) To estimate the nitrogen load reduction of a BMP with a known storage volume capacity, it is first necessary to determine the portion of available BMP storage capacity (BMP-Volume $_{ft^3}$) that would treat the runoff volume generated from the contributing impervious area (IA) for a rainfall event with a depth of *i* inches (in). This will require knowing the corresponding amount of runoff volume that would be generated from the contributing pervious area (PA) for the same rainfall event (depth of *i* inches). Using equation 3 below, solve for the BMP capacity that would be available to treat runoff from the contributing imperious area for the unknown rainfall depth of *i* inches (see equation 4):

$$\text{BMP-Volume}_{ft^3} = \text{BMP-Volume}_{(IA\text{-}ft^3)i} + \text{BMP-Volume}_{(PA\text{-}ft^3)i} \quad \textbf{(Equation 3)}$$

Where:

BMP-Volume $_{ft^3}$	= the available storage volume of the BMP
BMP-Volume $_{(IA\text{-}ft^3)i}$	= the available storage volume of the BMP that would fully treat runoff generated from the contributing impervious area for a rainfall event of size *i* inches
BMP-Volume $_{(PA\text{-}ft^3)i}$	= the available storage volume of the BMP that would fully treat runoff generated from the contributing pervious area for a rainfall event of size *i* inches

Solving for BMP-Volume $_{(IA\text{-}ft^3)i}$:

$$\text{BMP-Volume}_{(IA\text{-}ft^3)i} = \text{BMP-Volume}_{ft^3} - \text{BMP-Volume}_{(PA\text{-}ft^3)i} \quad \textbf{(Equation 4)}$$

To determine BMP-Volume $_{(IA\text{-}ft^3)i}$, requires performing an iterative process of refining estimates of the rainfall depth used to calculate runoff volumes until the rainfall depth used results in the sum of runoff volumes from the contributing IA and PA equaling the available BMP storage capacity (BMP-Volume $_{ft^3}$). For the purpose of estimating BMP performance, it will be considered adequate when the IA runoff depth (in) is within 5% IA runoff depth used in the previous iteration.

For the first iteration (1), convert the BMP-Volume $_{ft^3}$ determined in step 2 into inches of runoff from the contributing impervious area (BMP Volume $_{(IA\text{-}in)1}$) using equation 5.

$$\text{BMP-Volume}_{(IA\text{-}in)1} = (\text{BMP-Volume}_{ft^3} / \text{IA (acre)}) \times (12 \text{ in/ft} / 43{,}560 \text{ ft}^2/\text{acre}) \quad \textbf{(Equation 5)};$$

For iterations 2 through n (2…n), convert the BMP Volume $_{(IA\text{-}ft^3)2\ldots n}$, determined in step 5a below, into inches of runoff from the contributing impervious area (BMP Volume $_{(IA\text{-}in)2\ldots n}$) using equation 6.

$$\text{BMP-Volume}_{(IA\text{-}in)2\ldots n} = (\text{BMP-Volume}_{(IA\text{-}ft^3)2\ldots n} / \text{IA (acre)}) \times (12 \text{ in/ft} / 43{,}560 \text{ ft}^2/\text{acre}) \quad \textbf{(Equation 6)};$$

4) For 1 to n iterations, use the pervious runoff depth information from Table 2 and equation 7 to determine the total volume of runoff (ft^3) from the contributing PA (BMP Volume

$_{PA\text{-}ft^3}$) for a rainfall size equal to the sum of BMP-Volume $_{(IA\text{-}in)1}$, determined in step 3. The runoff volume for each distinct pervious area must be determined.

BMP Volume $_{(PA\text{-}ft^3)1...n}$ = ∑ ((PA x (runoff depth)$_{(PA1, PA2..PAn)}$ x (3,630 ft^3/acre-in) **(Equation 7)**

5) For iteration 1, estimate the portion of BMP Volume that is available to treat runoff from only the IA by subtracting BMP-Volume $_{PA\text{-}ft^3}$, determined in step 4, from BMP-Volume $_{ft^3}$, determined in step 2, and convert to inches of runoff from IA (see equations 8 and 9):

BMP-Volume $_{(IA\text{-}ft^3)2}$ = ((BMP-Volume$_{ft^3}$- BMP Volume $_{(PA\text{-}ft^3)1}$) **(Equation 8)**

BMP-Volume $_{(IA\text{-}in)2}$ = (BMP-Volume $_{(IA\text{-}ft^3)2}$/IA (acre)) x (12 in/ft x 1 acre/43,560 ft^2) **(Equation 9)**

If additional iterations (i.e., 2 through n) are needed, estimate the portion of BMP volume that is available to treat runoff from only the IA (BMP-Volume $_{(IA\text{-}in)3..n+1}$) by subtracting BMP Volume $_{(PA\text{-}ft^3)2..n}$, determined in step 4, from BMP Volume $_{(IA\text{-}ft^3)3..n+1}$, determined in step 5, and by converting to inches of runoff from IA using equation 9):

6) For iteration A (an iteration between 1 and n+1), compare BMP Volume $_{(IA\text{-}in)a}$ to BMP Volume $_{(IA\text{-}in)a\text{-}1}$ determined from the previous iteration (a-1). If the difference in these values is greater than 5% of BMP Volume $_{(IA\text{-}in)a}$ then repeat steps 4 and 5, using BMP Volume $_{(IA\text{-}in)a}$ as the new starting value for the next iteration (a+1). If the difference is less than or equal to 5 % of BMP Volume $_{(IA\text{-}in)a}$ then the permittee may proceed to step 7.

7) Determine the % nitrogen load reduction for the structural BMP (BMP Reduction $_{\%\text{-}N}$) using the appropriate BMP curve on Figure 1 or 2 and the BMP-Volume $_{(IA\text{-}in)n}$ calculated in the final iteration of step 5; and

8) Calculate the nitrogen load reduction in pounds of nitrogen for the structural BMP (BMP Reduction $_{lbs\text{-}N}$) using the BMP Load as calculated above in Example 1 and the percent nitrogen load reduction (BMP Reduction $_{\%\text{-}N}$) determined in step 7 by using equation 10:

BMP Reduction $_{lbs\text{-}N}$ = BMP Load x (BMP Reduction $_{\%\text{-}N}$/100) **(Equation 10)**

Example 2: Determine the nitrogen load reduction for a structural BMP with a known design volume when the contributing drainage area has impervious and pervious surfaces

A permittee is considering an infiltration basin to capture and treat runoff from a portion of the Watershed draining to the impaired waterbody. The contributing drainage area is 16.55 acres and is 71% impervious. The pervious drainage area (PA) is 80% HSG D and 20% HSG C. An infiltration basin with the following specifications can be placed at the down-gradient end of the contributing drainage area where soil testing results indicates an infiltration rate (IR) of 0.28 in/hr:

Example continued:

Structure	Bottom area (acre)	Top surface area (acre)	Maximum pond depth (ft)	Design storage volume (ft^3)	Infiltration Rate (in/hr)
Infiltration basin	0.65	0.69	1.65	48,155	0.28

Determine the:

A) Percent nitrogen load reduction (BMP Reduction $_{\%\text{-}N}$) for the specified infiltration basin and the contributing impervious and pervious drainage area; and

B) Nitrogen reduction in pounds that would be accomplished by the BMP (BMP-Reduction $_{lbs\text{-}N}$)

Solution:

1) A surface infiltration basin is being considered. Information for the contributing impervious (IA) and pervious (PA) areas are summarized in below.

Impervious area characteristics

ID	% Impervious	Area (acre)
IA1	100	11.75

Pervious area characteristics

ID	Area (acre)	Hydrologic Soil Group (HSG)
PA1	3.84	D
PA2	0.96	C

2) The available storage volume (ft^3) of the infiltration basin (BMP-Volume $_{ft^3}$) is determined from the design details and basin dimensions; BMP-Volume $_{ft^3} = 48{,}155\ ft^3$.

3) To determine what the BMP design storage volume is in terms of runoff depth (in) from IA, an iterative process is undertaken:

Solution Iteration 1

For the first iteration (1), the BMP-Volume$_{ft^3}$ is converted into inches of runoff from the contributing impervious area (BMP Volume $_{(IA\text{-}in)1}$) using equation 5.

$$\text{BMP Volume}_{(IA\text{-}in)1} = (48{,}155\ ft^2 / 11.75\ \text{acre}) \times (12\ \text{in/ft} / 43{,}560\ ft^2/\text{acre})$$
$$= 1.13\ \text{in}$$

Solution Continued:

4-1) The total volume of runoff (ft^3) from the contributing PA (BMP Volume $_{PA\text{-}ft^3}$) for a rainfall size equal to the sum of BMP Volume $_{(IA\text{-}in)1}$ determined in step 3 is determined

for each distinct pervious area using the information from Table 2 and equation 7. Interpolation was used to determine runoff depths.

BMP Volume $_{(PA\text{-}ft^3)1}$ = ((3.84 acre x (0.33 in) + (0.96 acre x (0.13 in)) x 3,630 ft^3/acre-in
= 5052 ft^3

5-1) For iteration 1, the portion of BMP Volume that is available to treat runoff from only the IA is estimated by subtracting the BMP Volume $_{(PA\text{-}ft^3)1}$, determined in step 4-1, from BMP Volume$_{ft^3}$, determined in step 2, and converted to inches of runoff from IA:

BMP Volume $_{(IA\text{-}ft^3)\,2}$ = 48,155 ft^3 – 5052 ft^3
= 43,103 ft^3
BMP Volume $_{(IA\text{-}in)\,2}$ = (43,103 ft^3/11.75 acre) x (12 in/ft x 1 acre/43,560 ft^2)
= 1.01 in

6-1) The % difference between BMP Volume $_{(IA\text{-}in)\,2}$, 1.01 in, and BMP Volume $_{(IA\text{-}in)1}$, 1.13 in is determined and found to be significantly greater than 5%:

% Difference = ((1.13 in – 1.01 in)/1.01 in) x 100
= 12%

Therefore, steps 4 through 6 are repeated starting with BMP Volume $_{(IA\text{-}in)\,2}$ = 1.01 in.

Solution Iteration 2

4-2) BMP-Volume $_{(PA\text{-}ft^3)2}$ = ((3.84 acre x 0.21 in) + (0.96 acre x 0.12 in)) x 3,630 ft^3/acre-in
= 3,358 ft^3

5-2) BMP-Volume $_{(IA\text{-}ft^3)\,3}$ = 48,155 ft^3 – 3,358 ft^3
= 44,797 ft^3

BMP-Volume $_{(IA\text{-}in)\,3}$ = (44,797 ft^3/11.75 acre) x (12 in/ft x 1 acre/43,560 ft^2)
= 1.05 in

6-2) % Difference = ((1.05 in – 1.01 in)/1.05 in) x 100
= 4%

The difference of 4% is acceptable.

Solution Continued:

7) The % nitrogen load reduction for the infiltration basin (BMP Reduction $_{\%\text{-}N}$) is determined by using the RR treatment curve in Figure 2 and the treatment volume (BMP-Volume $_{\text{Net IA-in}}$ = 1.05 in) calculated in step 5-2 and is **BMP Reduction $_{\%\text{-}N}$ = 56%**.

9) The nitrogen load reduction in pounds of nitrogen (BMP-Reduction $_{\text{lbs-N}}$) for the proposed infiltration basin is calculated by using equation 11 with the BMP Load (as determined by the procedure in Example 4-1) and the N $_{\text{target}}$ of 56%.

$$\text{BMP-Reduction}_{\text{lbs-N}} = \text{BMP N Load} \times (N_{\text{target}}/100) \qquad \textbf{(Equation 11)}$$

Following example 1, the BMP load is calculated:

BMP N Load = (IA x impervious cover nitrogen export loading rate)
+ ($PA_{HSG\ D}$ x pervious cover nitrogen export loading rate, HSG D
+ ($PA_{HSG\ C}$ x pervious cover nitrogen export loading rate, HSG C)
= (16.55 acre x 15.4 lbs/acre/yr) + (3.84 acre x 3.7 lbs/acre/yr) +
(0.96 acre x 2.4 lbs/acre/yr)
= 271.4 lbs/yr

BMP-Reduction $_{\text{lbs-N}}$ = 275.13 lbs/yr x 56/100 = **152.0 lbs/yr**

Figure 1: Regional BMP Performance Curve for Annual Nitrogen Load Removal: System Design by the University of New Hampshire Stormwater Center (UNHSWC)

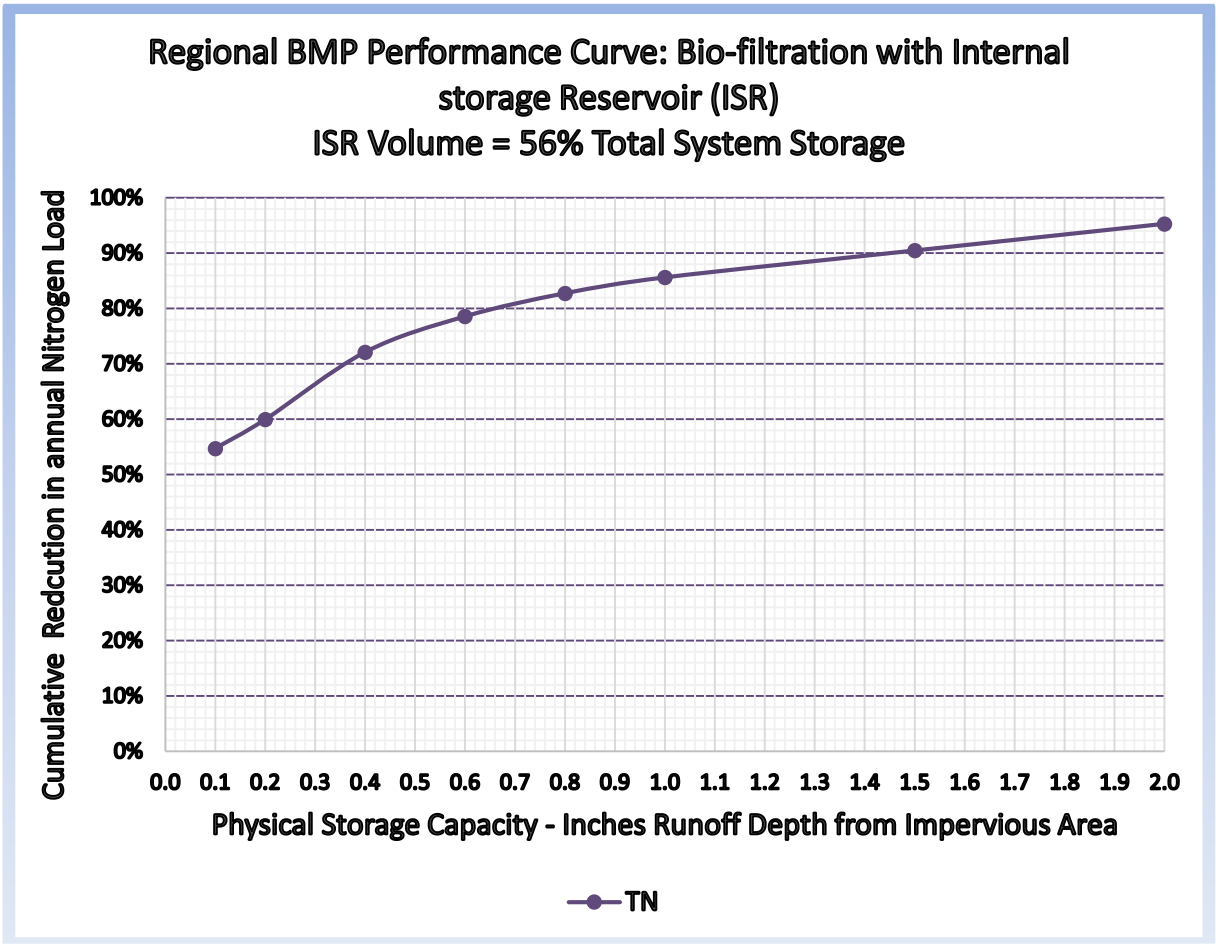
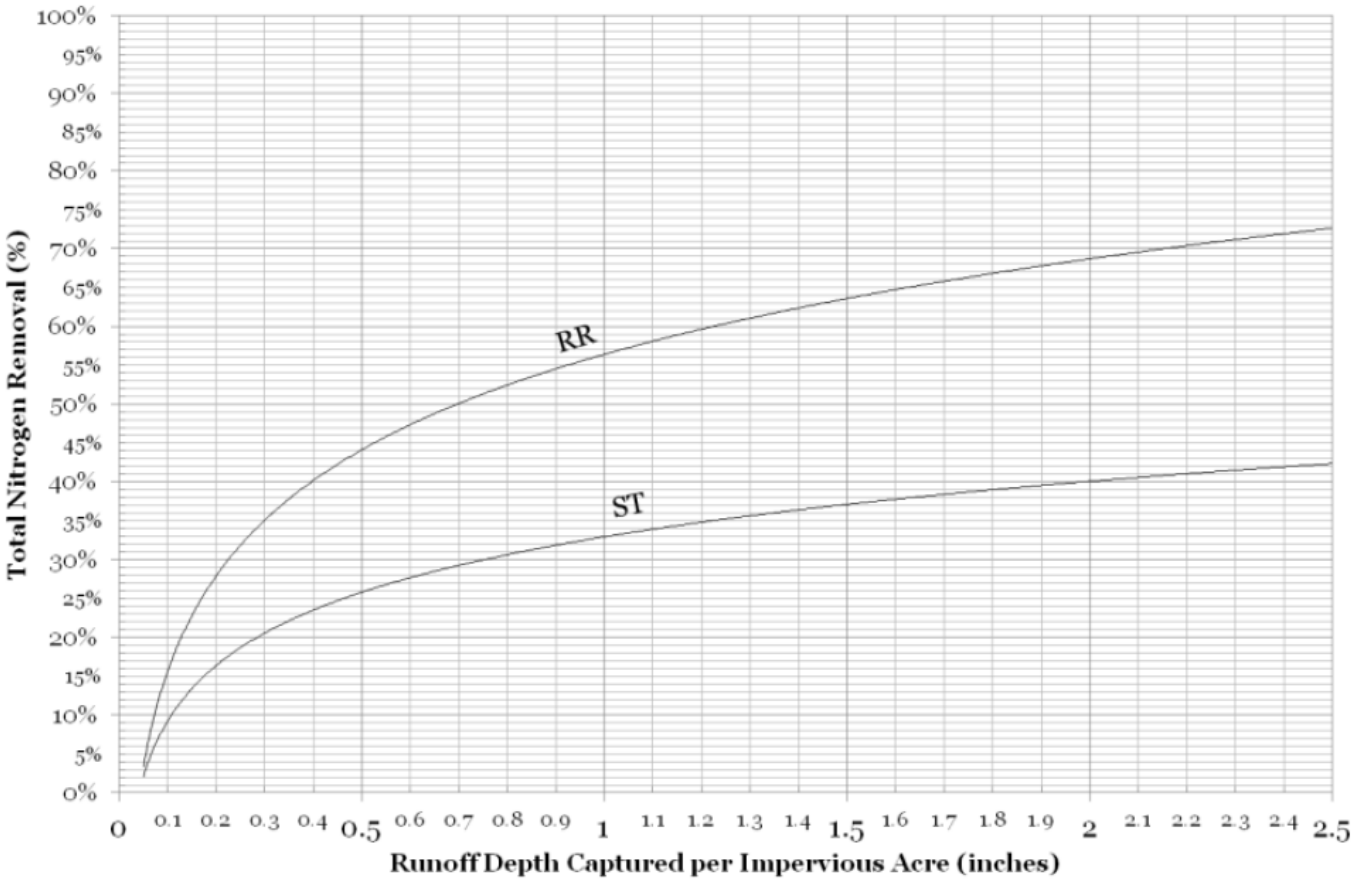


Table 3. Classification of BMP to Determine Nitrogen Reduction[1]

Structural BMP	Classification
Infiltration Trench	Runoff Reduction (RR)
Infiltration Basin or other surface infiltration practice	Runoff Reduction (RR)
Bioretention Practice	Runoff Reduction (RR)
Gravel Wetland System	Stormwater Treatment (ST)
Porous Pavement	Runoff Reduction (RR)
Wet Pond or wet detention basin	Stormwater Treatment (ST)
Dry Pond or detention basin	Runoff Reduction (RR)
Water Quality Swale	Runoff Reduction (RR)

[1]**Recommendations of the Expert Panel to Define Removal Rates for New State Stormwater Performance Standards** http://chesapeakestormwater.net/wp-content/plugins/download-monitor/download.php?id=25, Retrieved 12/14/2012

Figure 2: Total Nitrogen Removal for RR and ST Practices



Adopted from: Final CBP Approved Expert Panel Report on Stormwater Retrofits
http://chesapeakestormwater.net/wp-content/plugins/download-monitor/download.php?id=25, Retrieved 12/14/2012

ATTACHMENT G-4

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems

Authorization to Discharge Under the National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq*., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act," the

Joint Base Lewis-McChord
(hereinafter "Permittee")

is authorized to discharge from all municipal separate storm sewer system (MS4) outfalls existing as of the effective date of this permit to waters of the United States, including Murray Creek, Clover Creek, Puget Sound and other associated waters of the United States, in accordance with the conditions and requirements set forth herein. In addition, pursuant to Ecology's certification and CWA Section 401(d), 33 U.S.C. § 1341(d), this permit also authorizes discharges from the MS4 to groundwater of the State of Washington.

This permit shall become effective on October 1, 2013.[1]
This permit and the authorization to discharge shall expire at midnight, September 30, 2018.

The Permittee must reapply for permit reissuance on or before April 3, 2018, 180 days before the expiration of this permit if the Permittee intends to continue operations and discharges from the MS4 beyond the term of this permit.
Signed this 22nd day of August, 2013

//SIGNED//
Paula VanHaagen, Acting Director
Office of Water and Watersheds

This permit modification shall become effective on February 1, 2015.
This permit and the authorization to discharge shall expire at midnight, September 30, 2018.

Signed this 4th day of December, 2014

Daniel D. Opalski, Director
Office of Water and Watersheds

[1] This permit was issued to the Joint Base Lewis-McChord (JBLM) on August 22, 2013, with a scheduled effective date of October 1, 2013. On September 19, 2013, and October 22, 2013, the United States Department of the Army ("Army") filed two Motions for Extension of Time to File Petition for Review. The Environmental Appeals Board ("EAB") granted both extension requests. On November 5, 2013, the Army filed a Petition for Review of the Permit by the EAB. The Army sought review of the stormwater management program requirements in Parts II.B.5 and II.C of the Permit, as well as various compliance deadlines elsewhere in Permit Parts II and IV. On November 22, 2013, EPA notified JBLM that the contested conditions in Parts II.B.5, II.C and specified deadlines were stayed until final agency action under 40 CFR§ 124.19(f); the remaining conditions of the Permit are severable from the contested provisions and therefore became fully effective and enforceable on December 25, 2013.

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I. Applicability

A. Permit Area. This permit covers all geographic areas of the military installation located within Pierce and Thurston Counties, Washington, which are owned or operated by the Joint Base Lewis-McChord (JBLM), hereafter also referred to as "Permittee." The Permit Area includes but is not limited to the cantonment areas (comprised of and referred to as JBLM-Main, JBLM-North, and/or JBLM-McChord Field) and all military training areas. See Appendix D.

B. Discharges Authorized Under This Permit. During the effective dates of this permit, the Permittee is authorized to discharge stormwater to waters of the United States and to groundwater of the State of Washington from all portions its municipal separate storm sewer system (MS4) located within the boundaries the Permit Area described in Part I.A, subject to the conditions set forth herein. This permit also authorizes the discharge of flows categorized as allowable non-stormwater discharges in Part I.C.1.d of this permit.

C. Limitations on Permit Coverage

1. Non-Stormwater Discharges. The Permittee is authorized to discharge non-stormwater from the MS4, only where such discharges satisfy one of the following conditions:

a) The non-stormwater discharges are in compliance with a separate NPDES permit;

b) The discharges originate from emergency firefighting activities;

c) The non-stormwater discharges result from a spill and:

- are the result of an unusual and severe weather event where reasonable and prudent measures have been taken to minimize the impact of such discharge; or
- consist of emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to minimize the impact of such discharges;

or

d) The non-stormwater discharges consist of one or more flows listed below, and such flows are managed by the Permittee in accordance with Parts II.B.3.c and II.B.6 of this permit.

- potable water sources, including but not limited to, water line flushing, hyperchlorinated water line flushing, fire hydrant flushing, and pipeline hydrostatic test water;
- Landscape watering and other irrigation runoff;

- Dechlorinated swimming pool, spa, and hot tub discharges;
- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
- Uncontaminated pumped ground water;
- Foundation drains;
- Air conditioning condensation;
- Irrigation water from agricultural sources that is commingled with urban stormwater;
- Springs;
- Uncontaminated water from crawl space pumps;
- Footing drains; and/or
- Flows from riparian habitats and wetlands.

2. Discharges Threatening Water Quality. The Permittee is not authorized to discharge stormwater that will cause, or have the reasonable potential to cause or contribute to an exceedance above the State of Washington water quality standards [including, but not limited to, those standards contained in Chapters 173-201A (surface water quality), 173-204 (sediment management) and 173-200 (groundwater) of the Washington Administrative Code]. The required response to such exceedances of these standards is defined in Part II.D.

3. Snow Disposal to Receiving Waters. The Permittee is not authorized to dispose of snow directly to waters of the United States or directly to the MS4(s). Discharges from Permittee-owned or operated snow disposal sites, and the Permittee's snow management practices, are authorized under this permit when such sites/practices are operated using Best Management Practices (BMPs) as required in Part II.B.6. Such BMPs must be designed to prevent pollutants in the runoff and prevent violations of the applicable water quality standards.

4. Stormwater Discharges Associated with Industrial and Construction Activity. The Permittee is authorized to discharge stormwater associated with industrial and construction activity through the MS4, only when such discharges are otherwise authorized under an appropriate NPDES permit.

II. Stormwater Management Program (SWMP) Requirements

A. General Requirements

1. Implement a SWMP. The Permittee must develop, implement and enforce a Stormwater Management Program (SWMP) designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, and protect water quality in receiving waters. The SWMP must be implemented throughout the permit area described in Part I.A.

2. **Control Discharges of Pollutants from the MS4 to the Maximum Extent Practicable**. The Permittee must comply with the SWMP actions and activities outlined in Parts II.B and II.C, the required response provisions of Part II.D, and the assessment/monitoring requirements described in Part IV. The SWMP actions and activities require the Permittee to use BMPs, control measures, system design, engineering methods, and other provisions appropriate to control discharges of pollutants from the MS4 to the maximum extent practicable.

3. **SWMP Document.** The Permittee must prepare written documentation of its SWMP no later than July 25, 2016. The SWMP documentation must be organized according to the program components in Parts II.B and II.C, and the assessment/monitoring requirements of Part IV. The SWMP document must be submitted with the subsequent Annual Report, and updated at least annually thereafter. The SWMP document must include:

   a) A summary of the legal authorities which enable the Permittee to control discharges to and from the Permittee's MS4 as required by this Permit;
   b) A description of each minimum program control measure in Parts II.B and II.C;
   c) Any additional actions implemented by the Permittee pursuant to Parts II.B and II.C; and
   d) A description of the monitoring activity pursuant to Part IV.

4. **SWMP Information.** The Permittee's SWMP must include an on-going means for gathering, tracking, maintaining, and using information in order to evaluate SWMP development and implementation, permit compliance, and to set priorities.

   a) No later than one year from permit effective date, the Permittee must track the cost, or estimated cost, to develop and implement each program component of the SWMP. A summary of costs and funding sources, by program component, must be included in each Annual Report.
   b) The Permittee must track the number of inspections, official enforcement actions, types of public education activities, etc., as stipulated by the respective program component. Information summarizing these activities during the previous reporting period must be included in the Annual Report(s).

5. **SWMP Modification.** Modifications to the SWMP requirements must be made in accordance with Part II.E of this permit.

6. **Shared Implementation**. Implementation of one or more of the minimum control measures may be shared with, or delegated to, another entity other than the Permittee. The Permittee may rely on another entity only if:

   a) The other entity, in fact, implements the control measure;
   b) The control measure, or component of that control measure, is at least as stringent as the corresponding permit requirement; and

c) The other entity agrees to implement the control measure on the Permittee's behalf. A binding written acceptance of this obligation is required. The Permittee must maintain this written obligation as part of the SWMP. If the other entity agrees to report on the minimum control measure, the Permittee must supply the other entity with the reporting requirements in Part IV.C of this permit. The Permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure

7. Equivalent Documents, Plans or Programs.

The Permittee may submit to EPA any documents, plans, or programs that the Permittee believes is equivalent to a required SWMP minimum control measure or component specified in this Permit. Such documents, plans or programs must be individually submitted to EPA pursuant to Parts II.E and IV.D for review at least six months prior to the compliance date of the required SWMP minimum control measure or component. If the EPA determines that the Permittee's document, plan or program is equivalent to the required SWMP minimum control measure or component, EPA will commence a permit modification procedure pursuant to 40 CFR §§122.62 and 124.5 if necessary. In determining whether a permit modification is needed, EPA will look at whether the equivalent document, plan or program needs to be cited in the Permit. As specified in Part VI.A, the filing of a request by the Permittee for a permit modification does not stay any permit condition. The Permittee must submit to EPA as specified in Parts II.E and IV.D the following documentation with each individual request for review:

a) A complete copy of the relevant document, plan or program, (or applicable section of such documentation, provided the Permittee provides the full citation of the source material); and

b) A detailed written overview identifying the required SWMP program component addressed by the submittal, and the reasons, citations and references sufficient to demonstrate that the submitted material meets or exceeds the required SWMP program component.

B. Minimum Control Measures. The following minimum control measures must be accomplished through the Permittee's Stormwater Management Program:

1. Education and Outreach on Stormwater Impacts.

a) Within two years of the effective date of this permit, the Permittee must develop, implement, and evaluate an on-going program to educate targeted audiences about the adverse impacts of stormwater discharges on local water bodies and the steps that they can take to reduce pollutants in stormwater runoff. The Permittee must target its education and outreach program activities to reach the following audiences as appropriate:

- project managers;
- contractors;
- tenants;
- environmental staff; and
- business owners and operators.

b) The primary goal of the education and outreach program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. Using the topics listed in Part II. B.1.c, the Permittee may develop a prioritized schedule and plan to reach the target audiences through the on-going education effort.

c) The Permittee must select from the following topics to affect behavior change through its education and outreach program:

- Proper use, storage and disposal of household hazardous waste;
- Proper recycling;
- Appropriate stormwater management practices for commercial, food service, and automotive activities, including carpet cleaners, home-based or mobile businesses;
- Appropriate yard care techniques for protecting water quality, including proper timing and use of fertilizers;
- Proper pet waste management;
- Appropriate spill prevention practices;
- Proper management of street, parking lot, sidewalk, and building wash water;
- Proper methods for using water for dust control;
- Proper design and use of Low Impact Development (LID) techniques at new development and redevelopment sites; and
- Impacts of illicit discharges and how to report them.

d) Beginning two years from the effective date of this permit, the Permittee must measure and document the understanding and adoption of the targeted behavior[s] for at least one audience in at least one subject area listed above. The resulting measurements must be used to direct education and outreach resources most effectively through the remainder of the Permit term, The Permittee must evaluate and summarize resulting changes in adoption of the targeted behavior(s). The Permittee may meet this requirement individually or through cooperation with other entities.

e) The Permittee must document the specific education program goals, and track and maintain records of public education and outreach activities in the SWMP document.

2. Public Involvement/Participation.

a) The Permittee must comply with applicable federal, state and local public notice requirements when implementing a public involvement/participation program.

b) Within six months of the effective date of this permit, and at a regular schedule at least annually thereafter, the Permittee must conduct at least one of the following activities within the permit area throughout the permit term:

- Convene meeting(s) with the Environmental Division Chief & Environmental Compliance Program Manager, and/or other JBLM organizations as appropriate, to discuss and coordinate effective SWMP implementation, or
- Convene a JBLM Water Council or organize other means to provide opportunity for the military community to participate in development and implementation of SWMP activities.

c) No later than July 25, 2016, and annually thereafter, the Permittee must make the updated SWMP document required by Part II.A.3 available to the public on the Permittee's website.

d) At least once per year, the Permittee must provide one or more on-going volunteer activities as practicable to help actively engage residents and personnel at JBLM in understanding water resources and how their activities can affect water quality. In the SWMP document, the Permittee must maintain a log of public participation activities performed.

- Volunteer activities may include, but are not limited to, storm drain stenciling or marking program; establishing a website, email address and/or hotline for citizens to report pollution concerns; establishing a pet waste management program at American Lake or other resource areas.

3. Illicit Discharge Detection and Elimination (IDDE).

An illicit discharge is any discharge to a MS4 that is not composed entirely of stormwater as defined in 40 CFR § 122.26(b)(2). The Permittee's SWMP must include an on-going program to detect and remove illicit connections and discharges into the MS4. The Permittee must include a written description of the program in the SWMP document. No later than 180 days prior to the expiration date of this permit, the Permittee must implement an IDDE program which fully addresses each of the following components:

a) **Map of Cantonment Areas.** Within two years from the effective date of this permit, the Permittee must update and maintain a map of the MS4 located within the JBLM cantonment area. At a minimum, the cantonment area map must be periodically updated and include the following information:

- jurisdictional boundaries;
- known MS4 outfalls,
- receiving waters, other than groundwater;
- Tributary conveyances for all known MS4 outfalls. The following attributes must be mapped for all known outfalls:

  (i) tributary conveyances (type, material and size where known);

  (ii) associated drainage areas; and

  (iii) land use;
- Stormwater treatment and flow control BMPs/facilities owned, or operated, by the Permittee, including information about type, and design capacity.
- Geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface waters;
- Points at which the Permittee's MS4 is interconnected with other MS4s or other storm/surface water conveyances; and
- Locations of all Permittee owned or operated industrial facilities, maintenance/storage facilities and snow disposal sites that discharge directly to the Permittee's MS4, and/or waters of the State.

The Permittee must maintain updated cantonment area MS4 maps. As necessary the Permittee must add data regarding any new connections to the MS4 which are allowed by the Permittee after the effective date of this permit. A copy of the completed MS4 map, as both a report and as an electronic file via Arc GIS compatible format, must be submitted to EPA upon request and as part of the Permit renewal application required in Part IV.B.

Consistent with national security laws and directives, the Permittee must provide mapping information to operators of adjacent regulated MS4s upon request.

b) **Map of Training Areas.** No later than 180 days prior to the expiration date of this permit, the Permittee must develop and submit to EPA a preliminary map identifying the presence of MS4 infrastructure located outside the cantonment area. The Permittee must prioritize the development of a training area MS4 map within the Muck Creek watershed/basin. The map must include the information items listed in Part II.B.3.a. A copy of the preliminary map, as both a report and as an electronic file via Arc GIS compatible format, must be submitted to EPA as part of the permit renewal application required in Part IV.B.

c) **Ordinance**. The Permittee must effectively prohibit, through ordinance or other regulatory mechanism, all illicit discharges into the MS4 to the maximum extent allowable under the legal authorities of JBLM. The ordinance or regulatory mechanism must be adopted, or existing mechanism amended, to comply with this Permit no later than thirty months from the effective date of this Permit.

The Permittee must implement appropriate enforcement procedures and actions associated with the ordinance or regulatory mechanism, including a written policy of enforcement escalation procedures for recalcitrant or repeat offenders.

Allowable Discharges: The regulatory mechanism does not need to prohibit the following categories of non-stormwater discharges, consistent with Part I.C.1.d:

- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20));
- Uncontaminated pumped ground water;
- Foundation drains;
- Air conditioning condensation;
- Irrigation water from agricultural sources that is commingled with urban stormwater;
- Springs;
- Uncontaminated water from crawl space pumps
- Footing drains;
- Flows from riparian habitats and wetlands;
- Non-stormwater discharges covered by another NPDES permit; and/or
- Discharges from emergency firefighting activities in accordance with Part 1.C.b.

Conditionally Allowable Discharges: The regulatory mechanism may allow the following categories of non-stormwater discharges, only if the stated conditions are met:

- *Discharges from potable water sources, including but not limited to water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water:* Planned discharges must be dechlorinated to a total residual chlorine concentration of 0.1 parts per million (ppm) or less, pH-adjusted, if

necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.

- *Discharges from lawn watering and other irrigation runoff:* These discharges must be minimized through, at a minimum, public education activities (see Part II.B.2.a) and water conservation efforts.
- *Dechlorinated swimming pool, spa, and hot tub discharges:* The discharges must be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted and reoxygenized if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Discharges must be thermally controlled to prevent an increase in temperature of the receiving waters. Swimming pool cleaning wastewater and filter backwash must not be discharged to the MS4.
- *Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents*: The Permittee must reduce these discharges through, at a minimum, public education activities (see Part II.B.2.a) and/or water conservation efforts. To avoid washing pollutants into the MS4, the Permittee must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.
- *Other non-stormwater discharges.* The discharges must be in compliance with the requirements of a pollution prevention plan reviewed by the Permittee which addresses control of such discharges.

d) **Detection and Elimination.** No later than thirty months from the effective date of this permit, the Permittee must develop and implement an on-going program to detect and address non-stormwater discharges, spills, and illicit connections into their MS4. This program must be described within the SWMP document and include:

- *Procedures for locating priority areas likely to have illicit discharges,* including areas where complaints have been recorded in the past, and areas with storage of large quantities of materials that could result in spills;
- *Field assessment activities*, including visual inspection of outfalls draining priority areas during dry weather and for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges. The dry weather screening activities may include field tests of parameters selected by the Permitee as being indicators of discharge sources. The Permittee may utilize less expensive “field test kits,” and test methods not approved by EPA under 40 CFR Part 136, provided the manufacturer’s published

detection ranges are adequate for the illicit discharge detection purposes;

i) No later than thirty months from the effective date of this permit, the Permittee must begin dry weather field screening for non-stormwater flows from stormwater outfalls.

ii) No later than 180 days prior to the permit expiration date, the Permittee must complete field screening of at least 75% of all MS4 outfalls located within the cantonment area;

iii) Screening for illicit connections may be conducted in accordance with *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection, October 2004, or another methodology of comparable effectiveness;

- *Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges which are found by or reported to the Permittee*. Procedures must address the evaluation of whether the discharge must be immediately contained and steps to be taken for containment of the discharge;

  i) Compliance with this provision will be achieved by immediately responding to all illicit discharges including spills which are determined to be constitute a threat to human health or the environment; investigating (or referring to the appropriate agency), within seven (7) days, any complaints, reports or monitoring information that indicates a potential illicit discharge, including spills; and immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe;

- *Procedures for tracing the source of an illicit discharge;* including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures; and

- *Procedures for eliminating the discharge*; including notification of appropriate authorities; notification of the responsible operator or organization; technical assistance; follow-up inspections; and escalating enforcement and legal actions if the discharge is not eliminated.

  i) Compliance with this provision will be achieved by initiating an investigation within twenty one (21) days of a report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. Upon confirmation of the illicit nature of a storm drain connection, the

Permittee must take action in a documented effort to eliminate the illicit connection within forty five (45) days.

e) **Tracking.** The Permittee must implement a means of program evaluation and assessment which tracks the number and type of illicit discharges identified, dry weather screening efforts, and the location and any remediation efforts to address identified illicit discharges.

f) **Education**. Within two years from the effective date of this permit, the Permittee must inform employees, businesses, and the general public within the permit area of hazards associated with illegal discharges and improper disposal of waste. This program must be conducted in concert with the public education requirements outlined in Part II.B.1.

- No later than one year from the effective date of this permit, the Permittee must list and publicize a hotline or other local means for the public and JBLM personnel to report spills and other illicit discharges. The Permittee must maintain a record of calls received and follow-up actions taken in accordance with II.B.3.d above and include a summary in the Annual Report.

g) **Training.** The Permittee must ensure that all staff responsible for the identification, investigation, termination, clean up and reporting of illicit discharges, including spills and illicit connections, are trained to conduct these activities. Orientation and training concerning the JBLM stormwater management program must be accomplished within the first six months of employment for new staff who work directly on stormwater management issues. Follow-up training must be provided as necessary to address changes in procedures, techniques or requirements. The Permittee must maintain records of relevant training provided or obtained, and the staff members trained. A summary of this training must be included in each Annual Report.

4. Construction Site Stormwater Runoff Control. Throughout the permit area, the Permittee must implement and enforce a program to reduce pollutants in stormwater runoff to the MS4 from construction activities resulting in land disturbance of greater than or equal to 5,000 square feet or more. The Permittee must include a written description of the construction site runoff control program in the SWMP document. At a minimum the program must include the following components:

a) **Oversight**. The Permittee must provide adequate direction and oversight to ensure that entities responsible for regulated construction activities within the permit area obtain authorization to discharge as necessary under the NPDES General Permit for Stormwater Discharges for Construction Activity for Federal Facilities in Washington, Permit #WAR12000F (Construction General Permit or CGP).

b) **Ordinance**. The Permittee must use an ordinance or other regulatory mechanism available under the legal authorities of JBLM to require erosion and sediment

controls, onsite materials management and sanctions to ensure compliance with the terms of the SWMP and the CGP.

c) **Enforcement.** The Permittee must maintain a list of policies and procedures which can be used to enforce construction site compliance within JBLM independent of EPA staff directly enforcing the CGP. No later than two years from the effective date of this permit, the Permittee must include this list of policies and procedures in the SWMP document, and must update the list as necessary at least annually. The Permittee must summarize in each Annual Report any enforcement actions taken at construction sites during the previous reporting period.

d) **Construction Site BMPs.** The Permittee must maintain (or incorporate by reference) a list of appropriate construction site BMPs in the SWMP document; such a list must include associated criteria for maintenance and installation of each specific practice.

e) **Contractual Language.** The Permittee must work with other responsible organizations to ensure that all Requests For Proposal (RFPs) and construction contracts for new construction proje**c**ts which will disturb 5,000 square feet or more within the permit area include specifications requiring compliance with the SWMP and, when applicable, the CGP. An example of such contract language must be included within the SWMP document.

f) **Pre-construction Site Plan Review**. The Permittee must implement procedures for reviewing all pre-construction site plans for potential water quality impacts, appropriate erosion and sediment controls, and appropriate control of other construction site materials. These procedures must include provisions for receipt and consideration of information submitted by the public. Information summarizing the number of site plans reviewed during the previous reporting period must be submitted as part of the corresponding Annual Report.

g) **Construction Site Inspection Plan**. No later than January 25, 2016, the Permittee must develop and implement a construction site inspection plan. The construction site inspection plan must describe the criteria which triggers a site inspection, and must include a mandatory timeframe within which construction sites meeting the criteria will be inspected by the Permittee's staff or its representatives.

- The Permittee must develop methods for its staff or representatives to stop work on construction sites deemed to be in non-compliance with the construction site runoff control program.
- The Permittee must develop and utilize a construction site inspection form to document all construction site inspections.
- The written construction site inspection plan, and associated inspection form, must be included in the SWMP document.
- Information summarizing the site inspections conducted by the Permittee during the previous reporting period, including the location

and total number of such inspections, must be submitted as part of the corresponding Annual Report.

- At a minimum, all sites addressed by plan must be inspected by the Permittee or their representatives at least quarterly.

h) **Training**. The Permittee must ensure that all staff responsible for preconstruction site plan review, construction site inspections (or are otherwise implementing the construction site runoff control program) are adequately trained to conduct such activities. Orientation and training concerning the JBLM stormwater management program must be accomplished within the first six months of employment for new staff who work directly on stormwater management issues. Follow-up training must be provided as necessary to address changes in procedures, techniques or requirements. The Permittee must maintain records of relevant training provided or obtained, and the staff members trained. A summary of this training occurring within the reporting period must be included in each Annual Report.

5. Stormwater Management for Areas of New Development and Redevelopment. The Permittee must use an ordinance (or other regulatory mechanism available under the legal authorities available to JBLM) to implement and enforce a program to control stormwater runoff from all public and private new development or redevelopment project sites that will disturb 5,000 square feet or more of land area.

The Permittee must include a written description of the program within the SWMP document. In each Annual Report, the Permittee must summarize the implementation status of these requirements for all new development and redevelopment project sites occurring during the relevant reporting period.

Certain projects may be exempt from specific provisions of this Part, as defined in Appendix C.

Pursuant to the procedures in Part II.A.7, the Permittee may submit to EPA for approval an alternative document, plan or program that describes functionally equivalent run-off controls to the 2012 *Stormwater Management Manual for Western Washington* and other manual provisions cited below.

At a minimum, within one year of the permit effective date, the Permittee must implement the following program components:

a) **Site Planning Procedures.** For all new development and redevelopment project sites disturbing 5,000 square feet or more, the Permittee must adopt and implement a project site planning process, including criteria for BMP selection and design; the site planning procedures must be implemented to protect water quality, and reduce the discharge of pollutants to the maximum extent practicable.

b) **Preparation of a Stormwater Site Plan.** For all new development and redevelopment project sites disturbing 5,000 square feet or more, the Permittee must require a project-specific stormwater site plan. Stormwater site plans must

be prepared consistent with Chapter 3, Volume 1-*Minimum Technical Requirements and Site Planning* of the 2012 *Stormwater Management Manual for Western Washington;* and with Chapter 3 of the *Low Impact Development Technical Guidance Manual for the Puget Sound (2012);* or an alternative document approved pursuant to Part II.A.7. For new development or redevelopment sites disturbing 5,000 square feet or more within Airport Operations Areas (AOA), stormwater site plans must be prepared consistent with the *Aviation Stormwater Design Manual (2008)* or an alternative document approved pursuant to Part II.A.7.

c) **Source Control of Pollution**. The Permittee must require the use of available and reasonable source control BMPs at all new development and redevelopment project sites disturbing 5,000 square feet or more. Source control BMPs must be selected, designed, and maintained consistent with Volume IV-*Source Control BMP*s of the 2012 *Stormwater Management Manual for Western Washington* or an alternative document approved pursuant to Part II.A.7. For new development or redevelopment sites disturbing 5,000 square feet or more within Airport Operations Areas (AOA), source control BMPs must be selected, designed and maintained consistent with the *Aviation Stormwater Design Manual (2008)* or an alternative document approved pursuant to Part II.A.7.

d) **New Development and Redevelopment Site Design to Minimize Impervious Areas, Preserve Vegetation, and Preserve Natural Drainage Systems**. For all new development and redevelopment project sites disturbing 5,000 square feet or more, the Permittee must ensure such projects are designed to minimize impervious surfaces, retain vegetation, restore native vegetation, preserve natural drainage systems considering the techniques in the 2012 *Stormwater Management Manual for Western Washington* or an alternative document approved pursuant to Part II.A.7, and meet the following requirements to the extent feasible:

- The Permittee must require site design that minimizes the project's roadway surfaces and parking areas, incorporates clustered development, and ensures that vegetated areas are designed to receive stormwater dispersion from all developed project areas;
- The Permittee must ensure that natural drainage patterns of the project site are maintained, and that discharge from the new development or redevelopment project site occurs at the natural location;
- The Permittee must ensure that the manner by which runoff is discharged from the new development project site does not cause a significant adverse impact to downstream receiving waters and/or down gradient properties; and
- The Permittee must ensure that all outfalls utilize dissipation devices.

e) **Hydrologic Performance Requirement for On-site Stormwater Management.** For all new development or redevelopment project sites disturbing 5,000 square feet or more, the Permittee must require the use of on-site stormwater management practices intended to infiltrate, disperse, retain, and/or harvest and reuse stormwater runoff as follows:

i) For lawn and landscape areas on the new development or redevelopment project site, the Permittee must ensure the soil quality meets the specifications within BMP T5.13 (Post-Construction Soil Quality and Depth) in Chapter 5 of Volume V-*Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington (2012)* or an alternative document approved pursuant to Part II.A.7. Lawn and landscape areas associated with project sites occurring within Airport Operations Areas must ensure the soil quality meets specifications in accordance with the *Aviation Stormwater Design Manual (2008)* or an alternative document approved pursuant to Part II.A.7.

ii) For new or redevelopment project sites creating or replacing 2,000 ≥ 4,999 square feet of hard surfaces, To the extent feasible, the Permittee must use stormwater dispersion or infiltration BMPs consistent with: Chapter 5 of Volume V of the 2012 *Stormwater Management Manual for Western Washington;* Chapter 3 of Volume III of the 2012 *Stormwater Management Manual for Western Washington;* the *Low Impact Development Technical Guidance Manual for the Puget Sound (2012);* or an alternative document approved pursuant to Part II.A.7. Such project sites within Airport Operations Areas must ensure that stormwater dispersion or infiltration BMPs are used consistent with those specified in the *Aviation Stormwater Design Manual (2008)* or an alternative document approved pursuant to Part II.A.7.

iii) For new development or redevelopment project sites creating or replacing 5,000 square feet or more of hard surfaces:

(1) The Permittee must ensure the post-development stormwater discharge flows from the project site do not exceed the pre-development discharge flows for the range of 8% of the 2-year peak flow to 50% of the 2-year peak flow, as calculated by using the Western Washington Hydrology Model (or other continuous runoff model). For the purposes of Western Washington Hydrology Model, the pre-development condition for all new development and redevelopment project sites must be "forested land cover" (with applicable soil and soil grade), unless reasonable historic information indicates the site was prairie prior to settlement (and may be modeled as "pasture" when using the Western Washington Hydrology Model);

or

(2) The Permittee must ensure the controls for post-development stormwater discharge flows from the project site meet the requirements for onsite stormwater management BMPs cited in List #2 of Minimum Requirement #5 in Volume 1 of the 2012 *Stormwater Management Manual for Western Washington.*

(a) The Permittee must keep written records for each new development or redevelopment project site summarizing the BMPs selected from List #2 of Minimum Requirement #5 in Volume 1 of the 2012 *Stormwater Management Manual for Western Washington,* and any feasibility determinations for not selecting higher priority BMPs from List #2;

or

(3) The Permittee must ensure the controls for post-development stormwater discharge flows from the project site are designed to retain onsite the volume of stormwater produced from the 95th percentile rainfall event.

(a) The Permittee may exempt a new development or redevelopment project site from retaining the total volume of runoff calculated to meet the 95th percentile rainfall event, provided the Permittee fully documents its determination that compliance with the performance standard is not feasible. Feasibility must be determined by evaluation against design criteria, limitations, and infeasibility criteria identified for each stormwater best management practice in the 2012 *Stormwater Management Manual for Western Washington* starting with the BMP list hierarchy in List #2 and the competing needs criteria listed in Chapter 5 of Volume V of the *2012 Stormwater Management Manual for Western Washington).*

(b) The Permittee must keep written records of all exempt project determinations. The following information regarding each exempt project identified during an annual reporting period must be included in the corresponding Annual Report:

(i) Name, location and identifying project description;

(ii) Reasons why full retention of the total volume of runoff calculated to meet the 95th percentile rainfall event is not feasible, including supporting documentation and all relevant

engineering calculations, geologic reports and/or hydrologic analysis; and

(iii) The estimated annual runoff volume that can/will be successfully managed on site and the remaining annual runoff volume for which it is deemed not feasible to successfully manage onsite.

f) **Hydrologic Performance Requirement for Flow Control.** The Permittee must ensure that new development and redevelopment project sites are designed to control post development discharge flows where such sites: create >10,000 square feet effective impervious surface area; convert ¾ acres or more from native vegetation to lawn/landscaping, and from which there is a surface discharge to a natural or manmade conveyance system; and/or, convert 2.5 acres or more of native vegetation to pasture, and from which there is a surface discharge to a natural or manmade conveyance system. For these new development or redevelopment project sites, post-development stormwater discharge flows must not exceed the pre-development discharge flows for the range of 50% of the 2-year peak flow to 100% of the 50-year peak flow, as calculated by using the Western Washington Hydrology Model (or other continuous runoff model). For the purposes of the Western Washington Hydrology Model, the pre-development condition for all new development and redevelopment project sites must be "forested land cover" (with applicable soil and soil grade), unless reasonable historic information indicates the site was prairie prior to settlement (and may be modeled as "pasture" when using the Western Washington Hydrology Model).

- The Permittee must prioritize the use of small scale dispersion or infiltration practices, or other appropriate Low Impact Development practices to meet this flow control requirement. The Permittee may not design new development or redevelopment sites to meet this hydrologic performance requirement for flow control solely through the use of large scale retention or detention practices.
- New development or redevelopment project sites that will discharge directly to the JBLM Canal, or indirectly through Outfalls #OF-4 or #OF-5, are exempt from this hydrologic performance requirement for flow control.
- Pursuant to the procedures in Appendix C.6, the Permittee may exempt a project site from full compliance with the performance standards cited above if the severe economic cost criteria referenced in Appendix C.6 prevent use of any BMPs to attain the performance standards.

g) **Runoff Treatment.** The Permittee must ensure the proper construction of stormwater treatment facilities for all new development or redevelopment sites in accordance with Appendix B of this permit.

h) **Wetlands Protection.** The Permittee must ensure that discharges to wetlands from new development or redevelopment project sites maintain the hydrologic conditions, hydrophytic vegetation, and substrate characteristics necessary to support existing and designated uses. The hydrologic analysis must use the existing land cover condition to determine the existing hydrologic conditions, unless directed otherwise by a regulatory agency with jurisdiction.

i) **Inspections**. No later than January 25, 2016, the Permittee must develop an inspection program intended to verify that the permanent stormwater facilities used for onsite management, flow control and treatment as required by this Part are properly installed and operational. The inspection plan must describe the criteria which the Permittee will use to trigger a post-construction site inspection, timeframes within which sites meeting the criteria will be inspected, and the anticipated response to address any deficiencies identified.

- The Permittee must develop and utilize a site inspection form to document all post-construction site inspections required by this subpart.
- The written post-construction site inspection plan, and associated inspection form, must be included in the SWMP document no later than two years from the effective date of this permit.
- Beginning with the 2nd Year Annual Report, and annually thereafter, information summarizing all inspections conducted by the Permittee during the previous reporting period, including the locations and total number of such site inspections, and resulting actions to address any deficiencies, must be submitted as part of the corresponding Annual Report.

j) **Operation and Maintenance.** The Permittee must ensure long term operation and maintenance (O&M) of all permanent stormwater facilities used for onsite management, flow control, and treatment. No later than three years from the effective date of this permit, the Permittee must implement O&M standards (in the form of a manual or other specific reference[s]) to address all permanent stormwater facilities used for onsite stormwater management, flow control and treatment and which are installed at new development and redevelopment project sites after the effective date of this permit. The O&M standards for all permanent stormwater facilities must be consistent with Chapter 4, Volume V-*Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington* or an alternative document approved pursuant to Part II.A.7.

- To ensure long term O&M of stormwater facilities, the Permittee must require all entities responsible for such O&M to use the referenced maintenance standards/manual required in this Part.

- The Permittee must maintain an inventory of all permanent stormwater facilities which are used for onsite stormwater management, flow control, and treatment, consistent with Part II.B.3.a of this permit, and must maintain records of all related maintenance activity.
- A summary of anticipated annual maintenance activity, by type and number of facilities, must be included in the SWMP documentation.
- A summary of facility maintenance activity accomplished during the previous reporting period must be included in the corresponding Annual Report

k) **Training**. The Permittee must ensure all staff responsible for plan review, hydrologic modeling, site inspections and enforcement necessary to implement the program outlined in Part II.B.5, are adequately trained to conduct these activities. Orientation and training concerning the JBLM stormwater management program must be accomplished within the first six months of employment for new staff who work directly on stormwater management issues. Follow-up training must be provided as necessary to address changes in procedures, techniques or requirements. The Permittee must maintain records of relevant training provided, or obtained, and the staff members trained. A summary of this training occurring within the reporting period must be included in each Annual Report.

6. Pollution Prevention and Good Housekeeping for Municipal Operations & Maintenance. Within two years from the effective date of this permit, the Permittee must update and implement its operations and maintenance (O&M) program to prevent or reduce pollutants in runoff from the Permittee's MS4 and from ongoing municipal operations. The written description of the program must be included in the SWMP document. At a minimum, the O&M program must address each of the following program components:

a) **Maintenance Standards for Permanent Stormwater Facilities**. The Permittee must establish maintenance standards for its permanent stormwater facilities used for onsite management, flow control and treatment that are protective of facility function. The purpose of a maintenance standard is to determine if maintenance of a stormwater facility is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections is not a permit violation.

Unless there are circumstances beyond the Permittee's control, if an inspection required in Part II.B.6.b identifies that a facility's maintenance standard has been exceeded, the Permittee must perform appropriate maintenance as follows:

- Within 1 year for most facilities, except catch basins;
- Within 6 months for catch basins; and/or

- Within 2 years for maintenance that requires capital construction of less than $25,000.

Where circumstances beyond the Permittee's control prevent the maintenance activity from occurring, the Permittee must document within the corresponding Annual Report the circumstances and how they were outside the Permittee's control. Circumstances beyond the Permittee's control may include, but are not limited to: denial or delay of access by property owners; denial or delay of necessary permit approvals; and unexpected reallocations of maintenance staff or resources to perform emergency work.

b) **Inspection of Permanent Stormwater Facilities**. No later than two years from the effective date of this permit, the program must include annual inspection of all Permittee owned or operated permanent stormwater facilities used for flow control and treatment, other than catch basins. The Permittee must take appropriate maintenance actions in accordance with its adopted maintenance standards.

- The Permittee may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be included within the SWMP document and certified in accordance with Part VI.E.
- As part of the 2nd Year Annual Report, the Permittee must document the total number of Permittee-owned or operated permanent stormwater facilities used for flow control and treatment to be inspected in compliance with this Part. Subsequent Annual Reports must document summarize the Permittee's inspection and maintenance of those permanent stormwater facilities.

c) **Spot Check Inspection of Permanent Stormwater Facilities**. The Permittee must conduct spot checks of potentially damaged permanent stormwater control facilities (other than catch basins) after major storm events. For the purposes of this permit, a major storm event is rainfall greater than the 24-hour, 10 year recurrence interval. The Permittee must conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the spot check inspections.

d) **Inspections of Catch Basins**. The Permittee must inspect all catch basins and inlets owned or operated by the Permittee at least once before the end of the permit term. The Permittee must clean catch basins if inspection indicates cleaning is needed. Decant water and solids must be disposed of in accordance with Appendix A of this permit.

- As part of the 2nd Year Annual Report, the Permittee must report the total number of Permittee-owned or operated catchbasins to be

inspected annually in compliance with this Part; subsequent Annual Reports must document the Permittee's progress toward inspecting and maintaining all catchbasins prior to the permit expiration date.

e) **Compliance**. Compliance with the inspection requirements in Parts II.B.6.b, c. and d. above will be determined by evaluating Permittee records of an established stormwater facility inspection program. The Permittee must inspect at least 95% of the total universe of identified permanent stormwater facilities used for flow control and treatment, and 95% of all catchbasins, by the expiration date of the permit

f) **Maintenance Practices.** The Permittee must document and implement maintenance practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads or highways, parks, open space, road right-of- way, maintenance yards, stormwater facilities used for flow control and treatment and from road maintenance activities located or conducted within the permit area by the Permittee or other entities. The Permittee must ensure that the following activities are conducted in a manner that is protective of receiving water quality:

- Pipe cleaning;
- Cleaning of culverts that convey stormwater in ditch systems;
- Ditch maintenance;
- Street cleaning;
- Road repair and resurfacing, including pavement grinding;
- Snow and ice control;
- Utility installation;
- Pavement striping maintenance;
- Maintaining roadside areas, including vegetation management; and
- Dust control.
- Application of fertilizer, pesticides, and herbicides, including the development of nutrient management and integrated pest management plans;
- Sediment and erosion control;
- Landscape maintenance and vegetation disposal;
- Trash management; and
- Building exterior cleaning and maintenance.

g) **Training.** The Permittee must develop and implement an on-going training program for JBLM facility maintenance staff, contracted companies, environmental project officers, or other staff whose construction, operations or maintenance job functions may impact stormwater quality. The training program must address the importance of protecting water quality; the requirements of this permit; operation and maintenance standards, inspection procedures; selection of appropriate BMPs as required in this Part; ways to perform their job activities to prevent or minimize impacts to water quality; and procedures for reporting water quality concerns, including potential illicit discharges. Orientation and training concerning the JBLM stormwater management program must be accomplished

within the first six months of employment for new staff who work directly on stormwater management issues. Follow-up training must be provided as needed to address changes in procedures, techniques, or requirements. The Permittee must maintain records of relevant training provided or obtained, and the staff members trained. A summary of this training must be included in each Annual Report.

h) **Stormwater Pollution Prevention Plans for Equipment Maintenance /Material Storage Yards.** Within two years of the effective date of this permit, the Permittee must develop and implement Stormwater Pollution Prevention Plans (SWPPP) for all heavy equipment maintenance or storage yards, and/or material storage facilities owned or operated by the Permittee within the permit area, which are not already regulated under the NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activities, #WAR05-000F or another NPDES permit. Implementation of non-structural BMPs must begin immediately after the SWPPP is developed. A schedule for installation of any necessary structural BMPs must be included in the SWPPP. The Permittee may use generic SWPPPs that can be tailored to multiple similar activity sites to comply with this requirement. The SWPPP(s) must include a summary of BMPs expected to be utilized at the site and periodic visual observation of discharges from the facility by responsible staff to verify the effectiveness of BMPs used to reduce pollutants in runoff.

i) **Documentation.** Records of all permanent stormwater facility inspections, catch basin inspections, maintenance, or repair activities conducted by the Permittee must be maintained in accordance with Part IV.C of this permit, and summarized for the preceding reporting period within the corresponding Annual Report.

C. Stormwater Retrofit Report on Reduction of Pollutant Discharges to Impaired Receiving Waters.

1. The Permittee must conduct stormwater discharge, water quality and biological assessment monitoring as required in Part IV.

2. The Permittee must characterize the MS4 discharges to Clover Creek and must develop a stormwater retrofit report as described below.

a) The retrofit report must evaluate the monitoring data collected under Parts II.C.1 and IV of this Permit, and take into consideration any other relevant monitoring data available from the Washington Department of Ecology, Pierce County, or other neighboring jurisdictions, and the recommendations contained in the August 2005 *Clover Creek Basin Plan* and the 2008 *Chambers-Clover Creek Watershed Action Plan.*

b) To the extent that information evaluated in Part II.C.2.a indicates that the Permittee's MS4 discharges impact water quality, including beneficial uses, in Clover Creek, the Permittee must analyze potential locations to reduce

stormwater pollutant loadings, including sediment loadings and bank scouring caused by MS4 stormwater discharges from cantonment area sub-basins draining to Clover Creek.

c) For each potential location, the retrofit report must evaluate the feasibility of using low impact development techniques, and other controls that infiltrate, evapotranspire, harvest and re-use stormwater runoff, or which otherwise eliminate stormwater pollutant loadings, including sediment loadings and bank scouring caused by MS4 stormwater discharges, from existing surfaces discharging to Clover Creek.

d) The retrofit report will include evaluation of existing building locations where the disconnection of existing flows from rooftop downspouts into the MS4 and/or into Clover Creek could be feasible and will contribute to water quality improvement, including support of beneficial uses. The Permittee may consider using such techniques as full dispersion; downspout full infiltration systems; rain gardens; and/or other appropriate practices, as described in the 2012 *Stormwater Management Manual for Western Washington*.

e) The retrofit report must evaluate potential projects and project locations to mitigate water quality impacts identified therein based on the following considerations:
   - Monitoring data and watershed/basin plans for Clover Creek cited in Part II.C.2.a and Part IV;
   - Effectiveness in improving water quality in the receiving water, including support of beneficial uses;
   - Feasibility;
   - Cost effectiveness;
   - Pollutant removal effectiveness; and
   - Long term maintenance requirements.

f) The Permittee must submit the retrofit report to EPA as part of the 4th Year Annual Report.

g) To the extent practicable the Permittee should coordinate with Pierce County in developing the retrofit report.

h) Consistent with Part II.G and prior to the expiration date of this permit, the Permittee must initiate at least one retrofit project identified in the report and based on the evaluation cited in Part II.C.2.e above. Said retrofit project may be satisfied in connection with a redevelopment project as defined in Part II.B.5 of this permit.

3. Prior to the expiration date of this permit, the Permittee will schedule a meeting with EPA to discuss the results of the report and determine whether any specific permit terms should be included in the reissuance of the permit.

D. Required Response to Violations of Water Quality Standards.

1. The Permittee must notify EPA in writing at the EPA address listed in Part IV.D within 30 days of becoming aware that, based on credible site-specific information, a discharge from the MS4 owned or operated by the Permittee is causing or contributing to a known or likely violation of water quality standards in the receiving water. Written notification provided under this Part must, at a minimum, identify the source of the site-specific information; describe the location, nature and extent of the known or likely water quality standard violation in the receiving water; and explain the reasons why the MS4 discharge is believed to be causing or contributing to the problem. For on-going or continuing violations, a single written notification to EPA will fulfill this requirement.

2. In the event that EPA determines, based on a notification from the Permittee as provided under Part II.D.1 or through any other means, that a discharge from the MS4 owned or operated by the Permittee is causing or contributing to a violation of water quality standards in a receiving water, EPA will notify the Permittee in writing that an adaptive management response outlined in Part II.D.4 below is required.

3. EPA may elect not to require an adaptive management response from the Permittee if:
   a) EPA determines that the violation of water quality standards is already being addressed by a Total Maximum Daily Load (TMDL) implementation plan or other enforceable water quality cleanup plan; or

   b) EPA concludes the MS4 contribution to the violation will be eliminated through implementation of other permit requirements, regulatory requirements, or Permittee actions.

4. Adaptive Management Response:

   a) Within 60 days of receiving a notification under Part II.D.2, or by an alternative date established by EPA, the Permittee must review its Stormwater Management Program and submit a report to EPA. The Adaptive Management Response Report must include:
      - A description of the operational and/or structural BMPs that are currently being implemented at the location to prevent or reduce any pollutants that are causing or contributing to the violation of water quality standards, including a qualitative assessment of the effectiveness of each BMP.
      - A description of potential additional operational and/or structural BMPs that will or may be implemented in order to prevent or reduce to the maximum extent practicable any pollutants that are causing or contributing to the violation of water quality standards.

- A description of the potential monitoring or other assessment and evaluation efforts that will or may be implemented to monitor, assess, or evaluate the effectiveness of the additional BMPs.
- A schedule for implementing the additional BMPs including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation.

b) EPA will, in writing, acknowledge receipt of the Adaptive Management Response Report within a reasonable time and notify the Permittee when it expects to complete its review of the report. EPA will either approve the additional BMPs and implementation schedule or require the Permittee to modify the report as needed. If modifications are required, EPA will specify a reasonable time frame in which the Permittee must submit and EPA will review the revised report.

c) The Permittee must implement the additional BMPs, pursuant to the schedule approved by EPA, beginning immediately upon receipt of written notification of approval.

d) The Permittee must include with each subsequent Annual Report a summary of the status of implementation and the results of any monitoring, assessment or evaluation efforts conducted during the reporting period. If, based on the information provided under this Part, EPA determines that modification of the BMPs or a specific implementation schedule is necessary EPA will notify the Permittee in accordance with Parts II.E.4, II.E.5 and/or VI.A.

E. Reviewing and Updating the SWMP

1. The Permittee must annually review their SWMP actions and activities as part of the preparation of the Annual Report required in Part IV.C

2. The Permittee may request changes to any SWMP action or activity specified in this permit in accordance with the following procedures:

a) Changes to delete or replace an action or activity specifically identified in this permit with an alternate action or activity may be requested at any time. Modification requests to EPA must include:

- An analysis of why the original actions or activity is ineffective, infeasible, or cost prohibitive;
- Expectations on the effectiveness of the replacement action or activity; and
- An analysis of why the replacement action or activity is expected to better achieve the permit requirements.

b) Change requests must be made in writing and signed by the Permittee in accordance with Part VI.E.

3. The Permittee may request EPA review and approval of any existing program or document deemed to be equivalent to a specific SWMP program component required by this permit in accordance with Part II.A.7.
4. Documentation of any of the actions or activities required by this permit must be submitted to EPA upon request.
    a) EPA may review and subsequently notify the Permittee that changes to the SWMP are necessary to:
        - Address discharges from the MS4 that are causing or contributing to adverse water quality impacts;
        - Include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; or
        - Include other conditions deemed necessary by EPA to comply with water quality standards, and/or other goals and requirements of the CWA.
    b) If EPA notifies the Permittee that changes to the SWMP are necessary pursuant to Part II.E.4.a, the notification will offer the Permittee an opportunity to propose alternative program changes to meet the objectives of the requested modification. Following this opportunity, the Permittee must implement any required changes according to the schedule set by EPA.
5. Any formal modifications to this permit will be accomplished according to Part VI.A of this permit.

F. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation. The Permittee must implement the actions and activities of the SWMP in all areas which are added or transferred to the Permittee's MS4 (or for which the Permittee becomes responsible for implementation of stormwater quality/quantity controls) as expeditiously as practicable, but not later than one year from the date upon which the new areas were added. A summary of areas added to the Permittee's MS4, and schedules for SWMP implementation, must be documented in the next Annual Report following the transfer.

G. SWMP Resources. The Permittee must provide adequate finances, staff, equipment and other support capabilities to implement the SWMP actions and activities outlined in this permit. Consistent with Part II.A.4.a, the Permittee must provide a summary of estimated SWMP implementation costs in each Annual Report. Provisions herein should not be interpreted to require obligations or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341.

III. Schedule for Implementation and Compliance. This table summarizes required compliance dates as contained in this permit. The Permittee must complete SWMP actions, and/or submit documentation to EPA, as summarized below. Annual Reports must document interim and completed status of required activities, and include program summary statistics, copies of interim or final documents, etc. relevant to the reporting period.

Table III. Schedule for Implementation and Compliance as Modified 12/04/2014

Permit Citation	Description of Action	Due Date	Include in the SWMP Document?	Include In Annual Report (AR)?
General Requirements				
II.A.3	SWMP documentation	July 25, 2016; update annually as needed		Yes; Submit with 3rd Year Annual Report; with each AR thereafter
II.A.4	Track SWMP info, costs & statistics	1 year from Permit effective date	Update SWMP annually	Submit w/each AR
II.A.7	Submit equivalent documents for EPA review & approval	6 months prior to required due date	Include EPA approvals in SWMP	
VI.B	Reapply for continued permit coverage	Not later than 180 days prior to permit expiration date		
II.E.1, IV.A.1, IV.C.2	Review SWMP actions for compliance with Permit	Annually		Document compliance in each AR
II.F	Implement SWMP in all newly acquired areas	1 year from date of acquisition		Summarize in subsequent AR
II.G	Summarize SWMP implementation costs	Annually		Summarize costs in each AR
Public Education and Outreach				
II.B.1	Conduct targeted education program; Document audience understanding & behavior adoption	2 years from permit effective date	Document goals, record education activities	Summarize activity in each AR
Public Involvement and Participation				
II.B.2.b	Convene coordination meetings to ensure effective SWMP implementation	6 months from permit effective date	Describe coordination activity	Summarize activity in each AR
II.B.2.c	Make SWMP available to public via website	July 25, 2016; updates posted annually as needed	Document website in SWMP	Document website in AR
II.B.2.d	Coordinate volunteer activities	At least 1x per year	Maintain log of activities	Summarize activity in AR
Illicit Discharge Detection and Elimination (IDDE)				
II.B.3	Implement comprehensive IDDE program	Not later than 180 days prior to permit expiration date	Describe program in SWMP	Summarize activity in each AR
II.B.3.a	Update & maintain MS4 map of cantonment areas	2 years from permit effective date	Include reference in SWMP	Submit upon request and/or w/ permit renewal application
II.B.3.b	Map the presence of any MS4 in the training area, particularly in Muck Creek watershed	180 days prior to permit expiration date		Submit map with renewal application
II.B.3.d	Detect & address illicit discharges into the MS4 through dry weather screening	30 months from permit effective date	Describe in SWMP	Summarize screening efforts in AR

Table III. Schedule for Implementation and Compliance as Modified 12/04/2014

Permit Citation	Description of Action	Due Date	Include in the SWMP Document?	Include In Annual Report (AR)?
Illicit Discharge Detection and Elimination (IDDE) continued				
II.B.3.d	Complete field screening of 75% of all MS4 outfalls	180 days prior to permit expiration date	Describe in SWMP	
II.B.3.d	Procedures to characterize illicit discharges	Respond to spills Immediately;& investigate complaints, reports within 7 days		Summarize efforts in AR
II.B.3.d	Procedures for source tracing, and elimination of illicit discharge	Initiate investigation within 21 days; take action to eliminate illicit connection within 45 days		
II.B.3.f	Educate employees businesses and public; publicize hotline/reporting	1 year from permit effective date		Summarize # of calls, follow-up action taken
II.B.3.g	Train responsible staff	New staff trained within six months		Summarize training in AR
Construction Site Stormwater Runoff Control				
II.B.4	Construction Site Runoff Control Program	Ongoing	Describe in SWMP	
II.B.4.c	Maintain policies/ procedures used to enforce site controls	2 years from permit effective date	List policies and procedures	Summarize actions in AR
II.B.4.d	Maintain list of construction site BMPs to be used		Reference construction BMPs	
II.B.4.e	Include appropriate language in all contracts and requests for proposals		Provide example contract language in SWMP	
II.B.4.f	Conduct preconstruction review	Ongoing	Describe in SWMP	Summarize activity in AR
II.B.4 g	Construction site inspection plan; inspect prioritized sites at least quarterly thereafter	January 25, 2016	Include site inspection plan in SWMP	Summarize inspections & actions annually beginning in 2nd Yr AR
II.B.4.h	Train responsible staff	New staff trained within six months		Summarize in each AR
Stormwater Management for Areas of New Development and Redevelopment				
II.B.5	Manage SW from developed areas& new/redevelopment sites disturbing 5,00 sq feet or more	1 year from permit effective date	Describe in SWMP	Summarize status of required program
II.B.5.i	Develop site inspection program to verify proper installation of permanent SW facilities	January 25, 2016	Summarize inspection program in updated SWMP	Summarize inspections & actions beginning in 2nd Year AR
II.B.5.j	Ensure long term operation and maintenance of new permanent SW facilities	3 years from permit effective date	Summarize anticipated annual maintenance activity in SWMP	Summarize activity in AR
II.B.5.k	Train responsible staff	New staff trained within six months		Summarize training in AR
II.B.5.e,	Notify EPA of sites exempted from hydrologic performance requirement for onsite SW management	Annually		Document any exempted projects in Annual Report
II.B.5.f, Appendix C	Notify EPA of sites exempted from the hydrologic flow control requirement, per Appendix C	Within 15 days of decision to exempt site		Summarize any exempted projects in Annual Report

Table III. Schedule for Implementation and Compliance as Modified 12/04/2014

Permit Citation	Description of Action	Due Date	Include in the SWMP Document?	Include In Annual Report (AR)?
Pollution Prevention and Good Housekeeping for Municipal Operations & Maintenance				
II.B.6	Update and Implement O&M program	2 years from permit effective date	Describe O&M program in SWMP	Yes
II.B.6.a	Maintain SW facilities according to schedule established in permit	2 years from permit effective date	Document standards in SWMP	Yes; document circumstances preventing maintenance
II.B.6.b & c & d	Inspect 95% of permanent SW facilities/conduct spot checks after major storms; Inspect 95% all catch basins	No later than permit expiration date	Document schedules in SWMP document	Document # of facilities/catch basins in 2nd year AR; Summarize activity
II.B.6.g	Train responsible staff	New staff: within six months	Describe training in SWMP	Summarize training in AR
II.B.6.h	Develop SWPPPs for equipment maintenance/material storage areas not addressed by other permits	2 years year from permit effective date	Document areas by type/locations in SWMP	Summarize activities in AR
Stormwater Retrofit Report on Reduction of Pollutant Discharges to Impaired Receiving Waters				
II.C.2.f	Submit retrofit report	January 30, 2018	Summarize actions in SWMP	Submit retrofit report w/ 4th Year AR
II.C.2.h	Consistent with Part II.G, initiate at least one retrofit project identified in report	No later than permit expiration date		Summarize actions in 5th Year Annual Report
II.C.3	Meet with EPA to discuss results of retrofit report	No later than permit expiration date		Summarize meeting in 5th Year Annual Report
Required Response to Violations of Water Quality Standards				
II.D	Notify EPA when a discharge is causing or contributing to a violation of water quality standards	Within 30 days of Permittee knowledge		Summarize in each AR
Monitoring, Recordkeeping, and Reporting Requirements				
IV.A.2, IV.A.8	Develop monitoring and quality assurance plan to address WQ Monitoring and Biological Monitoring; update plan to include MS4 Discharge Monitoring	1 year from permit effective date; update no later than July 25, 2015	Describe monitoring plan in in SWMP	Submit WQ & Biological Monitoring/QA plan with 1st Year AR; submit updated plan with 2nd Year AR
IV.A.5, IV.C.1	Begin sampling MS4 discharges into American Lake and Clover Creek; summarize collected data in a MS4 Discharge Characterization Report	July 25, 2015		Submit MS4 Discharge Characterization Report beginning in 4th Year AR, annually thereafter
IV.A.6.a, IV.C.1	Begin water quality sampling in JBLM Canal	July 25, 2015		Submit WQ data report in 4th Year AR, annually thereafter
IV.A.6.b, IV.C.1	Begin water quality sampling in Clover Creek and Murray Creek	July 25, 2015		Submit WQ data report in 4th Year AR, annually thereafter
IV.A.7, IV.C.1	Collect two (2) benthic macroinvertebrate samples in Clover Creek /two (2) samples in Murray Creek	180 days prior to permit expiration date		Submit Biological data report in 5th Year Annual Report
IV.A.9	Notify EPA regarding Permittee decision to monitor per the RSMP	120 days from permit effective date		
IV.C.1, IV.C.2, IV.C.3	Submit Monitoring Reports and Annual Reports	Annually, on January 30th of each year, beginning in 2015		

IV. Monitoring, Recordkeeping, and Reporting Requirements

A. Monitoring

1. **Compliance Evaluation**. At least once per year, the Permittee must evaluate its compliance with these permit conditions and progress toward achieving the minimum control measures. This evaluation of permit compliance must be documented in each Annual Report required as described in Part IV.C.2.

2. **Monitoring Objectives.** The Permittee must monitor stormwater discharges, surface water quality and stream biology to assess the effectiveness of the SWMP to minimize the impacts from MS4 discharges. The Permittee must conduct monitoring to estimate phosphorus loading from its MS4 discharges into American Lake; characterize water quality discharging through the JBLM Canal; characterize water quality in Clover Creek and Murray Creek; assess baseline biological conditions in Clover Creek and Murray Creek; and conduct monitoring to determine pollutant loading into Clover Creek from the MS4. Within one year from the effective date of this permit, the Permittee must develop a monitoring plan to address the objectives of Parts IV.A.6, IV.A.7 and IV.A.8. The initial monitoring plan must be submitted as part of the 1st year Annual Report. No later than July 25, 2015, the Permittee must update the monitoring plan to address the objectives of Part IV.A.5 and IV.A.8, and submit the updated plan with the 2nd year Annual Report.

3. **Representative Sampling.** Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.

4. **Monitoring Procedures.** Monitoring must be conducted according to test procedures approved under 40 CFR Part 136. Where an approved 40 CFR Part 136 method does not exist, and other test procedures have not been specified, any available method may be used after approval from EPA.

5. **Stormwater Discharge Monitoring.**

   a) No later than July 25, 2015, the Permittee must sample at least quarterly from at least one stormwater outfall discharging to American Lake. This monitoring must include stormwater flow measurements collected using automated or manual sampling methods. Samples must be analyzed for total phosphorus as summarized in Table IV.A.i.

   b) At a minimum, over a period of 24 consecutive months the Permittee must collect monthly samples of MS4 discharges into Clover Creek, as specified in Table IV.A.ii below.

   c) The Permittee must collect automated flow weighted composite samples to fully characterize two individual storm events each year for two years during the beginning of the wet weather season (~October 15- Nov 15) discharging to Clover Creek. As indicated in Part IV.A.2, the Permittee must update or create a Quality

Assurance Plan (QAP) which clearly identifies all methods and protocols used in the composite sampling. All data collected must be summarized and reported to EPA annually as part of the corresponding Annual Report.

d) Beginning with the 4th Year Annual Report, any data collected from the selected stormwater outfall(s) discharging to American Lake and Clover Creek must be summarized into a MS4 Discharge Characterization Report and submitted to EPA annually as part of the corresponding Annual Report.

Table IV.A: MS4 Discharge Monitoring For American Lake and Clover Creek

Table IV.A.i: American Lake MS4 Outfall Monitoring

Parameter	Monitoring requirements		
	Sample location[1]	Sample frequency[2]	Sample Type
Flow (cfs)	See below	Quarterly	Composite
Total Phosphorus (mg/L)	See below	Quarterly	Composite

[1]At least one (1) MS4 outfall discharging into American Lake, location(s) to be selected by Permittee.
[2] Samples must be collected at least quarterly during a storm event sufficient to produce a discharge.

Table IV.A.ii: Clover Creek MS4 Outfall Monitoring

Parameter	Monitoring requirements		
	Sample location[1]	Sample frequency[2]	Sample Type
Flow (cfs)[3]	See below	See below	Composite
Oil and Grease	See below	See below	Grab
Dissolved Oxygen (mg/L)	See below	See below	Composite, via *in situ* probe
pH (s.u)	See below	See below	Composite, via *in situ* probe
Fecal coliform bacteria (cfu/100mL)	See below	See below	Grab
Total Nitrogen (mg/L)	See below	See below	Composite
Total Phosphorus (mg/L)	See below	See below	Composite
Total Suspended Solids (mg/L)	See below	See below	Composite
Turbidity (NTU)	See below	See below	Composite, via *in situ* probe
Total and Dissolved Copper (µ/L)	See below	See below	Composite
Total and Dissolved Zinc (µ/L)	See below	See below	Composite
Hardness (mg/L)	See below	See below	Composite

[1] Samples must be collected from at least two (2) outfall locations discharging to Clover Creek.
[2] Over a period of twenty four (24) consecutive months, the Permittee must collect samples monthly at both outfall locations.
[3] Stormwater flow measurements must be collected using automated or manual sampling methods.

6. Water Quality Monitoring.

a) **Water Quality in the JBLM Canal**. No later than July 25, 2015, the Permittee must begin a water quality monitoring program within the JBLM Canal. Over a period of 24 consecutive months, the Permittee must collect water quality samples at least quarterly, for a total of eight (8) quarterly samples. In addition, the Permittee must also collect at least five (5) individual samples during "high flow" storm events, at a frequency to be determined by the Permittee. This monitoring must include flow measurement(s) using automated or manual sampling methods. All samples collected must be analyzed for the parameters listed in Table IV.B. All monitoring of water quality within the JBLM Canal, comprised of the minimum thirteen (13) sampling events described above, must be completed no later than 180 days prior to the expiration date of the permit. Beginning with the 4th Year Annual Report, any monitoring data representing water quality discharging through the JBLM Canal must be summarized and reported to EPA annually as part of the corresponding Annual Report.

b) **Water Quality in Clover Creek and Murray Creek**. No later than July 25, 2015, the Permittee must begin a water quality monitoring program in both Murray Creek and Clover Creek. This monitoring must include flow measurement(s) using automated or manual sampling methods. All samples must be analyzed for the parameters identified in Tables IV.C and IV.D, respectively. Beginning with the 4th Year Annual Report, any monitoring data representing water quality in Clover Creek and Murray Creeks must be summarized and reported to EPA annually as part of the corresponding Annual Report

Table IV.B: Water Quality Monitoring Requirements for JBLM Canal

Parameter	Monitoring requirements	
	Sample location[1]	Sample frequency[2]
Flow (cfs)	See below	See below
Temperature (C°)	See below	See below
Dissolved Oxygen (mg/L)	See below	See below
pH (s.u.)	See below	See below
Fecal coliform bacteria (cfu/100mL)	See below	See below
Total Nitrogen (mg/L)	See below	See below
Total Phosphorus (mg/L)	See below	See below
Total Suspended Solids (mg/L)	See below	See below
Turbidity (NTU)	See below	See below
Total and Dissolved Copper(µ/L)	See below	See below
Total and Dissolved Zinc(µ/L)	See below	See below
Hardness (mg/L)	See below	See below

[1] Samples must be collected from at least one (1) location within the JBLM Canal, downstream of all MS4 discharges/other flows entering the Canal, and prior to discharge into Puget Sound.
[2] Over a period of twenty four (24) consecutive months, the Permittee must collect samples quarterly, for a minimum of four samples per year, resulting in a minimum total of eight quarterly samples. An additional five (5) individual samples must be collected during "high flow" storm events, at a frequency to be determined by the Permittee.

Table IV.C: Water Quality Monitoring Requirements for Murray Creek

Parameter	Monitoring requirements	
	Sample location[1]	Sample frequency[2]
Flow (cfs)	See below	Quarterly
Temperature (C°)	See below	Quarterly
Dissolved Oxygen (mg/L)	See below	Quarterly
pH (s.u.)	See below	Quarterly
Fecal coliform bacteria (cfu/100mL)	See below	Quarterly
Total Nitrogen (mg/L)	See below	Quarterly
Total Phosphorus (mg/L)	See below	Quarterly
Total Suspended Solids (mg/L)	See below	Quarterly
Turbidity (NTU)	See below	Quarterly
Total and Dissolved Copper(µ/L)	See below	Quarterly
Total and Dissolved Zinc(µ/L)	See below	Quarterly
Hardness (mg/L)	See below	Quarterly

[1] A minimum of one location in Murray Creek, to be selected by the Permittee.
[2] A minimum of four (4) samples must be collected in each calendar year.

Table IV.D: Water Quality Monitoring Requirements for Clover Creek

Parameter	Monitoring requirements	
	Sample location[1]	Sample frequency[2]
Flow (cfs)	See below	Quarterly
Temperature (C°)	See below	Quarterly
Dissolved Oxygen (mg/L)	See below	Quarterly
pH (s.u.)	See below	Quarterly
Fecal coliform bacteria (cfu/100mL)	See below	Quarterly
Total Nitrogen (mg/L)	See below	Quarterly
Total Phosphorus (mg/L)	See below	Quarterly
Total Suspended Solids (mg/L)	See below	Quarterly
Turbidity (NTU)	See below	Quarterly
Total and Dissolved Copper(µ/L)	See below	Quarterly
Total and Dissolved Zinc(µ/L)	See below	Quarterly
Hardness (mg/L)	See below	Quarterly

[1] A minimum of one location in Clover Creek as it exits Permit Area, to be selected by the Permittee.
[2] A minimum of four (4) samples must be collected in each calendar year.

7. **Biological Monitoring.** No later than 180 days prior to the expiration date of this permit, the Permittee must collect at least two (2) benthic macroinvertabrate samples in Murray Creek and at least two (2) benthic macroinvertabrate samples in Clover Creek. One sampling event per waterbody must be conducted between the months August-October within any calendar year of the permit term. Sample locations should be in close proximity to the water quality monitoring locations identified by the Permittee to comply with Part IV.A.6.b. The Permittee must use benthic macroinvertebrate monitoring protocols which are consistent with the Pierce County Watershed Health Monitoring Project, Thurston County's Water Resources Monitoring Program, and/or

other contemporaryWestern Washington benthic macroinvertebrate monitoring programs. Each sample must be analyzed and scored using the Puget Sound Lowlands benthic index of biological integrity (B-IBI), as described at http://pugetsoundstreambenthos.org/SiteMap.aspx. The Permittee may elect to opt out of this monitoring requirement, as described below in Part IV.A.9.

8. Quality Assurance Requirements. The Permittee must develop a quality assurance plan (QAP) for all monitoring required in this Part. The QAP must be developed concurrent with the monitoring plan as described in Part IV.A.2**.** Any existing QAPs may be modified to meet the requirements of this section. Upon completion of the monitoring plan and QAP, the Permittee must submit the combined document to EPA with the 1st year Annual Report. Any update to the QAP must be submitted to EPA as part of the subsequent Annual Report.

a) The QAP must be designed to assist in planning for the collection and analysis of stormwater discharge, water quality and biological/benthic macroinvertebrate samples in support of the permit, and in explaining data anomalies when they occur.

b) Throughout all sample collection and analysis activities, the Permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in the following documents:

- *EPA Requirements for Quality Assurance Project Plans EPA-QA/R-5* (EPA/240/B-01/003, March 2001). A copy of this document can be found electronically at: http://www.epa.gov/quality/qs-docs/r5-final.pdf
- *Guidance for Quality Assurance Project Plans EPA-QA/G-5*, (EPA/600/R-98/018, February, 1998). A copy of this document can be found electronically at: http://www.epa.gov/r10earth/offices/oea/epaqag5.pdf

c) At a minimum, the QAP must reflect the content specified in the EPA documents listed in Part IV.A.8.b, and include the following information:

- Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;
- Map(s) indicating the location of each sampling point;
- Qualification and training of personnel; and
- Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the Permittee.

d) The Permittee must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP.

e) Copies of the QAP must be maintained by the Permittee and made available to EPA upon request.

9. Optional Participation in the Puget Sound Regional Stormwater Management Program (RSMP) Status and Trends Monitoring.

a) The purpose of this part is to allow the Permittee the option to contribute to the Regional Stormwater Management Program (RSMP) Status and Trends Monitoring of small streams and marine nearshore in Puget Sound. The RSMP Status and Trends monitoring is described in Part S.8.b of the Washington Department of Ecology-issued *Western Washington Phase II Municipal Stormwater Permit* (effective August 1, 2013) through other sources.[2] The Permittee may elect to participate in the RSMP Status and Trends Monitoring program in lieu of the monitoring requirements specified in IV.A.7 of this permit. The Permittee's decision to participate in the RSMP will be considered binding through the duration of the permit term. The Permittee is solely responsible for discussing and arranging its potential in the RSMP with the program organizers prior to the EPA notification deadline in Part IV.A.9.c.

b) This optional "participation in the RSMP" requires the Permittee to make a monetary payment, or series of annual payments, based on a per capita calculation to be assessed by the RSMP organizers in a manner similar to the calculated contributions from other municipal RSMP participants.

c) Not later than 120 days from the effective date of this permit, the Permittee must inform EPA in writing of its decision to either conduct the monitoring described in Part IV.A.7, or to participate in the Puget Sound RSMP. The notification letter must be submitted to the EPA address indicated in Part IV.D.

B. Recordkeeping

1. Retention of Records. The Permittee must retain records and copies of all information (including all monitoring, calibration and maintenance records and all original strip chart recordings for any continuous monitoring instrumentation, copies of all reports required by this permit, a copy of the NPDES permit, and records of all data used to complete the application for this permit) for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended at the request of the EPA at any time. Records include all information used in the development of the SWMP, all monitoring data, copies of all reports, and all data used in the development of the permit application.

2. Availability of Records. The Permittee must submit the records referred to in Part IV.B.1 to EPA only when such information is requested. The Permittee must retain all records comprising the SWMP required by this permit (including a copy of the permit

[2] See *Western Washington Phase II Municipal Stormwater Permit* available online at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/wwphiipermit.html; and the RSMP website at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/rsmp.html

language and all Annual Reports) at a location accessible to the EPA. The Permittee must make records (including the permit application, Annual Reports and the SWMP document) available to the public if requested to do so in writing pursuant to the Freedom of Information Act. The public must be able to request and view the records during normal business hours, and the Permittee must make all reasonable efforts to comply with such requests. As allowed by the Freedom of Information Act, the Permittee may charge fees for copies of documents provided in response to written requests from the public.

C. Reporting Requirements

1. **Stormwater Discharge, Water Quality and Biological Monitoring Reports**. All available stormwater discharge and water quality monitoring data collected during the prior reporting period(s) must be submitted as part of the 4th and 5th Year Annual Reports. If the Permittee conducts more frequent monitoring than is required by this Permit, the results of such monitoring must also be submitted. All biological monitoring data and corresponding Puget Sound Lowlands I-IBI scores must be submitted as part of the subsequent Annual Report following the sample collection. At a minimum, this Report must include:
    a) Dates of sample collection and analyses;
    b) Results of analytical samples collected;
    c) Location of sample collection;
    d) Summary analysis of data collected.
2. **Annual Report.** No later than January 30, 2015, and annually thereafter, the Permittee must submit an Annual Report to EPA. The reporting periods and associated due dates for each Annual Report are specified in Table IV.E. Copies of all Annual Reports must be made available to the public, at a minimum, upon written request to the Permittee pursuant to the Freedom of Information Act.

Table IV.E - Annual Report Deadlines

Annual Report	Reporting Period	Due Date
1st Year Annual Report	October 1, 2013–September 30, 2014	January 30, 2015
2nd Year Annual Report	October 1, 2014-September 30, 2015	January 30, 2016
3rd Year Annual Report	October 1, 2015-September 30, 2016	January 30, 2017
4th Year Annual Report	October 1, 2016-September 30, 2017	January 30, 2018
5th Year Annual Report	October 1, 2017-September 30, 2018	September 30, 2018

3. **Contents of the Annual Report.** The following information occurring during the relevant reporting period must be summarized or included within each Annual Report:

   a) An updated SWMP document, as required in Part II.A.3;

   b) A report or assessment of compliance with this permit and progress towards achieving the identified actions and activities for each minimum control measure in Parts II.B and II.C. Status of each program area must be addressed, even if activity has previously been completed or has not yet been implemented;

   c) Results of any information collected and analyzed during the previous 12 month reporting period, including summaries of program costs and descriptions of funding sources, information used to assess the success of the program at improving water quality to the maximum extent practicable, or other relevant information;

   d) Stormwater Discharge, Water Quality and Biological Monitoring Reporting, as required in Part IV.C.1;

   e) A summary of the number and nature of all inspections, formal enforcement actions, and/or other similar activities performed by the Permittee;

   f) A summary of all public and private new development or redevelopment project sites that disturb 5,000 square feet or more of land area commencing during the reporting period, including project name, project location, total acreage of new development or redevelopment, and all documentation related to any project sites exempted by JBLM or its counterparts from the provisions of Part II.B.5 pursuant to Permit Appendix C;

   g) A summary list of any water quality compliance-related enforcement actions received from regulatory agencies other than EPA. Such actions include, but are not limited to, formal warning letters, notices of violation, field citations, or similar actions. This summary should include dates, project synopsis, and actions taken to address the compliance issue(s);

   h) Copies of completed or revised Monitoring & Quality Assurance Plan(s), retrofit plans, education materials, ordinances (or other regulatory mechanisms), equivalent documents or program materials, inventories, guidance materials, maps, or other products produced as required by this permit;

   i) A general summary of the activities the Permittee plans to undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure;

   j) A description and schedule for implementation of additional BMPs that may be necessary, based on monitoring results, to ensure compliance with applicable water quality standards;

   k) Notice if the Permittee is relying on another entity to satisfy any of the permit obligations, if applicable; and

l) A description of the location, size, receiving water, and drainage area of any new MS4 outfall(s) owned or operated by the Permittee added to the system since the previous annual reporting period.

D. Addresses. Reports and other documents to be submitted as required by this permit must be signed and certified in accordance with Part VI.E.

a) If EPA provides the Permittee of an alternative means of submitting reports during the permit term other than the manner described herein, the Permittee may use that alternative reporting mechanism in lieu of this provision.

b) One hard copy and one electronic copy (on CD ROM, or through prearranged transmission by Email as indicated below) of any submittal must be provided the following address:

EPA Region 10: United States Environmental Protection Agency
Region 10
Attention: Municipal Stormwater Program Contact
NPDES Compliance Unit
1200 6th Avenue, Suite 900 (OCE-133)
Seattle, WA 98101

c) Prior to the electronic submittal of any required documents to EPA, the Permittee must contact the EPA Region 10 NPDES MS4 Permit Program Coordinator at (206) 553-6650 or (800) 424-4372, and obtain appropriate Email contact information.

V. Compliance Responsibilities

A. Duty to Comply. The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

B. Penalties for Violations of Permit Conditions

1. **Civil and Administrative Penalties**. Pursuant to 40 CFR Part 19 and the Act, any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $37,500 per day for each violation).

2. **Administrative Penalties**. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of this Act. Pursuant to 40 CFR Part 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500). Pursuant to 40 CFR Part 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $177,500).

3. **Criminal Penalties.**

   a) **Negligent Violations**. The Act provides that any person who negligently violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both.

   b) **Knowing Violations**. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six years, or both.

   c) **Knowing Endangerment**. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

d) **False Statements**. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate. The Permittee must take all reasonable steps to minimize or prevent any discharge or disposal in violation of this Permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Bypass of Treatment Facilities.

1. **Bypass not exceeding limitations**. The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.
2. **Notice**.
    a) Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it must submit prior written notice, if possible at least 10 days before the date of the bypass.
    b) Unanticipated bypass. The Permittee must submit notice of an unanticipated bypass as required under Part V.K of this Permit.
3. **Prohibition of bypass.** The intentional bypass of stormwater from all or any portion of a stormwater treatment BMP whenever the design capacity of the treatment BMP is not

exceeded is prohibited, and the Director of the Office of Compliance and Enforcement may take enforcement action against the Permittee for such bypass, unless:

a) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated stormwater, or maintenance during normal dry weather. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of dry weather or preventive maintenance; and

c) The Permittee submitted notices as required under paragraph 2 of this Part.

4. EPA's Director of the Office of Compliance and Enforcement may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 3.a. of this Part.

G. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the Permittee meets the requirements of G.2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the Permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a) An upset occurred and that the Permittee can identify the cause(s) of the upset;

b) The permitted facility was at the time being properly operated;

c) The Permittee submitted notice of the upset as required under Part V.K; and

d) The Permittee complied with any remedial measures required under Part V.D.

3. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

H. Toxic Pollutants. The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

I. Planned Changes. The Permittee must give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1.The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR §122.29(b); or

2.The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit.

J. Anticipated Noncompliance. The Permittee must give advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

K. Twenty-Four Hour Reporting.

1. The Permittee must report the following occurrences of noncompliance by telephone within 24 hours from the time the Permittee becomes aware of the circumstances:

a) any discharge to or from the MS4 which could result in noncompliance that endangers health or the environment;

b) any unanticipated bypass that exceeds any effluent limitation in the permit (See Part V.F);

c) any upset that exceeds any effluent limitation in the permit (See Part V.G);

2. A written submission must also be provided within five days of the time you become aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

3. The following shall be included as information which must be reported within 24 hours under this paragraph.

a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)

b) Any upset which exceeds any effluent limitation in the permit (See 40 CFR 122.41(n)(1).)

4. The Director of the Office of Compliance and Enforcement may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.

5. Reports must be submitted to the addresses in Part IV.D.

L. Other Noncompliance. The Permittee must report all instances of noncompliance, not required to be reported within 24 hours, as part of each Annual Report as required in Part IV.C.2. Noncompliance reports must contain the information listed in Part V.K. of this permit

VI. General Provisions

A. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§ 122.62, 122.64, or 124.5. The filing of a request by the Permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Duty to Reapply. If the Permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. In accordance with 40 CFR §122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Director, the Permittee must submit a new application at least 180 days before the expiration date of the permit, or in conjunction with the fourth Annual Report. The reapplication package must contain the information required by 40 CFR §122.21(f) which includes: name and mailing address(es) of the Permittee(s) that operate the MS4(s), and names and titles of the primary administrative and technical contacts for the municipal Permittee(s). In addition, the Permittee must identify the identification number of the existing NPDES MS4 permit; any previously unidentified water bodies that receive discharges from the MS4; a summary of any known water quality impacts on the newly identified receiving waters; a description of any changes to the number of applicants; and any changes or modifications to the Stormwater Management Program. The re-application package may incorporate by reference the fourth Annual Report when the reapplication requirements have been addressed within that report.

C. Duty to Provide Information. The Permittee must furnish to the Director, within the time specified in the request, any information that the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee must also furnish to the Director, upon request, copies of records required to be kept by this permit.

D. Other Information. When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Director, the Permittee must promptly submit the omitted facts or corrected information.

E. Signatory Requirements. All applications, reports or information submitted to the Director must be signed and certified as follows.

1. All permit applications must be signed as follows:

a) For a corporation: by a responsible corporate officer.

b) or a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a) The authorization is made in writing by a person described above;

b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the organization; and

c) The written authorization is submitted to the Director.

3. Changes to authorization. If an authorization under Part VI.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part VI.E.2 must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this Part must make the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. In accordance with 40 CFR Part 2, information submitted to EPA pursuant to this permit may be claimed as confidential by the Permittee. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the Permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry. The Permittee must allow the Director or an authorized representative (including an authorized contractor acting as a representative of the Director), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of state or local laws or regulations.

I. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Act. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)

J. State/Tribal Environmental Laws

1. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State/Tribal law or regulation under authority preserved by Section 510 of the Act.

2. No condition of this permit releases the Permittee from any responsibility or requirements under other environmental statutes or regulations.

K. Oil and Hazardous Substance Liability. Nothing in this permit shall be constructed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

L. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to the circumstances, and the remainder of this permit shall not be affected thereby.

VII. Definitions and Acronyms

All definitions contained in Section 502 of the Act and 40 CFR Part 122 apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided but, in the event of a conflict, the definition found in the statute or regulation takes precedence.

"Administrator" means the Administrator of the EPA, or an authorized representative.

"Air Operations Areas" or AOAs, is defined in the *Aviation Stormwater Design Manual - Managing Wildlife Hazards Near Airports* (December 2008). For the purposes of this Permit, the term AOA means any area of an airport used or intended to be used for landing, takeoff, or surface maneuvering of aircraft. This includes such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to associated runways, taxiways, or aprons. For the purposes of this permit, the term AOA also includes the following unique subareas as defined in the *Aviation Stormwater Design Manual - Managing Wildlife Hazards Near Airports* (December 2008) and described in this Part: Clearway, Object-Free Area, Runway Protection Zone, Runway Safety Area, and Taxiway Safety Areas. See: http://www.wsdot.wa.gov/aviation/AirportStormwaterGuidanceManual.htm

"AKART" means all known, available and reasonable methods of prevention, control and treatment, and refers to the State of Washington Water Pollution Control Act, Chapter 90.48.010 and 90.48.520 RCW.

"Best Management Practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States and waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See "stormwater control measure (SCM)."

"Bioretention" is the water quality and water quantity stormwater management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from stormwater runoff. Biorentention, for the purpose of this permit, means engineered facilities that store and treat stormwater by passing it through a specified soil profile, and either retain or detain the treated stormwater for flow attenuation. Refer to the 2012 *Stormwater Management Manual for Western Washington,* Chapter 7 of *Volume V – Runoff Treatment BMPs* for Bioretention BMP types and design specifications.

"Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. See 40 CFR §122.41(m)(1)(i).

"Canopy Interception**"** is the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.

"Clearway," as defined in the *Aviation Stormwater Design Manual - Managing Wildlife Hazards Near Airports* (December 2008), means a defined rectangular area beyond the end of a runway

cleared or suitable for use in lieu of runway to satisfy takeoff distance requirements. This is the region of space above an inclined plane that leaves the ground at the end of the runway. See: http://www.wsdot.wa.gov/aviation/AirportStormwaterGuidanceManual.htm

"Construction General Permit or CGP" means the current version of the U.S. Environmental Protection Agency's *NPDES General Permit for Stormwater Discharges from Construction Activities in Washington, Permit No.WAR12-000F*. The permit is posted on EPA's website at *www.epa.gov/npdes/stormwater/cgp*.

"Common Plan of Development**"** is a contiguous construction project where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The "plan" is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions and industrial parks.

"Construction Activity" includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines and industrial non-building structures). See "Stormwater Discharge Associated with Construction Activity."

"Control Measure" as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States and waters of the State.

"Converted vegetation" or converted vegetation areas, means the surfaces on a project site where native vegetation, pasture, scrub/shrub, or unmaintained non-native vegetation (e.g., himalayan blackberry, scotch broom) are converted to lawn or landscaped areas, or where native vegetation is converted to pasture.

"CWA" or "The Act" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.

"Director" means the Environmental Protection Agency Region 10 Regional Administrator, the Director of the Office of Water and Watersheds, the Director of the Office of Compliance and Enforcement, or an authorized representative.

"Discharge" when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR §122.2.

"Discharge of a pollutant" means (a) any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or (b) any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This

definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

"Discharge-related Activities" include: activities which cause, contribute to, or result in stormwater point source pollutant discharges, and measures to control such stormwater discharges, including the siting, construction, and operation of best management practices to control, reduce or prevent stormwater pollution.

"Discharge Monitoring Report or DMR" means the EPA uniform national form, including any subsequent additions, revisions or modification for the reporting of self monitoring results by the Permittee. See 40 CFR §122.2.

"Disconnect" for the purposes of this permit, means the change from a direct discharge into receiving waters to one in which the discharged water flows across a vegetated surface, through a constructed water or wetlands feature, through a vegetated swale, or other attenuation or infiltration device before reaching the receiving water.

"Effective impervious surfaces" are those impervious surfaces that are connected via sheet flow or discrete conveyance to a drainage system. (Impervious surfaces are considered ineffective if: 1) the runoff is dispersed through at least one hundred feet of native vegetation in accordance with BMT T55.30 – "Full Dispersion" as described in Chapter 5 of Volume V of the 2012 *Stormwater Management Manual for Western Washington*; or 2) residential roof runoff is infiltrated in accordance with Downspout Full Infiltration Systems in BMP T5.10A in Volume III –*Hydrologic Analysis and Flow Control BMPs* of the 2012 *Stormwater Management Manual for Western Washington;* or 3) approved continuous runoff modeling methods indicate that the entire runoff file is infiltrated.

"Engineered Infiltration" is an underground device or system designed to accept stormwater and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the infiltration rate.

"Erodible or leachable materials" means wastes, chemicals, or other substances that measurably alter the physical or chemical characteristics of runoff when exposed to rainfall. Examples include erodible soils that are stockpiled, uncovered process wastes, manure, fertilizers, oily substances, ashes, kiln dust, and garbage dumpster leakage.

"Erosion" means the process of carrying away soil particles by the action of water.

"Evaporation" means rainfall that is changed or converted into a vapor.

"Evapotranspiration" means the sum of evaporation and transpiration of water from the earth's surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration from plants.

"Extended Filtration" is a structural stormwater device which filters stormwater runoff through a soil media and collects it an under drain which slowly releases it after the storm is over.

"EPA" means the Environmental Protection Agency Regional Administrator, the Director of the Office of Water and Watersheds, or an authorized representative.

"Facility or Activity" means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

"Green infrastructure" means runoff management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse.

"Hard surface" means an impervious surface, a permeable pavement, or a vegetated roof.

"Hydromodification" means changes to the stormwater runoff characteristics of a watershed caused by changes in land use.

"Hyperchlorinated**"** means water that contains more than 10 mg/Liter chlorine.

"Illicit Connection" means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

"Illicit Discharge" is defined at 40 CFR §122.26(b)(2) and means any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

"Impaired Water**"** (or "Water Quality Impaired Water") for purposes of this permit means any water body identified by the State of Washington or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards. Impaired waters include both waters with approved or established Total Maximum Daily Loads (TMDLs), and those for which a TMDL has not yet been approved or established.

"Impervious surface" means a non-vegetated surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. "Impervious surface" also means a non-vegetated surface area which causes water to run off the surface in greater quantities (or at an increased rate of flow) than the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to: roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities must be considered impervious surfaces for purposes of runoff modeling.

"Industrial Activity" as used in this permit refers to the eleven categories of industrial activities included in the definition of discharges of stormwater associated with industrial activity at 40 CFR §122.26(b)(14).

"Industrial Stormwater" as used in this permit refers to stormwater runoff from industrial activities, such as those defined in 40 CFR 122.26(b)(14)(i-xi).

"Infiltration" is the process by which stormwater penetrates into soil.

"Low Impact Development" or "LID" means a stormwater and land use management strategy that strives to mimic pre-development hydrologic processes of infiltration, filtration, storage, evaporation,and transpiration by emphasizing conservation, use of onsite natural features, site planning, and distributed stormwater management practices that integrated into a project design.

"LID Best Management Practices" or "LID practices," means the distributed stormwater management practices, integrated into a project design, that emphasize pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration. LID BMPs include, but are not limited to, bioretention/rain gardens, permeable pavements, roof downspout controls, dispersion, soil quality and depth, minimal excavation foundations, vegetated roofs, and water re-use.

"LID Principles" means the land use management strategies that emphasize conservation, use of on-site natural features, and site planning to minimize impervious surfaces, native vegetation loss, and stormwater runoff.

"Major storm event" as used in this permit, refers to rainfall greater than the 24 hour- 10 year-recurrence interval.

"Maintenance" means the repair and maintenance includes activities conducted on currently serviceable structures, facilities, and equipment that involves no expansion or use beyond that previously existing and results in no significant adverse hydrologic impact. It includes those usual activities taken to prevent a decline, lapse, or cessation in the use of structures and systems. Those usual activities may include replacement of dysfunctional facilities, including cases where environmental permits require replacing an existing structure with a different type structure, as long as the functioning characteristics of the original structure are not changed. One example is the replacement of a collapsed, fish blocking, round culvert with a new box culvert under the same span, or width, of roadway. In regard to stormwater facilities, maintenance includes assessment to ensure ongoing proper operation, removal of built up pollutants (i.e. sediments), replacement of failed or failing treatment media, and other actions taken to correct defects as identified in the maintenance standards of Chapter 4, Volume V- *Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington.* See also Road Pavement Maintenance exemptions in Appendix C of this Permit.

"MEP" or "maximum extent practicable," means the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in stormwater discharges that was

established by CWA Section 402(p). EPA's discussion of MEP as it applies to regulated small MS4s is found at 40 CFR §122.34.

"Measurable Goal" means a quantitative measure of progress in implementing a component of a stormwater management program.

"Minimize" means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

"MS4" means "municipal separate storm sewer system" and is used to refer to a Large, Medium, or Small Municipal Separate Storm Sewer System regulated under the federal NPDES permit program. The term, as used within the context of this permit, refers to separate storm sewer system owned or operated within the permit area by JBLM. See "municipal separate storm sewer" below and definitions at 40 CFR 122.26(b)(18), (19)

"Municipality" means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

"Municipal Separate Storm Sewer" is defined at 40 CFR 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

"Seattle Urbanized Area" means the greater Seattle, Washington, area delineated by the Year 2000 Census by the U.S. Bureau of the Census according to the criteria defined by the Bureau on March 15, 2002 (67 FR 11663) namely, the area consisting of contiguous, densely settled census block groups and census blocks that meet minimum population density requirements, along with adjacent densely settled census blocks that together encompass a population of at least 50,000 people.

"National Pollutant Discharge Elimination System" or "NPDES" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the CWA. The term includes an "approved program" delegated to a State agency.

"Native vegetation" means vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been

expected to naturally occur on the site. Examples include trees such as Douglas Fir, western hemlock, western red cedar, alder, big-leaf maple, and vine maple; shrubs such as willow, elderberry, salmonberry, and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

"Object-Free Area," as defined in the *Aviation Stormwater Design Manual - Managing Wildlife Hazards Near Airports* (December 2008), means an area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of aboveground objects protruding above the Runway Safety Area (RSA, defined below) edge elevation, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. See:
http://www.wsdot.wa.gov/aviation/AirportStormwaterGuidanceManual.htm

"On-site Stormwater Management BMPs" as used in this Permit, means Low Impact Development BMPs or practices.

"Outfall" means a point source (defined below) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

"Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

"Permitting Authority" means U.S. Environmental Protection Agency, or EPA.

"Permeable pavement" means pervious concrete, porous asphalt, permeable pavers or other forms of pervious or porous paving material intended to allow passage of water through the pavement section. It often includes an aggregate base that provides structural support and acts as a stormwater reservoir.

"Pervious Surface" means any surface material that allows stormwater to infiltrate into the ground. Examples include lawn, landscape, pasture, native vegetation areas, and permeable pavements.

"Permeable pavement" or "permeable paving" means surfaces which are designed to accommodate pedestrian, bicycle, and vehicle traffic while allowing infiltration, treatment, and storage of stormwater. General categories of permeable paving systems include: open-graded concrete or hot-mix asphalt pavement; aggregate or plastic pavers; and plastic grid systems, as discussed in the *Low Impact Development Technical Guidance Manual for Puget Sound* (December 2012).

"Permanent stormwater management controls" see "post-construction stormwater management controls."

"Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock,

concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

"Pollutant" is defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

“Pollutant(s) of concern" includes any pollutant identified as a cause of impairment of any water body that will receive a discharge from a MS4 authorized under this permit.

“Pollution-generating hard surface (PGHS)” means those hard surfaces considered to be a significant source of pollutants in stormwater runoff. See the listing of surfaces under “pollution-generating impervious surface.”

“Pollution-generating impervious surface (PGIS)” means those hard surfaces or impervious surfaces considered to be a significant source of pollutants in stormwater runoff. Such surfaces include those which are subject to: vehicular use; industrial activities; or storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall. Metal roofs unless they are coated with an inert, non-leachable material (e.g., baked-on enamel coating); or .roofs that are subject to venting significant amounts of dusts, mists, or fumes from of manufacturing, commercial, or other indoor activities.

“Pollution-generating pervious surface (PGPS)” means any non-impervious surface subject to use vehicle use, industrial activities; or storage of erodible or leachable materials, wastes, or chemicals, and that receive direct rainfall or run-on or blow-in of rainfall, of pesticides and fertilizers or loss of soil. Typical PGPS include permeable pavement subject to vehicular use, lawns and landscaped areas, including golf courses, parks, cemeteries, and sports fields (natural and artificial turf). .

“Post-construction stormwater management controls” or “permanent stormwater management controls” means those controls designed to treat or control runoff on a permanent basis once construction is complete, including stormwater treatment and flow control BMPs /facilities, including detention facilities, bioretention, vegetated roofs, permeable pavements, etc.

“QA/QC” means quality assurance/quality control.

“QAP” means Quality Assurance Plan, or Quality Assurance Project Plan.

“Rainfall and Rainwater Harvesting**”** is the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.

“Rain Garden” means a non-engineered shallow landscaped depression, with compost-amended native soils and adapted plants. The depression is designed to pond and temporarily store stormwater runoff from adjacent areas, and to allow stormwater to pass through the amended soil

profile. Refer to the Rain Garden Handbook for Western Washington Homeowners (WSU 2007 or as revised) for rain garden specifications and construction guidance.

"Receiving waters" means bodies of water or surface water systems to which surface runoff is discharged via a point source of stormwater or via sheet flow. Ground water to which surface runoff is directed by infiltration. See also "waters of the state" and "waters of the United States."

"Redevelopment" for the purposes of this permit, means the alteration, renewal or restoration of any developed land or property that results in the land disturbance of 5,000 square feet or more, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

"Regional Administrator" means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.

"Regulated Construction Activities" include clearing, grading or excavation that results in a land disturbance of greater than or equal to one acre, or that disturbs less than one acre if part of a larger common plan of development or sale that would disturb one acre or more. See "Stormwater Discharge Associated with Construction Activity."

"Road maintenance" and/or "Repair of Public Streets, Roads and Parking Lots" means repair work on Permittee-owned or Permittee managed streets and parking lots that involves land disturbance including asphalt removal or re- grading of 5,000 square feet or more. This definition excludes the following activities: pot hole and square cut patching; overlaying existing asphalt or concrete pacing with asphalt or concrete without expanding the area of coverage; shoulder grading; reshaping or regrading drainage ditches; crack or chip sealing; resurfacing with in-kind material without expanding the road prism, and vegetative maintenance.

"Runoff" see "stormwater."

"Runoff Reduction Techniques" means the collective assortment of stormwater practices that reduce the volume of stormwater from discharging off site.

"Runway Protection Zone," as defined in the *Aviation Stormwater Design Manual - Managing Wildlife Hazards Near Airports* (December 2008), means an area off the runway end to enhance the protection of people and property on the ground. See:
http://www.wsdot.wa.gov/aviation/AirportStormwaterGuidanceManual.htm

"Runway Safety Area," as defined in the *Aviation Stormwater Design Manual - Managing Wildlife Hazards Near Airports* (December 2008), means a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway. See:
http://www.wsdot.wa.gov/aviation/AirportStormwaterGuidanceManual.htm

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR §122.41(m)(1)(ii).

"Sewershed" means, for the purposes of this permit, all the land area that is drained by a network of municipal storm sewer system conveyances to a single point of discharge to a water of the United States

"Significant contributor of pollutants" means any discharge that causes or could cause or contribute to an excursion above any Washington water quality standard.

"Small Municipal Separate Storm Sewer System" is defined at 40 CFR §122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States, but is not defined as "large"' or "medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas such as individual buildings.

"Snow management" means the plowing, relocation and collection of snow and ice.

"Soil amendments" are components added *in situ* or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.

"Source control" means stormwater management practices that control stormwater *before* pollutants have been introduced into stormwater; a structure or operation that is intended to prevent pollutants from coming into contact with stormwater through physical separation of areas or careful management of activities that are sources of pollutants. The 2012 *Stormwater Management Manual for Western Washington* separates source control BMPs into two types. *Structural Source Control BMPs* are physical, structural, or mechanical devices, or facilities that are intended to prevent pollutants from entering stormwater. *Operational BMPs* are non-structural practices that prevent or reduce pollutants from entering stormwater. See Volume IV-*Source Control BMPs* of the 2012 *Stormwater Management Manual for Western Washington* for details.

"Storm event" or "measurable storm event" for the purposes of this permit means a precipitation event that results in an actual discharge from the outfall and which follows the preceding measurable storm event by at least 48 hours (2 days).

"Storm water," "stormwater" and "stormwater runoff" as used in this permit means runoff during and following precipitation and snow melt events, including surface runoff and drainage, as defined at 40 CFR §122.26(b)(13). Stormwater means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

"Stormwater Control Measure" means physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of stormwater. Also, SCM means a permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. SCMs may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See "best management practices (BMPs)."

"Stormwater Discharge Associated with Construction Activity" as used in this permit, refers to a discharge of pollutants in stormwater runoff from areas where soil disturbing activities (*e.g.*, clearing, grading, or excavation), construction materials or equipment storage or maintenance (*e.g.*, fill piles, borrow areas, concrete truck washout, fueling) or other industrial stormwater directly related to the construction process are located. (See 40 CFR §122.26(b)(14)(x) and 40 CFR §122.26(b)(15) for the two regulatory definitions of stormwater associated with construction sites.)

"Stormwater Discharge Associated with Industrial Activity" as used in this permit, refers to the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial activity included in the regulatory definition at 40 CFR §122.26(b)(14).

"Stormwater Facility" means a constructed component of a stormwater drainage system, designed or constructed to perform a particular function or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catch basins, oil/water separators, sediment basins, and modular pavement. See also "permananent stormwater management controls" and/or "post-construction stormwaer management controls."

"Stormwater Management Practice**"** or "Storm Water Management Control" means practices that manage stormwater, including structural and vegetative components of a stormwater system.

"Stormwater Management Program (SWMP)" refers to a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.

"Stormwater Pollution Prevention Plan (SWPPP)" means a site specific plan designed to describe the control of soil or other materials to prevent pollutants in stormwater runoff, generally developed for a construction site, or an industrial facility. For the purposes of this permit, a SWPPP means a written document that identifies potential sources of pollution, describes practices to reduce

pollutants in stormwater discharges from the site, and identifies procedures that the operator will implement to comply with applicable permit requirements.

"Taxiway Safety Area," as defined in the *Aviation Stormwater Design Manual - Managing Wildlife Hazards Near Airports* (December 2008), means a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft unintentionally departing the taxiway. See: http://www.wsdot.wa.gov/aviation/AirportStormwaterGuidanceManual.htm

"TMDL" means Total Maximum Daily Load, an analysis of pollutant loading to a body of water detailing the sum of the individual waste load allocations for point sources and load allocations for non-point sources and natural background. See 40 CFR §130.2.

"Treatment" means storm water management practices that 'treat' storm water after pollutants have been incorporated into the stormwater.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR §122.42(n)(1)

"Waters of the State" includes those waters as defined as "waters of the United States" in 40 CFR § 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in Chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington. See also "receiving waters."

"Waters of the United States" means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters, including interstate "wetlands";

3. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

   a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
   b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
   c. Which are used or could be used for industrial purposes by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under this definition;

5. Tributaries of waters identified in paragraphs 1 through 4 of this definition;

6. The territorial sea; and

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs 1 through 6 of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds for steam electric generation stations per 40 CFR Part 423) which also meet the criteria of this definition are not waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

"Watershed" is defined as all the land area that is drained by a water body and its tributaries.

"Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Appendix A – Street Waste Disposal (Part II.B.6.d)

Street Waste Solids

Soils generated from maintenance of the MS4 may be reclaimed, recycled or reused when allowed by local codes and ordinances. Soils that are identified as contaminated pursuant to Washington Administrative Code (WAC) Chapter 173-350 shall be disposed at a qualified solid waste disposal facility.

Street Waste Liquids

General Procedures:

Street waste collection should emphasize retention of solids in preference to liquids. Street waste solids are the principal objective in street waste collection and are substantially easier to store and treat than liquids.

Street waste liquids require treatment before their discharge. Street waste liquids usually contain high amounts of suspended and total solids and adsorbed metals. Treatment requirements depend on the discharge location.

Discharges to sanitary sewer and storm sewer systems must be approved by the entity responsible for operation and maintenance of the system. Neither Washington Department of Ecology nor EPA will generally require waste discharge permits for discharge of stormwater decant to sanitary sewers or to stormwater treatment BMPs that are constructed and maintained in accordance with Department of Ecology's 2012 *Stormwater Management Manual for Western Washington.*

For disposal of catch basin decant liquid and water removed from stormwater treatment facilities, EPA recommends the following, in order of preference:

1. **Discharge of catch basin decant liquids to a municipal sanitary sewer connected to a Public Owned Treatment Works (POTW) is the preferred disposal option.** Discharge to a municipal sanitary sewer requires the approval of the sewer authority. Approvals for discharge to a POTW will likely contain pretreatment, quantity and location conditions to protect the POTW.

2. **Discharge of catch basin decant liquids may be allowed into a Basic or Enhanced Stormwater Treatment BMP, if option 1 is not available.** Decant liquid collected from cleaning catch basins and stormwater treatment wet vaults may be discharged back into the storm sewer system under the following conditions:
   - The preferred disposal option of discharge to sanitary sewer is not reasonably available; and

- The discharge is to a Basic or Enhanced Stormwater Treatment Facility as described by Department of Ecology's 2012 *Stormwater Management Manual For Western Washington*. If pretreatment does not remove visible sheen from oils, the treatment facility must be able to prevent the discharge of oils causing a sheen; and

- The discharge is as near to the treatment facility as is practical, to minimize contamination or recontamination of the collection system; and

- The storm sewer system owner/operator has granted approval and has determined that the stormwater treatment facility will accommodate the increased loading. Pretreatment conditions to protect the stormwater treatment BMP may be issued as part of the approval process. Following local pretreatment conditions is a requirement of this permit.

- Flocculants for the pretreatment of catch basin decant liquids must be non-toxic under the circumstances of use and must be approved in advance by EPA Region 10.

The reasonable availability of sanitary sewer discharge will be determined by the Permittee, by evaluating such factors as distance, time of travel, load restrictions, and capacity of the stormwater treatment facility.

3. **Water removed from stormwater ponds, vaults and oversized catch basins may be returned to the storm sewer system.** Stormwater ponds, vaults and oversized catch basins contain substantial amounts of liquid, which hampers the collection of solids and pose problems if the removed waste must be hauled away from the site. Water removed from these facilities may be discharged back into the pond, vault or catch basin provided:

   - Clear water removed from a stormwater treatment structure may be discharged directly to a down gradient cell of a treatment pond or into the storm sewer system.

   - Turbid water may be discharged back into the structure it was removed from if

     - the removed water has been stored in a clean container (eductor truck, Baker tank or other appropriate container used specifically for handling stormwater or clean water); and

     - There will be no discharge from the treatment structure for at least 24 hours. If discharging to a pond, vault or catch basin that is not owned or operated by the Permittee,

   - The discharge must be approved by the storm sewer system owner/operator.

Appendix B - Runoff Treatment Requirements for New Development and Redevelopment Project Sites (Part II.B.5.g)

Project Thresholds

The following projects require the construction of stormwater treatment facilities:

- Projects in which the total area of pollution-generating hard surface (PGHS) is 5,000 square feet or more, or
- Projects in which the total area of pollution-generating pervious surfaces (PGPS) - not including permeable pavements - is three-quarters (3/4) of an acre or more; and from which there will be a surface discharge in a natural or man-made conveyance system from the site.

Treatment-Type Thresholds

1. Oil Control:

Treatment to achieve Oil Control applies to projects that have "high-use sites." High-use sites are those that typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil. High-use sites include:

a. An area of a commercial or industrial site subject to an expected average daily traffic (ADT) count equal to or greater than 100 vehicles per 1,000 square feet of gross building area;

b. An area of a commercial or industrial site subject to petroleum storage and transfer in excess of 1,500 gallons per year, not including routinely delivered heating oil;

c. An area of a commercial or industrial site subject to parking, storage or maintenance of 25 or more vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.);

d. A road intersection with a measured ADT count of 25,000 vehicles or more on the main roadway and 15,000 vehicles or more on any intersecting roadway, excluding projects proposing primarily pedestrian or bicycle use improvements.

2. Phosphorus Treatment:

The requirement to provide phosphorous control is determined by the Department of Ecology (for example, through a waste load allocation as part of an EPA approved Total Maximum Daily Load [TMDL] analysis). There is currently no EPA approved TMDL for American Lake, although it is a water body reported under section 305(b) of the Clean Water Act, and is designated by the State of Washington as not supporting beneficial uses due to phosphorous. The Permittee should consider phosphorus treatment for any

discharges from new development or redevelopment projects that will discharge to American Lake.

3. Enhanced Treatment:

Except where specified under Appendix B4, *Basic Treatment*, enhanced treatment for reduction in dissolved metals is required for the following project sites that 1) discharge directly to freshwaters or conveyance systems tributary to freshwaters designated for aquatic life use or that have an existing aquatic life use; or 2) use infiltration strictly for flow control – not treatment- and the discharge is within ¼ mile of a freshwater designated for aquatic life use or that has an existing aquatic life use:

Industrial project sites,
Commercial project sites,
Multi-family project sites, and
High AADT roads as follows:

- Roads with an AADT of 15,000 or greater unless discharging to a 4th Strahler order stream or larger;

- Roads with an AADT of 30,000 or greater if discharging to a 4th Strahler order stream or larger (as determined using 1:24,000 scale maps to delineate stream order).

Any areas of the above-listed project sites that are identified as being subject to Basic Treatment requirements (below) are not also subject to Enhanced Treatment requirements. For developments with a mix of land use types, the Enhanced Treatment requirement shall apply when the runoff from the areas subject to the Enhanced Treatment requirement comprise 50% or more of the total runoff.

4. Basic Treatment:

Basic Treatment is required for each of the following circumstances:

- Project sites that discharge to the ground, UNLESS:

  1) The soil suitability criteria for infiltration treatment are met; (see Chapter 3 of Volume III-*Hydrologic Analysis and Flow Control BMPs* of the 2012 *Stormwater Management Manual for Western Washingto*n) and alternative pretreatment is provided (see Chapter 6, Volume V-*Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washingto*n) or

  2) The project site uses infiltration strictly for flow control – not treatment - and the discharge is within ¼-mile of a phosphorus sensitive lake (use a Phosphorus Treatment facility), or

3) The project site is industrial, commercial, multi-family residential, or a high AADT road (consistent with the Enhanced Treatment-type thresholds listed above) and is within ¼ mile of a fresh water designated for aquatic life use or that has an existing aquatic life use.(use an Enhanced Treatment facility).

- Residential projects not otherwise needing phosphorus control as designated by USEPA, the Department of Ecology, or by the Permittee;

- Project sites discharging directly (or indirectly through a MS4) to Basic Treatment Receiving Waters (Appendix I-C of the 2012 *Western Washington Stormwater Management Manual*)

- Project sites that drain to freshwater that is not designated for aquatic life use, and does not have an existing aquatic life use; and project sites that drain to waters not tributary to waters designated for aquatic use or that have an existing aquatic life use;

- Landscaped areas of industrial, commercial, and multi-family project sites, and parking lots of industrial and commercial project sites that do not involve pollution-generating sources (e.g., industrial activities, customer parking, storage of erodible or leachable material, wastes or chemicals) other than parking of employees' private vehicles. For developments with a mix of land use types, the Basic Treatment requirement shall apply when the runoff from the areas subject to the Basic Treatment requirement comprise 50% or more of the total runoff.

Treatment Facility Sizing

Size all stormwater treatment facilities for the entire area that drains to them, even if some of those areas are not pollution-generating.

Water Quality Design Storm Volume: The volume of runoff predicted from a 24-hour storm with a 6-month return frequency (a.k.a., 6-month, 24-hour storm). Wetpool facilities are sized based upon the volume of runoff predicted through use of the Natural Resource Conservation Service curve number equations in Chapter 2 of Volume III-*Hydrologic Analysis and Flow Control BMPs* of the 2012 *Stormwater Management Manual for Western Washington,* for the 6-month, 24-hour storm. Alternatively, when using an -approved continuous runoff model, the water quality design storm volume shall be equal to the simulated daily volume that represents the upper limit of the range of daily volumes that accounts for 91% of the entire runoff volume over a multi-decade period of record.

Water Quality Design Flow Rate

1. Preceding Detention Facilities or when Detention Facilities are not required:

   The flow rate at or below which 91% of the runoff volume, (as estimated by an approved continuous runoff model) will be treated. Design criteria for treatment facilities are assigned to achieve the applicable performance goal (e.g., 80% TSS removal) at the water quality design flow rate. At a minimum, 91% of the total runoff volume, as estimated by an approved continuous runoff model, must pass through the treatment facility(ies) at or below the approved hydraulic loading rate for the facility(ies).

2. Downstream of Detention Facilities:

   The water quality design flow rate must be the full 2-year release rate from the detention facility.

Treatment Facility Selection, Design, and Maintenance

Stormwater treatment facilities must be:

- Selected in accordance with the process identified in Chapter 4 of Volume I, and Chapter 2 of Volume V-*Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington* ,
- Designed in accordance with the design criteria in Volume V- *Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington*, and
- Maintained in accordance with the maintenance schedule in Volume V- *Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington.*

Additional Requirements

The discharge of untreated stormwater from pollution-generating hard surfaces to ground water must not be authorized by the Permittee, except for the discharge achieved by infiltration or dispersion of runoff through use of On-site Stormwater Management BMPs in accordance with Chapter 5, and Chapter 7, Volume V-*Runoff Treatment BMPs* of the 2012 *Stormwater Management Manual for Western Washington*; or by infiltration through soils meeting the soil suitability criteria in Chapter 3 of Volume III-*Hydrologic Analysis and Flow Control BMPs* of the 2012 *Stormwater Management Manual for Western Washington*.

Appendix C - Exemptions from the New Development and Redevelopment Requirements of Part II.B.5

Unless otherwise indicated in this Appendix the practices described in this Appendix are exempt from the New Development and Redevelopment Requirements of Part II.B.5, even if such practices meet the definition of new development or redevelopment site disturbance thresholds.

1. Forest practices:

Forest practices regulated under Title 222 WAC, except for Class IV General forest practices that are conversions from timber land to other uses, are exempt from the provisions of Part II.B.5.

2. Commercial agriculture:

Commercial agriculture practices involving working the land for production are generally exempt. However, the conversion from timberland to agriculture, and the construction of impervious surfaces are not exempt. *Commercial Agriculture* means those activities conducted on lands defined in Revised Code of Washington (RCW) 84.34.020(2) and activities involved in the production of crops or livestock for commercial trade. An activity ceases to be considered commercial agriculture when the area on which it is conducted is proposed for conversion to a nonagricultural use or has lain idle for more than five years, unless the idle land is registered in a federal or state soils conservation program, or unless the activity is maintenance of irrigation ditches, laterals, canals, or drainage ditches related to an existing and ongoing agricultural activity.

3. Oil and Gas Field Activities or Operations:

Construction of drilling sites, waste management pits, and access roads, as well as construction of transportation and treatment infrastructure such as pipelines natural gas treatment plants, natural gas pipeline compressor stations, and crude oil pumping stations are exempt.

4. Pavement Maintenance:

The following pavement maintenance practices are exempt: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/regrading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, pavement preservation activities that do not expand the road prism, and vegetation maintenance.

The following pavement maintenance practices are not categorically exempt – they are considered redevelopment. The extent to which Part II.B.5 applies is explained for each circumstance.

- *Removing and replacing a paved surface to base course or lower, or repairing the pavement base:* If impervious areas are not expanded, the requirements of Part II.B.5.a through B.5.e apply.

- *Extending the pavement edge without increasing the size of the road prism, or paving graveled shoulders:* These are considered new impervious surfaces and are subject to the requirements of Part II.B.5.

- *Resurfacing by upgrading from dirt to gravel, asphalt, or concrete; upgrading from gravel to asphalt, or concrete; or upgrading from a bituminous surface treatment ("chip seal") to asphalt or concrete*: These are considered new impervious surfaces and are subject to the requirements of Part II.B.5.

5. Underground utility projects:

Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics are not subject to the requirements of Part II.B.5.

6. Exemptions from the Hydrologic Performance Requirement for Flow Control (Part II.B.5.f):

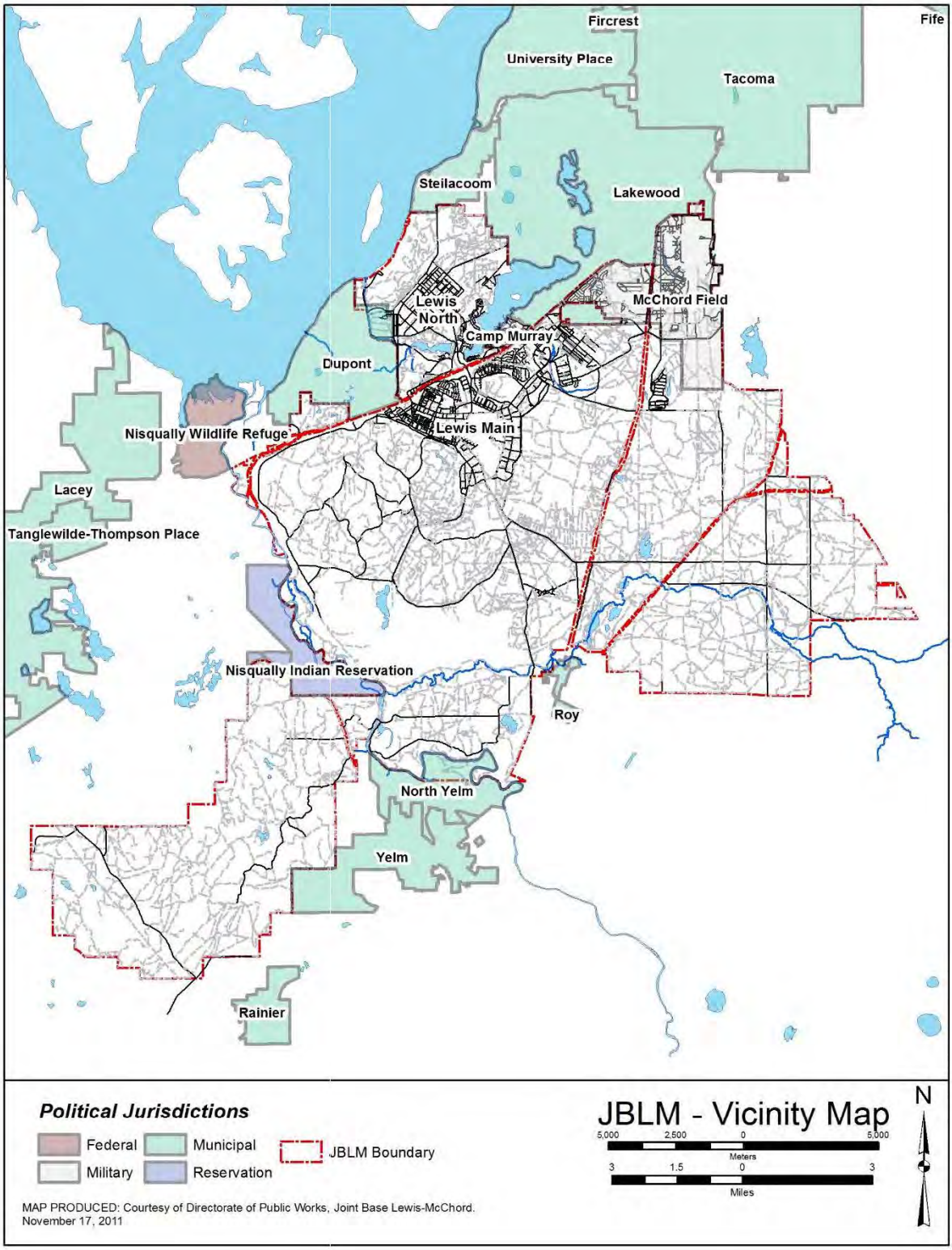
The Permittee may exempt a new development or redevelopment project from managing the total runoff flow volume calculated to meet the hydrologic performance standard in Part II.B.5.f, provided the Permittee fully documents its determination that compliance with the hydrologic performance requirement for flow control cannot be attained due to severe economic project costs.

The Permittee must manage as much of the calculated flow volume as possible, and must keep written records of all such project determinations.

No later than 15 days from the date the Permittee makes a determination that a project should be exempt from the hydrologic performance requirement for flow control due to severe economic costs, the Permittee must provide a written summary of the following information describing each new development and/or redevelopment project site exempted from the flow control requirement and submit such information to EPA via certified mail and via electronic mail to the EPA Region 10 address listed in Part IV.D of this permit:

- Name, location and identifying project description, including a brief synopsis of the project purpose, and a detailed description of the underlying facts supporting the Permittee's determination.
- For projects where managing the total runoff flow volume calculated to meet the hydrologic performance requirement for flow control in Part II.B.5. f. is deemed by the Permittee to be unattainable due to severe economic costs, the Permittee must document, and quantify that appropriate stormwater control strategies will be deployed to manage as much of the calculated flow volume as possible; the marginal cost of full attainment must be documented along with a justification on why full attainment of the flow control requirement at the site would result in severe economic cost.

Appendix D - Vicinity Map of JBLM Installation



ATTACHMENT G-5

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

the Municipality of Anchorage and
the Alaska Department of Transportation and Public Facilities
(hereinafter "permittees")

are authorized to discharge from all municipal separate storm sewer system (MS4) outfalls existing as of the effective date of this permit to receiving waters of the United States which include Cook Inlet, Eklutna River, Edmonds Creek, Mink Creek, Mirror Creek, Peters Creek, Fire Creek, Eagle River, Meadow Creek, South Fork Eagle River, Ship Creek, Chester Creek, North Fork Chester Creek, Middle Fork Chester Creek, South Fork Chester Creek, Fish Creek, Campbell Creek, North Fork Campbell Creek, South Fork Campbell Creek, Little Campbell Creek, Craig Creek, Furrow Creek, Hood Creek, Little Survival Creek, Rabbit Creek, Little Rabbit Creek, Potter Creek, Bird Creek, Indian Creek, and Glacier Creek, their tributaries, associated lake systems, and wetlands located within the corporate boundary of the Municipality of Anchorage, in accordance with the conditions set forth herein.

This permit shall become effective February 1, 2010.

This permit and the authorization to discharge shall expire at midnight, January 31, 2015.

The permittees shall reapply for permit reissuance on or before August 4, 2014, 180 days before the expiration of this permit, if the permittees intend to continue operations and discharges from the MS4s beyond the term of this permit.

Signed this 29th day of October 2009.

Michael A. Bussell, Director
Office of Water and Watersheds, Region 10
U.S. Environmental Protection Agency

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I. Applicability

A. Permit Area. This permit covers all areas within the corporate boundary of the Municipality of Anchorage served by the municipal separate storm sewer systems (MS4s) owned or operated by either the Municipality of Anchorage (MOA) or the Alaska Department of Transportation and Public Facilities (ADOT&PF).

B. Discharges Authorized Under This Permit. Subject to the conditions set forth herein, the permittees are authorized to discharge storm water to waters of the United States located within the corporate boundary of the Municipality of Anchorage from: (1) all portions of the MS4 owned or operated by MOA; and, (2) all portions of the MS4 within State of Alaska highway rights-of-way owned or operated by ADOT&PF.

As provided in Part I.D, this permit also authorizes the discharge of flows from the MS4s which are categorized as allowable non-storm water discharge, storm water discharge associated with industrial activity, and storm water discharge associated with construction activity.

C. Permittees' Responsibilities

1. **Individual Responsibility**. Each permittee is individually responsible for permit compliance related only to portions of the MS4 owned or operated solely by that permittee, or where this permit requires a specific permittee to take an action.
2. **Joint Responsibility.** Each permittee is jointly responsible for permit compliance:
   a) related to portions of the MS4 where operational or storm water management program (SWMP) implementation authority has been transferred from one permittee to another in accordance with an interjurisdictional agreement;
   b) related to portions of the MS4 where permittees jointly own or operate a portion of the MS4; and
   c) related to the submission of reports or other documents required by Parts II and IV of this permit.
3. **Interjurisdictional Agreement.** MOA and ADOT&PF must maintain an interjurisdictional agreement describing each organization's respective roles and responsibilities related to this permit. Any previously signed agreement must be updated, as necessary, in accordance with this permit. A copy of an updated interagency agreement must be submitted to the Alaska Department of Environmental Conservation (ADEC) within nine months of the effective date of this permit.
4. **Program Coordination Plan**. Not later than six months from the effective date of this permit, the permittees must develop and submit to ADEC a program plan describing the performance of activities defined in this permit. This plan must include, but is not limited to,

a) A description of how the MOA Watershed Management Section and the ADOT&PF Maintenance & Operations Group each intend to coordinate among all relevant MOA and/or ADOT &PF organizations within the corporate boundaries of the MOA to ensure effective program implementation and compliance with this permit; and

b) A description of how each permittee will work with each other and other parties within the corporate boundaries of the MOA to ensure coordinated storm water-related policies, programs, and projects within the Anchorage area.

D. Limitations on Permit Coverage

1. **Non-Storm Water Discharges**. Permittees are not authorized to discharge non-storm water from the MS4, except where such discharges satisfy one of the following three conditions:

a) The non-storm water discharges are in compliance with a separate NPDES permit;

b) The non-storm water discharges result from a spill and:

(i) are the result of an unusual and severe weather event where reasonable and prudent measures have been taken to prevent and minimize the impact of such discharge; or

(ii) consist of emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to prevent and minimize the impact of such discharges;

or

c) The non-storm water discharges satisfy each of the following two conditions:

(i) The discharges consist of uncontaminated water line flushing; potable water sources; landscape irrigation (provided all pesticides, herbicides and fertilizer have been applied in accordance with manufacturer's instructions); lawn watering; irrigation water; flows from riparian habitats and wetlands; diverted stream flows; springs; rising ground waters; uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20)) to separate storm sewers; uncontaminated pumped ground water or spring water; foundation and footing drains (where flows are not contaminated with process materials such as solvents); uncontaminated air conditioning or compressor condensate; water from crawlspace pumps; individual residential car washing; dechlorinated swimming pool discharges; routine external building wash down which does not use detergents; street and pavement wash waters, where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been

removed); fire hydrant flushing; or flows from emergency firefighting activities; and

(ii) The discharges are not sources of pollution to waters of the United States. A discharge is considered a source of pollution to waters of the United States if it:

1) Causes excessive foam in the receiving waters or contains floating and/or settleable solids in amounts sufficient to make the water unsafe or unfit for providing water supply or other beneficial uses;

2) Contains oil or other substances in amounts sufficient to create a visible film or sheen on the receiving waters;

3) Contains substances that are in amounts sufficient to be unsightly or deleterious or which produce color, odor, or other conditions to such a degree as to create a nuisance;

4) Contains any substance or combination of substances in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants or humans; or

5) Contains any substances or combination of substances that will cause or contribute to the growth of aquatic plants or algae to such degree as to create a nuisance, be unsightly, or otherwise impair the designated use.

6) Causes or contributes to an exceedance of other applicable water quality standards.

2. **Discharges Threatening Water Quality.** Permittees are not authorized to discharge storm water that will cause, or have the potential to cause or contribute to, violations of the Alaska water quality standards.

3. **Discharge Compliance with Anti-Degradation Policy.** Permittees are not authorized to discharge storm water that does not comply with Alaska's anti-degradation policy for water quality standards. Alaska's anti-degradation policy, 18 Alaska Administrative Code 70.015, can be obtained from ADEC at the address listed in Part IV.D.

4. **Snow Disposal to Receiving Waters.** Permittees are not authorized to dispose of snow directly to waters of the United States or directly to the MS4(s). Discharges from the permittees' snow disposal sites and snow management practices are authorized under this permit only when such sites and practices are designed, operated, and maintained to prevent pollutants in storm water runoff and to reduce pollutants in the discharge to the maximum extent practicable**.**

5. **Storm Water Discharge Associated with Industrial and Construction Activity.** Permittees are authorized to discharge storm water associated with industrial activity (as defined in 40 CFR 122.26(b)(14)), and storm water associated with construction activity (as defined in 40 CFR 122.26(b)(14)(x)

and (b)(15)), from their MS4s, only when such discharges are otherwise authorized under an appropriate NPDES permit.

II. Storm Water Management Program (SWMP) Requirements

A. General Requirements

1. **Reduce pollutants to the maximum extent practicable.** Permittees must implement and enforce a SWMP designed to reduce the discharge of pollutants from their MS4 to the maximum extent practicable (MEP), and to protect water quality in receiving waters. The SWMP actions and activities as defined in this permit include Best Management Practices (BMPs), control measures, system design, engineering methods, and other provisions appropriate to control and minimize discharges of pollutants from the MS4.

   a) The SWMP actions and activities are outlined in Part II, and SWMP assessment/monitoring requirements are described in Part IV. Each permittee must use BMPs and control measures that are selected, implemented, maintained and updated to ensure that storm water discharges do not cause or contribute to an exceedance of an applicable Alaska water quality standard.

2. **Shared Implementation with outside entities.** Implementation of one or more of the permit requirements may be shared with or delegated to another entity other than the permittee(s). The permittee may rely on another entity only if:

   a) The other entity, in fact, implements the requirement;

   b) The action, or component thereof , is at least as stringent as the corresponding permit requirement; and

   c) The other entity agrees to implement the permit requirement on the permittee's behalf. A binding written acceptance of this obligation is required. The permittees must maintain this obligation as part of the SWMP. If the other entity agrees to report on the permit requirement, the permittees must supply the other entity with the reporting requirements in Part IV.C of this permit. The permittees remain responsible for compliance with the permit obligation if the other entity fails to implement the required measure.

3. **Watershed Planning.** The permittees must complete at least two individual watershed plans for specific water bodies before the expiration date of this permit. The planning process must provide an opportunity for public input. Each plan must identify priority resources within the watershed, and potential opportunities for storm water infiltration, evapotranspiration or rainfall harvesting/reuse, or other site-based low impact development (LID) practices. Each watershed plan should include consideration and discussion of the following principles:

   a) Minimize the amount of impervious surfaces (roads, parking lots, roofs) within each watershed, by minimizing the creation, extension and widening of roads and associated development.

b) Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.

c) Prevent or reduce thermal impacts to streams, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.

d) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.

e) Preserve and protect trees, and other vegetation with important evapotranspirative qualities.

f) Preserve and protect native soils, prevent topsoil stripping, and prevent compaction of soils.

B. Minimum Control Measures. The following minimum control measures must be accomplished through each permittees' Storm Water Management Program:

1. **Construction Site Runoff Control Program.** The permittees must implement a construction site runoff control program to reduce discharges of pollutants from public and private construction activity within its jurisdiction. "Construction activity" for this permit includes, at a minimum, construction involving a total land disturbance of 10,000 square feet or more at a single construction site or as part of a plan of common development. The permittees' construction site management program must include the requirements described below:

   a) **Ordinance and/or other regulatory mechanism.** To the extent allowable under local or state law, the permittees must adopt, implement, and enforce requirements for erosion controls, sediment controls, and materials management techniques to be employed and maintained at each construction project from initial clearing through final stabilization. Each permittee must require construction site operators to maintain adequate and effective controls to eliminate pollutants in storm water discharges from construction sites. The permittees must use enforcement actions (such as, written warnings, stop work orders or fines) to ensure compliance**.** No later than one year after the effective date of this permit, each permittee must adopt formal ordinances or other regulatory mechanisms that are consistent with this permit and the current version of the NPDES or APDES General Permit for Storm Water Discharges from Construction Activities, Permit #AKR10-0000 (NPDES or APDES Construction General Permit or CGP).

   b) **Construction Storm Water Manual.** The permittees must update their respective manuals (MOA's 2007 Storm Water Treatment Plan Review Guidance Manual, [Second Edition] and/or any equivalent ADOT&PF guidance manual) to include requirements for the proper installation and maintenance of erosion controls, sediment controls, and material

containment/pollution prevention controls during all phases of construction activity. Within one year of the effective date of this permit, the permittees must update their manual(s) and require the use of the manual by construction site operators within their jurisdiction. The manual(s) must include all acceptable control practices, selection and sizing criteria, illustrations, and design examples, as well as recommended operation and maintenance of each practice. At a minimum, the manual(s) must include applicable elements for erosion control, sediment control, and pollution prevention consistent with the current version of the CGP.

c) **Plan Review and Approval**. The permittees must review and approve site plans from construction site operators within their jurisdictions. The MOA must require the preparation and submittal of a storm water treatment plan, for the MOA's review and written approval prior to issuance of a municipal permit for construction projects. The ADOT&PF must require the preparation and submittal of a storm water pollution prevention plan (SWPPP) for the ADOT&PF's review and written approval prior to commencing with the construction project. Permittees must ensure that the construction site operator is prohibited from commencing construction activity prior to receipt of written approval.

(i) The permittees must not approve any stormwater treatment plan or SWPPP unless it contains appropriate site-specific construction site control measures that meet the minimum requirements in Part II.B.1.b.

(ii) Within the MOA, the portion of the storm water treatment plan describing the active construction phase may serve as the SWPPP required under the NPDES or APDES Construction General Permit, provided that the required storm water treatment plan is at least as inclusive of controls as the SWPPP requirements contained in the most recent version of the NPDES or APDES Construction General Permit.

(iii) Prior to the start of a construction project disturbing one or more acres or less than one acre but part of a larger common plan of development, the permittees must verify whether the construction site operator(s) have obtained necessary coverage under the operative NPDES or APDES Construction General Permit.

(iv) Permittees must use qualified individuals, knowledgeable in the technical review of storm water treatment plans/storm water pollution prevention plans to conduct such reviews.

(v) Permittees must document the review of each storm water treatment plan and SWPPP using a checklist or similar process.

d) **Construction Site Inspections.** The permittees must inspect utility projects, construction sites which require a building permit, and non-publicly funded transportation projects at the frequency specified in Table II.B-1 below:

Table II.B-1

Site	Inspection Frequency
(A) All sites 5 acres or larger in size	Inspection must occur at least monthly during the construction season.
(B) Other sites 10,000 sq ft or more, or part of a larger common plan of development, which are determined by the permittee or permitting authority to be a significant threat to water quality*	
(C) All other construction sites with 10,000 sq ft or more, or which are part of a larger common plan of development and do not meet the criteria specified in (A) or (B)	Inspection must occur at least once per construction season.
(D) Construction sites less than 10,000 sq feet in size	Inspection must occur as needed based on the evaluation of the factors that are a threat to water quality.*
*In evaluating the threat to water quality, the following factors must be considered: soil erosion potential; site slope; project size and type; site proximity to receiving water bodies; sensitivity of receiving water bodies; non-storm water discharges; and past record of non-compliance by the operators of the construction site.	

(i) Inspections of construction sites must include, but not be limited to:

- Check for coverage under the Construction General Permit by requesting a copy of any application or Notice of Intent (NOI) during initial inspections;

- Review the applicable storm water treatment plans/storm water pollution prevention plans to determine if control measures have been installed, implemented, and maintained according to the plan;

- Assess compliance with the permittee's ordinances/requirements related to storm water runoff, including the implementation and maintenance of required control measures;

- Assess the appropriateness of planned control measures and their effectiveness;
- Visually observe non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
- Provide education and outreach on storm water pollution prevention, as needed; and
- Provide a written or electronic inspection report.

(ii) The permittees must track the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies required.

(iii) Based on site inspection findings, each permittee must take all necessary follow-up actions (i.e., re-inspection, enforcement) to ensure compliance. These follow-up and enforcement actions must be tracked as well.

e) **Enforcement Response Policy for Construction Site Management Program.** No later than two years after the effective date of this permit, each permittee must develop and implement a written escalating enforcement response policy (ERP) appropriate to their organization. Each ERP must be submitted to EPA and ADEC with the 2nd Year Annual Report. The ERP for MOA must address enforcement of construction site runoff controls for utility construction projects, construction projects that require a building permit, and non-publicly funded transportation construction projects. The ERP for ADOT&PF must address contractual enforcement of construction site runoff controls at ADOT&PF owned construction sites. Each ERP must describe the permittee's potential responses to violations with an appropriate educational or enforcement response. The ERP must address repeat violations through progressively stricter responses as needed to achieve compliance. Each ERP must describe how the permittee will use the following types of enforcement response based on the type of violation:

(i) **Verbal Warnings:** Verbal warnings are primarily consultative in nature. At a minimum, verbal warnings must specify the nature of violation and required corrective action.

(ii) **Written Notices**: Written notices must stipulate the nature of the violation and the required corrective action, with deadlines for taking such action.

(iii) **Escalated Enforcement Measures**: The permittees must have the legal ability to employ any combination of the enforcement actions below (or their functional equivalent):

- The ERP must indicate when the permittees will initiate a Stop Work Order. Stop work orders must require that construction activities be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate control measures.
- The permittees must also use other escalating measures provided under local or state legal authorities, such as assessing monetary penalties. The permittees may perform work necessary to improve erosion control measures and collect the funds from the responsible party in an appropriate manner, such as collecting against the project's bond, or directly billing the responsible party to pay for work and materials.

(iv) **Construction General Permit Violation Referrals:** For those construction projects subject to the NPDES or APDES Construction General Permit, permittees must refer non-filers (i.e., those projects which cannot demonstrate that they have appropriate NPDES permit coverage) to the Alaska Department of Environmental Conservation within 15 days of making that determination. In making such referrals, permittees must include, at a minimum, the following documentation:

- Construction project location;
- Name of owner or operator;
- Estimated construction project size; and
- Records of communication with the owner or operator regarding filing requirements.

(v) **Enforcement Tracking:** The permittees must track instances of non-compliance either in hard-copy files or electronically. The enforcement case documentation must include, at a minimum, the following:

- Name of owner/operator;
- Location of construction project;
- Description of violation;
- Required schedule for returning to compliance;
- Description of enforcement response used, including escalated responses if repeat violations occur;
- Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations, etc.); and
- Any referrals to different departments or agencies.

f) **Construction Program Education and Training.** Within two years of the effective date of this permit, the permittees must ensure that all staff whose primary job duties are related to implementing the construction program (including permitting, plan review, construction site inspections, and enforcement) are trained to conduct such activities. The education program must also provide regular training opportunities for construction site operators. This training must include, at a minimum:

(i) *Erosion and Sediment Control/Storm Water Inspectors*:

- Initial training regarding proper control measure selection, installation and maintenance as well as administrative requirements such as inspection reporting/tracking and the implementation of the enforcement response policy; and

- Annual refresher training for existing inspection staff to update them on preferred BMPs, regulation changes, permit updates, and policy or standards updates.

(ii) *Other Construction Inspectors*: Initial training on general storm water issues, basic control measure implementation information, and procedures for notifying the appropriate personnel of noncompliance.

(iii) *Plan Reviewers*:

- Initial training regarding control measure selection, design standards, review procedures;

- Annual training regarding new control measures, innovative approaches, permit updates, regulation changes and policy or standard updates.

(iv) *Third-Party Inspectors and Plan Reviewers.* If the permittee utilizes outside parties to either conduct inspections and or review plans, these outside staff must be trained per the requirements listed in Part II.B.1.f.i.-iii above.

(v) *Construction Operator Education.* Permittees must educate construction site operators as follows:

- At least once per year, the permittees must either provide information to all construction companies on existing training opportunities or develop new training for construction operators regarding appropriate selection, installation, and use of required construction site control measures at sites within the permit area.

- The permittees must require construction site operators to have at least one person on-site during construction that is appropriately trained in erosion and sediment control.

- Permittees must require construction operators to attend training at least once every three years.
- The permittees must provide appropriate information and outreach materials to all construction operators who will be disturbing land within their jurisdiction.

2. **Storm Water Management for Areas of New Development and Redevelopment.** At a minimum, the permittees must implement and enforce a program to control storm water runoff from new development and redevelopment projects that result in a land disturbance of 10,000 square feet or more. This control program must apply to private and public sector development, including roads and streets. The program implemented by the permittees must ensure that permanent controls or practices are utilized at each new development and redevelopment site to protect water quality. The program must include, at a minimum, the elements described below**:**

   a) **Ordinance or other regulatory mechanisms.** Prior to the expiration date of this permit, the permittees must update and implement the applicable ordinance, or other enforceable regulatory requirement(s) as allowed under state law, to require the installation and long-term maintenance of permanent storm water management controls at new development and redevelopment projects.

      (i) The updated ordinance or regulatory mechanism must include site design standards for all new and redevelopment that require, in combination or alone, management measures that keep and manage the runoff generated from the first 0.52 inches of rainfall from a 24 hour event preceded by 48 hours of no measureable precipitation. Runoff volume reduction can be achieved by canopy interception, soil amendments, evapotranspiration, rainfall harvesting, engineered infiltration, extended filtration, and/or any combination of such practices that will capture the first 0.52 inches of rainfall. An Underground Injection Control permit may be required when certain conditions are met. The ordinance or regulatory mechanism must require that the first 0.52 inches of rainfall be 100% managed with no discharge to surface waters, except when the permittee chooses to implement the conditions of II.B.2.a.ii below..

      (ii) For projects that cannot meet 100% infiltration/evapotranspiration/reuse requirements onsite, offsite mitigation within the same subwatershed may be available, subject to siting restrictions established by the permittee. The permittee allowing this option must develop and apply criteria for determining the circumstances under which offsite mitigation may be allowed. A determination that the retention requirement cannot be met onsite may not be based solely on the difficulty and/or cost of implementing such measures, but must include multiple criteria that would rule out an adequate combination of practices suggested in Part II.B.2.a.i, such as: inadequate room

onsite to create the necessary infiltrative capacity, particularly sites with poorly infiltrating soils; a site with high groundwater or shallow bedrock; and/or a land use that is inconsistent with capture and reuse or infiltration of stormwater. The permittee allowing this option must create an inventory of appropriate mitigation projects and develop appropriate institutional standards and management systems to value, estimate and track these situations. The permittee must identify priority areas within subwatersheds in which off-site retention may be conducted.

(iii) The ordinance or regulatory mechanism must include the following water quality requirements:

- Projects with potential for excessive pollutant loading(s) must provide water quality treatment for associated pollutants before infiltration.
- Projects with potential for excessive pollutant loading(s) that cannot implement adequate preventive or water quality treatment measures to ensure compliance with surface water standards must properly convey storm water to a NPDES permitted wastewater treatment facility or via a licensed waste hauler to a permitted treatment and disposal facility.

(iv) The ordinance or other regulatory mechanism must include procedures for storm water plan review and approval,

(v) The ordinance or other regulatory mechanism must include sanctions (including fines) to ensure compliance, as allowed under state or local law.

b) **Storm Water Design Criteria Manual.** The permittees must develop a Storm Water Design Criteria Manual specifying acceptable permanent storm water management and control practices. MOA must comply with this Part no later than two years from the effective date of this permit. ADOT&PF must comply with this Part no later than three years from the effective date of this permit. The manual must contain design criteria for each practice. Existing manual(s) may be updated to fulfill this requirement. The manual must include:

(i) Specifications and incentives for the use of site-based practices appropriate to local soils and hydrologic conditions;

(ii) A list of acceptable practices, including sizing criteria, performance criteria, design examples, and guidance on selection and location of practices; and

(iii) Specifications for proper long term operation and maintenance, including appropriate inspection interval and self-inspection checklists for responsible parties.

c) **Green Infrastructure/Low Impact Development (LID) Strategy and Pilot Projects.** Within one year of the effective date of this permit, the permittees must develop a strategy to provide incentives for the increased use of LID techniques in private and public sector development projects within both the MOA and ADOT&PF jurisdictions. The strategy must outline the methods of evaluating the Green Infrastructure/LID pilot projects described below. Permittees must begin implementation of the Green Infrastructure/LID Strategy and pilot projects within two years of the effective date of this permit.

(i) Beginning with the 4th Year Annual Report, the permittees must report on and evaluate the status of five pilot projects that use LID concepts for on-site control of water quality. Projects must involve managing runoff from at least 10,000 square feet of impervious surface. At least three of the five LID pilot projects must be ADOT&PF-owned locations. Parking lot retrofits as required in Part II.B.2.c.vi may be used as pilot projects. At least two of the pilot sites must address drainage areas greater than five acres in size. At least one pilot project must be located in the Chester Creek, Fish Creek, Campbell Creek, or Little Campbell Creek watersheds.

(ii) The permittees must monitor the performance of each pilot project and report the results beginning with the 4th Year Annual Report. The permittees must calculate or model changes in runoff quantities for each of the pilot project sites in the following manner:

- For retrofit projects, changes in runoff quantities shall be calculated as a percentage of 100% pervious surface before and after implementation of the LID practices.

- For new construction projects, changes in runoff quantities shall be calculated for development scenarios both with LID practices and without LID practices.

- The permittees must measure runoff flow rate and subsequently prepare runoff hydrographs to characterize peak runoff rates and volumes, discharge rates and volumes, and duration of discharge volumes. The evaluation must include quantification and description of each type of land cover contributing to surface runoff for each pilot project, including area, slope, vegetation type and condition for pervious surfaces, and nature of impervious surfaces.

- The permittees must use these runoff values to evaluate the overall effectiveness of various LID practices and to develop recommendations for future LID practices addressing appropriate use, design, type, size, soil type and operation and maintenance practices. The permittees must

use the recommendations to update their final LID criteria, as necessary, and utilize the information obtained through the LID pilot studies to revise the Storm Water Design Criteria Manual(s) no later than five years from the effective date of this permit.

(iii) **Rain Gardens.** Within four years of the effective date of this permit, the permittees must evaluate the effectiveness of rain gardens located in one neighborhood and one public-private community partnership. If feasible, pilot projects should be located within a TMDL watershed listed in Table II.C. The permittees must quantitatively evaluate the effectiveness of the rain gardens as outlined in Part II.B.2.c.ii above.

(iv) **Riparian Zone Management.** Within five years from the effective date of this permit, the permittees must identify and prioritize riparian areas appropriate for permittee acquisition and protection. Prior to the expiration date of this permit, the permittees must examine the feasibility of reconstructing MS4 outfalls, and must disconnect at least one major MS4 outfall from discharging from receiving waters using vegetated swales or other appropriate techniques.

(v) **Repair of Public Streets, Roads or Parking Lots.** When public streets, roads or parking lots are repaired as defined in Part VII, the permittees must evaluate the feasibility of incorporating runoff reduction techniques into the repair using canopy interception, soil amendments, evaporation, rainfall harvesting, engineered infiltration, rain gardens, infiltration trenches, extended filtration and/or evapotranspiration and/or any combination of the aforementioned practices. Where such practices are found to be feasible, the permittees must consider the use of such practices in the design and repair. These requirements apply only to projects whose design is started after the effective date of this permit. Beginning in the 4th Year Annual Report, the permittees must document and list the locations of street, road and parking lot repair work completed within the last 12 month period that has incorporated such runoff reduction practices.

(vi) **Parking Lot Retrofits.** Prior to the expiration date of this permit, each permittee must retrofit at least two public facility parking lots with infiltration, evapotranspiration or reuse techniques designed to retain 100% of the parking lot runoff from the 90th percentile, 24 hour rainfall event. Each retrofit site must be located in a watershed draining to an impaired receiving water listed in Table II.C. The permittees must quantitatively measure the effectiveness of

the new techniques through measurement of runoff volume both before and after the retrofit.

d) **Plan Review and Approval.** The permittees must review and approve pre-construction plans for permanent storm water management. The permittees must review plans for consistency with the ordinance/regulatory mechanism and Storm Water Design Criteria Manual required by this Part. The permittees must ensure that the project operator is prohibited from commencing construction activity prior to receipt of written approval from the permittee. Within three years of the effective date of this permit, the MOA must require the preparation and submittal of plans for permanent storm water controls, for the MOA's review and written approval prior to commencing with the construction project. Within three years of the effective date of this permit, ADOT&PF must require the preparation and submittal of plans for permanent stormwater control for the ADOT&PF's review and written approval prior to commencing with the construction project.

(i) The permittees must not approve or recommend for approval any plans for permanent storm water controls that do not contain appropriate permanent storm water management practices that meet the minimum requirements specified in this Part.

(ii) Permittees must use qualified individuals, knowledgeable in the technical review of plans for permanent storm water controls to conduct such reviews.

(iii) Permittees must document the review of each storm water treatment plan using a checklist or similar process.

e) **Operation and Maintenance (O&M) of Permanent Storm Water Management Controls.**

(i) **Inventory and Tracking.** Within three years of the effective date of this permit, the permittees must develop and maintain a database for tracking new public and private sector permanent storm water controls. Within five years of the expiration date of the permit, all of the existing permanent storm water controls must be included in the inventory database. For the purposes of this Part, new permanent controls are those installed after the effective date of this permit; existing permanent controls are those installed prior to the effective date of this permit. The tracking must begin in the plan review stage with a database that incorporates geographic information system (GIS) information. The tracking system must also include, at a minimum: type and number of practices; O&M requirements, activity and schedule; self-inspection schedule;

(ii) **O&M Agreements.** Where parties other than the permittees are responsible for operation and maintenance of permanent storm water controls, within five years of the effective date of this permit, the permittees must require a legally enforceable and transferable O&M agreement with the responsible party, or other

mechanism, that assigns permanent responsibility for maintenance of structural or treatment control storm water management practices.

f) **Inspection and Enforcement of Permanent Storm Water Management Controls.** Within three years of the effective date of this permit, the permittee must ensure proper long term operation and maintenance of all permanent storm water management practices within the permit area. The permittees must develop an inspection program, and prioritize new development and redevelopment sites for inspections of permanent storm water management controls. Factors used to prioritize sites must include, but not be limited to: size of new development or redevelopment area; sensitivity and/or impaired status of receiving water(s); and, history of non-compliance at the site during the construction phase.

(i) High priority sites must be inspected at least once annually between August through October. The inspections must determine whether storm water management or treatment practices have been properly installed (i.e., an "as built" verification). The inspections must evaluate the operation and maintenance of such practices, identify deficiencies and potential solutions, and assess potential impacts to receiving waters.

(ii) The permittees must develop checklists to be used by inspectors during these inspections, and must maintain records of all inspections conducted on new development and redevelopment sites.

(iii) Within three years of the effective date of this permit, the permittees must develop and implement an enforcement strategy similar to that required in Section II.B.1.e to maintain the integrity of permanent storm water management and treatment practices.

g) **Education and Training on Permanent Storm Water Controls**. Within one year of the effective date of this permit, the permittees must begin a training program regarding the selection, design, installation, operation and maintenance of permanent storm water controls. The training program and materials must be updated as necessary to include information on updated or revised storm water treatment standards, design manual specifications, Low Impact Development techniques, and proper operation and maintenance requirements.

(i) Within two years of the effective date of this permit, and annually thereafter, all persons responsible for reviewing plans for new development and redevelopment and/or inspecting storm water management practices and treatment controls must receive training sufficient to determine the adequacy of storm water management and treatment controls at proposed new development and redevelopment sites.

(ii) Within two years of the effective date of this permit, and at least annually thereafter, permittees must provide training to local

audiences on the stormwater management requirements described in this Part.

3. **Industrial and Commercial Storm Water Discharge Management.** Upon the effective date of this permit, the permittees must implement a program to reduce to the MEP the discharge of pollutants from industrial and commercial operations within their jurisdiction. Throughout the permit term, the permittees must conduct educational and/or enforcement efforts to reduce the discharge of pollutants from locations considered to be significant contributors of fecal coliform and/or petroleum products to receiving waters. At a minimum, the program must include the following elements:

   a) **Inventory of Industrial and Commercial Facilities and Activities.** Within three years of the effective date of this permit, the permittees must produce an inventory and map of facilities and activities discharging directly to their MS4s.

      (i) At a minimum, the inventory must include information listing the watershed/receiving waterbody, facility name, address, nature of business or activity, SIC code(s) that best reflect the facility's product or service;

      (ii) The inventory must include the following types of facilities: municipal landfills (open and closed); permittee-owned maintenance yards and facilities; hazardous waste recovery, treatment, storage and disposal facilities; snow disposal sites, as discussed in Part II.B.3 b; facilities subject to Section 313 of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. 11023; all industrial sectors listed in 40 CFR §122.26(b)(14); vehicle or equipment wash systems; animal facilities as discussed in Part II.B.3.c, including kennels, show facilities, stables, the Anchorage Zoo, or other similar commercial locations where improper management of domestic animal waste may contribute pollutants to receiving waters or to the MS4; and any other industrial or commercial facility that the permittees determines is contributing a substantial pollutant loading to the MS4.

      (iii) The permittees must each identify at least two specific activities within their respective jurisdictions where storm water discharges are not adequately addressed, and develop performance standards for each activity. Examples include, but are not limited to: gas stations, animal facilities, carpet cleaners, mobile vehicle washing operations, and automobile repair shops.

      (iv) The industrial and commercial inventory must be updated at least annually and submitted to EPA and ADEC with each Annual Report.

b) **Snow Disposal Sites.** Within one year of the permit effective date, the permittees must inventory and map locations of all permittee-owned and privately owned snow disposal sites that discharge directly to the MS4 or to receiving waters. The snow disposal site inventory and map must be updated annually thereafter. Within two years from the effective date of this permit, the permittees must evaluate whether to further protect water quality by explicitly regulating the operation of private snow disposal sites within the corporate boundaries of the MOA through ordinance or other regulatory mechanism.

(i) An evaluation report determining whether private snow disposal sites should be subject to ordinance or other enforceable requirements to adequately protect water quality must be submitted to EPA and ADEC with the corresponding Annual Report.

(ii) Within three years of the effective date of this permit, the permittees must revise all applicable requirements as necessary in accordance with recommendations contained in the evaluation report.

(iii) Permittees must use the inventory to select an appropriate site to retrofit as required by Part IV.A.9.

c) **Animal Facilities.** Within three years of the effective date of this permit, MOA must evaluate whether to further regulate commercial animal facilities or other locations within the corporate boundaries of the MOA through ordinance or other regulatory mechanism to prevent animal waste from entering the MS4 and protect water quality. The inventory referenced in Part II.B.3.a and this evaluation must address kennels, pens, recreational facilities, stables, show facilities, or other commercial animal facilities currently regulated by the MOA, dog parks and the zoo.

(i) An evaluation report must be submitted with the corresponding Annual Report.

(ii) Within four years of the effective date of this permit, MOA must revise all applicable requirements as necessary in accordance with recommendations contained in the evaluation report.

4. **Storm Water Infrastructure and Street Management.** The permittees must maintain their MS4 and related facilities to reduce the discharge of pollutants from the MS4 to the MEP. All permittee activities and permittee-owned and operated facilities, must be properly operated and maintained, including but not limited to structural storm water treatment controls, storm sewer systems, roads, parking lots, snow disposal sites, waste facilities, and street maintenance facilities. The program must include the following:

a) **Storm Sewer System Inventory and Mapping.** Within three years of the effective date of this permit, the permittees must update current records to develop a comprehensive inventory and map of the MS4s. The inventory

must identify all areas over which each permittee has responsibility. The inventory must include:

(i) the location of all inlets, catchbasins and outfalls;

(ii) the location of all MS4 collection system pipes (laterals, mains, etc.);

(iii) the names and locations of all receiving waters of the US that receive discharges from the outfalls;

(iv) the location of all existing structural storm water treatment controls;

(v) identification of subbasin and approximate acreage draining into each MS4 outfall; and

(vi) the location of permittee-owned vehicle maintenance facilities, material storage facilities, maintenance yards, and snow disposal sites; permittee-owned or operated parking lots and roadways.

b) **Catch Basin and Inlet Cleaning**. Within two years of the effective date of this permit, the permittees must initiate an inspection program to inspect all permittee-owned or operated catch basins and inlets at least annually and take appropriate maintenance action based on those inspections.

c) **Street and Road Maintenance.** Within one year of the effective date of this permit, the permittees must update the Street Maintenance Standard Operating Procedures for Storm Water Control (SOPs) to ensure the use of BMPs that, when applied to the permittee's activity or facility, will protect water quality, and reduce the discharge of pollutants to the MEP. The SOPs must contain, for each activity or facility, inspection and maintenance schedules specific to the activity, and appropriate pollution prevention/good housekeeping procedures for all of the following types of facilities and/or activities listed below. Water conservation measures should be considered for all landscaped areas.

(i) **Streets, Roads, and parking lots**. The SOPs must address, but are not limited to: road deicing, anti-icing, and snow removal practices; snow disposal areas; street/road material (e.g. salt, sand, or other chemical) storage areas; maintenance of green infrastructure/low impact development practices; and BMPs to reduce road and parking lot debris and other pollutants from entering the MS4. Within three years of the effective date of this permit, the permittees must implement all of the pollution prevention/good housekeeping practices established in the SOPs for all roads, highways, and parking lots with more than 5,000 square feet of pollutant generating impervious surface that are owned, operated, or maintained by the permittees.

(ii) **Inventory of Street Maintenance Materials.** Throughout the permit term, the permittees must maintain an inventory of street /road maintenance materials, including use of sand and salt, and document the inventory in the corresponding Annual Reports.

(iii) **Covered Sand and Salt Storage.** Within four years of the effective date of this permit, the permittees must build covered storage facilities at each of their primary materials storage locations.

d) **Street and Road Sweeping.** The permittees must update their respective street sweepings management plans within nine months of the effective date of this permit. Each permittee's updated plan must designate streets, roads, and public parking lots within their jurisdiction that fit within each of the following categories for street sweeping frequency based on land use, traffic volumes or other factors:

- Residential – Streets and road segments that include, but are not limited to, light traffic zones and residential zones.
- Arterial and all other – Streets and road segments with high traffic volumes serving commercial or industrial districts.
- Parking lots – large lots serving schools and cultural facilities, plazas, sports and event venues or similar facilities.

(i) Within one year, the permittees must identify and map all designated streets, roads, and public parking lots for sweeping frequency.

(ii) Within one year and one month of the effective date of this permit, the permittees must sweep streets, roads, and public parking lots in their jurisdictions according to the following schedule:

Table II.B-2

Period in the Year	**Residential**	**Arterial and all other**	**Public Parking Lots [3]**
April 15 – June 1	1 tandem [1]	2 tandem	1 vacuum [2]
June 15 –August 1	1 tandem	1 tandem	--
Aug 15 – Oct 15	--	--	1 vacuum
Sept 1 – Oct 15	1 tandem	1 tandem	--

Notes:
[1] "Tandem" means one mechanical sweeper preceding one vaccum sweeper during the same sweeping event (on the same day). This is equivalent to two sweepers sweeping the same surface; a mechanical sweeper uses a conveyor belt to carry the collected debris to a hopper.
[2] A vacuum sweeper sucks up loosened street particles with a vacuum and sends the directly to a hopper
[3] Threshold size for public parking lots to be swept will be determined as permittees update their street sweeping plan(s).

(iii) If a permittee's existing overall street sweeping effort provides equivalent or greater street sweeping frequency to the requirements above, the permittee may continue to implement its existing street sweeping program.

(iv) For areas where street sweeping is technically infeasible, the permittees must document in the 1st Year Annual Report why

sweeping is infeasible, and document how the permittee will increase implementation of other trash/litter control procedures to minimize pollutant discharges to the MS4 and receiving waters.

(v) The permittees must perform annual assessments of street sweeping effectiveness to minimize pollutant discharges to storm drains and creeks on the basis of the following factors and report in the Annual Report:

- Provide in the 1st Year Annual Report a map of the residential, arterial, and public parking lots. Identify any significant changes in subsequent Annual Reports and the basis for those changes;
- Report annually on types of sweepers used, swept curb miles, dates of sweeping by general location and frequency category, volume or weight of materials removed and a representative sample of the particle size distribution of swept material, in summary form within the Annual Report;
- Report annually on any public outreach efforts or other means to address excess leaves and other material as well as areas that are infeasible to sweep.

(vi) Not later than four years from the effective date of this permit, the permittees must update the document entitled *Anchorage OGS and Street Sweeping as Storm Water Controls: Performance Analysis*, Document #WMP APR 022002, (November 2002). The updated document must be submitted to ADEC with the 4th Year Annual Report.

e) **Implement appropriate requirements for pesticide, herbicide, and fertilizer applications.** Permittees must implement practices to reduce the discharge of pollutants to the MS4 associated with the application, storage and disposal of pesticides, herbicides and fertilizers from municipal areas and activities. Municipal areas and activities include, at a minimum, municipal facilities, public right-of-ways, parks, recreational facilities, golf courses, and landscaped areas. All MOA and ADOT&PF employees or contractors applying restricted use pesticides must be registered as certified applicators.

f) **Develop and implement Storm Water Pollution Prevention Plans.** Within three years of the effective date of this permit, the permittees must develop and implement SWPPPs for all permittee-owned, material storage facilities, maintenance yards, and snow disposal sites identified in the inventory required in Parts II.B.3.a and II.B.4.a. Permittee-owned facilities discharging storm water associated with industrial activity as defined in 40 CFR 122.26(b)(14) must obtain separate NPDES permit coverage as required in Part I.D.5 of this permit.

g) **Training.** The permittees must provide regular training to appropriate permittee staff on all operations and maintenance procedures and SOPs

designed to prevent pollutants from entering the MS4 and receiving waters. Appropriate permittee staff must receive training within three years of the effective date of this permit, and annually thereafter**.**

5. **Illicit Discharge Management.** An illicit discharge is any discharge to an MS4 that is not composed entirely of storm water. Exceptions are described in Part I.D. of this permit. The permittees must implement their illicit discharge management program to reduce to the MEP the unauthorized and illegal discharge of pollutants to the MS4. The program must include:

   a) **Ordinance or other regulatory mechanisms.** Upon the effective date of this permit, the permittees must effectively prohibit non-storm water discharges to the MS4 (except those identified in Part 1.D of this permit) through enforcement of relevant ordinances or other regulatory mechanisms. Such ordinances regulatory mechanisms must be updated prior to the expiration date of this permit as necessary to provide adequate controls. To be considered adequate, this ordinance or regulatory mechanism must:

      (i) Authorize the permittee to prohibit, at a minimum, the following discharges to the MS4, unless otherwise authorized in Part 1.D:

      - Sewage;
      - Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
      - Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
      - Discharges of wash water from mobile operations, such as mobile automobile or truck washing, steam cleaning, power washing, and carpet cleaning, etc.;
      - Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas - including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc. - where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
      - Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
      - Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;

- Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
- Discharges of food-related wastes (grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

(ii) Prohibit and eliminate illicit connections to the MS4;

(iii) Control the discharge of spills, and prohibit dumping or disposal of materials other than storm water into the MS4.

b) **Illicit Discharge Complaint Reporting and Response Program.** At a minimum**,** permittees must respond to reports of illicit discharge from the public in the following manner:

(i) **Complaint Hotline.** The permittees must maintain the dedicated telephone number and email address used by the public to report illicit discharges. This complaint hotline must be answered by trained staff during normal business hours. During non-business hours, a system must be in place to record incoming calls to the hotline and a system must be in place to guarantee timely response. The telephone number must be printed on all education, training, and public participation materials produced under Part II.B.6, and clearly listed in the local telephone book.

(ii) **Response to Complaints.** The permittees must respond to all complaints as soon as possible, but no later than within two working days.

(iii) **Maintain log of complaints received and actions taken.** The permittees must maintain a record documenting all reports of illicit discharges and responses taken by the permittees.

c) **Illicit Discharge Mapping.** Within one year of the effective date of this permit, the permittees must develop a map of reported and documented illicit discharges or illicit connections to identify priority areas. The map must identify, at a minimum, the location, type and relative quantity or severity of the discharge to the MS4. This map must be updated annually.

d) **Dry Weather Screening.** Permittees must implement, and update as necessary, a dry weather analytical and field screening monitoring program. Field observations, monitoring, and analyses must be conducted at a minimum between June 1st and August 30th of each year. This dry weather screening program must emphasize frequent, geographically widespread monitoring to detect illicit discharges and illegal connections, and to reinvestigate potentially problematic outfalls. At a minimum, the procedures must be based on the following guidelines and criteria:

(i) **Outfall Identification.** The permittees must update as necessary the storm water outfall identification and screening work plan, describing the reconnaissance activities that must be performed and other information to be used to determine outfalls to be screened and the project design for chemical and microbiological

analysis including methodologies, thresholds to be used, and prioritization of target outfalls and land uses.

(ii) **Monitoring Illicit Discharges.** Within two years of the effective date of this permit, and annually thereafter, dry weather analytical and field screening monitoring must be conducted at least once between June 1st and August 30th of each year (or more often if the permittees deem necessary.)

- The permittees must monitor a minimum of 15 outfalls per year, and must have another 30 outfalls (minimum) designated as alternative sites for when a monitored outfall is dry.
- The outfalls must be geographically dispersed across the MS4 and must represent all major land uses in the MS4. In addition, the permittees must ensure that dry weather screening includes, but is not limited to, screening of outfalls discharging to Category 4 and 5 water bodies listed in the State of Alaska's most recent Integrated Report.
- At a minimum, the permittees must collect grab samples for analysis of the following constituents: pH, total chlorine, detergents as surfactants; total copper; total phenols; fecal coliform bacteria; and turbidity.
- Photos may be used to document conditions.
- Results of sampling must be compared to MOA-established threshold levels and existing state water quality standards. If the station is dry (no flowing or ponded runoff), the permittees must make and record all applicable observations and select another station from the list of alternate stations for monitoring.

(iii) **Maintain Records of Dry Weather Screening.** The permittees must keep detailed records of the dry weather screening with the following information: time since last rain event; quantity of last rain event; site description (i.e., conveyance type, dominant watershed land uses); flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate); and visual observations (i.e., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology).

e) **Follow-up.** The permittees must investigate recurring illicit discharges identified as a result of complaints or as a result of dry weather inspections within fifteen (15) days of its detection. Permittees must take necessary action to address the source of the ongoing illicit discharge within 45 days of its detection.

f) **Prevent and Respond to Spills to the MS4.** The permittees must prevent, respond to, contain and clean up all sewage and other spills that may discharge into the MS4 from any source (including private laterals and

failing septic systems). Within two years of the effective date of this permit, the permittees must coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times.

g) **Facilitate Disposal of Used Oil and Toxic Materials.** The permittees must continue to facilitate the proper management and disposal or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes by their employees and the public. Such a program must include educational activities, public information activities, and establishment of collection sites operated by the permittees or other entity. The program(s) must be implemented within 180 days of the effective date of the permit.

h) **Training.** Within two years of the effective date of this permit, and annually thereafter, the permittees must develop and provide training to staff on identifying and eliminating illicit discharges, spill, and illicit connections to the MS4. At a minimum, the permittee's construction inspectors, maintenance field staff, and code compliance officers must be sufficiently trained to respond to illicit discharges and spills to the MS4.

6. **Public Education and Involvement**

a) The permittees must conduct an ongoing education and public involvement program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the permittee. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse storm water impacts. The program must be designed and conducted using the recommendations from the MOA's 2005 public awareness study, or other more recent assessment of public knowledge.

(i) Within one year of the permit effective date, the permittees must implement or participate in an education and outreach program that uses a variety of methods to target the audiences and topics listed below. The outreach program must be designed to achieve measurable improvements in each target audience's understanding of the problem and what they can do to solve it.

1) General Public

- General impacts of storm water flows into surface water
- Impacts from impervious surfaces
- Source control best management practices and environmental stewardship, actions and opportunities for pet waste control/disposal, vehicle maintenance, landscaping and vegetative buffers

2) General public and businesses, including home based and mobile businesses

- Best management practices for use and storage of automotive chemicals, hazardous cleaning supplies, vehicle wash soaps and other hazardous materials.
- Impacts of illicit discharges and how to report them

3) Homeowners, landscapers, and property managers

- Yard care techniques protective of water quality
- Best management practices for use and storage of pesticides and fertilizers
- Best management practices for carpet cleaning and auto repair and maintenance
- Low Impact Development techniques, including site design, pervious paving, retention of mature trees and other vegetation
- Storm water treatment and flow control practices

4) Engineers, contractors, developers, review staff, and land use planners

- Technical standards for storm water site plans
- Low Impact Development techniques, including site design, pervious paving, retention of mature trees and other vegetation
- Storm water treatment and flow control practices.

(ii) The permittees must implement or participate in an effort to measure understanding and adoption of behaviors by the target audiences. The resulting measurements must be used to direct education and outreach resources most effectively.

(iii) The permittees must track and maintain records of public education activities.

b) **Targeted Education and Training.** The permittees must develop and implement comprehensive education and training as outlined in this permit in the following sections:

(i) II.B.1.f - Construction Storm Water Management Training for construction site operators and staff;

(ii) II.B.2.g – Permanent Storm Water Control Training for project operators and staff

(iii) II.B.4.g– Storm Water Infrastructure and Street Management/ Maintenance training for State and Municipal staff;

(iv) II.B.5.h – Illicit Discharge Management Training for state and municipal staff.

c) **Annual Meeting.** The permittees must jointly organize an annual meeting to coordinate implementation of the SWMP among their respective agencies, as well as with other municipal, state and federal agencies and groups involved or interested in the permittees' program.

(i) The annual meeting must be held during February, March, April or May of each year.

(ii) An invitation must be sent to individuals on a list comprised of all persons responsible for implementation of the SWMP, those making decisions that may impact storm water runoff, key individuals representing groups regulated by the SWMP, regulators, and specialists (experts on water quality, information management, land-use planning, etc.), and water quality interest groups.

(iii) The meeting must include a review of the previous year's activities; a presentation and discussion of next year's activities; and a presentation and discussion of monitoring efforts for the following year.

(iv) The permittees must accept public input during the annual meeting.

d) **Quarterly Meetings.** The permittees must jointly organize and participate in permit coordination meetings with ADEC to discuss permit requirements, SWMP implementation results over the previous quarter, and SWMP implementation objectives for the following quarter. At a minimum, meetings must be held in January, March, June and September of each year, or at a schedule mutually agreed upon by the permittees and ADEC.

e) **Storm Water Website.** The permittees must each maintain and promote a publicly-accessible website that acknowledges the program activities; the websites must describe and provide relevant information regarding the activities of both permittees. The website must be updated within one year from the effective date of this permit, at least quarterly thereafter as new material is available. The website must incorporate the following features:

(i) All reports generated in compliance with this permit must be posted, in draft form when input is being solicited from the public, and in final form when the document is completed,

(ii) Information and/or links to key sites that provide education, training, licensing, and permitting related to construction and post-construction activities, industrial activities and illicit connections, and

(iii) Contact information, including phone numbers for staff and hotline, mailing addresses, and electronic mail addresses.

C. Discharges to Water Quality Impaired Receiving Waters

1. The permittees must conduct a storm water discharge monitoring program as required in Part IV.
2. For the purposes of this permit, water quality impaired receiving waters and pollutants of concern include those listed in Table II.C.
3. Within one year from the effective date of this permit, and annually thereafter, the permittees must document how the minimum control measures in Part II.B are implemented by the permittees to specifically control the discharge of pollutant(s) of concern and ensure that discharges from the MS4s will not cause a violation of the Alaska water quality standards. The documentation must identify how the permittees will evaluate/measure the effectiveness of activities to control the discharge of the pollutants of concern over the five year permit term. For those activities identified in Part II.B requiring multiple years to implement, the permittees must provide updates on progress to date. The permittees must submit this documentation to ADEC as part of the 1st Year Annual Report required in Part IV.C, and update it as necessary in subsequent Annual Reports.

Table II.C

Receiving Water	Pollutant(s) of Concern
Hood/Spenard Lake	Fecal Coliform, Dissolved Oxygen
Ship Creek	Fecal Coliform; petroleum products
Campbell Creek, Campbell Lake, Chester Creek, University Lake Westchester Lagoon, Little Rabbit Creek Fish Creek, Furrow Creek, Little Campbell Creek, Little Survival Creek, Jewel Lake	Fecal Coliform

D. Reviewing and Updating the SWMP

1. Permittees must annually review their SWMP actions and activities for compliance with this permit as part of the preparation of the Annual Report required under Part IV.C.2.

2. Permittees may request changes to any SWMP action or activity specified in this permit in accordance with the following procedures:
   a) Changes to delete or replace an action or activity specifically identified in this permit with an alternate action or activity may be requested by the permittees at any time. Modification requests to EPA and ADEC must include:

(i) An analysis of why the original action or activity is ineffective, infeasible, or cost prohibitive;

(ii) Expectations on the effectiveness of the replacement action or activity; and

(iii) An analysis of why the replacement action or activity is expected to better achieve the permit requirements.

b) Change requests must be made in writing and signed by the permittees in accordance with Part VI.E.

c) Documentation of any of the actions or activities required by this permit must be submitted to EPA or ADEC upon request.

d) EPA and/or ADEC may review Annual Reports or other such documentation and subsequently notify the permittees that changes to the SWMP actions and activities are necessary to:

(i) Address discharges from the MS4 that are causing or contributing to water quality impacts;

(ii) Include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; or

(iii) Include other conditions deemed necessary by EPA to comply with water quality standards, and/or other goals and requirements of the CWA.

e) If EPA notifies the permittees that changes are necessary pursuant to Parts II.D.2.a or II.D.2.d, the notification will offer the permittees an opportunity to propose alternative program changes to meet the objectives of the requested modification. Following this opportunity, the permittees must implement any required changes according to the schedule set by EPA.

3. Any modifications to this permit will be accomplished according to Part VI.A of this permit.

E. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation. The permittees must implement the actions and activities of the SWMP in all new areas added or transferred to the permittee's MS4 (or for which a permittee becomes responsible for implementation of storm water quality controls) as expeditiously as practicable, but not later than one year from the date upon which the new areas were added. Such additions and schedules for implementation must be documented in the next Annual Report following the transfer.

F. SWMP Resources. The permittees must continue to provide adequate finances, staff, equipment and other support capabilities to implement their SWMP actions and activities outlined in this permit. The permittees must report on total costs associated with SWMP implementation over the prior 12 month in each Annual Report. Permittees are encouraged to consider establishing consistent funding sources for continued program implementation.

III. Schedule for Implementation and Compliance

Table III.A
Storm Water Management Program – Schedule for Implementation and Compliance

Part	SWMP Activity Summary	Compliance Date	Responsibility
General Requirements			
I.C.3	Submit updated interjurisdictional agreement	Nine months from permit effective date	MOA, ADOT&PF
I.C.4	Submit Program Coordination Plan	Six months from permit effective date	
II.A.3	Complete at least two watershed plans	Prior to the expiration date of this permit	
II.C.3	Document how the SWMP activities are implemented to control the discharge of pollutant(s) of concern	One year from permit effective date, annually thereafter	
II.F	Report on total costs associated with SWMP implementation over the prior 12 month in each Annual Report.	One year from permit effective date, annually thereafter	
Construction Site Runoff Control Program			
II.B.1	a) Adopt ordinance or other regulatory mechanisms	One year from permit effective date	MOA, ADOT&PF
	b) Update and require the use of the manual by construction site operators within their jurisdiction		
	c) Review and approve preconstruction site plans from construction site operators within their jurisdiction.	Upon permit effective date	
	d) Inspect construction sites		
	e) Develop and implement a enforcement response policy for their organization; submit ERP	Two years from the permit effective date	
	f) Construction education for staff and operators	At least once per year	
Storm Water Management from Areas of New Development & Redevelopment			
II.B.2	a) Adopt/implement an ordinance, or other enforceable regulatory requirements	Prior to expiration date of this permit	MOA, ADOT&PF
	b) Develop and distribute a Storm Water Design Criteria Manual. specifying permanent storm water management and control practices	Two years from the permit effective date	MOA
		Three years from the permit effective date	ADOT&PF
	c) Develop a green infrastructure/low impact development strategy	One year from permit effective date (PED)	MOA, ADOT&PF
	Implement strategy, begin LID pilot projects	Two years from PED	
	i. Conduct & evaluate 5 pilot projects	Four years from PED	
	ii. Revise Design Criteria Manuals based on evaluations	No later than permit expiration date	
	iii. Evaluate effectiveness of 2 rain gardens	Four years from PED	
	iv. Identify & prioritize riparian protection areas	No later than the expiration date of the permit	
	v. Consider feasibility of using runoff reduction techniques in street, road and parking lot repair; report on use of such practices	Report list of projects, beginning with the 4th Year Annual Report	

Table III.A, continued

Storm Water Management Program - Schedule for Implementation and Compliance

Storm Water Management from Areas of New Development & Redevelopment, continued			
Part	**SWMP Activity Summary**	**Compliance Date**	**Responsibility**
II.B.2	c) vi. Retrofit at least 2 public facility parking lots, evaluate the performance of selected techniques	Prior to the expiration date of this permit	MOA, ADOT&PF
	d) Review and approve plans for consistency with the ordinance/regulatory mechanism and Storm Water Design Criteria Manual (or equivalent).	Three years from the permit effective date	
	e) i. Develop/maintain an inventory for **new** permanent storm water controls. Develop/maintain an inventory for **existing** permanent storm water controls ii. Develop O&M agreements as necessary	Three years from the permit effective date(PED) Five years from PED Five years from PED	
	f) Ensure proper long term operation and maintenance of all permanent storm water management controls within the permit area through inspection and enforcement	Three years from the expiration date of this permit	
	g) Provide training regarding the selection, design, installation, operation and maintenance of permanent storm water controls.	Two years from the permit effective date, annually thereafter	
Industrial and Commercial Storm Water Discharge Management			
Part	**SWMP Activity Summary**	**Compliance Date**	**Responsibility**
II.B.3	a)i. Inventory and map commercial and industrial facilities determined to contribute substantial pollutant load to the MS4s. iii. Identify two specific activities within their respective jurisdictions where storm water discharges are not adequately addressed, and develop performance standards for each activity.	Three years from the permit effective date	MOA, ADOT&PF
	b) Inventory and map locations of all snow disposal sites that discharge directly to the MS4 or to receiving waters; revise annually, i. Evaluate whether to regulate private snow disposal sites – submit evaluation report iii. Revise applicable requirements in accordance with recommendations contained in the evaluation report.	One year from permit effective date Two years from permit effective date Three years from permit effective date	
	c) Inventory and map all animal facilities that discharge storm water directly to the MS4 or to receiving waters. i. Evaluate whether to regulate animal facilities - submit evaluation report ii. Revise applicable requirements in accordance with recommendations contained in the evaluation report.	Three years from permit effective date Three years from permit effective date Four years from permit effective date	
Storm Water Infrastructure and Street Management /Maintenance			
Part II.B.4	a) Update Storm Sewer System Inventory and Map	Three years from permit effective date	MOA, ADOT&PF
	b) Implement an inspection program to inspect all catch basins and inlets owned or operated by the permittees at least annually and take appropriate maintenance action based on those inspections	Two years from permit effective date, annually thereafter	

Table III.A, continued
Storm Water Management Program - Schedule for Implementation and Compliance

Part	SWMP Activity Summary	Compliance Date	Responsibility
Storm Water Infrastructure and Street Management/Maintenance, continued			
II.B.4	c) Update the Street Maintenance Standard Operating Procedures for Storm water Control ("SOPs") i. Implement all pollution prevention/good housekeeping practices established in the O&M Plan ii. Maintain inventory of street /road maintenance materials, document the inventory in the corresponding Annual Reports iii. Build covered storage facilities at each of their primary materials storage locations.	Within one year from permit effective date Within three years of permit effective date Throughout the permit term, report annually Four years from permit effective date	MOA, ADOT&PF
	d) Update the Anchorage Street Sweepings Management Plan; i. Identify & map areas by sweeping frequency ii. Perform sweeping operations v. Provide assessments of street sweeping effectiveness vi. Update and submit revised *Anchorage OGS and Street Sweeping as Storm Water Controls: Performance Analysis*	Nine months from permit effective date (PED) One year from PED Ongoing Report annually Not later than four years from PED	
	e) Implement practices to reduce pollutants to the MS4 associated with the application, storage and disposal of pesticides, herbicides and fertilizers from municipal areas and activities.	Upon permit effective date	
	f) Develop and implement SWPPPs for all, material storage facilities, maintenance yards, and snow disposal sites	Three years from permit effective date	
	g) Provide regular training to appropriate permittee staff on all O&M procedures and SOP activities	Three years from permit effective date, annually thereafter	
Illicit Discharge Management			
II.B.5	a) Effectively prohibit non-storm water discharges to the MS4 through enforcement of relevant ordinances or other regulatory mechanisms.	Upon permit effective date	MOA, ADOT&PF
	b) Respond to reports of illicit discharge from the public		
	c) Develop a map of reported/documented illicit discharges or connections to identify priority areas.	One year from permit effective date	
	d) Implement a dry weather analytical and field screening monitoring program ii. Monitor illicit discharges	Upon permit effective date Two years from permit effective date, annually thereafter	
	e) Investigate recurring illicit discharge identified by complaint or dry weather inspections within fifteen (15) days; take action to eliminate source of ongoing illicit discharge within 45 days of its detection.	Upon permit effective date	
	f) Prevent and Respond to Spills to the MS4**.** Coordinate spill prevention, containment and response activities throughout all departments/ programs/agencies to ensure maximum water quality protection at all times.	Ongoing Two years from permit effective date	
	g) Facilitate Disposal of Used Oil and Toxic Materials.	180 days from permit effective date, ongoing	
	h) Train all staff	Two years from permit effective date, annually thereafter	

Table III.A, continued
Storm Water Management Program - Schedules for Implementation and Compliance

Part	SWMP Activity Summary	Compliance Date	Responsibility
Public Education and Involvement			
II.B.6.	a) Implement or participate in an education and outreach program that uses a variety of methods to target the audiences and topics listed below	One year from permit effective date, ongoing thereafter	MOA, ADOT&PF
	b) Targeted Education and Training regarding construction, permanent storm water management, infrastructure & street management/maintenance and illicit discharge management	One year from permit effective date, ongoing thereafter	
	c) Convene a annual meeting to coordinate implementation of SWMP among permittee offices/departments, other state/federal agencies, cooperative groups and the public.	At least once per year, to be scheduled in the months of February, March, April or May.	
	d) Organize quarterly meetings to coordinate SWMP implementation activities	Meetings to be held in January, March, June & September of each year	
	e) Maintain and promote a publicly-accessible, jointly sponsored website	Ongoing	
Monitoring and Reporting Requirements			
IV.A	1) Self-evaluate compliance with permit conditions; document in the Annual Report	Once per year	MOA, ADOT&PF
	2) Develop & submit a monitoring and evaluation plan	One year from permit effective date	
	5) Begin monitoring activities	Within 90 days of ADEC approval of the QAP	
	6) Conduct pesticide screening in Lake Otis, Hideaway Lake and Little Campbell Lake	Late summer of years 2 and 4 of the permit term	
	7) Conduct Storm water Outfall Monitoring	No later than two years from permit effective date, ongoing thereafter	
	8) Evaluate existing structural controls – select and evaluate oil & grease separators & three sedimentation basins	Within three years of permit effective date	
	9) Each permittee must retrofit at least two snow storage sites; evaluate effectiveness of selected techniques	One site retrofit within two years from permit effective date; second site within three years from permit effective date	
IV.C	1) Submit storm water discharge monitoring report	Three years from the permit effective date; once per year thereafter	MOA, ADOT&PF
	2) Submit Annual Report	One year from permit effective date; annually thereafter.	

IV. Monitoring, Recordkeeping and Reporting Requirements

A. Monitoring

1. **Assess Permit Compliance.** At least once per year, each permittee must individually evaluate their organization's compliance with these permit conditions, and progress toward achieving each of the control measures defined in Part II. The compliance evaluation must be documented in each Annual Report required in Part IV.C.2

2. **Monitoring and Evaluation Objectives.** The permittees must conduct a monitoring and evaluation program to characterize the quality of storm water discharges from the MS4, and to evaluate effectiveness of selected storm water management practices. Not later than one year from the effective date of this permit, the permittees must develop a monitoring and evaluation plan that includes the quality assurance requirements, pesticide screening, outfall monitoring, and site retrofit activities described later in this Part. In general, the permittees must develop and conduct a monitoring and evaluation program to:

   a) Broadly estimate the annual pollutant loading of fecal coliform and petroleum products discharged to impaired receiving waters from the MS4s;

   b) Assess the effectiveness and adequacy of at least two control measures implemented through this permit term in reducing fecal coliform and petroleum products; and

   c) Identify and prioritize those portions of each permittee's MS4 requiring additional controls.

   A monitoring and evaluation plan must be submitted to ADEC with the First Year Annual Report.

3. **Representative Sampling.** Samples and measurements must be representative of the nature of the monitored discharge**.**

4. **Analytical Methods.** Sample collection, preservation, and analysis must be conducted according to test procedures approved under 40 CFR Part 136 unless otherwise approved by ADEC. Where an approved 40 CFR Part 136 method does not exist, and other test procedures have not been specified, any available method may be used after approval from ADEC**.**

5. **Quality Assurance Requirements.** Permittees must develop a quality assurance plan (QAP) for all analytical monitoring conducted in accordance with this Part. The QAP must be developed concurrently as part of the monitoring and evaluation plan. The permittees must submit the QAP (with the monitoring and evaluation plan) to ADEC for approval. Monitoring activities as described in the approved QAP must begin within 90 days of ADEC's approval. Any existing QAP may be modified for the requirements under this section**.**

   a) The QAP must be designed to assist in the collection and analysis of storm water discharges in support of this permit and in explaining data anomalies when they occur.

b) Throughout all sample collection and analysis activities, permittees must use the EPA-approved QA/QC and chain-of-custody procedures described in the following documents:

(i) *EPA Requirements for Quality Assurance Project Plans EPA-QA/R-5* (EPA/240/B-01/003, March 2001). A copy of this document can be found electronically at: http://www.epa.gov/quality/qs-docs/r5-final.pdf;

(ii) ADEC's Elements of a Good Quality Assurance Project Plan (QAPP) (ADEC, 2002);

(iii) *Guidance for Quality Assurance Project Plans EPA-QA/G-5*, (EPA/600/R-98/018, February, 1998). A copy of this document can be found electronically at: http://www.epa.gov/r10earth/offices/oea/epaqag5.pdf ;

(iv) *Urban Storm BMP Performance Monitoring*, (EPA-821-B-02-001, April 2002). A copy of this document can be found electronically at: http://www.epa.gov/npdes/pubs/montcomplete.pdf

The QAP must be prepared in the format specified in these documents.

c) At a minimum, the QAP must include the following:

(i) Organization chart reflecting responsibilities of key permittee staff;

(ii) Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample representativeness and completedness, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;

(iii) Data quality objectives;

(iv) Map(s) and associated documentation reflecting the location of each sampling point and physical description including street address or latitude/longitude;

(v) Qualification and training of personnel;

(vi) Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the permittees;

(vii) Data management;

(viii) Data review, validation and verification; and

(ix) Data reconciliation.

d) The permittees must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP. Amendments must be submitted to ADEC within seven days of changing the QAP.

e) Copies of the approved QAP must be maintained by the permittees and made available to EPA and/or ADEC upon request.

6. **Pesticide Screening.** The permittees must conduct pesticide screening activities during the late summer at Lake Otis, Hideaway Lake, and Little Campbell Lake (reference basin) in years 2 and 4 using immunoassay test kits to measure pesticide concentrations in surface waters in which pesticides may be expected to accumulate. If pesticides are detected using the screening test kits, the permittees must confirm the results by collecting representative samples from the location where the occurrence was measured as soon as possible and analyzing the samples at an analytical testing laboratory using approved methods**.**

7. **Storm Water Outfall Monitoring**

a) Within one year of the effective date of this permit, the permittees must develop a Storm Water Outfall Monitoring Plan consistent with the monitoring and evaluation plan objectives described above. The Storm Water Outfall Monitoring Plan must include a list of at least 30 outfalls prioritized to identify "high" and "medium" priority monitoring locations. The permittees must select a subset of at least 10 outfall locations to monitor throughout the permit term. The outfalls selected by the permittees in the Storm Water Outfall Monitoring Plan must be representative of major land uses within the Anchorage area.

b) Not later than two years of the effective date of this permit, the permittees must begin monitoring the identified storm water outfalls in the Anchorage area during wet weather events at least four times per year. The specific monitoring requirements are outlined in Table IV.A.

Table IV.A: Outfall Monitoring Requirements

Parameter	Monitoring requirements		
	Sample location[1]	Sample frequency[2]	Sample type[3]
Dissolved Oxygen		4 times/year	Grab
pH		4 times/year	Grab
Temperature (ºC)		4 times/year	Recording
Turbidity		4 times/year	Recording
Flow (cfs)		4 times/year	Recording
Biochemical Oxygen Demand, 5-day (mg/L)		4 times/year	Grab
Fecal coliform (#colonies/100mL)		4 times/year	Grab
Total suspended solids (mg/L)		4 times/year	Grab
TAH, TaqH [4]		4 times/year	Grab

[1] Outfall locations must be defined in the permittees' Storm Water Outfall Monitoring Plan.
[2] A minimum of four (4) samples must be collected in calendar year.assuming the presence of storm events sufficient to produce a discharge.
[3] Permitees may use other sample types as long as previously identified in the monitoring plan. Grab samples may be taken manually or with an automatic water sampler
[4] Sampling of this parameter depends upon the characteristic of, or potential for, this pollutant within the contributing area to the outfall. This parameter may or may not be required at all outfalls based on the analysis and rationale presented in the monitoring plan.

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8. **Evaluate Existing Structural Controls**. Within three years of the effective date of this permit, the permittees must select and evaluate the effectiveness of four oil and grit separators and three sedimentation basins in the treatment of water quality parameters described in Table IV.A and submit the results with the next Annual Report.

9. **Evaluate Snow Storage Site Retrofits.** The permittees must retrofit at least two of their own existing snow storage sites according to the criteria developed by MOA-Watershed Management Section (WMS) regarding siting, design and operation and/or by using infiltration, evapotranspiration or reuse techniques. The permittees are responsible for retrofitting at least one site within two years of the permit effective date; the second retrofit must be completed no later than three years of the permit effective date. The permittees must quantitatively assess the effectiveness of their retrofits by measuring changes in chloride and turbidity in melt water and must document results in a final project report to be submitted in the corresponding Annual Report.

B. Recordkeeping

1. **Retention of Records.** The permittees must retain records and copies of all information (including all monitoring, calibration and maintenance records and all original strip chart recordings for any continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit) for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended at the request of the EPA at any time. Records include all information used in the development of the SWMP, all monitoring data, copies of all reports, and all data used in the development of the permit application**.**
2. **Availability of Records.** The permittees must submit the records referred to in Part IV.B.1 to EPA and ADEC only when such information is requested. The permittees must retain all records comprising the SWMP required by this permit (including a copy of the permit language and all Annual Reports) at a location accessible to the EPA. The permittees must make all records, including the permit application and the SWMP, available to the public if requested to do so in writing. The public must be able to view the records during normal business hours. The permittees may charge the public a reasonable fee for copying requests**.**

C. Reporting Requirements

1. **Storm Water Discharge Monitoring Report.** Within three years from the effective date of this permit, and once per year thereafter, all storm water discharge monitoring data must be submitted as part of the Annual Report. At a minimum, this Storm Water Discharge Monitoring Report must include:
   a) Dates of sample collection and analyses;
   b) Results of sample analyses; and
   c) Location of sample collection.
2. **Annual Report.** One year from the effective date of this permit, and annually thereafter, each permittee must prepare and submit an Annual Report to EPA and ADEC. Copies of all Annual Reports must be made available to the public, at a minimum, through a permittee-maintained website, or other easily accessible location. The following information must be contained in each Annual Report:
   a) Each report must assess the permittee's compliance with this permit and progress towards achieving the identified actions and activities for each control measure in Parts II.B, II.C, and IV. The status of each activity must be addressed, even if activity has previously been completed or not yet been implemented;
   b) Results of any information collected and analyzed during the previous 12 month period, including storm water discharge, pesticide screening, and any

other information used to assess the success of the SWMP at improving water quality to the maximum extent practicable;

c) A summary of the number and nature of complaints received by the permittees, as well as a summary of the number and nature of inspections, formal enforcement actions, and/or other similar activities performed by the permittees;

d) Copies of education materials, ordinances (or other regulatory mechanisms), inventories, guidance materials, or other products produced as a result of actions or activities required by this permit;

e) A general summary of the activities the permittees plan to undertake during the next reporting cycle (including an implementation schedule) for each minimum control measure;

f) A description and schedule for implementation of additional controls or practices that may be necessary, based on monitoring results, to ensure compliance with applicable water quality standards; and

g) Notice if the permittees are relying on another entity to satisfy any of the permit obligations, if applicable.

D. Addresses

Reports and other documents required by this permit must be signed in accordance with Part VI.E and submitted to each of the following addresses:

EPA: United States Environmental Protection Agency
Attention: Storm Water Program
NPDES Compliance Unit
1200 6th Avenue, Suite 900 (OCE-133)
Seattle, WA 98101

ADEC: Alaska Department of Environmental Conservation
Attention: Storm Water Program
Division of Water
555 Cordova Street
Anchorage, AK 99501-2617

V. Compliance Responsibilities

A. Duty to Comply. The permittees must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

B. Penalties for Violations of Permit Conditions

1. Civil and Administrative Penalties. Pursuant to 40 CFR Part 19 and the Act, any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $37,500 per day for each violation).

2. Administrative Penalties. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of this Act. Pursuant to 40 CFR Part 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500). Pursuant to 40 CFR Part 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently $16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $177,500).

3. Criminal Penalties

a) **Negligent Violations**. The Act provides that any person who negligently violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both.

b) **Knowing Violations**. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six years, or both.

c) **Knowing Endangerment**. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

d) **False Statements.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for the permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate. The permittees must take all reasonable steps to minimize or prevent any discharge or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment**.**

E. Proper Operation and Maintenance. The permittees must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittees to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate

laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittees only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Toxic Pollutants. The permittees must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

G. Planned Changes. The permittees must give notice to the Director and ADEC as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR §122.29(b); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit.

H. Anticipated Noncompliance. The permittees must give advance notice to the Director and ADEC of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

VI. General Provisions

A. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR **§§** 122.62, 122.64, or 124.5. The filing of a request by the permittees for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Duty to Reapply. If the permittees intends to continue an activity regulated by this permit after the expiration date of this permit, the permittees must apply for and obtain a new permit. In accordance with 40 CFR **§**122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Director, the permittees must submit a new application at least 180 days before the expiration date of the permit, or in conjunction with the 4th Year Annual Report. The reapplication package must contain the information required by 40 CFR **§**122.21(f) which includes: name and mailing address(es) of the permittees(s) that operate the MS4(s), and names and titles of the primary administrative and technical contacts for the municipal permittees(s). In addition, the permittees must identify the identification number of the existing NPDES MS4 permit; any previously unidentified water bodies that receive discharges from the MS4; a summary of any known water quality impacts on the newly identified receiving waters; a description of any changes to the number of applicants; and any changes or modifications to the Storm Water Management Program. The re-application package may incorporate by reference the

4th Year Annual Report when the reapplication requirements have been addressed within that report.

C. Duty to Provide Information. The permittees must furnish to the Director and ADEC, within the time specified in the request, any information that the Director or ADEC may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittees must also furnish to the Director or ADEC, upon request, copies of records required to be kept by this permit.

D. Other Information. When the permittees becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Director or ADEC, the permittees must promptly submit the omitted facts or corrected information.

E. Signatory Requirements. All applications, reports or information submitted to the Director and ADEC must be signed and certified as follows.

1. All permit applications must be signed as follows:
   a) For a corporation: by a responsible corporate officer.
   b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
   c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director or the ADEC must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   a) The authorization is made in writing by a person described above;
   b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the organization; and
   c) The written authorization is submitted to the Director and ADEC.

3. Changes to authorization. If an authorization under Part VI.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part VI.E.2 must be submitted to the Director and ADEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. **Certification. Any person signing a document under this Part must make the following certification:**

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. In accordance with 40 CFR Part 2, information submitted to EPA pursuant to this permit may be claimed as confidential by the permittees. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the permittees. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry. The permittees must allow the Director, ADEC, or an authorized representative (including an authorized contractor acting as a representative of the Director), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittees' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of state or local laws or regulations.

I. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittees and incorporate such other requirements as may be necessary under the Act. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)

J. State/Tribal Environmental Laws

1. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittees from any responsibilities, liabilities, or penalties established pursuant to any applicable State/Tribal law or regulation under authority preserved by Section 510 of the Act**.**
2. No condition of this permit releases the permittees from any responsibility or requirements under other environmental statutes or regulations.

K. Oil and Hazardous Substance Liability Nothing in this permit shall be constructed to preclude the institution of any legal action or relieve the permittees from any responsibilities, liabilities, or penalties to which the permittees is or may be subject under Section 311 of the CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

L. Severability The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to the circumstances, and the remainder of this permit shall not be affected thereby.

VII. Definitions and Acronyms

All definitions contained in Section 502 of the Act and 40 CFR Part 122 apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided but, in the event of a conflict, the definition found in the statute or regulation takes precedence.

“Administrator” means the Administrator of the EPA, or an authorized representative. After November 1, 2009, this definition also includes the Administrator of ADEC or an authorized representative.

“Animal facility” see “commercial animal facility”

“ADEC” means the Alaska Department of Environmental Conservation.

“APDES” means the Alaska Pollutant Discharge Elimination System. See definition for “NPDES.”

“Best Management Practices (BMPs)” means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to

control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR § 122.2. BMP refers to operational activities, physical controls or educational measures that are applied to reduce the discharge of pollutants and minimize potential impacts upon receiving waters, and accordingly, refers to both structural and nonstructural practices that have direct impacts on the release, transport, or discharge of pollutants. See also "storm water control measure (SCM).

"Bioretention" is the water quality and water quantity storm water management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from storm water runoff.

"Canopy Interception**"** is the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.

"CGP" and "Construction General Permit" means the current version of EPA's or *NPDES General Permit for Storm Water Discharges for Construction Activities in Alaska*, Permit No. AKR10-0000, or the comparable version of ADEC's permit. EPA's CGP is posted on EPA's website at *www.epa.gov/npdes/stormwater/cgp*.

"Common Plan of Development**"** is a contiguous construction project where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The "plan" is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions and industrial parks.

"Commercial Animal Facility" as used in this permit, means a person or facility that boards or grooms dogs, cats, rabbits, ferrets, and/or horses for fees or services, or any person or facility that reconveys four or more cats in a calendar year, or any person or facility that breeds more than three litters of cats or dogs in a calendar year. See the AMC Title 17, at http://www.muni.org/iceimages/animal/CodifiedTitle172004.pdf

Construction activity" includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines and industrial non-building structures).

"Control Measure" as used in this permit, refers to any action, activity, Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

"CWA" or "The Act" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.

"Director" means the Environmental Protection Agency Regional Administrator, the Director of the Office of Water and Watersheds, or an authorized representative. After November 1, 2009, this definition also includes the Administrator of ADEC, the Director of the ADEC Division of Water, or an authorized representative.

"Discharge" when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR §122.2.

"Discharge of a pollutant" means (a) any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or (b) any addition of any pollutant or combination

of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

"Discharge of Storm Water Associated with Construction Activity" as used in this permit, refers to a discharge of pollutants in storm water runoff from areas where soil disturbing activities (*e.g.*, clearing, grading, or excavation), construction materials or equipment storage or maintenance (*e.g.*, fill piles, borrow areas, concrete truck washout, fueling) or other industrial storm water directly related to the construction process are located, and which are required to be managed under an NPDES permit. See the regulatory definitions of storm water discharge associated with large and small construction activity at 40 CFR §122.26(b)(14)(x) and 40 CFR §122.26(b)(15), respectively

"Discharge of Storm Water Associated with Industrial Activity" as used in this permit, refers to the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant included in the regulatory definition of storm water discharge associated with industrial activity at 40 CFR §122.26(b)(14).

"Discharge-related Activities" include: activities which cause, contribute to, or result in storm water point source pollutant discharges and measures to control storm water discharges, including the siting, construction, and operation of best management practices to control, reduce or prevent storm water pollution.

"Discharge Monitoring Report or DMR" means the EPA uniform national form, including any subsequent additions, revisions or modification for the reporting of self monitoring results by permittees. See 40 CFR §122.2.

"Disconnect" for the purposes of this permit, means the change from a direct discharge into receiving waters to one in which the discharged water flows across a vegetated surface, through a constructed water or wetlands feature, through a vegetated swale, or other attenuation or infiltration device before reaching the receiving water.

"Engineered Infiltration" is an underground device or system designed to accept storm water and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the infiltration rate.

"Erosion" means the process of carrying away soil particles by the action of water.

"Evaporation" means rainfall that is changed or converted into a vapor.

"Evapotranspiration" means the sum of evaporation and transpiration of water from the earth's surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration from plants.

"Extended Filtration" is a structural storm water device which filters storm water runoff through a soil media and collects it an underdrain which slowly releases it after the storm is over.

"EPA" means the Environmental Protection Agency Regional Administrator, the Director of the Office of Water and Watersheds, or an authorized representative.

"Entity" means a governmental body or a public or private organization.

"Facility or Activity" means any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

"Green infrastructure" means runoff management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse.

Hydromodification" means changes to the storm water runoff characteristics of a watershed caused by changes in land use.

"Illicit Connection" means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

"Illicit Discharge" is defined at 40 CFR §122.26(b)(2) and means any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

"Impaired Water**"** (or "Water Quality Impaired Water") for purposes of this permit means any waterbody identified by the State of Alaska or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards. Impaired waters include both waters with approved or established Total Maximum Daily Loads (TMDLs), and those for which a TMDL has not yet been approved or established.

"Industrial Activity" as used in this permit refers to the eleven categories of industrial activities included in the definition of discharges of "storm water associated with industrial activity" at 40 CFR §122.26(b)(14).

"Industrial Storm Water" as used in this permit refers to storm water runoff associated with the definition of "discharges of storm water associated with industrial activity".

"Infiltration" is the process by which storm water penetrates into soil.

"Low Impact Development" or "LID" means storm water management and land development strategies applied at the parcel and subdivision scale that emphasizes conservation and use of on-site natural features integrated with engineered, small scale hydrologic controls to more closely mimic pre-development hydrologic functions.

"Major outfall" is defined in 40 CFR §122.26(b)(5) and in general, means a municipal storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more.

"MEP" or "maximum extent practicable," means the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by Section 402(p) of the Clean Water Act, 33 U.S.C §1342(p).

"Measurable Goal" means a quantitative measure of progress in implementing a component of a storm water management program.

“Minimize” means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

“MS4” means "municipal separate storm sewer system," and is used to refer to either a Large, Medium, or Small Municipal Separate Storm Sewer System. The term, as used within the context of this permit, refers to those portions of the municipal separate storm sewer systems within the corporate limits of the Municipality of Anchorage that are owned and/or operated by either the Municipality of Anchorage or the Alaska Department of Transportation and Public Facilities.

“Municipality” means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

“Municipal Separate Storm Sewer” is defined in 40 CFR §122.26(b) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

“National Pollutant Discharge Elimination System” or “NPDES” means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the CWA. The term includes an ‘approved program.’

“Outfall” is defined at 40 CFR §122.26(b)(9) means a point source (see definition below) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

“Owner or operator” means the owner or operator of any “facility or activity” subject to regulation under the NPDES program.

“Permanent storm water management controls” see “post-construction storm water management controls.”

“Permitting Authority” means the U.S. Environmental Protection Agency (EPA) or, after November 1, 2009, the Alaska Department of Environmental Conservation (ADEC).

“Point Source” is defined at 40 CFR §122.2 and means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel

or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

"Pollutant" is defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

“Pollutant(s) of concern" includes any pollutant identified as a cause of impairment of any water body that will receive a discharge from a MS4 authorized under this permit.

“Post- construction storm water management controls” or “permanent storm water management controls” means those controls designed to treat or control runoff on a permanent basis once construction is complete.

“QA/QC” means quality assurance/quality control.

“QAP” means Quality Assurance Plan.

“Rainfall and Rainwater Harvesting**”** is the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.

“Redevelopment” for the purposes of this permit, means the alteration, renewal or restoration of any developed land or property that results in the land disturbance of 10,000 square feet or more, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

“Regional Administrator” means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator. After November 1, 2009, this definition also includes the Administrator of ADEC or an authorized representative.

“Repair of Public Streets, Roads and Parking Lots” means repair work on permittee-owned or permittee-managed streets and parking lots that involves land disturbance including asphalt removal or regrading of 5,000 square feet or more. This definition excludes the following activities: pot hole and square cut patching; overlaying existing asphalt or concrete pacing with asphalt or concrete without expanding the area of coverage; shoulder grading; reshaping or regrading drainage ditches; crack or chip sealing; and vegetative maintenance.

“Runoff Reduction Techniques” means the collective assortment of storm water practices that reduce the volume of storm water from discharging off site.

“Sewershed” means, for the purposes of this permit, all the land area that is drained by a network of municipal storm sewer system conveyances to a single point of discharge to a water of the United States.

“Significant contributors of pollutants” means any discharge that causes or could cause or contribute to a violation of surface water quality standards.

“Small Construction Activity” – is defined at 40 CFR §122.26(b)(15) and incorporated here by reference. A small construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than one (1) acre and less than five (5) acres of land or will disturb less

than one (1) acre of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site.

"Small Municipal Separate Storm Sewer System" is defined at 40 CFR §122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States, but is not defined as "large" or "medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas such as individual buildings.

"Snow management" means the plowing, relocation and collection of snow.

"Soil amendments" are components added to in situ or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.

"Source control" storm water management means practices that control storm water *before* pollutants have been introduced into storm water

"Storm event" or "measurable storm event" for the purposes of this permit means a precipitation event that results in an actual discharge from the outfall and which follows the preceding measurable storm event by at least 48 hours (2 days).

"Storm water" and "storm water runoff" as used in this permit means storm water runoff, snow melt runoff, and surface runoff and drainage, and is defined at 40 CFR §122.26(b)(13). Storm water means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

"Stormwater Control Measure (SCM)" means physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of stormwater. Also, SCM means a permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. SCMs may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See "best management practices (BMPs)."

"Stormwater Facility" means a constructed component of a stormwater drainage system, designed or constructed to perform a particular function or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catch basins, oil/water separators, sediment basins, and modular pavement.

"Storm Water Management Practice**"** or "Storm Water Management Control" means practices that manage storm water, including structural and vegetative components of a storm water system.

"Storm Water Management Program (SWMP)" refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system. For the purposes of this permit, the SWMP consists of the actions and activities conducted by the permittees during the previous permit term (as documented in Annual Reports submitted to EPA) and the specific requirements contained in this permit and subsequently documented by the permittees as required by this permit.

"Storm Water Pollution Prevention Plan (SWPPP)" means a site specific plan designed to describe the control of soil or other materials to prevent pollutants in storm water runoff, generally developed for a construction site, or an industrial facility. For the purposes of this permit, a SWPPP means a written document that identifies potential sources of pollution, describes practices to reduce pollutants in storm water discharges from the site, and identifies procedures that the operator will implement to comply with applicable permit requirements

"TMDL" means Total Maximum Daily Load, an analysis of pollutant loading to a body of water detailing the sum of the individual waste load allocations for point sources and load allocations for non-point sources and natural background. See 40 CFR §130.2.

"Treatment control" storm water management means practices that 'treat' storm water after pollutants have been incorporated into the storm water.

"Waters of the United States," as defined in 40 CFR 122.2, means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters, including interstate "wetlands";

3. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;

b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

c. Which are used or could be used for industrial purposes by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States under this definition;

5. Tributaries of waters identified in paragraphs 1. through 4. of this definition;

6. The territorial sea; and

7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs 1. through 6. of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds for steam electric generation stations per 40 CFR Part 423) which also meet the criteria of this definition are not waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

“Watershed” is defined as all the land area that is drained by a waterbody and its tributaries.

“Wetlands” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

ATTACHMENT H-1

State of California
Regional Water Quality Control Board
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT
November 8, 2000

ITEM: 6

SUBJECT: AMENDMENT TO RIVERSIDE COUNTY MUNICPAL STORMWATER PERMIT TO BE CONSISTENT WITH REQUIRMENTS ISSUED BY USEPA (TENTATIVE ADDENDUM NO. 1 TO ORDER NO. 98-02. NPDES PERMIT NO. CAS0108766) (Elizabeth Lair)

PURPOSE: To incorporate language developed by the United States Protection Agency into Order No. 98-02

DISCUSSION: In a letter dated March 25, 1998 to the Regional Board, the United States Environmental Protection Agency (USEPA) concluded that the language in the Regional Board draft permit pertaining to receiving water limitations would not comply with the Clean Water Act and its implementing regulations. On May 13, 1998, this Regional Board adopted Order No. 98-02 (NPDES Permit No. CAS0108766), **Permit for Discharges of Storm Water and Urban Runoff from the Storm Water Conveyance systems of Riverside County Flood Control District, the County of Riverside, and the Incorporated Cities of Riverside County within the San Diego Region.** However, on May 26, 1998, in accordance with the program delegation agreement with the State, USEPA Region IX objected to the reissued permit. USEPA's concerns related to the receiving water limitation language in the permit. This objection was not resolved within the 90-day period provided by the delegation agreement. As a result, on September 18, 1998, USEPA Region IX assumed responsibility for the permit and requested the MS4 permit reapplication from the co-permittees. USEPA developed its own permit based on the information submitted by the co-permittees. The USEPA then finalized a permit, which would fully comply with the Clean Water Act. By Letter dated April 28, 1999, the USEPA enclosed a final draft permit, pursuant to 40 CFR 124, which differed slightly from the original permit. The changes which were made were discussed in the final fact sheet and response to public comments where were also enclosed along with the final permit (see attachment 2). The USEPA issued **Authorization to Discharge Under the National Pollutant**

10-7000.02

Discharge Elimination System became effective on May 30, 1999.

In a letter dated June 25, 1999, the USEPA formally advised the RWQCB that permit No. CAS0108766 has been returned to the RWQCB for implementation. This includes the review of annual reports, the special requirements of Appendix 1 of the permit, and overseeing compliance with the permit. For ease of enforcement and regulation, it is recommended that the RWQCB adopt the USEPA developed language in its entirety and replace the language of Order 98-02.

The USEPA Region IX standard permit conditions, as referenced on Page 9 of 18 in NPDES permit No. CAS0108766, have not been updated since May 10, 1990. However, Staff recommends adopting the permit in its entirety, because the permit has gone through the public review process and was adopted by the USEPA.

SIGNIFICANT CHANGES: The significant change between RWQCB Order 98-02 and USEPA issued NPDES permit No. CAS0108766 is the receiving water limitation language. Also, there are more minor differences in wording throughout, but the entire document. However, Staff does not find these differences to significantly change the requirements.

LEGAL CONCERNS: None

COMPLIANCE ISSUES: None

SUPPORTING DOCUMENTS:

1) Tentative Addendum No. 1 to Order No. 98-02, NPDES Permit No. CAS0108766
2) Letter from the USEPA dated April 28, 1999
3) Letter from the USEPA dated March 25, 1998
4) Letter from the USEPA dated May 26, 1998
5) Letter from the USEPA dated June 25, 1999
6) Notice of Public Hearing Proof of Publication

RECOMMENDATION(S): Staff recommends that the Regional Board adopt tentative Addendum No. 1 to Order No. 98-02.

ATTACHMENT 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

TENTATIVE ADDENDUM NO. 1 TO ORDER NO. 98-02
NPDES PERMIT NO. CAS0108766

AN ADDENDUM MODIFYING ORDER NO. 98-02 TO INCORPORATE LANGUAGE DEVELOPED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds that:

1. Order No. 98-02 (NPDES Permit No. CAS0108766) specifies Waste Discharge Requirements for **Discharges of Storm Water and Urban Runoff from the Riverside County Flood Control District, the County of Riverside, and the Incorporated Cities of Riverside County within the San Diego Region** (Co-Permittees).

2. NPDES No. CAS0108766 issued by the USEPA on May 30, 1999 established waste discharge requirements for the Co-Permittees.

3. The requirements of Order No. 98-02 must be modified to assure consistency with the NPDES No. CA0108766, issued by the USEPA.

4. This Regional Board has notified all known interested parties of its intent to modify Order No. 98-02 to reflect the addition of the language developed by the United States Environmental Protection Agency.

5. This Regional Board in public hearing heard and considered all comments pertaining to the final draft of the addendum.

IT IS HEREBY ORDERED THAT Order No. 98-02 is modified to reflect the language in it entirety as developed by the United States Environmental Protection Agency in their **Authorization to Discharge Under the National Pollutant Discharge Elimination System** which became effective May 30, 1999.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Addendum adopted by the California Regional Water Quality Control Board, San Diego Region, on November 8, 2000.

Tentative
JOHN H. ROBERTUS
Executive Officer

S:/storm/lair/riverside/order98-02addendum

ATTACHMENT 2

JHR 4/5
FDM 5/5
DSJ 5/5
File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

CONTROL BOARD
99 MAY -3 P 1:25

In Reply
Refer To: WTR-5

APR 28 1999

USEPA's Final Permit to Riverside
Exp: 11/2003

SDRWQCB Order No 98-02 will be amended to replace current language with this language (EPA's Final).

David P. Zappe
General Manager-Chief Engineer
Riverside County Flood Control
and Water Conservation District
1995 Market Street
Riverside, CA 92501

Dear Mr. Zappe:

Enclosed is a copy of a National Pollutant Discharge Elimination System (NPDES) permit which has been issued to the following discharger:

Municipal Separate Storm Sewer System
Santa Margarita Watershed
NPDES Permit No. CAS0108766

The staff at the U.S. Environmental Protection Agency (EPA) have reviewed the NPDES permit application for this facility and have prepared a draft permit in accordance with the Clean Water Act (CWA). EPA has also published a public notice of its tentative decision to issue a permit to the above discharger and has provided the opportunity for public comment on this permit. After considering the expressed views of all interested persons and agencies, pertinent Federal statutes and regulations, the EPA, pursuant to 40 CFR § 124, has prepared a final permit which differs only slightly from the draft permit. The changes which were made are discussed in the final fact sheet and response to public comments which are enclosed along with the final permit. EPA has also been notified by the San Francisco Bay Regional Board that it is waiving CWA section 401 certification requirements for this permit.

The NPDES permit is hereby issued upon the date of signature and shall become effective 33 days from the date of mailing, unless there is a written request for an evidentiary hearing. Requests for an evidentiary hearing must comply with all of the requirements set forth at 40 CFR §§ 124.74 and 124.76 and must be submitted to me (WTR-5) at the above address within 33 days from the date of this letter.

NPDES regulations at 40 CFR §§ 124.74 and 124.76 require, among other items, that requests for an evidentiary hearing must state each of the legal or factual questions alleged to be at issue, must specifically identify the permit conditions which are contested and those which are

inseverable from the contested conditions, and must identify suggested revised or alternative permit conditions which would be required to implement the purposes and policies of the CWA. In addition, the regulations require that the requester demonstrate one of the following for each issue being raised in the hearing request: (1) that the issue was raised during the public comment period, (2) that the issue was not reasonably ascertainable during the public comment period, or (3) the requester could not have reasonably anticipated the relevance or materiality of the issue during the comment period. Please review 40 CFR §§ 124.74 and 124.76 for a complete description of the requirements applicable to requests for evidentiary hearings.

EPA will routinely deny any request for an evidentiary hearing which is postmarked later than the 33rd day from the date of this letter. Also, EPA will routinely deny any request for an evidentiary hearing which raises only legal issues or does not contain all of the requirements set forth at 40 CFR §§ 124.74 and 124.76. Any denial of a request for an evidentiary hearing may be appealed to the Administrator within 30 days from the date of notice of the denial. The requester must exhaust all administrative review before seeking judicial review.

If you have any questions regarding this matter, please call Eugene Bromley of the CWA Standards and Permits Office at (415) 744-1906.

Sincerely,

Terry Oda, Chief
CWA Standards and Permits Office

Enclosures

cc (w/encl.): Christopher Hans, Riverside County
Eugene Diepholz, City of Murrieta
John Pourkazemi, City of Temecula
Mark Wills, Riverside County Flood Control
Deborah Jayne, San Diego Regional Board
John H. Robertus, San Diego Regional Board
Mike Adackapara, San Ana Regional Board
Walt Pettit, State Board
Bruce Fujimoto, State Board
Betsy Jennings, State Board
Jon Van Rhyn, San Diego County Department of Environmental Health
Bob Wheeler, Elsinore-Murrieta Resource Conservation District
Jayne Joy, USMC, Camp Pendleton
Borre Winkler, Riverside County BIA
Diane Takvorian, Environmental Health Coalition
Richard Watson, Richard Watson and Associates
Ken Moser, San Diego BayKeeper
Bob Collacott, Woodward Clyde Consultants
Everett DeLano, Environmental Law and Litigation
Dave Brent, California Storm Water Quality Task Force
Robert Hale, California Storm Water Quality Task Force
Robert Falk, Morrison & Foerster
Gary Grimm, Law Offices of Gary Grimm
Steve Borroum, Caltrans
Nora Chorover, Law Offices of Nora Chorover
Mark Gold, Heal the Bay
David Beckman, NRDC
Robert Cain, City of San Diego
Mike Lozeau, San Francisco BayKeeper

Permit No. CAS0108766

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq.; the "Act"),

Riverside County Flood Control
and Water Conservation District
1995 Market Street
Riverside, CA 92501

Riverside County
4080 Lemon Street, 12th Floor
Riverside, CA 92501

City of Murrieta
26442 Beckman Court
Murrieta, CA 92562

City of Temecula
P.O. Box 9033
Temecula, CA 92589

are authorized to discharge storm water runoff from the municipal separate storm sewer system (MS4) operated by the permittees to waters of the United States from all outfalls within the permittees' MS4 in accordance with effluent limitations, monitoring requirements and other conditions set forth in Part I, Part II (USEPA Region IX Standard Federal NPDES Permit Conditions dated May 10, 1990) and Appendix 1 of this permit.

This permit shall become effective on MAY 30 1999

This permit and the authorization to discharge shall expire at midnight, November 30, 2003.

Signed this 27th day of April 1999

For the Regional Administrator

John Ong for A.S.

Acting Director, Water Division

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittees are authorized to discharge storm water runoff from all outfalls of the permittees' MS4.

2. Non-Storm Water Discharges

The permittees shall prohibit non-storm water discharges into the MS4. NPDES permitted discharges are exempt from this prohibition.

a. The following discharges need not be prohibited unless they are identified as a source of pollutants by either the permittees or USEPA Region IX:

from riparian habitats and wetlands
diverted stream flows
springs
rising ground waters
uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers

If any of the above discharges are identified as sources of pollutants, the discharges need not be prohibited provided the permittees develop and implement appropriate best management practices to ensure that the discharges are not a source of pollutants as described in Part I.A.2.b of this permit.

b. The following discharges need not be prohibited nor additional control measures implemented by the permittees prior to the effective date of the permit modification discussed below:

water line flushing
landscape irrigation
uncontaminated pumped ground water
discharges from potable water sources
foundation drains
air conditioning condensate
irrigation water
water from crawl space pumps
footing drains

lawn watering
individual residential car washing
discharges from emergency fire fighting activity

For each of the discharges listed above, the permittees shall select one of the following options and submit the required information not later than March 15, 2000:

i. The permittees shall submit information showing that the discharge is not a source of pollutants, or in the case of emergency fire fighting runoff, not a significant source of pollutants;
ii. The permittees shall propose appropriate best management practices to ensure that the discharge is not a source of pollutants, or in the case of emergency fire fighting runoff, not a significant source of pollutants; or
iii. The permittees shall propose a prohibition on the discharge entering the MS4.

Upon receipt of the submittal by USEPA Region IX, this permit shall be reopened and modified to require the implementation of the proposed best management practices, or a modification of the proposals if necessary to comply with the Clean Water Act. This permit shall also be reopened and modified to require that the permittees prohibit each of the above non-storm water discharges for which appropriate best management practices are not proposed, or for which information is not provided showing that the discharge is not a source of pollutants, or not a significant source of pollutants in the case of emergency fire fighting runoff.

3. Storm Water Management Program

The permittees shall control pollutants in storm water discharges to the maximum extent practicable, and to demonstrate compliance with this requirement, the permittees shall implement in its entirety the proposed storm water management program (SWMP) described in the documents listed in Part I.D.11 of this permit. All storm water pollution control measures identified in the SWMP shall be implemented, including existing and proposed measures, and any modifications to the SWMP made during the term of this permit, including those made in accordance with Part I.A.5.b of this permit. Proposed control measures shall be implemented in accordance with the implementation schedules provided in the SWMP, with the effective date of the permit serving, at a minimum, as the starting date for the implementation schedule.

The permittees shall also implement the additional control measures related to the SWMP set forth in Appendix 1 to this permit in the time frame set forth in Appendix 1.

4. Storm Water Monitoring Program

The permittees shall implement the storm water monitoring program described in the documents listed in Part I.D.12 of this permit.

5. Compliance with Water Quality Standards

a. Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives (collectively WQSs) are prohibited.

b. The permittees shall comply with Part I.A.5.a of this permit through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this permit including any modifications; the SWMP shall be designed to achieve compliance with Part I.A.5.a of this permit; if exceedance(s) of WQSs persist notwithstanding implementation of the SWMP and other requirements of this permit, the permittees shall assure compliance with Part I.A.5.a of this permit by complying with the following procedure:

i. Upon a determination by either the permittees or USEPA Region IX that discharges are causing or contributing to an exceedance of an applicable WQS, the permittees shall promptly notify and thereafter submit a report to USEPA Region IX that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. The report may be incorporated in the annual update to the SWMP unless USEPA Region IX directs an earlier submittal. The report shall include an implementation schedule. USEPA Region IX may require modifications to the report;

ii. Submit any modifications to the report required by USEPA Region IX within 30 days of notification;

iii. Within 30 days following approval of the report described above by USEPA Region IX, the permittees shall revise the SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be

implemented, the implementation schedule, and any additional monitoring required;

iv. Implement the revised SWMP and monitoring program in accordance with the approved schedule.

So long as the permittees have complied with the procedures set forth above and are implementing the revised SWMP, the permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same WQSs unless directed by USEPA Region IX to develop additional BMPs.

B. ANNUAL REPORT

The permittees shall submit an annual report summarizing the storm water program activities including, at a minimum, the following items:

1. The status of implementing the components of the SWMP required by the permit;
2. Any proposed changes to the SWMP;
3. Any revisions or updates to the assessment of controls and fiscal analysis reported in the permit application;
4. A summary of the data, including monitoring data, that is accumulated during the monitoring year;
5. Annual expenditures and budget for the year following each annual report;
6. A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
7. Identification of water quality improvement or degradation.

The annual report is due on September 15 of each year of the term of this permit. The first report is due on September 15, 1999.

C. ENDANGERED SPECIES ACT REQUIREMENTS

This permit does not authorize nor require the construction of any particular structural storm water quality control device that could adversely affect listed or proposed threatened or endangered species.

D. DEFINITIONS

1. Best Management Practices (BMPs) refer to schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

2. "CWA" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 95-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.

3. "Illicit Discharge" means any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges from fire fighting activities.

4. "Major Outfall" means a municipal separate storm sewer outfall from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more, or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

5. "Municipal Separate Storm Sewer" means a conveyance, or system of conveyances (including roads with drainage systems, municipal streams, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
(i) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal or sewage, industrial wastes, storm water, or other wastes, including special districts under State law
such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to water of the United States;
(ii) designed or used for collecting of conveying storm water;

(iii) which is not a combined sewer; and
(iv) which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

6. "Outfall" means a point source where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

7. "Permittees" mean the Riverside County Flood Control and Water Conservation District, Riverside County and the Cities of Murrieta and Temecula.

8. "Point Source" means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

9. "Representative Storm" means a storm event of greater than 0.1" of rainfall and at least 72 hours after the previously measurable (greater than 0.1" rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in the area.

10. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

11. The "storm water management program" (SWMP) consists of the following documents:

    i. SWMP described in sections 4 through 8 of the document entitled "NPDES Municipal Stormwater Application for Permit Renewal, Santa Margarita Watershed" dated January 17, 1995, and further described in the document entitled "Santa Margarita Regional Drainage Area Management Plan" dated March, 1993.

12. The "storm water monitoring program" consists of the following documents:

i. Consolidated program for water quality monitoring described in section 9 of the document entitled " NPDES Municipal Stormwater Application for Permit Renewal, Santa Margarita Watershed" dated January 17, 1995, and further described in the document entitled "Consolidated Program for Water Quality Monitoring" dated October, 1994.

13. "Waters of the United States" means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(b) all interstate waters, including interstate "wetlands":
(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
(1) which are or could be used by interstate or foreign travelers for recreational or other purposes;
(2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
(3) which are used or could be used for industrial purposes by industries in interstate commerce;
(d) all impoundments of waters otherwise defined as waters of the United States under this definition;
(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;
(f) the territory sea; and
(g) wetlands adjacent to areas (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States.

USEPA REGION IX STANDARD FEDERAL NPDES PERMIT CONDITIONS
(Updated as of May 10, 1990)

1. Duty to Reapply [40 CFR 122.21(d)]

The permittee shall submit a new application 180 days before the existing permit expires.

2. Applications [40 CFR 122.22]

a. All permit applications shall be signed as follows:

(1) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes; (I) The chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative or representatives of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this Section;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director.

c. Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or a portion of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly

responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

3. Duty to Comply [40 CFR 122.41(a)]

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that:

(1) Any person who causes a violation of any condition in this permit is subject to a civil penalty not to exceed $25,000 per day of each violation. Any person who negligently causes a violation of any condition in this permit is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two years, or both. [Updated pursuant to the Water Quality Act of 1987]

(2) Any person who knowingly causes violation of any condition of this permit is subject to fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three years, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $100,000 per day of violation, or by imprisonment of not more than six years, or both. [Updated pursuant to the Water Quality Act of 1987]

(3) Any person who knowingly causes a violation of any condition of this permit and,by so doing, knows at that time that he thereby places another in imminent danger of death or serious bodily injury shall be subject to a fine or not more than $250,000, or imprisonment of not more than 15 years, or both. A person who is an organization and violates this provision shall be subject to a fine or not more than $1,000,000 for a first conviction. For a second conviction under this provision, the maximum fine and imprisonment shall be doubled. [Updated pursuant to the Water Quality Act of 1987]

4. Need to Halt or Reduce Activity Not a Defense [40 CFR 122.41 (c)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate [40 CFR 122.41(d)]

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance [40 CFR 122.41(e)]

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7. Permit Actions [40 CFR 122.41(f)]

The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. Property Rights [40 CFR 122.41 (g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information [40 CFR 122.41(h)]

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10. Inspection and Entry [40 CFR 122.41(i)]

The permittee shall allow the Director, or an authorized representative, upon the presentation of credential and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance

or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. Monitoring and Records [40 CFR 122.41(j)]

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application, except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless test procedures have been specified in this permit.

e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $20,000 per day of violation, or imprisonment for not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

12. Signatory requirement [40 CFR 122.41(k)]

a. All applications, reports or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record other document submitted or required to be

maintained under this permit, including monitoring reports of compliance or noncompliance shall, upon conviction, be punished by a fine or not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to fine of not more than $20,000 per day of violation, or imprisonment of not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

13. Reporting requirements [40 CFR 122.41(l)]

a. Planned changes. The permittee shall give notice to the Director as soon as possible to any planned physical alternations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section 122.42(a)(1); or

b. Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility of activity which may result in noncompliance with the permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See Section 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory).

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136, then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. Twenty-four hour reporting.

(1) The permittee shall report any noncompliance which may endanger public health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned in order to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(i) Any unanticipated bypass which exceeds any effluent limitation in the permit. [See 40 CFR 122.41(g).]

(ii) Any upset which exceeds any effluent limitation in the permit.

(iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. [See 40 CFR 122.44(g).]

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under the above paragraphs (i), (ii), and (iii) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed paragraph (iii) of this section.

h Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

14. Bypass [40 CFR 122.41(m)]

a. Definitions

(1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not Exceeding Limitations.The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

c. Notice.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, of possible at least ten days before the date of the bypass.

(2) Unanticipated bypass.The permittee shall submit notice of an unanticipated bypass as required in paragraph (f) of section (13) (24-hour notice).

d. Prohibition of bypass.

(1) Bypasses are prohibited, and the Director may take enforcement action against a permittee for a bypass, unless:

(i) A bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

(iii) The permittee submitted notices as required under paragraph c of this section.

(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the director determines it will meet the three conditions listed above in paragraph (d) of this section.

15. Upset [40 CFR 122.41(n)]

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirement of paragraph c of this section are met. No determination made during administrative review of claims that noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated; and

(3) The permittee submitted notice of the upset as required in paragraph 13(f) (24-hour notice).

(4) The permittee complied with any remedial measures required under 40 CFR 122.41(d).

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

16. Reopener Clause [40 CFR 122.44(c)]

This permit shall be modified or revoked and reissued to incorporate any applicable effluent standard or limitation or standard for sewage sludge use or disposal under sections 301 (b) (2) (C), and (D), 304 (b) (2), 307 (a) (2) and 405 (d) which is promulgated or approved after the permit is issued if that effluent or sludge standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant or sludge use or disposal practice not limited in the permit.

17. Transfers by Modification [40 CFR 122.61(a)]

Except as provided in section 18, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR 122.62(b)(2)0, or a minor modification made under 40 CFR 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the CWA.

18. Automatic Transfers [40 CFR 122.61(b)]

An alternative to transfers under section 17, any NPDES permit may be automatically transferred to a new permittee if:

a. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (2) of this section;

b. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (2) of this section.

19. Minor Modification of Permits [40 CFR 122.63]

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 125. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR 122.62. Minor modifications may only:

a. Correct typographical errors;

b. Require more frequent monitoring or reporting by the permittee;

c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

d. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in their permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Director.

e. Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation prior to discharge under 40 CFR 122.29.

f. Delete a point source outfall when the discharge from the outfall is terminated and does not result in discharge of pollutants from other outfall except in accordance with the permit limits.

g. When the permit becomes final and effective on or after March 9, 1982, conform to changes respecting 40 CFR 122(3), (1), (m)(4)(I)(B), (n)(3)(I), and 122.42 (a) issued September 26, 1984.

h. Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 as enforceable conditions of the POTW's permit.

20. Termination of permits [40 CFR 122.64]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

a. Noncompliance by the permittee with any condition of the permit;

b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

21. Availability of Reports [Pursuant to Clean Water Act Section 308]

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

22. Removed Substances [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

23. Severability [Pursuant to Clean Water Act Section 512]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of the permit, shall not be affected thereby.

24. Civil and Criminal Liability [Pursuant to Clean Water Act Section 309]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

25. Oil and Hazardous Substance Liability [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

26. State or Tribal Law [Pursuant to Clean Water Act Section 510]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

APPENDIX 1 - Additional Permit Requirements

A. Street Sweeping Program

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX a proposal for regular street sweeping of the permittees' municipal roads, including a description of the type of equipment to be used. Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

B. Storm Drainage System Inspection and Maintenance

Not later than December 15, 1999, the permittees shall submit to USEPA Region IX a proposal for regular inspection and maintenance (including debris removal) of the permittees' municipal separate storm sewer system (not including municipal roads). Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

C. Investigation of Malfunctioning Septic Systems

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX an evaluation of the potential for storm water quality degradation from malfunctioning septic systems within the area covered by the permit. The evaluation shall also include recommendations for reducing pollutants discharged from malfunctioning septic systems if the permittees conclude that malfunctioning septic systems may contribute significant quantities of pollutants in storm water runoff. Upon receipt of the evaluation by USEPA Region IX, this permit may be reopened and modified to include any recommendations from the evaluation, or a modification of the recommendations as necessary to comply with applicable requirements of the Clean Water Act.

D. Source Identification and Prioritization

The permittees shall develop and update annually, at a minimum, a list of facilities within the jurisdiction of the permittees which discharge storm water associated with industrial activity as defined at 40 CFR 122.26(b)(14). The list shall also include non-industrial facilities, or categories of facilities which the permittees believe may discharge significant quantities of pollutants in storm water. The overall list shall be prioritized to indicate the individual sources, or categories of sources which the permittees believe are the most significant sources of pollutants.

E. Inspection Program for Industrial/Commercial Facilities

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX a proposal for inspections of industrial and commercial facilities to evaluate storm

water pollution control efforts at the facilities. The proposal shall describe the types of facilities to be inspected and the frequency of such inspections and followup enforcement of local requirements. Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

F. Inspection/Enforcement Program at Construction Sites

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX a proposal for inspection and enforcement of the permittees' grading ordinance at construction sites. The proposal shall describe the frequency of the inspections and the type of follow-up enforcement to be undertaken. Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

G. Legal Authority Requirements

Within six months of the effective date of this permit, each permittee shall provide a certification to USEPA Region IX that it has adequate legal authority to do the following:

1) control through ordinance, permit, contract, order or other means discharges of pollutants into the MS4 from storm water discharges associated with industrial activity;
2) prohibit illicit connections to the MS4;
3) control spills or the dumping of materials other than storm water into the MS4;
4) control through interagency agreements the contribution of pollutants from one portion of the MS4 to another;
5) require compliance with ordinances, permits, contracts or orders; and
6) conduct inspections, surveillance and monitoring to ensure compliance with permits or ordinances.

H. Monitoring for Diazinon and Chlorpyrifos

The wet weather monitoring program required by Part I.A.4 of this permit shall include diazinon and chlorpyrifos among the parameters for which sampling and analysis is conducted.

I. Watershed Coordination Report

Not later than March 15, 2000, the permittees shall submit to USEPA Region IX a report which analyzes the appropriateness of the permittees' storm water management program and monitoring program in addressing storm water quality issues within the Santa Margarita Watershed as a whole, including the program's effect on water quality and habitat downstream from the Riverside County line. This analysis shall also include an assessment of the compatibility

with corresponding programs of San Diego County and Camp Pendleton and the needs and opportunities for collaboration with these communities. The report shall also include recommendations for any needed changes to the permittees' storm water management program or monitoring program based on the findings of the report. Upon receipt of the report by USEPA Region IX, this permit may be reopened and modified to include the recommendations, or a modification of the recommendations as necessary to comply with applicable requirements of the Clean Water Act.

JR

April 21, 1999

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FACT SHEET
NPDES PERMIT NO. CAS0108766
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, RIVERSIDE COUNTY, CITIES OF TEMECULA AND MURRIETA

SUMMARY

The Riverside County Flood Control and Water Conservation District, Riverside County, and the Cities of Temecula and Murrieta (the "permittees") have applied to the U.S. Environmental Protection Agency, Region IX (USEPA Region IX) for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge storm water runoff from the permittees' municipal separate storm sewer system (MS4) in the Santa Margarita River drainage area of Riverside County. This drainage area is within the jurisdiction of the San Diego Regional Water Quality Control Board (RWQCB). The NPDES storm water permit is required in accordance with the provisions of the 1987 Water Quality Act (WQA) which require an NPDES permit for storm water discharges from MS4s (including the MS4 operated by the permittees) which serve a population of 100,000 or more. Final regulations were promulgated by EPA on November 16, 1990 (55 Fed. Reg. 47990) which set forth permit application requirements for MS4s affected by the 1987 WQA.

In California, NPDES permits are ordinarily issued by the RWQCBs since the NPDES permit program has been delegated to the State by USEPA Region IX. A storm water permit for the permittees' MS4 was originally issued by the San Diego RWQCB on July 16, 1990, and reissued on May 13, 1998. However, on May 26, 1998, in accordance with the program delegation agreement with the State, USEPA Region IX objected to the reissued permit due to concerns regarding the language in the permit pertaining to receiving water limitations. This objection was not resolved within the 90 day period provided by the delegation agreement. As a result, on September 18, 1998, USEPA Region IX assumed responsibility for the permit and requested the MS4 permit reapplication from the permittees.

EPA's storm water permit application regulations require a 2-part permit application for first round permits for MS4s. On May 17, 1996, EPA also issued a policy memorandum concerning requirements for permit reapplications for MS4s. The policy memorandum was issued in consideration of the fact that much of the information required for MS4 permit applications (such as information concerning rainfall data) had already been submitted with the first round permit application and it would be redundant to require resubmittal of this same information. For the reapplication, the policy memorandum recommends that permittees should provide information such as a revised storm water management program and monitoring program which include changes or improvements based on the permittees' experiences during the first permit term. The policy memorandum also suggests that the fourth year annual report from the MS4 could constitute the bulk of the reapplication package.

The 1987 WQA requires that pollutants in storm water discharges be controlled to the maximum extent practicable (MEP). The storm water management program is the means by which a municipality complies with the MEP standard. However, EPA recognizes that storm water issues and methods for controlling pollutants vary considerably with climatic and other differences around the country. Therefore, while EPA's regulations set forth the basic requirements of a storm water management program, the regulations also provide flexibility in that municipalities are given an opportunity to propose their own program.

USEPA Region IX has reviewed the permit reapplication submitted by the permittees and believes that the permittees' proposals for the storm water management program, monitoring program and other program elements are appropriate (with certain relatively minor exceptions) for the MS4. USEPA Region IX prepared a draft permit based on the reapplication and public noticed its intent to issue an NPDES permit based on the reapplication. The draft permit had basically required that the permittees implement their own proposals which are discussed in the more detail in the reapplication. Appendix 1 of the draft permit also set forth certain additional pollution control measures which USEPA Region IX believed would be needed to ensure compliance with the MEP standard. The draft permit required that these additional controls be implemented by the permittees as well as their own proposals.

After considering the comments received during the public comment period, USEPA Region IX prepared and is issuing a final NPDES permit which differs only slightly from the draft permit. The differences primarily relate to the requirements for non-storm water discharges and are discussed in more detail later in this fact sheet and in the response to public comments which also accompanies the final permit.

I. BACKGROUND

A. Water Quality Act of 1987

The 1987 Water Quality Act (WQA) amended the Clean Water Act (CWA) by adding section 402(p) which requires that NPDES permits be issued for the following five categories of storm water discharges:

(1) discharges permitted prior to February 4, 1987;
(2) discharges associated with industrial activity;
(3) discharges from large municipal separate storm sewer systems (MS4s) (systems serving a population of 250,000 or more);
(4) discharges from medium MS4s (systems serving a population of 100,000 or more, but less than 250,000); and
(5) discharges judged by the permitting authority to be significant sources of pollutants or which contribute to a violation of a water quality standard.

The five categories listed above are generally referred to as Phase I of the storm water program. The program also includes a Phase II, which includes all discharges not included in Phase I. EPA has recently proposed regulations for Phase II sources (63 Fed. Reg. 1536, January 9, 1998). These regulations are scheduled to be finalized by October 29, 1999[1].

The 1987 WQA also clarified that industrial storm water discharges are subject to the BAT/BCT requirements of the CWA and applicable water quality standards. For MS4s, the WQA specifies a new technology-related level of control for pollutants in the discharges - control to the maximum extent practicable (MEP). However, the WQA is silent on the issue of compliance with water quality standards for MS4 discharges and this has given rise to the argument that Congress did not intend for water quality standards to apply to MS4s. In January, 1991, EPA's Office of General Counsel reviewed this issue and concluded that the correct reading of the CWA is that water quality standards apply to municipal as well as industrial storm water discharges.

B. Water Quality Concerns

The 1987 decision by Congress to require NPDES permitting for the storm water discharges listed above was based on a growing awareness of the environmental significance of nonpoint sources of pollutants. For example, EPA's report entitled "National Water Quality Inventory, 1996 Report to Congress" (EPA, 1998) shows that nonpoint sources, including storm water runoff, are the leading cause of existing water quality impairments.

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[1] The proposal of January 9, 1998 had indicated that the Phase II regulations would be promulgated by March 1, 1999 in accordance with a consent decree. However, EPA has recently negotiated an extension of this deadline until October 29, 1999.

ATTACHMENT 3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

In Reply
Refer to: WTR-5

MAR 2 5 1998

John H. Robertus
Executive Officer
California Regional Water Quality Control
Board, San Diego Region
9771 Clairemont Mesa Blvd, Suite A
San Diego, CA 92124-1324

Re: NPDES Permit No. CAS0108766 for Riverside County and Co-Permittees

Dear Mr. Robertus:

The purpose of this letter is to advise the San Diego Regional Water Quality Control Board (SDRWQCB) that we believe that certain provisions of draft NPDES permit No. CAS0108766 are inconsistent with the requirements of the Clean Water Act (CWA) and its implementing regulations. We must, therefore, object to the issuance of the permit as it is. The draft permit is scheduled for adoption on April 8, 1998, and would authorize storm water discharges from the municipal separate storm water system (MS4) operated by Riverside County and several co-permittees within the jurisdiction of the SDRWQCB. As you know, NPDES regulations at 40 CFR § 123.44 and Region 9's Memorandum of Agreement with the State Water Resources Control Board (SWRCB) provide that Region 9 may object to a State-issued NPDES permit under certain circumstances.

Our concerns regarding draft permit No. CAS0108766 pertain to the receiving water limitations (RWLs) included in Condition E. Aside from minor editorial changes, the RWLs language in the draft permit is the same as the language which the SWRCB adopted on January 22, 1998 (Order WQ 98-01) with the intent that the language would be required in all future MS4 permits issued in the State. However, in letters to the SWRCB dated January 21, 1998 and March 17, 1998 (enclosed), Region 9 expressed concern regarding this language and advised the SWRCB of our intent to object to future MS4 permits which include the language.

NPDES regulations at 40 CFR §§ 123.44(c)(1) through (9) set forth the specific grounds upon which an objection to an NPDES permit must be based. The regulations at 40 CFR § 123.44(c)(8) provide that an objection may be based on a permit's failure to ensure compliance with any of the requirements of 40 CFR § 122.44(d). Condition E.2 of the draft permit would only regulate storm water discharges which "cause or substantially (in more than a *de minimis*

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amount) contribute to a continuing or recurring exceedance" of an applicable water quality standard. However, as noted in our letter of March 17, 1998 to the SWRCB, NPDES regulations at 40 CFR § 122.44(d)(1)(i) require that permits regulate "all pollutants or pollutant parameters . . . which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard . . . ." The requirements of 40 CFR § 122.44(d)(1)(i) are applicable to *all* excursions above standards, not just excursions which are "continuing or recurring" and which the permittee causes or "substantially (in more than a *de minimis* amount)" contributes to, as provided by Condition E.2 of the draft permit. As such, Condition E.2 of the draft permit would not comply with 40 CFR § 122.44(d)(1)(i) and would constitute grounds for an objection to the permit.

NPDES regulations at 40 CFR § 123.44(c)(7) also provide for an objection if "the proposed permit would in any other respect be outside the requirements of CWA, or regulations issued under CWA." Our letters to the SWRCB of January 21, 1998 and March 17, 1998 note that the language of Condition E.2 of the draft permit would unacceptably increase the burden of proof in establishing permit violations. We point out that to enforce the permit, a showing would have to be made that the exceedances were "continuing or recurring" and that the permittee either caused the exceedances or contributed "substantially (in more than a *de minimis* amount)" to the exceedances. NPDES regulations at 40 CFR § 123.27(b)(2) require that the "burden of proof and degree of knowledge or intent required under State law for establishing violations . . . shall be no greater than the burden of proof or degree of knowledge or intent EPA must provide when it brings an action" under the CWA. Since EPA would not have to meet the threshold requirements in Condition E.2 of the draft permit in order to establish a violation of a permit that properly required the permittee to meet all water quality standards, the language would be inconsistent with 40 CFR § 123.27(b)(2), and would constitute grounds for objecting to the permit. Region 9's concern is that by complicating the establishment of a violation, we undermine the enforcement program. This in turn weakens the regulatory process which we as regulatory agencies rely on to carry out our mission.

NPDES regulations at 40 CFR § 123.44(b)(2)(ii) also require that when objecting to a permit, Region 9 must specify conditions which would be acceptable. In a letter dated January 16, 1998 to the SWRCB (enclosed), we proposed alternative RWLs language for MS4 permits which we could accept. The proposed language in the January 16, 1998 letter is similar to Condition E.2 in the draft permit, but without the qualifiers "substantially (in more than a *de minimis* amount)" and "continuing or recurring." We have subsequently made certain revisions to our January 16, 1998 proposal which are enclosed for your consideration (see proposal dated March 9, 1998). Our revised proposal would require compliance with water quality standards, but also provide that if exceedances of standards occur, the SDRWQCB need not require a permittee to upgrade their storm water management program provided the exceedances are not "continuing or recurring", or if the permittee's contribution to the exceedances is not "substantial (in more than a *de minimis* amount)." We believe that this provision would comply with the CWA, while simultaneously reducing the potential burden on permittees. Our new proposal also

includes certain revisions to paragraph 3 to bring it more in line with the language in the Order WQ 98-01 adopted by the SWRCB, and Condition E.3 of the draft permit.

To avoid a veto and subsequent takeover of the permit by Region 9, we recommend that the SDRWQCB consider for the final permit the revised proposal for RWLs language which is enclosed in this letter. We are also open to additional suggestions and are willing to work with all interested parties in the development of suitable alternative language.

Thank you for the opportunity to review and comment on the draft permit for Riverside County and its co-permittees. If have any questions regarding this matter, please call me at (415) 744-1860 or refer your staff to Eugene Bromley of the CWA Standards and Permits Office at (415) 744-1906.

Sincerely,

Alexis Strauss
Acting Director
Water Division

Enclosures
cc: Riverside County
cc: Bruce Fujimoto, State Board
Craig Wilson, State Board
Walt Pettit, State Board
Regional Board Executive Officers, Boards 1-8
Robert Hale, State Storm Water Quality Task Force
Libby Lucas, Environmental Health Coalition
Jeffrey Joseph, Caltrans
Richard Boon, Orange County
Frances L. McChesney, State Board
Greg Gearheart, SDRWQCB
Michael Cook, U.S. EPA

ATTACHMENT 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAY 26 1998

In Reply
Refer to: WTR-5

John H. Robertus
Executive Officer
California Regional Water Quality Control
Board, San Diego Region
9771 Clairemont Mesa Blvd, Suite A
San Diego, CA 92124-1324

SAN DIEGO REGIONAL
WATER QUALITY
CONTROL BOARD
1998 JUN -1 P 1:25

Re: NPDES Permit No. CAS0108766 for Riverside County and Co-Permittees

Dear Mr. Robertus:

The purpose of this letter is to formally notify the San Diego Regional Water Quality Control Board (SDRWQCB) that we are objecting to NPDES permit No. CAS0108766 which was adopted by the SDRWQCB on May 13, 1998. When effective, this permit would authorize storm water discharges from the municipal separate storm water system (MS4) operated by Riverside County and its co-permittees within the jurisdiction of the SDRWQCB. However, as noted in Condition F.32 of the permit, the effective date of the permit is stayed if Region 9 objects to the permit.

Region 9's objection to permit No. CAS0108766 is based on 40 CFR § 123.44(c)(1): "[t]he permit fails to apply, or to assure compliance with, any applicable requirements of this part." As explained in our letter of March 25, 1998 (enclosed), we concluded that the language in the permit pertaining to receiving water limitations (RWLs) would not comply with the Clean Water Act (CWA) and its implementing regulations. Specifically, Condition E.2 fails to assure compliance with 40 CFR § 122.44(d), which implements Section 301(b)(1)(C) of the CWA. In letters dated January 21, 1998 and March 17, 1998 (enclosed), we also explained to the State Water Resources Control Board (SWRCB) (with a copy to each Regional Board) why the RWLs language in permit No. CAS0108766 would not be acceptable. These three letters (to the SDRWQCB dated March 25, 1998, and to the SWRCB dated January 21, 1998 and March 17, 1998) are incorporated by reference in this formal notice of objection.

Region 9's Memorandum of Agreement with the SWRCB and NPDES regulations at 40 CFR § 123.44(h) provide 90 days from receipt of this letter for the SDRWQCB or the SWRCB to respond to Region 9's objection to a final permit. Otherwise, authority to issue the permit will pass to Region 9. The SDRWQCB, or any interested person, may also request a public hearing in accordance with 40 CFR § 123.44(e) to further review the objection.

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We recognize that the RWLs language which the SDRWQCB included in permit No. CAS0108766 was a requirement of Order WQ 98-01 which was adopted by the SWRCB on January 22, 1998. However, as noted in our letter of March 17, 1998 to the SWRCB, we believe that the SWRCB may be willing to consider alternatives to the RWLs language in permit No. CAS0108766, despite the apparent precedent setting nature of WQ Order 98-01. Region 9 is also willing to work further with the SDRWQCB and all interested parties in the development of a suitable alternative to the RWLs language in permit No. CAS0108766. However, as noted above, authority to issue the permit will pass to Region 9 in accordance with 40 CFR § 123.44(h) if the issue cannot be resolved in a timely manner.

Thank you for the opportunity to review and comment on the final permit for Riverside County and its co-permittees. If have any questions regarding this matter, please call me at (415) 744-1860 or refer your staff to Eugene Bromley of the CWA Standards and Permits Office at (415) 744-1906.

Sincerely,

Alexis Strauss
Acting Director
Water Division

Enclosures

cc: Walt Pettit, State Board
Craig Wilson, State Board
Regional Board Executive Officers, Boards 1 through 8
Mark Wills, Riverside County Flood Control District
Robert Hale, State Storm Water Quality Task Force
Libby Lucas, Environmental Health Coalition
Frances L. McChesney, State Board
Greg Gearheart, SDRWQCB
Michael Cook, U.S. EPA
Bruce Fujimoto, State Board

ATTACHMENT H-2

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
ORDER NO. R9-2004-001
NPDES NO. CAS0108766
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES OF URBAN RUNOFF FROM
THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE COUNTY OF RIVERSIDE,
THE CITY OF MURRIETA, THE CITY OF TEMECULA AND THE
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION
DISTRICT WITHIN THE SAN DIEGO REGION

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MONITORING AND REPORTING PROGRAM No. R9-2004-001

FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter SDRWQCB), finds that:

1. The Riverside County Flood Control and Water Conservation District (District), the County of Riverside and the Cities of Murrieta and Temecula (hereinafter called Permittees), own or operate municipal separate storm sewer systems (MS4s), through which urban runoff is discharged into waters of the United States (U.S.) within the Santa Margarita Watershed area of Riverside County in the San Diego Region (hereinafter referred to as the Upper Santa Margarita Watershed).

2. The SDRWQCB has previously issued two MS4 permits for the Upper Santa Margarita Watershed. The first-round MS4 permit was issued on July 16, 1990, and the second-round MS4 permit was issued on May 13, 1998 (Order No. R9-98-02). On May 26, 1998, the United States Environmental Protection Agency (EPA), Region IX, objected to Order No. 98-02 due to concerns regarding the Receiving Water Limitations (RWL) language. The EPA concluded that the RWL language in the permit did not comply with the federal Clean Water Act (CWA) and its implementing regulations. On April 27, 1999, the EPA reissued the MS4 permit, which the SDRWQCB adopted as Addendum No. 1 to Order No. R9-98-02 on November 8, 2000. On May 30, 2003 and in accordance with Order No. R9-98-02, the District, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of their MS4 Permit.

3. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for water bodies in the Santa Margarita Watershed: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) (potential use), Non-contact Water Recreation (REC2), Warm Freshwater Habitat WARM, Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), and Rare, Threatened, or Endangered Species (RARE).

4. Urban runoff contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of the waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA.

5. The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.

6. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

7. Pollutants in urban runoff can threaten human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

8. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d) impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particular sensitive environment. Therefore, additional control to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

9. Urban runoff often contains pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

10. The Final 2002 CWA Section 303(d) List of Water Quality Limited Segments identifies the entire length of Murrieta Creek (12 miles) and the upper portion of the Santa Margarita River (18 miles) as impaired for phosphorus. Potential sources of the phosphorus impairment include urban runoff and unknown point and nonpoint sources. The Santa Margarita Lagoon is listed as impaired for eutrophication.

11. The Permittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants (chlorpyrifos, chromium, diazinon, dissolved oxygen, fecal coliform, MBAS, phosphorus, etc.) at eight different monitoring stations in the Upper Santa Margarita Watershed. The data indicate that urban runoff from activities such as over-application of pesticides and potential illicit discharges from industrial and commercial activities may be contributing to potential water quality impairments. Also, bioassessment monitoring, conducted by the California Department of Fish and Game, and physical assessments, conducted as part of the development of the Draft Operational Guidebook For Referenced Based Assessment of the Functions of Riverine Waters/Wetlands in the Santa Margarita Watershed, indicate that impacts to the biological and physical integrity of receiving waters have occurred as a result of urbanization in the upper watershed.

12. Peak storm water discharges rates, velocities and durations must be controlled to prevent downstream erosion and protect stream habitat. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed urban area is significantly greater in volume, velocity, peak flow rate, and pollutant load than pre-development runoff from the same area. The increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels.

13. As part of the ROWD, the Permittees proposed to update and modify their existing Drainage Area Management Plan (DAMP), dated March 1993, to incorporate new programs, requirements, and commitments. Direction to the Permittees in revising the DAMP, hereinafter referred to as a Storm Water Management Plan (SWMP), is necessary to ensure that the document provides a written description of the specific urban runoff management measures and programs that each Permittee will implement to fulfill its individual responsibilities and the area-wide and watershed-based activities necessary to meet the maximum extent practicable (MEP) standard. It is practicable for the Permittees to update the SWMP within one year. The SWMP is an integral and enforceable component of this Order.

14. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of pollutants in urban runoff to the MEP requires Permittees to conduct and document evaluation and assessment of each program component and revise activities, control measures, best management practices (BMPs), and measurable goals, as necessary to meet MEP. Because MEP is a dynamic performance standard, it is necessary to describe in greater detail, measures that are essential for compliance.

15. Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants from urban runoff.

16. Developing minimum BMPs and implementing or requiring their implementation at industrial and commercial facilities, construction sites, and residential areas is necessary for the Permittees to ensure that, ultimately, discharges of pollutants into and from its MS4 are reduced to the MEP.

17. Controlling urban runoff pollution by using a combination of onsite source control BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

18. Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an urban runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This is consistent with EPA guidance to avoid locating structural controls in natural wetlands.

19. Historic and current developments make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are both MS4s and receiving waters.

20. As operators of the MS4s, the Permittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or exceedances of water quality objectives.

21. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the SDRWQCB is responsible for enforcing the General Construction Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Construction Permit) and the General Industrial Activities Storm Water Permit, SWRCB Order 99-08 DWQ, NPDES No. CAS000002 (General Industrial Permit), and each municipal Permittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits.

22. This Order implements the federal CWA, the Porter-Cologne Water Quality Control Act (Division 7 of the CWC, commencing with section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (SWRCB), and the Basin Plan.

23. The RWL language specified in this Order is consistent with language recommended by the EPA and established in SWRCB Water Quality Order 99-05, adopted by the SWRCB on June 17, 1999. The RWL in this Order require compliance with water quality standards through an iterative approach requiring the implementation of improved and better-tailored BMPs over time.

24. The Standard Urban Storm Water Management Plan (SUSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the SWRCB on October 5, 2000. In the precedential order, the SWRCB found that the design standards, which essentially require that urban runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflects the MEP standard. The order also found that the design standards are appropriately applied to the majority of the Priority Development Project categories contained in Section F of this Order. It gave Regional Water Quality Control Boards (RWQCBs) the discretion to include additional categories and locations, such as retail gasoline outlets (RGOs) and ESAs, in future SUSMPs.

25. RGOs are significant sources of pollutants in urban runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and treatment control BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more, or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

26. This Order is in conformance with SWRCB Resolution No. 68-16 and the federal Antidegradation Policy described in 40 CFR 131.12.

27. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Permittee from developing a non-point source plan, for the urban category, under CZARA. The SDRWQCB addresses septic systems through the administration of other programs.

28. Each Permittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.

29. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; and (3) ensuring that each drainage feature is adequately maintained in perpetuity.

30. If not properly designed or maintained, certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). However, proper BMP design to avoid standing water can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities and local vector control agencies and the State Department of Health Services during the development and implementation of the SWMP.

31. The issuance of waste discharge requirements and an NPDES permit for the discharge of urban runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

32. The SDRWQCB has notified the Permittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.

33. The SDRWQCB has, at public meetings on February 11, 2004 and July 14, 2004, held public hearings and heard and considered all comments pertaining to the terms and conditions of this Order.

PERMIT PROVISIONS

IT IS HEREBY ORDERED: That the Permittees, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, shall each comply with the following:

A. PROHIBITIONS

1. Discharges into and from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the State are prohibited.

2. Discharges from MS4s that cause or contribute to exceedances of water quality objectives for surface water or groundwater are prohibited.

3. Discharges from MS4s containing pollutants which have not been reduced to the MEP are prohibited.

4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in **Attachment A** to this Order.

B. NON-STORM WATER DISCHARGES

1. Each Permittee shall effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate NPDES permit; or authorized in accordance with Requirements B.2 and B.3 below.

2. The following categories of non-storm water discharges are not prohibited unless a Permittee or the SDRWQCB identifies the discharge category as a source of pollutants to waters of the U.S. For such a discharge category, the Permittee shall either prohibit the discharge category or develop and implement appropriate control measures under the SWMP to reduce pollutants to the MEP and submit the report to the SDRWQCB pursuant to section III.A.1.d of Monitoring and Reporting Program No. R9-2004-001 (hereafter referred to as the MRP).

   a) Diverted stream flows;
   b) Rising ground waters;
   c) Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
   d) Uncontaminated pumped ground water;
   e) Foundation drains;
   f) Springs;
   g) Water from crawl space pumps;
   h) Footing drains;
   i) Air conditioning condensation;
   j) Flows from riparian habitats and wetlands;
   k) Water line flushing;
   l) Landscape irrigation;
   m) Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
   n) Irrigation water;
   o) Lawn watering;

p) Individual residential car washing;
q) Non-emergency fire fighting flows; and
r) Dechlorinated swimming pool discharges.

3. Discharges from emergency fire fighting activities are not prohibited. If discharges are determined to be a significant source of pollutants to waters of the U.S., the Permittees shall require the implementation of appropriate BMPs to reduce the discharge of pollutants to the MEP, when not interfering with the protection of health and property.

4. Each Permittee shall examine its Illicit Discharge Monitoring results collected in accordance with Requirement J.3 of this Order and section II.B of the MRP to identify water quality problems which may be the result of any non-prohibited discharge category(ies) listed above in Requirement B.2. Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.

C. RECEIVING WATER LIMITATIONS

1. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses of receiving waters) are prohibited.

2. Each Permittee shall comply with Requirement C.1, Prohibition A.2, and Prohibition A.4 as it applies to Prohibition No. 5 in **Attachment A** of this Order through timely implementation of control measures and other actions to reduce pollutants in urban runoff discharges in accordance with the SWMP and other requirements of this Order including any modifications. The SWMP shall be designed to achieve compliance with Requirement C.1, Prohibition A.2, and Prohibition A.4 as it applies to Prohibition 5 in **Attachment A** of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the SWMP and other requirements of this Order, the Permittee shall assure compliance with Requirement C.1, Prohibition A.2, and Prohibition A.4 as it applies to Prohibition 5 in **Attachment A** of this Order by complying with the following procedure:

   a) Upon a determination by either a Permittee or the SDRWQCB that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the SDRWQCB that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the SWMP Annual Report unless the SDRWQCB directs an earlier submittal. The report shall include an implementation schedule. The SDRWQCB may require modifications to the report;

   b) Submit any modifications to the report required by the SDRWQCB within 30 days of notification;

   c) Within 30 days following SDRWQCB approval of the report described above, the Permittee shall revise its SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;

   d) Implement the revised SWMP and monitoring program in accordance with the approved schedule.

   So long as the Permittee has complied with the procedures set forth above and are implementing

the revised SWMP, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the SDRWQCB to develop additional BMPs.

D. LEGAL AUTHORITY

1. Each Permittee shall establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the Permittee to:

   a) Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites. This requirement applies both to industrial and construction sites that have coverage under the General Industrial Permit and General Construction Permit, as well as to those sites that do not. Grading ordinances shall be upgraded and enforced as necessary to comply with this Order.

   b) Prohibit all identified illicit discharges not otherwise allowed pursuant to Requirement B.2 including but not limited to:

      (1) Sewage;

      (2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;

      (3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;

      (4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;

      (5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;

      (6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;

      (7) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;

      (8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and

      (9) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

   c) Prohibit and eliminate illicit connections to the MS4;

   d) Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;

   e) Require compliance with conditions in Permittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

f) Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s to the MEP.

g) Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Permittee must have authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites;

h) Utilize enforcement mechanisms to require compliance with Permittee storm water ordinances, permits, contracts, or orders; and

i) Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Permittees;

2. Each Permittee shall include as part of its Individual SWMP, which must be submitted within 365 days of adoption of this Order, a statement certified by its chief legal counsel that the Permittee has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order.

E. STORM WATER MANAGEMENT PLAN (SWMP)

1. Within 365 days from the date of this Order, the Principal Permittee shall submit a SWMP to the SDRWQCB. The SWMP shall describe the various urban runoff management programs that will be implemented to comply with this Order and to reduce pollutants in urban runoff to the MEP for the duration of this Order. The SWMP is an integral and enforceable component of this Order and shall consist of the following:

   a) Individual SWMP - The written description of each Permittee's individual programs that address Sections B through J of this Order. **Attachment D** contains direction for the preparation of the Individual SWMP. Each Permittee shall submit their Individual SWMP to the Principal Permittee by a date determined by the Principal Permittee for inclusion in the SWMP.

   b) Watershed SWMP - The written account of all area-wide and watershed-based programs and activities conducted by the Permittees. The Watershed SWMP shall contain the programs and items required above in Requirements K.1 – K.4 of this Order.

2. Unless otherwise specified, within 365 days of the adoption of this Order, each Permittee shall have completed full implementation of the SWMP and all requirements in this Order. Prior to the implementation of new or revised programs, each Permittee shall, at a minimum, continue implementation of existing programs developed pursuant to Order No. R9-98-02 and described in the 2002-2003 Annual Progress Report.

3. Each Permittee shall incorporate a mechanism for public participation during the development and implementation of its SWMP.

F. DEVELOPMENT PLANNING

Permittees shall implement a program, including but not limited to, the requirements in this section, to reduce pollutants in urban runoff from developments to the MEP.

1. Assess General Plan

   Each Permittee's General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) shall include water quality and watershed protection principles and policies to direct land-use decisions and require implementation of consistent water quality protection measures for development projects. As part of its Individual SWMP, each Permittee shall provide a workplan with a time schedule detailing any changes to its General Plan regarding water quality and watershed protection. Examples of water quality and watershed protection principles and policies to be considered include the following:

   a) Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of development and, where feasible, slow runoff and maximize on-site infiltration of runoff.

   b) Implement pollution prevention methods supplemented by source control and treatment control BMPs. Use small collection strategies located at, or as close as possible to, the source (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into an MS4.

   c) Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones. Encourage land acquisition of such areas.

   d) Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.

   e) Prior to making land use decisions, utilize methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require incorporation of appropriate BMPs to mitigate the projected increases in pollutant loads and flows.

   f) Avoid development of areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that identifies these areas and protects them from erosion and sediment loss.

   g) Reduce pollutants associated with vehicles and increasing traffic resulting from development.

   h) Post-development runoff from a site shall not contain pollutant loads that cause or contribute to an exceedance of receiving water quality objectives and which have not been reduced to the MEP.

2. Modify Development Project Approval Processes

   a) Requirements for all Development Projects (New Development and Redevelopment)

      During the planning process, prior to the issuance of permits, Permittees shall require all proposed development projects to implement BMPs to ensure that the discharge of pollutants from the development will be reduced to the MEP and will comply with this Order and all local ordinances, plans, and permits. Development project requirements shall ensure that water quality objectives are not violated throughout the life of the development. At a minimum, requirements shall:

      (1) Require project proponent to implement applicable pollution prevention and source control BMPs for applicable development projects.

      (2) Require project proponent to implement site design/landscape characteristics where feasible which maximize infiltration, provide retention, slow runoff, and minimize impervious land coverage for all development projects.

(3) Require project proponent to incorporate buffer zones for natural water bodies, where feasible. Where buffer zones are infeasible, require project proponent to implement other buffers such as trees, access restrictions, etc.

(4) When known, require industrial facility operators subject to the General Industrial Permit to provide evidence of permit coverage prior to occupancy.

(5) Require project proponent to ensure its grading or other construction activities meet the provisions specified in Section G of this Order.

(6) Require project proponent to provide proof of a mechanism which will ensure ongoing long-term maintenance of all structural post-construction BMPs.

b) Standard Urban Storm Water Mitigation Plans (SUSMPs) – Requirements for Priority Development Projects

Within 365 days of adoption of this Order, each Permittee shall develop, adopt, and implement a SUSMP to reduce pollutants to the MEP and to maintain or reduce downstream erosion and protect stream habitat from all Priority Development Projects. Priority Development Projects are: a) all new development projects, and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site, that are listed under the project categories or locations in Requirement F.2.b.(1) below. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in Requirement F.2.b.(3) applies only to the addition, and not to the entire development. Each Permittee shall submit both the adopted SUSMP and amended ordinances to the SDRWQCB no later than 365 days after the adoption of this Order.

Immediately following adoption of its SUSMP, each Permittee shall review and ensure that all Priority Development Projects meet SUSMP requirements. The SUSMP requirements shall apply to all Priority Development Projects or phases of Priority Development Projects that have not yet begun grading or construction activities. If a Permittee determines that lawful prior approval of a project exists, whereby application of SUSMP requirements to the project is infeasible, SUSMP requirements need not apply to the project. Where feasible, the Permittees shall utilize the 12-month SUSMP development and implementation period to ensure that projects undergoing approval processes include application of SUSMP requirements in their plans.

(1) Priority Development Project Categories

(a) *Housing subdivisions of 10 or more dwelling units.* This category includes single-family homes, multi-family homes, condominiums, and apartments.

(b) *Commercial developments greater than 100,000 square feet.* This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-

malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.

(c) *Automotive repair shops.* This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

(d) *Restaurants.* This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement F.2.b.(3) and peak flow rate requirement F.2.b.(2)(a).

(e) *All hillside development greater than 5,000 square feet.* This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.

(f) *Environmentally Sensitive Areas (ESAs).* All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.

(g) *Parking lots 5,000 square feet or more.* Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

(h) *Street, roads, highways, and freeways.* This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

(i) *Retail Gasoline Outlets.* This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day

(2) BMP Requirements – The SUSMP shall include a list of recommended source control and treatment control BMPs. The SUSMP shall require all Priority Development Projects to implement a combination of on-site source control and on-site/shared treatment control BMPs (to treat the runoff specifically generated from each project) selected from the recommended BMP list. The BMPs shall, at a minimum:

(a) Control the post-development urban runoff discharge velocities, volumes, durations, and peak rates to maintain or reduce pre-development downstream erosion, and to protect stream habitat;

(b) Conserve natural areas where feasible;

(c) Minimize storm water pollutants of concern in urban runoff from the Priority Development Projects (through implementation of source control BMPs). Identification of pollutants of concern shall include, at a minimum, all pollutants for which water bodies receiving the development's runoff are listed as impaired under CWA section 303(d), all pollutants associated with the land use type of the development, and all pollutants commonly associated with urban runoff;

(d) Be effective at removing or treating the pollutants of concern associated with the project;

(e) Minimize directly connected impervious areas where feasible;

(f) Protect slopes and channels from eroding;

(g) Include storm drain stenciling and signage;

(h) Include properly designed outdoor material storage areas;

(i) Include properly designed trash storage areas;

(j) Include proof of a mechanism, to be provided by the project proponent or Permittee, which will ensure ongoing long-term BMP maintenance;

(k) Include additional water quality provisions applicable to individual Priority Development Project categories;

(l) Be correctly designed so as to remove pollutants to the MEP;

(m) Be implemented close to pollutant sources, when feasible, and prior to discharging into receiving waters; and

(n) Ensure that post-development runoff does not contain pollutant loads which cause or contribute to an exceedance of water quality objectives and which have not been reduced to the MEP.

Under no circumstances can a BMP be constructed in a receiving water.

(3) Numeric Sizing Criteria – The SUSMP shall require treatment control BMPs to be implemented for all Priority Development Projects. All treatment control BMPs shall be located so as to infiltrate, filter, or treat the required runoff volume or flow prior to its discharge to any receiving water. Treatment control BMPs may be shared by multiple Priority Development Projects as long as construction of any shared treatment control BMPs is completed prior to the use of any development project from which the treatment control BMP will receive runoff, and prior to discharge to a receiving water.

In addition to meeting the BMP requirements listed in Requirement F.2.b.(2) above, all treatment control BMPs for a single Priority Development Project shall collectively be sized to comply with the following numeric sizing criteria:

(a) *Volume* - Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

(i) The volume of runoff produced from a 24-hour 85th percentile rainfall depth, as determined from the local historical rainfall record (0.6 inch approximate average for the Riverside County area)[1]; or

(ii) The volume of runoff produced by the 85th percentile 24-hour runoff event, determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or

(iii) The volume of annual runoff based on unit basin storage volume, to achieve 90% or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook New Development and Redevelopment* (2003)); or

(iv) The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile 24-hour runoff event;[2]

OR

(b) *Flow* - Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

(i) The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or

(ii) The maximum flow rate of runoff produced by the 85^{th} percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two; or

(iii) The maximum flow rate of runoff for each hour of a storm event, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85^{th} percentile hourly rainfall intensity multiplied by a factor of two.

(4) Equivalent Numeric Sizing Criteria - The Permittees may develop, as part of the SUSMP, any equivalent method for calculating the volume or flow which must be mitigated (i.e., any equivalent method for calculating numeric sizing criteria) by post-construction treatment control BMPs. Such equivalent sizing criteria may be authorized by the SDRWQCB for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.

[1] This volume is not a single volume to be applied to all of Riverside County. The size of the 85^{th} percentile storm event is different for various parts of the County. The Permittees are encouraged to calculate the 85^{th} percentile storm event for each of their jurisdictions using local rain data pertinent to their particular jurisdiction (inch standard is a rough average for the County and should only be used where appropriate rain data is not available). In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85^{th} percentile storm event in such areas. Where the Permittees will use isopluvial maps to determine the 85^{th} percentile storm event in areas lacking rain data, the Permittees shall describe their method for using isopluvial maps in their SUSMPs.

[2] Under this volume criteria, hourly rainfall data may be used to calculate the 85^{th} percentile storm event, where each storm event is identified by its separation from other storm events by at least six hours of no rain. Where the Permittees may use hourly rainfall data to calculate the 85^{th} percentile storm event, the Permittees shall describe their method for using hourly rainfall data to calculate the 85^{th} percentile storm event in their SUSMPs.

(5) Pollutants or Conditions of Concern – As part of the SUSMP, the Permittees shall develop a procedure for pollutants or conditions of concern to be identified for each Priority Development Project. The procedure shall address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d)); (2) Land use type of the development project and pollutants associated with that land use type; (3) Pollutants expected to be present on site; (4) Changes in storm water discharge flow rates, velocities, durations, and volumes resulting from the development project; and (5) Sensitivity of receiving waters to changes in storm water discharge flow rates, velocities, durations, and volumes.

(6) Implementation Process – As part of the SUSMP, the Permittees shall develop a process by which SUSMP requirements will be implemented. The process shall identify at what point in the planning process development projects will be required to meet SUSMP requirements. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the SUSMP requirements, as well as any other measures necessary for the implementation of SUSMP requirements.

(7) Waiver Provision – A Permittee may provide for a project to be waived from the requirement of implementing all treatment control BMPs (Requirements F.2.b.(2) & F.2.b.(3)) if infeasibility can be established. A waiver of infeasibility shall only be granted by a Permittee when all available treatment control BMPs have been considered and rejected as infeasible. Permittees shall notify the SDRWQCB within 5 days of each waiver issued and shall include the following information in the notification:

(a) Name of the person granting each waiver;

(b) Name of developer receiving the waiver;

(c) Site location;

(d) Reason for waiver; and

(e) Description of BMPs required.

As part of the SUSMP, the Permittees may develop a program to require project proponents who have received waivers to transfer the savings in cost, as determined by the Permittee(s), to a storm water mitigation fund. This program may be implemented by all Permittees that choose to provide waivers. Funds may be used on projects to improve urban runoff quality within the watershed of the waived project. The waiver mitigation program should, at a minimum, identify:

(a) The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility for);

(b) The range and types of acceptable projects for which mitigation funds may be expended;

(c) The entity or entities that will assume full responsibility for each mitigation project including its successful completion; and

(d) How the dollar amount of fund contributions will be determined.

(8) Infiltration and Groundwater Protection – To protect groundwater quality, each Permittee shall apply restrictions to the use of treatment control BMPs that are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration

basins). Such restrictions shall ensure that the use of such infiltration treatment control BMPs shall not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, use of treatment control BMPs that are designed to primarily function as infiltration devices shall meet the following conditions.[3] As part of the SUSMP, the Permittees may develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as infiltration devices.

(a) Urban runoff shall undergo pretreatment such as sedimentation or filtration prior to infiltration;

(b) All dry weather flows shall be diverted from infiltration devices;

(c) Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;

(d) Infiltration treatment control BMPs shall be adequately maintained so that they remove pollutants to the MEP;

(e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;

(f) The soil through which infiltration is to occur shall have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses;

(g) Infiltration treatment control BMPs shall not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Permittee; and

(h) Infiltration treatment control BMPs shall be located a minimum of 100 feet horizontally from any water supply wells. As part of the SUSMPs, the Permittees may develop alternative restrictions on the use of treatment control BMPs that are designed to primarily function as infiltration devices.

(9) Downstream Erosion – The Permittees shall develop numeric criteria to ensure that discharges from Priority Development Projects maintain or reduce pre-development downstream erosion and protect stream habitat. At a minimum, numeric criteria shall be developed to control urban runoff discharge velocities, volumes, durations, and peak rates in order to maintain or reduce pre-development downstream erosion and protect stream habitat. The Permittees shall propose numeric criteria and a time-schedule for implementation of the criteria on new development projects within 365 days of the identification of the criteria and no later than the fourth-year Annual Report, or the application for permit renewal, to be submitted no later than October 31, 2008.

[3] These conditions do not apply to treatment control BMPs that allow incidental infiltration and are not designed to primarily function as infiltration devices (such as grassy swales, detention basins, vegetated buffer strips, constructed wetlands, etc.).

The Permittees shall be prepared to implement the numeric criteria upon renewal of this Order.

3. Revise Environmental Review Processes

Permittees shall revise their current environmental review processes as necessary to include requirements for evaluation of water quality effects and identification of appropriate mitigation measures for all development projects. The following questions are examples to be considered in addressing increased pollutants and flows from proposed projects:

a) Could the proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical storm water pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).

b) Could the proposed project result in significant alteration of receiving water quality during or following construction?

c) Could the proposed project result in increased impervious surfaces and associated increased runoff?

d) Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in runoff flow rates or volumes?

e) Could the proposed project result in increased erosion downstream?

f) Is the project tributary to an already impaired water body, as listed on the CWA section 303(d) list? If so, can it result in an increase in any pollutant for which the water body is already impaired?

g) Is the project tributary to other environmentally sensitive areas? If so, can it exacerbate already existing sensitive conditions?

h) Could the proposed project have a potentially significant environmental impact on surface water quality of marine, fresh, or wetland waters?

i) Could the proposed project have a potentially significant adverse impact on groundwater quality?

j) Could the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?

k) Can the project impact aquatic, wetland, or riparian habitat?

4. Conduct Education Efforts Focused on Development

a) Internal: Municipal Staff

Each Permittee shall implement an education program that includes annual training to ensure that planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

(1) Federal, state, and local water quality laws and regulations applicable to development projects;

(2) The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization); and

(3) How impacts to receiving water quality resulting from development can be minimized (i.e., through implementation of various source control and treatment control BMPs).

b) External: Project Applicants, Developers, Contractors, Property Owners, Community Planning Groups

As early in the planning and development process as possible, each Permittee shall implement a program to educate project applicants, developers, contractors, property owners, and community planning groups on the following topics:

(1) Federal, state, and local water quality laws and regulations applicable to development projects;

(2) Required federal, state, and local permits pertaining to water quality;

(3) Water quality impacts of urbanization; and

(4) Methods for minimizing the impacts of development on water quality.

G. CONSTRUCTION

Each Permittee shall implement a program to address construction sites to reduce pollutants in runoff to the MEP during all construction phases. At a minimum the construction component shall address:

1. Pollution Prevention

Each Permittee shall implement pollution prevention methods in its Construction Component and shall require its use by construction site owners, developers, contractors, and other responsible parties, where appropriate.

2. Grading Ordinance Update

Within 365 days of adoption of this Order, each Permittee shall review and update its grading ordinances as necessary for compliance with its storm water ordinances and this Order. The updated grading ordinance shall require implementation of BMPs designated by the Permittees pursuant to Requirements G.5 of this Order and other measures during all construction activities.

3. Modify Construction and Grading Approval Process

Each Permittee shall develop and implement a process to ensure that BMPs to reduce the discharge of pollutants to the MEP are applicable to construction and grading permits and plans prior to their approval and issuance. Such BMPs shall include the following requirements or their equivalent:

a) Require project proponent to develop and implement a plan to manage storm water and non-storm water discharges from the site at all times;

b) Require project proponent to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible. If grading does occur during the wet season, require project proponent to implement additional BMPs for any rain events which may occur, as necessary for compliance with this Order;

c) Require project proponent to emphasize erosion prevention as the most important measure for keeping sediment on site during construction;

d) Require project proponent to utilize sediment controls as a supplement to erosion prevention for keeping sediment on-site during construction, and never as the single or primary method;

e) Require project proponent to minimize areas that are cleared and graded to only the portion of the site that is necessary for construction;

f) Require project proponent to minimize exposure time of disturbed soil areas;

g) Require project proponent to temporarily stabilize and reseed disturbed soil areas as rapidly as possible;

h) Require project proponent to permanently revegetate or landscape as early as feasible;

i) Require project proponent to stabilize all slopes; and

j) Require project proponents subject to the General Construction Permit to provide evidence of existing permit coverage.

4. Source Identification

Each Permittee shall annually develop and update, prior to the rainy season, an inventory of all construction sites within its jurisdiction regardless of site size or ownership. This requirement is applicable to all construction sites regardless of whether the construction site is subject to the General Construction Permit, or other individual NPDES permit. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended, but not required.

5. BMP Implementation

a) Each Permittee shall designate a set of minimum BMPs that ensure the following at all construction sites:

(1) Erosion prevention;

(2) Slope stabilization;

(3) Phased grading;

(4) Revegetation as early as feasible;

(5) Preservation of natural hydrologic features where feasible;

(6) Preservation of riparian buffers and corridors where feasible;

(7) Maintenance of all source control and treatment control BMPs; and

(8) Retention and proper management of sediment and other construction pollutants on site.

b) Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each construction site within its jurisdiction year round. If a particular minimum BMP is infeasible at any specific site, each Permittee shall implement, or require the implementation of, other equivalent BMPs. Each Permittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order, including BMPs which are more stringent than those required under the General Construction Permit.

c) Each Permittee shall implement, or require the implementation of, BMPs year round; however, BMP implementation requirements can vary based on wet and dry seasons.

d) Each Permittee shall implement, or require implementation of, additional controls for construction sites tributary to CWA section 303(d) water bodies impaired for sediment as necessary to comply with this Order. Each Permittee shall implement, or require implementation of, additional controls for construction sites within or adjacent to or discharging directly to receiving waters within ESAs as necessary to comply with this Order.

6. Inspection of Construction Sites

   a) Each Permittee shall conduct construction site inspections for compliance with its local ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order.

   b) During the wet season Permittees shall, at a minimum, inspect the following sites every two weeks[4]:

      (1) All sites 50 acres or more in size and grading will occur during the wet season;

      (2) All sites 5 acres or more, and tributary to a CWA section 303(d) water body impaired for sediment or within or directly adjacent to or discharging directly to a receiving water within ESA; and

      (3) Other sites determined by the Permittees or the SDRWQCB as a significant threat to water quality. In evaluating threat to water quality, the following factors shall be considered: (1) soil erosion potential; (2) site slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; and (7) any other relevant factors.

   c) The Permittees, at a minimum, shall inspect all construction sites that do not meet the criteria specified in Requirement G.6.b above, but encompass 1 acre or more of soil disturbance at least three times during the wet season.

   d) The Permittees shall inspect construction sites less than 1 acre in size on as needed basis.

   e) Permittees shall inspect all construction sites as needed during the dry season.

   f) Based upon site inspection findings, each Permittee shall implement all follow-up actions necessary to comply with this Order.

7. Enforcement of Construction Sites

   Each Permittee shall enforce its ordinances (grading, storm water, etc.) and permits (building, grading, etc.) at all construction sites as necessary to maintain compliance with this Order. Permittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: stop work authority, non-monetary penalties, fines, financial security, and/or permit denials for non-compliance.

8. Education Focused on Construction Activities

   a) Internal: Municipal Staff

      Each Permittee shall implement an education program that includes annual training to ensure that its construction, building, and grading review staff and inspectors have, at a minimum, an understanding of:

      (1) Federal, state, and local water quality laws and regulations applicable to construction and grading activities;

[4] Any site may be inspected on a monthly basis if the responsible Permittee certifies in a written statement to the SDRWQCB ALL of the following (certified statements may be submitted to the SDRWQCB at any time for one or more sites):

- Permittee has record of construction site's WDID number documenting the site's coverage under the General Construction Permit;
- Permittee has reviewed the construction site's SWPPP and finds the SWPPP to be in compliance with all local ordinances, permits, and plans; and
- Permittee finds that the SWPPP is being properly implemented on site.

(2) The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization);

(3) How erosion can be prevented;

(4) How impacts to receiving water quality resulting from construction activities can be minimized (i.e., through implementation of various source control and treatment control BMPs); and

(5) How to assess construction sites for adequate BMP implementation and compliance with local codes, ordinances, and permits, and this Order.

b) External: Project Applicants, Contractors, Developers, Property Owners, and other Responsible Parties

Each Permittee shall implement an education program to ensure that project applicants, contractors, developers, property owners, and other responsible parties have an understanding of the topics outlined above.

H. EXISTING DEVELOPMENT

Each Permittee shall develop and implement programs to prevent or reduce pollutants in runoff to the MEP from all existing development under its jurisdiction. The Existing Development programs shall address Sections H.1 through H.3 for municipal facilities and activities, industrial and commercial facilities, and residential activities.

1. Municipal Program

a) Pollution Prevention

Each Permittee shall require the use of pollution prevention methods by municipal departments, contractors, and personnel, where appropriate.

b) Source Identification

Each Permittee shall develop, and update annually, an inventory of the name, address (if applicable), and description of all of the Permittee's municipal facilities and activities that generate pollutants. Municipal facilities and activities to be inventoried shall include, but are not limited to, the following:

- Roads, streets, highways, and parking facilities;
- Flood management projects and flood control devices;
- Drainage facilities;
- Active or closed municipal landfills;
- Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
- Incinerators;
- Solid waste transfer facilities;
- Land application sites;
- Uncontrolled sanitary landfills;
- Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles;
- Sites for disposing and treating sewage sludge;
- Hazardous waste treatment, disposal, and recovery facilities;
- Household hazardous waste collection facilities;

- Municipal airfields;
- Parks and recreational facilities;
- Golf courses;
- Cemeteries;
- Other landscaped areas;
- Channel maintenance activities involving mowing and pesticide/herbicide application;
- Municipal facilities and activities tributary to a CWA section 303(d) impaired water body, where an area or activity generates pollutants for which the water body is impaired. Facilities and activities within or adjacent to or discharging directly to receiving waters within ESAs; and
- Other municipal facilities and activities that the Permittee determines may contribute a significant pollutant load to the MS4.

c) BMP Implementation

(1) Within 365 days from the date of this Order, each Permittee shall implement or require the implementation of BMPs to reduce pollutants in urban runoff to the MEP from all of the Permittee's municipal facilities and activities. The required BMPs shall be facility or activity specific as appropriate.

(2) For facilities and/or activities tributary to CWA section 303(d) impaired water bodies that generate pollutants for which the water body is impaired, each Permittee shall implement or require the implementation of additional BMPs to target that pollutant. Each Permittee shall implement, or require implementation of, additional controls for municipal facilities and activities within or directly adjacent to or discharging directly to receiving waters within ESAs as necessary to comply with this Order.

d) MS4 Maintenance

(1) Each Permittee shall implement a schedule of maintenance activities for its structural source and treatment control BMPs designed to reduce pollutant discharges to or from its MS4s and related drainage structures.

(2) Each Permittee shall implement a schedule of maintenance activities for its MS4. The maintenance activities must, at a minimum, include:

(a) Inspection of all of the Permittee's catch basins and storm drain inlets at least once a year between May 1 and September 30. If accumulated waste is visible, the catch basin, or storm drain inlet, shall be cleaned out. Additional cleaning shall be conducted as necessary;

(b) Removal of anthropogenic litter from the Permittee's open channels at least once a year between May 1 and September 30, with additional removal as necessary;

(c) Record keeping of the Permittee's MS4 cleaning activities;

(d) Proper disposal of waste removed from the Permittee's MS4 pursuant to applicable laws; and

(e) Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

e) Management of Pesticides, Herbicides, and Fertilizers

The Permittees shall implement BMPs to reduce the contribution of pollutants to the MEP

associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal facilities and activities to MS4s. Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

f) Inspection of Municipal Facilities and Activities

At a minimum, each Permittee shall inspect all municipal facilities and activities annually. Inspections shall include an assessment of BMP implementation and effectiveness. Based upon site inspection findings, each Permittee shall implement all follow-up actions necessary to comply with this Order.

g) Enforcement of Municipal Facilities and Activities

Each Permittee shall enforce its storm water ordinance at all of its municipal facilities and activities as necessary to maintain compliance with this Order.

2. Industrial/Commercial Facilities Program

a) Pollution Prevention

Each Permittee shall require the use of pollution prevention methods by industrial/commercial facilities, where appropriate.

b) Source Identification

Each Permittee shall develop an inventory or database of all industrial and commercial facilities under its jurisdiction (regardless of site ownership) that could contribute a significant pollutant load to the MS4. At a minimum, the following facilities shall be included:

(1) Commercial Facilities:

- Automobile mechanical repair, maintenance, fueling, or cleaning;
- Airplane mechanical repair, maintenance, fueling, or cleaning;
- Boat mechanical repair, maintenance, fueling, or cleaning;
- Equipment repair, maintenance, fueling, or cleaning;
- Automobile and other vehicle body repair or painting;
- Mobile automobile or other vehicle washing (base of operations);
- Automobile (or other vehicle) parking lots and storage facilities;
- Retail or wholesale fueling;
- Pest control services (base of operations);
- Eating or drinking establishments;
- Mobile carpet, drape or furniture cleaning (base of operations);
- Concrete mixing or cutting (base of operations);
- Masonry (base of operations);
- Painting and coating (base of operations);
- Landscaping (base of operations);
- Nurseries and greenhouses;
- Golf courses, parks and other recreational areas/facilities;

- Cemeteries;
- Pool and fountain cleaning (base of operations);
- Port-a-Potty servicing (base of operations);

(2) Industrial Facilities:

- Industrial facilities, as defined at 40 CFR 122.26(b)(14), including those subject to the General Industrial Permit;
- Operating and closed municipal landfills;
- Facilities subject to SARA Title III;
- Hazardous waste treatment, disposal, storage and recovery facilities;

(3) All other facilities tributary to a CWA section 303(d) impaired water body, where a facility generates pollutants for which the water body is impaired; and

(4) All other facilities that the Permittee determines may contribute a significant pollutant load to the MS4.

The inventory shall include the following minimum information for each facility: name; address; a narrative description that best reflects the principal products or services provided by each facility, and the SIC code for industrial facilities.

Each Permittee shall maintain an up-to-date inventory. New information obtained during inspections or through other intra-agency informational sources (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits, yellow pages, etc.) shall be used to update the inventory on a regular basis.

c) BMP Implementation

(1) Within 365 days from the date of this Order, each Permittee shall designate a set of minimum BMP requirements for all inventoried industrial/commercial facilities to reduce the discharge of pollutants in runoff to the MEP. Designated BMPs may be specific to facility types or to pollutant-generating activities conducted at the facilities.

(2) For facilities and/or activities tributary to CWA section 303(d) impaired water bodies that generate pollutants for which the water body is impaired, each Permittee shall designate additional BMPs to target that pollutant. Each Permittee shall implement, or require implementation of, additional controls for industrial/commercial facilities and activities within or directly adjacent to or discharging directly to receiving waters within ESAs as necessary to comply with this Order.

(3) Within 365 days from the date of this Order, each Permittee shall notify all inventoried facilities of their applicable minimum BMP requirements, and a description of the local codes or ordinances requiring compliance with reducing the discharge of pollutants in runoff to the MEP.

(4) Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each inventoried facility within its jurisdiction. If a particular minimum BMP is infeasible at any specific site, each Permittee shall implement, or require implementation of, other equivalent BMPs. Each Permittee shall also implement or require any additional site specific BMPs as necessary to comply with this Order including BMPs which are more stringent than those required under the General Industrial Permit.

d) Inspection of Industrial/Commercial Facilities

(1) To establish priorities for inspections and oversight of industrial/commercial facilities, the Permittees shall prioritize each inventory described in Requirement H.2.b. above by threat to water quality (high, medium, or low). In evaluating threat to water quality, each Permittee shall consider, at a minimum, the following:

- Type of facility (SIC Code);
- Materials used at the facility;
- Wastes generated;
- Exposure of activities and pollutant discharge potential;
- History of non-storm water discharges;
- Size of facility;
- Proximity to receiving water bodies and sensitivity of receiving water bodies;
- Whether the industrial site is subject to the General Industrial Permit;
- Any available source monitoring data; and
- Any other relevant factors.

(2) Each Permittee shall inspect and ensure minimum BMP implementation at all inventoried industrial/commercial facilities in accordance with the following schedule:

(a) High priority facilities shall be inspected annually;

(b) Medium priority facilities shall be inspected biannually (twice during the 5-year term of the permit);

(c) Low priority facilities shall be inspected once during the 5-year term of the permit; and

(d) Mobile operations shall be inspected as needed.

(3) Inspections of industrial facilities shall include, but not be limited to:

(a) Check for coverage under the General Industrial Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.);

(b) Assessment of compliance with Permittee ordinances and permits related to urban runoff, including the implementation and maintenance of designated minimum BMPs;

(c) Assessment of BMP effectiveness;

(d) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and

(e) Education and outreach on storm water pollution prevention.

(4) Inspections of commercial facilities shall include, but not be limited to:

(a) Assessment of compliance with Permittee ordinances and permits related to urban runoff, including the implementation and maintenance of designated minimum BMPs;

(b) Assessment of BMP effectiveness;

(c) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and

(d) Education and outreach on storm water pollution prevention.

(5) To the extent that the SDRWQCB has conducted an inspection of an industrial facility during a particular year, the requirement for the responsible Permittee to inspect this site during the same year will be satisfied.

(6) Based upon facility inspection findings, each Permittee shall implement all follow-up actions necessary to comply with this Order.

e) Enforcement of Industrial/Commercial Facilities

Each Permittee shall enforce its storm water ordinance at all industrial/commercial facilities as necessary to maintain compliance with this Order. Permittee ordinances or other regulatory mechanisms shall include sanctions to ensure compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

f) Reporting of Industrial Non-Filers

As part of each Annual Report, each Permittee shall report a list of industrial facilities, including the name, address, and SIC code, that may require coverage under the General Industrial Permit for which a NOI has not been filed.

g) Industrial/Commercial Inspection Training

Each Permittee shall train staff responsible for conducting inspections of industrial/commercial facilities at least once a year. Permittees are encouraged to conduct training programs and provide compliance assistance to industrial/commercial facility owners, operators, and employers.

3. Residential Program

a) Pollution Prevention

Each Permittee shall encourage the use of pollution prevention methods by residents, where appropriate.

b) Source Identification

Each Permittee shall identify high priority residential activities that may contribute a significant pollutant load to the MS4. These activities may include:

- Automobile repair and maintenance;
- Automobile washing;
- Automobile parking;
- Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
- Disposal of household hazardous waste;
- Disposal of pet waste;
- Disposal of green waste; and
- Any other residential source that the Permittee determines may contribute a significant pollutant load to the MS4.

c) BMP Implementation

(1) Within 365 days from the date of this Order, each Permittee shall designate a set of minimum BMP requirements for all high priority residential activities to reduce the discharge of pollutants in urban runoff to the MEP.

(2) For residential activities tributary to CWA section 303(d) impaired water bodies that generate pollutants for which the waterbody is impaired, each Permittee shall designate additional BMPs to target that pollutant. Each Permittee shall implement, or require implementation of, additional controls for high priority residential activities within or directly adjacent to or discharging directly to receiving waters within ESAs as necessary to comply with this Order.

(3) Each Permittee shall implement, or require implementation of, the designated minimum BMPs for the high priority residential activities identified pursuant to Requirement H.3.b. above. If a particular minimum BMP is infeasible for any specific site/source, each Permittee shall require implementation of other equivalent BMPs. Each Permittee shall also implement, or require implementation of, any additional BMPs necessary to comply with this Order.

(4) Within 365 days from the date of this Order, each Permittee shall notify residents of the applicable minimum BMP requirements, and a description of the local codes or ordinances requiring compliance with reducing the discharge of pollutants in runoff to the MEP.

d) Enforcement of Residential Areas and Activities

Each Permittee shall enforce its storm water ordinance for residential activities as necessary to maintain compliance with this Order.

I. EDUCATION

Each Permittee shall implement an Education Component using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum the education component shall address the following target communities:

1. Municipal Departments and Personnel
2. Construction Site Owners and Developers
3. Industrial Owners and Operators
4. Commercial Owners and Operators
5. Residential Community, General Public, and School Children
6. Quasi-Governmental Agencies/Districts (i.e., educational institutions, water districts, sanitation districts, etc.)

J. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

Each Permittee shall implement an Illicit Discharge Detection and Elimination program containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination program shall address:

1. Illicit Discharges and Connections

Each Permittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Permittee in accordance with Section B of this Order.

2. Develop/Maintain MS4 Map

Each Permittee shall develop or obtain an up-to-date labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of a GIS is highly recommended. The accuracy of the MS4 map shall be confirmed and updated at least annually.

3. Illicit Discharge Monitoring

Each Permittee shall implement the Illicit Discharge Monitoring Program in accordance with Section II.B of the MRP to detect illicit discharges and connections.

4. Investigation/Inspection and Follow-Up

Each Permittee shall investigate and inspect any portion of its MS4 that, based on visual observations, monitoring results or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharge(s) identified in Section B of this Order). Each Permittee shall develop numeric criteria in accordance with section II.B.3. of the MRP to determine when follow-up actions will be necessary. Numeric criteria and follow-up procedures shall be described in each Permittees' Individual SWMP.

5. Elimination of Illicit Discharges and Connections

Each Permittee shall eliminate all illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection. Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that are a serious threat to public health or the environment must be eliminated immediately.

6. Enforce Ordinances

Each Permittee shall implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4. Each Permittee shall also implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to it MS4.

7. Sewage Spill Prevention and Response

Each Permittee shall take appropriate actions to prevent, respond to, contain and cleanup sewage spills (including private laterals and failing septic systems) into the MS4 and to prevent the contamination of surface water, ground water and soil to the MEP. Appropriate actions may include the following:

- Develop and implement a mechanism to be notified of all sewage spills from private laterals and failing septic systems into the MS4;
- Coordinate sewage spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times;
- Require adequately sized and properly maintained private property sewerage systems, such as at residential and commercial complexes;
- Require proper connections of private laterals to the public sewer main;
- Require adequately-sized, and properly maintained grease control devices at food establishments which otherwise could result in sewer line grease blockages;

- Conduct municipal activities such as street repair or tree plantings in a manner that minimizes sewer line damages or root blockages;
- Identify priority areas, produce maps and other information on systems obtained during development review;
- Educate the public on measures to prevent sewage spills; and
- Ensure that private sewer lines are inspected.

8. Facilitate Public Reporting of Illicit Discharges and Connections - Public Hotline

Each Permittee shall promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Permittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Permittee-specific or shared by Permittees. All storm water hotlines shall be capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. Permittees shall respond to and resolve each reported incident. All reported incidents, and how each was resolved, shall be summarized in each Permittee's Individual Annual Report.

9. Facilitate Disposal of Used Oil and Toxic Materials

Each Permittee shall facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational activities, public information activities, and establishment of collection sites operated by the Permittee or a private entity. Neighborhood collection of household hazardous wastes is encouraged.

K. WATERSHED-BASED ACTIVITIES

1. Each Permittee shall collaborate with other Permittees to identify, address, and mitigate the highest priority water quality issues/pollutants in the Upper Santa Margarita Watershed.

2. Each Permittee shall collaborate with all other Permittees to develop and implement a Watershed SWMP for the Upper Santa Margarita Watershed. The Watershed SWMP shall, at a minimum, contain the following:

   a) An accurate map of the Upper Santa Margarita Watershed (preferably in GIS format) that identifies all receiving waters, all CWA section 303(d) impaired receiving waters, existing and planned land uses, MS4s, major highways, jurisdictional boundaries, and industrial and commercial facilities, municipal sites, and residential areas.

   b) A description of any interagency agreement, or other efforts, with non-Permittee owners of the MS4 (such as Caltrans, Native American Tribes, and school districts) to control the contribution of pollutants from one portion of the shared MS4 to another portion of the shared MS4;

   c) An assessment of the water quality of all receiving waters in the watershed based upon (1) existing water quality data; and (2) results from the Receiving Waters and Illicit Discharge Monitoring Programs described in the MRP;

   d) An identification and prioritization of major water quality problems in the watershed caused or contributed to by MS4 discharges and the likely source(s) of the problem(s);

   e) An implementation time schedule of short and long-term recommended activities (individual and collective) needed to address the highest priority water quality problem(s) identified in Requirement K.2.d. above. For this section, "short-term activities" shall mean those activities

that are to be completed during the life of this Order and "long-term activities" shall mean those activities that are to be completed beyond the life of this Order;

f) A watershed-based education program, which focuses on water quality issues specific to the Santa Margarita watershed;

g) A mechanism to facilitate collaborative "watershed-based" (i.e., natural resource-based) land use planning with neighboring local governments in the watershed.

h) A description of any other urban runoff management programs or activities being conducted collectively by the Permittees to address water quality issues;

i) A description of Permittee responsibilities for implementing the programs described in the Watershed SWMP;

j) The expenditures and funding sources for the area-wide and watershed-based activities and programs;

k) Standardized reporting formats developed collectively by the Permittees, as specified in Requirement M.1;

l) Short-term strategy for assessing the effectiveness of the activities and programs implemented as part of the Watershed SWMP. The short-term assessment strategy shall identify methods to assess program effectiveness and include specific direct and indirect performance measurements that will track the immediate progress and accomplishments of the Watershed SWMP towards improving receiving water quality impacted by urban runoff discharges. The short-term strategy shall also discuss the role of monitoring data collected by the Permittees in substantiating or refining the assessment; and

m) Long-term strategy for assessing the effectiveness of the Watershed SWMP. The long-term assessment strategy shall identify specific direct and indirect performance measurements that will track the long-term progress of the Watershed SWMP towards achieving improvements in receiving water quality impacted by urban runoff discharges. Methods used for assessing effectiveness shall include the following or their equivalent: surveys, pollutant loading estimations, receiving water quality monitoring, and achievement of measurable goals. The long-term strategy shall also discuss the role of monitoring data in substantiating or refining the assessment.

3. Permittees shall, as appropriate, participate in watershed management efforts to address storm water quality issues within the entire Santa Margarita Watershed, including efforts conducted by other entities in the watershed, such as San Diego County, U.S. Marine Corps Base Camp Pendleton, Native American tribes, and other state, federal, and local agencies.

4. At least once a year, all Permittees shall meet to review and assess available water quality data (from the MRP and other reliable sources), assess program effectiveness, and to review and update the Watershed SWMP.

L. MONITORING AND REPORTING PROGRAM

Pursuant to CWC section 13267, the Permittees shall comply with all requirements contained in the **MRP**.

M. PRINCIPAL PERMITTEE RESPONSIBILITIES

The Principal Permittee shall, at a minimum:

1. Coordinate the joint development by all of the Permittees of standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be submitted to the SDRWQCB for review as part of the SWMP. The standardized format(s) shall be used by all Permittees and shall include protocols for electronic reporting.

2. Integrate individual Permittee documents and reports required under this Order into single unified documents and reports for submittal to the SDRWQCB as described below. If a reporting date falls on a non-working day or State holiday, then the report is to be submitted on the following working day.

   a) SWMP – The Principal Permittee shall submit the SWMP in its entirety to the SDRWQCB within 365 days of the adoption of this Order. The Principal Permittee shall be responsible for preparing the Watershed SWMP and its Individual SWMP. The Principal Permittee shall also be responsible for collecting and assembling the Individual SWMPs describing the activities and programs to be implemented by each individual Permittee.

   b) MRP - The Principal Permittee shall submit the SWMP Annual Reports and the Monitoring Program Annual Reports in accordance with MRP No. R9-2004-001. The Principal Permittee shall be responsible for producing the Watershed SWMP Annual Report as well as its Individual Annual Report, and for collecting and assembling the Individual SWMP Annual Reports covering the activities conducted by each Permittee. The Principal Permittee shall also be responsible for coordinating the implementation of and reporting on the Receiving Waters Monitoring Program, described in sections II.A and III.B of the MRP.

   c) Interagency Agreement - The Principal Permittee shall submit a copy of the Interagency Agreement to the SDRWQCB, if and when the agreement is updated.

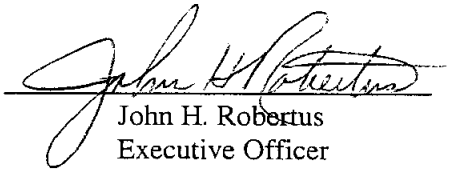
N. STANDARD PROVISIONS

1. Each Permittee shall comply with the standard provisions contained in **Attachment B** of this Order. This includes 24 hour/5day reporting requirements for any instance of non-compliance with this Order as described in Section 1.1.6 of **Attachment B**.

2. All documents submitted to the SDRWQCB pursuant to this Order, including but not limited to SWMP documents, annual reports, monitoring reports, and SUSMPs, shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement.

3. All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately (or as otherwise specified) and shall be an enforceable part of this Order upon submission to the SDRWQCB. All submittals by Permittees must be adequate to implement the requirements of this Order.

I, John H.Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on ***July 14, 2004.***



John H. Robertus
Executive Officer

ATTACHMENT A

BASIN PLAN PROHIBITIONS

California Water Code (CWC) section 13243 provides that a California Regional Water Quality Control Board (RWQCB), in a water quality control plan, may specify certain conditions or areas where the discharge of waste, or certain types of waste is not permitted. The following discharge prohibitions are applicable to any person, as defined by section 13050(c) of the CWC, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the SDRWQCB.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in CWC section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in CWC section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in CWC section13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless the SDRWQCB issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the SDRWQCB. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the RWQCB.

7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the SDRWQCB.

8. Any discharge to a MS4 that is not composed entirely of "*storm water*" is prohibited unless authorized by the SDRWQCB. [The federal regulations, 40 CFR 122.26 (b) (13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26 (b) (2) defines an illicit discharge as any discharge to a MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities. [40 CFR 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a MS4 is prohibited.

10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in CWC section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the SDRWQCB.

14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

ATTACHMENT B
STANDARD PROVISIONS

1. FEDERAL NPDES STANDARD PROVISIONS [40 CFR 122.41]

(a) *Duty to comply* [40 CFR 122.41(a)]. The permittee must comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the Order has not yet been modified to incorporate the requirement.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the Order has not yet been modified to incorporate the requirement.

(2) The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

(b) *Duty to reapply* [40 CFR 122.41(b)]. If the permittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the permittee must apply for and obtain a new order.

(c) *Need to halt or reduce activity not a defense* [40 CFR 122.41(c)]. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

(d) *Duty to mitigate* [40 CFR 122.41(d)]. The permittee shall take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this Order which has a reasonable likelihood of adversely affecting human health or the environment.

(e) *Proper operation and maintenance* [40 CFR 122.41(e)]. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the discharger only when the operation is necessary to achieve compliance with the conditions of this Order.

(f) *Permit actions* [40 CFR 122.41(f)]. This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(g) *Property rights* [40 CFR 122.41(g)]. This Order does not convey any property rights of any sort or any exclusive privilege.

(h) *Duty to provide information* [40 CFR 122.41(h)]. The permittee shall furnish to the Director, within a reasonable time, any information which the SDRWQCB may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. The permittee shall also furnish to the SDRWQCB upon request, copies of records required to be kept by this Order.

(i) *Inspection and entry* [40 CFR 122.41(i)]. The permittee shall allow the SDRWQCB, or an authorized representative (including an authorized contractor acting as a representative of the SDRWQCB or EPA), upon presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
(4) Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the CWA , any substances or parameters at any location.

(k) *Signatory requirement* [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the SDRWQCB shall be signed and certified (see 40 CFR 122.22)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(l) *Reporting requirements* [40 CFR 122.41(l)]

(1) *Planned changes.* The permittee shall give notice to the SDRWQCB as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).
iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) *Anticipated noncompliance.* The permittee shall give advance notice to the SDRWQCB of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

(3) *Transfers.* This permit is not transferable to any person except after notice to the SDRWQCB. The SDRWQCB may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the CWA. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) *Monitoring reports.* The applicable provisions from 40 CFR 122.41(l)(4) are contained in the Monitoring and Reporting Program for this Order.

(5) *Compliance schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) *Twenty-four hour reporting.*

i) The permittee shall report any noncompliance, which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
ii) The following shall be included as information, which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the Order (See 40 CFR 122.41(g)).
(B) Any upset which exceeds any effluent limitation in the Order.
(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the SDRWQCB in the permit to be reported within 24 hours. (See 40 CFR 122.44(g)).

iii) The SDRWQCB may waive the written report on a case-by-case basis for reports under paragraph (l)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) *Other noncompliance.* The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.

(8) *Other information.* Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the SDRWQCB, it shall promptly submit such facts or information.

(m) *Bypass* [40 CFR 122.41(m)]

(1) Definitions

i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations of this Order or the concentrations of pollutants set forth in Ocean Plan Table A or Table B to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (m)(3) and (m)(4) of this provision.

(3) Notice

i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten days before the date of the bypass.

ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (1)(6) of this section (24-hour notice).

(4) Prohibition of Bypass

i) Bypass is prohibited, and the SDRWQCB may take enforcement action against the permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section.

ii) The SDRWQCB may approve an anticipated bypass, after considering its adverse effects, if the SDRWQCB determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

(n) *Upset* [40 CFR 122.41(n)]

(1) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i) An upset occurred and that the permittee can identify the cause(s) of the upset;

ii) The permitted facility was at the time being properly operated;

iii) The permittee submitted notice of the upset as required in section (1)(6)(ii)(B) of this section (24-hour notice); and

iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) Burden of Proof. In any enforcement proceeding the discharger seeking to establish the occurrence of an upset has the burden of proof.

2. SIGNATORY REQUIREMENTS [40 CFR 122.22]

(a) *Applications* [40 CFR 122.22(a)(3)]. All applications shall be signed by either a principal executive officer or ranking elected official.

(b) *Reports* [40 CFR 122.22(b)]. All reports required by this Order, and other information requested by the SDRWQCB shall be signed by a person described in paragraph a. of this reporting requirement, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in section (a) above;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and,

(3) The written authorization is submitted to the SDRWQCB.

(c) *Changes to authorization.* If an authorization under paragraph (b) of this reporting requirement is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this reporting requirement must be submitted to the SDRWQCB prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) *Certification.* Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

3. ADDITIONAL STANDARD PROVISIONS

(a) *Municipal separate storm sewer systems* [40 CFR 122.42(c)]. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under 40 CFR 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions;

(2) Proposed changes to the storm water management programs that are established as permit conditions. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii); and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and 40 CFR 122.26(d)(2)(v);

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and

(7) Identification of water quality improvements or degradation.

(b) *Storm water discharges* [40 CFR 122.42(d)]. The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) shall require compliance with the conditions of

the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

(c) *Discharge is a privilege* [CWC section 13263(g)]. No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights.

(d) *Review and revision of Order* [CWC section 13263(e)]. Upon application by any affected person, or on its own motion, the SDRWQCB may review and revise this permit.

(e) *Termination or modification of Order* [CWC section13381]. This permit may be terminated or modified for causes, including, but not limited to, all of the following:

(8) Violation of any condition contained in this Order;
(9) Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts.
(10) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

(f) *Transfers.* When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.

(g) *Conditions not stayed.* The filing of a request by the permittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

(h) *Availability.* A copy of this Order shall be kept at a readily accessible location and shall be available to on-site personnel at all times.

(i) *Duty to minimize or correct adverse impacts.* The permittees shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

(j) *Responsibilities, liabilities, legal action, penalties* [CWC sections 13385 and 13387]. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

Nothing in this Order shall be construed to protect the discharger from its liabilities under federal, state, or local laws.

Except as provided for in 40CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

Nothing in this Order shall be construed to preclude institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

(k) *Noncompliance.* Any noncompliance with this Order constitutes violation of the CWC and is grounds for denial of an application for modification of the Order (also see 40 CFR 122.41(a).

(l) *Director.* For purposes of this Order, the term "Director" used in parts of 40 CFR incorporated into this Order by reference and/or applicable to this Order shall have the same meaning as the term "SDRWQCB" used elsewhere in this Order, except that in 40 CFR 122.41(h) and (I), "Director" shall mean "SDRWQCB. SWRCB, and EPA."

(m) The SDRWQCB has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The SDRWQCB or SWRCB may in the future, upon prior notice to the Permittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to a MS4. Permittees may prohibit any non-storm water discharge (or class of non-storm water discharges) to a MS4 that is authorized under such separate NPDES permits.

(n) *Effective date.* This Order shall become effective on the date of its adoption provided the EPA has no objection. If the EPA objects to its issuance, this Order shall not become effective until such objection is withdrawn. This Order supersedes Order No. R9-98-02 upon the effective date of this Order.

(o) *Expiration.* This Order expires on **July 14, 2009**.

(p) *Continuation of expired order* [23 CCR 2235.4]. After this Order expires, the terms and conditions of this Order are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.

(q) *Applications.* Any application submitted by a permittee for reissuance or modification of this Order shall satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the CCR.

(r) *Confidentiality.* Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the SDRWQCB office.

(s) *Severability.* The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

(t) *Report submittal.* The discharger shall submit reports and provide notifications as required by this Order to the following:

NORTHERN WATERSHED PROTECTION UNIT
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 SKY PARK COURT, SUITE 100
SAN DIEGO CA 92123-4340
Telephone: (858) 467-2952 Fax: (858) 571-6972

EUGENE BROMLEY
US ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PERMITS ISSUANCE SECTION (W-5-1)

75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

Unless otherwise directed, the discharger shall submit one hard copy for the official record and one electronic copy of each report required under this Order to the SDRWQCB and one hard copy to the EPA.

ATTACHMENT C
DEFINITIONS

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Basin Plan – Water Quality Control Plan, San Diego Basin, Region 9, and amendments, developed by the SDRWQCB.

BAT (Best Available Technology) – The technology-based standard established by congress in CWA section 402(p)(3)(A) for industrial dischargers of storm water. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and best management practices, or BMPs. For example, secondary treatment (or the removal of 85% suspended solids and BOD) is the BAT for suspended solid and BOD removal from a sewage treatment plant. BAT generally emphasizes treatment methods first and pollution prevention and source control BMPs secondarily.

The best economically achievable technology that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the EPA Administrator. Factors relating to the assessment of best available technology shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the permitting authority deems appropriate.

Beneficial Uses - The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals "Beneficial Uses" of the waters of the State that may be protected against include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the waters of the State on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [CWC section 13050(f)].

Bioaccumulate - The progressive accumulation of contaminants in the tissues of organisms through any route including respiration, ingestion, or direct contact with contaminated water, sediment, pore water, or dredged material to a higher concentration than in the surrounding environment. Bioaccumulation occurs with exposure and is independent of the tropic level.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological integrity of a water body.

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: "A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

(BMP) Best Management Practices - Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the U.S. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Clean Water Act Section 303(d) Impaired Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA.

Construction Site – Any project requiring a local grading or building permit, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities. Soil disturbing activities include clearing, grading, disturbances to ground such as stockpiling, and excavation.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste whether or not waters of the State are affected."

CWA – Federal Clean Water Act

CWC – California Water Code

Designated Waste - A "nonhazardous waste which consists of pollutants which, under ambient environmental conditions at the waste management unit, could be released at concentrations in excess of applicable water quality objectives, or which could cause degradation of waters of the State" [CCR Title 27, chapter 3, subchapter 2, article 2, section 20210; CWC section 13173].

Development Projects - New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces; and land subdivision.

Dry Season – May 1 through September 30 of each year.

Effluent Limitations – any restriction imposed on quantities, discharge rates, and concentrations of pollutants, which are discharged from point sources into waters of the State.

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

ESA (Environmentally Sensitive Area) – Areas "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would easily be disturbed or degraded by human activities and developments" (California Public Resources Code section 30107.5). ESAs subject to urban runoff requirements include but are not limited to all CWA section 303(d) impaired water bodies, areas designated as Areas of Special Biological Significance by the SWRCB (Basin Plan); water bodies designated with the RARE beneficial use by the SWRCB (Basin Plan); areas within the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP) plan area that contain rare or especially valuable plant or animal life or their habitat; and any other equivalent environmentally sensitive areas which the Permittees have identified.

GIS – Geographic Information System

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the EPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as "any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code" [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other wastes generated during home improvement or maintenance activities.

Illicit Connection – Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities [40 CFR 122.26(b)(2)].

Inert Waste - Material that "does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste" [CCR Title 27, Chapter 3, Subchapter 2, Article 2, Section 20230].

MEP (Maximum Extent Practicable) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their SWMP. Their total collective and individual activities conducted pursuant to the SWMP becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the SDRWQCB, the SDRWQCB defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

> *"To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:*
>
> *a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*

b. *Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
c. *Public Acceptance: Does the BMP have public support?*
d. *Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
e. *Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?*

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."

MS4 (Municipal Separate Storm Sewer System) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

NOI – Notice of Intent

Non-hazardous Solid Waste - All putrescible and nonputrescible solid, semi-sold, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-sold wastes and other discarded solid or semi-solid waste; provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentration which exceed applicable water quality objectives or could cause degradation of wasters of the state." [CCR Title 27, Chapter 3, Subchapter 2, Article 2, Section 20220]

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges.

NPDES (National Pollution Discharge Elimination System) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

NPS (Nonpoint Source) – Diffuse, widespread sources of pollution. These sources may be large or small, but are generally numerous throughout a watershed. Non Point Sources include but are not limited to urban, agricultural, or industrial areas, roads, highways, construction sites, communities served by septic systems, recreational boating activities, timber harvesting, mining, livestock grazing, as well as physical changes to stream channels, and habitat degradation. NPS pollution can occur year round any time rainfall, snowmelt, irrigation, or any other source of water runs over land or through the ground, picks up pollutants from these numerous, diffuse sources and deposits them into rivers, lakes, and coastal waters or introduces them into ground water.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act a nuisance is "anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes."

Order – Order No. R9-2004-001 (NPDES No. CAS0108766)

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act: "the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses." Pollution may include contamination.

Pollutants of Concern – All pollutants for which water bodies are listed as impaired under CWA section 303(d), all pollutants associated with the land use type of a development, and all pollutants commonly associated with urban runoff. Pollutants commonly associated with urban runoff include total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste, and anthropogenic litter).

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Post-Construction BMPs - A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of developments.

Principal Permittee – Riverside County Flood Control and Water Conservation District

Priority Development Projects – New development and redevelopment projects listed in Requirement F.2.b.(1) of tentative Order No. R9-2004-001.

Receiving Waters – Waters of the U.S.

RWLs (Receiving Water Limitations) - Waste discharge requirements issued by the SDRWQCB typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Shared Treatment BMP - BMPs used by multiple developments to infiltrate, filter, or treat the required volume or flow prior to discharge to a receiving water. This could include, for example, a treatment BMP at the end of an enclosed storm drain that collects runoff from several commercial developments.

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage.

SUSMP (Standard Urban Storm Water Mitigation Plan) – A plan developed to mitigate the impacts of urban runoff from Priority Development Projects in accordance with Requirement F.2.b. of tentative Order No. R9-2004-001.

SWMP (Storm Water Management Plan) – A written description of the specific urban runoff management measures and programs that each Permittee will implement to reduce the discharge of pollutants in urban runoff to the MEP and to comply with Order No. R9-2004-001.

TMDL (Total Maximum Daily Load) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives

for toxicity provided in the Basin Plan state in part... *"All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life... The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge."*

Treatment Control BMP – Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

Urban Runoff - All flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows).

Waste - As defined in CWC Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [CWC section 13050 (h)]. California's water quality objectives are established by the SWRCB and RWQCBs in the Water Quality Control Plans.

Water Quality Standards - The beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of water and the water quality objectives necessary to protect those uses.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition. Under this definition, a MS4 is always considered to be a Waters of the State.

Waters of the United States - As defined in 40 CFR 122.2, the Waters of the U.S. are defined as: **"(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;** (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition**: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;** (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this

definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA."

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

WDRs – Waste Discharge Requirements

Wet Season – October 1 through April 30 of each year.

ATTACHMENT D

INDIVIDUAL SWMP CONTENTS

Pursuant to Requirement E.1.a. of tentative Order No. R9-2004-001, each Permittee shall develop an Individual SWMP that describes their specific urban runoff management programs and activities that will be implemented to comply with the Order. An individual SWMP that addresses the items listed below would provide a complete description of the programs and activities the Permittee plans to implement to comply with the Order and to reduce pollutants in urban runoff to the MEP. In the event that a specific component is not applicable to a Permittee, the Permittee shall provide an explanation of non-applicable programs with the SWMP submittal and does not need to provide the information requested below in that particular section of their Individual SWMP.

1. Administrative and Legal Procedures

a) Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under the Order. Include an up-to-date organizational chart specifying these departments and key personnel;

b) Citation of urban runoff related ordinances and the reasons they are enforceable;

c) Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of the Order;

d) Description of how these ordinances are implemented and appealed; and

e) Description of whether the Permittee can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

2. Development Planning (Section F)

a) A description of the water quality and watershed protection principles that have been or will be included in the Permittee's General plan, and a time schedule where modifications are planned, if applicable;

b) A description of the development project approval process and how it ensures that urban runoff from new development and redevelopment will be reduced to the MEP, that post-development runoff volumes and velocities will be controlled, and that water quality objectives will not be violated throughout the life of the project;

c) A final SUSMP document that meets the requirements specified in Section F.2.b. of the Order, and a copy of the ordinance (amended or new) that gives the Permittee the authority to implement and enforce the SUSMP. The SUSMP may be submitted under separate cover as an attachment to the SWMP;

d) A description of the Permittee's current environmental review process and how it addresses impacts to water quality and appropriate mitigation measures. If the Permittee plans to modify the process during the permit term, a time schedule for modifications shall be included;

e) A description of education efforts related to development and how they will be implemented; and

f) A description of the measurable goals that will be used to assess the effectiveness of this program component.

3. Construction Component (Section G)

a) A description of which pollution prevention methods will be required for implementation, and the steps that will be taken to ensure implementation;

b) Updated grading ordinances, including adequate enforcement mechanisms;

c) A description of the modified construction and grading approval process;

d) Updated construction and grading project requirements in local grading and construction permits;

e) A completed inventory of all construction sites;

f) A list and description of minimum BMPs that will be implemented, or required to be implemented;

g) A description of the steps that will be taken to ensure the implementation of prescribed BMPs at all construction sites;

h) A description of planned inspection frequencies;

i) A description of inspection procedures;

j) A description of enforcement mechanisms and steps that will be used;

k) A description of the construction education program and how it will be implemented; and

l) A description of the measurable goals that will be used to assess the effectiveness of this program component.

4. Municipal Component (Section H.1)

a) A description of which pollution prevention methods will be required for implementation, and the steps taken to ensure implementation;

b) A completed inventory of all municipal facilities and activities;

c) A description of which BMPs will be implemented, or required to be implemented, for municipal facilities and activities;

d) A description of steps that will be taken to ensure the implementation of prescribed BMPs at municipal facilities and activities;

e) A description of municipal maintenance activities and schedules;

f) A description of the management strategy for pesticides, herbicides, and fertilizer use;

g) A description of inspection procedures;

h) A description of enforcement mechanisms and how they will be used; and

i) A description of the measurable goals that will be used to assess the effectiveness of this program component.

5. Industrial/Commercial Facilities Component (Section H.2)

a) A description of which pollution prevention methods will be required for implementation, and the steps that will be taken to ensure implementation;

b) A completed and prioritized inventory of all industrial/commercial facilities that could contribute a significant pollutant load to the MS4;

c) A list of minimum BMPs that will be implemented, or required to be implemented, for each facility type or pollutant-generating activity;

d) A description of the steps that will be taken to ensure the implementation of prescribed BMPs at industrial/commercial facilities, including notification procedures;

e) A description of inspection procedures;

f) A description of enforcement mechanisms and how they will be used;

g) A description of training efforts; and

h) A description of the measurable goals that will be used to assess the effectiveness of this program component.

6. Residential Component (Section H.3)

a) A description of which pollution prevention methods will be encouraged for implementation, and the steps that will be taken to encourage implementation;

b) A list of residential activities that have been identified as high priority;

c) A list of minimum BMPs that will be implemented, or required to be implemented, for high priority residential activities;

d) A description of the steps that will be taken to ensure the implementation of prescribed BMPs for high priority residential activities;

e) A description of enforcement mechanisms and how they will be used; and

f) A description of the measurable goals that will be used to assess the effectiveness of this program component.

7. Education Component (Section I)

a) A description of the content, form, and frequency of education efforts for each target community; and

b) A description of the measurable goals that will be used to assess the effectiveness of the public education program.

8. Illicit Discharge Detection and Elimination Component (Section J)

a) A description of the program to actively seek and eliminate illicit discharges and illicit connections;

b) An Illicit Discharge Monitoring Program, in accordance with the Monitoring and Reporting Program, to be conducted to detect illicit discharges and illicit connections;

c) A description of investigation and inspection procedures to follow up on dry weather monitoring results or other information which indicate potential for illicit discharges and illicit connections;

d) A description of procedures to promptly eliminate detected illicit discharges and illicit connections;

e) A description of enforcement mechanisms and how they will be used;

f) A description of the mechanism to receive notification of spills;

g) A description of efforts to facilitate public reporting of illicit discharges and connections, including a public hotline;

h) A description of efforts to facilitate proper disposal of used oil and other toxic materials; and

i) A description of measurable goals that will be used to assess the effectiveness of this program component.

9. Public Participation Component (Section E.3)

A description of how public participation will be included in the development and implementation of each Permittee's Individual SWMP.

10. Assessment of Individual SWMP Effectiveness Component

As part of its Individual SWMP, each Permittee shall develop a long-term strategy for assessing the effectiveness of its Individual SWMP. The long-term assessment strategy shall, at a minimum, include the following:

a) An assessment of the progress towards meeting the measurable goals identified in each program component;

b) An assessment of Illicit Discharge and Receiving Water monitoring data; and

c) An assessment of overall program effectiveness.

11. Fiscal Analysis Component

Each Permittee shall secure the resources necessary to meet the requirements of the Order. As part of its Individual SWMP, each Permittee shall describe and analyze the capital and operation and maintenance expenditures necessary to accomplish the activities required in the Order, and a description of the source of funds the Permittee proposes to use to meet those expenditures.

12. Fire Fighting

A description of a program to reduce pollutants from non-emergency fire fighting flows identified by the Permittee to be significant sources of pollutants.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
MONITORING AND REPORTING PROGRAM No. R9-2004-001
NPDES PERMIT No. CAS0108766
FOR THE DISCHARGES OF URBAN RUNOFF FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE COUNTY OF RIVERSIDE, THE CITY OF MURRIETA, THE CITY OF TEMECULA AND THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT WITHIN THE SANTA MARGARITA WATERSHED IN THE SAN DIEGO REGION

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I. PURPOSE

This Monitoring and Reporting Program (MRP) is intended to meet the following goals:

1. Assess compliance with Order No. R9-2004-001;
2. Measure and improve the effectiveness of the SWMPs;
3. Assess the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
4. Characterize urban runoff discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
8. Assess the overall health of receiving waters.

II. MONITORING PROGRAM

The Monitoring Program consists of the Receiving Waters Monitoring, Illicit Discharge Monitoring, Monitoring Provisions, and the program assessments required under Section III.B of this MRP. All monitoring program components shall be implemented no later than October 2004, unless otherwise specified herein.

A. Receiving Waters Monitoring

The Receiving Waters Monitoring consists of: 1) **Core Monitoring** requirements to address on-going, site-specific needs, such as estimating pollutant loads and assessing trends; 2) **Regional Monitoring** to address watershed-wide issues; and 3) **Special Studies** to address specific research or management issues.

A.I Core Monitoring

In order to achieve the above goals, the triad[1] and tributary Core Monitoring requirements are intended to generate water quality data that will build upon existing data to begin answering the following management questions:

- Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- What is the extent and magnitude of the current or potential receiving water problems?
- What is the relative urban runoff contribution to the receiving water problem(s)?
- What are the sources of urban runoff that contribute to receiving water problem(s)?
- Are conditions in receiving waters getting better or worse?

1. Mass Loadings

   a) The Permittees shall monitor mass loadings from the following three triad stations. Alternative locations representative of urban/urbanizing drainage areas may be selected.

      (1) Lower Temecula Creek;

      (2) Lower Murrieta Creek @ USGS Weir; and

      (3) A reference station representative of natural, undeveloped conditions. Permittees shall evaluate the reference station annually for suitability and select new reference stations as needed.

[1] Triad means a station where chemical, toxicity, and bioassessment monitoring occur.

b) At each triad station, the Permittees shall monitor the first storm event of each monitoring year[2] that produces sufficient flow to collect a composite sample, and a minimum of two additional storm events during each monitoring year.

c) In the event that the required number of storm events are not sampled during one monitoring year at any given station, the Permitees shall submit, with the subsequent Annual Report, a written explanation for a lack of sampling data, including streamflow data from the nearest USGS gauging station.

d) In addition to the storm events, the Permittees shall analyze a minimum of two dry weather samples from each triad station per monitoring year. If flow is insufficient to collect a sample, this shall be documented in the subsequent annual report.

e) Sampling at triad stations shall begin no later than the first storm after October 2004 that produces sufficient flow to collect a composite sample.

f) Mass loading sampling and analysis protocols shall be consistent with 40 CFR 122.21(g)(7)(ii) and with the EPA Storm Water Sampling Guidance Document (EPA 833-B-92-001). Storm water samples shall be flow-weighted composites[3], collected during the first 3 hours of flow, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge, unless the SDRWQCB Executive Officer approves an alternate protocol. Automatic samplers are recommended, but manual samples may be collected from mass loading stations where it is not feasible to install an automatic sampler. Grab samples[4] shall be taken for pathogen indicators and oil and grease. Grab samples are acceptable for dry weather sample collection.

g) Permittees shall measure or estimate flow rates and volumes for each triad sampling event in order to determine mass loadings of pollutants. Data from nearby USGS gauging stations may be utilized, or flow rates may be estimated in accordance with the EPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), Section 3.2.1.

h) At triad stations, the first storm of every sampling year shall be analyzed for the full EPA priority pollutant list (40 CFR 122, Appendix D). For the remaining sampling events, analysis may be reduced to the constituents listed in Table below, unless data from the first storm indicate the need for additional constituents.

[2] A monitoring year is from July 1 through June 30.
[3] A flow-weighted composite sample is a mixed or combined sample that is formed by combining a series of individual and discrete samples of specific volume in proportion to flow.
[4] A grab sample is a discrete, individual sample taken within a short period of time (usually less than 15 minutes).

Table 1. Short List of Constituents	
Trace Metals	**Pesticides**
Total Cadmium	Diazinon
Total Chromium	chlorpyrifos
Total Copper	Other OP pesticides
Total Nickel	
Total Lead	**Conventionals**
Total Zinc	Temperature
Nutrients	pH
Ammonia (NH_3)	Hardness
Total Kjeldahl Nitrogen (TKN)	Specific conductance
Nitrate (NO_3)	Dissolved oxygen
Total phosphorus	MBAS
Bacteria	**PAHs**
Total coliform	
Fecal coliform	**Volatiles** (dry weather only)
E. coli	
	Total suspended solids

2. Water Column Toxicity Testing

The Permittees shall conduct toxicity testing at triad stations to evaluate the extent and causes of toxicity in receiving waters.

a) The Permittees shall analyze all storm samples (at least three annually) collected at the three triad stations for toxicity. The Permittees shall conduct toxicity testing using the following three species and EPA protocol for each sample:

- *Ceriodaphnia dubia* (water flea) – EPA-821-R-02-012 or EPA-821-R-02-013;
- *Hyalella azteca* (freshwater amphipod) – EPA-821-R-02-012; and
- *Pseudokirchneriella subcapitata*, formally known as *Selenastrum capricornutum*, (unicellular algae) – EPA-821-R-02-013.

b) The presence of acute toxicity shall be determined in accordance with EPA protocol (EPA-821-R-02-012). The presence of chronic toxicity shall be determined in accordance with EPA protocol (EPA-821-R-02-013).

3. Bioassessment

The Permittees shall conduct bioassessment monitoring at the three triad stations to evaluate the biological integrity of receiving waters, to detect biological responses to pollutants in urban runoff, and to identify probable causes of impairment not detected by chemical and toxicity monitoring. The program required in this section replaces the program currently being conducted by the Permittees under CWC section 13225 Directive for Assessing Water Quality Impacts of Urban Runoff in the Santa Margarita Watershed, issued by the SDRWQCB on March 6, 2003. Bioassessment monitoring shall include the following:

a) Each bioassessment station shall be monitored twice annually, in May and October of each year. A minimum of three replicate samples shall be collected at each station during each sampling event.

b) Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized procedures set forth in the California Department of Fish and Game's California Stream Bioassessment Procedure (CSBP)[5]. Analysis procedures shall include comparison between station mean values for various biological metrics and the Preliminary San Diego Index of Biotic Integrity (IBI)[6], or any subsequently developed applicable IBI. Sampling, laboratory, quality assurance, and analytical procedures shall follow the standardized "Non-Point Source Bioassessment Sampling Procedures" for professional bioassessment set forth in the CSBP. In the event that the CSBP "Point-Source Professional Bioassessment Procedure" is performed in place of the "Non Point Source Bioassessment Sampling Procedure," justification and documentation of the procedure shall be submitted with the annual monitoring report.

c) A professional environmental laboratory shall perform all sampling, laboratory, quality assurance, and analytical procedures. Permittee staff trained in CSBP methods may collect samples, but data collected by volunteer monitoring organizations shall not be submitted in place of professional assessments.

4. Follow-up Analysis and Actions Based on Triad Approach

When results from the chemistry, toxicity, and bioassessment monitoring described above indicate urban runoff-induced degradation, Permittees shall evaluate the extent and causes of urban runoff pollution in receiving waters and prioritize management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) shall be used to determine the cause of toxicity, and Toxicity Reduction Evaluations (TRE) shall be used to identify sources and implement management actions to reduce pollutants in urban runoff causing toxicity. Permittees shall conduct TIE(s) and TRE(s) based on Table 2 below.

[5] California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game – Aquatic Bioassessment Laboratory, May 1999.
[6] This document can be downloaded from http://www.swrcb.ca.gov/rwqcb9/programs/bioassessment.html

Table 2. Triad Approach to Determining Follow-Up Actions				
	Chemistry	**Toxicity**	**Bioassessment**	**Action**
1.	Persistent[7] exceedance of water quality objectives	Evidence of toxicity[8]	Indications of benthic alteration[9]	Conduct TIE to identify contaminants of concern, based on TIE metric, initiate TRE
2.	No persistent exceedances of water quality objectives	No evidence of toxicity	No indications of benthic alteration	No action necessary
3.	Persistent exceedance of water quality objectives	No evidence of toxicity	No indications of benthic alteration	Assess possible upstream sources causing exceedances
4.	No persistent exceedances of water quality objectives	Evidence of toxicity	No indications of benthic alteration	Conduct TIE to identify contaminants of concern, based on TIE metric, initiate TRE
5.	No persistent exceedances of water quality objectives	No evidence of toxicity	Indications of benthic alteration	No action necessary due to toxic chemicals Initiate TRE for physical sources of benthic alteration
6.	Persistent exceedance of water quality objective	Evidence of toxicity	No indications of benthic alteration	If chemical and toxicity tests indicate persistent degradation, conduct TIE to identify contaminants of concern, based on TIE metric, initiate TRE
7.	No persistent exceedances of water quality objectives	Evidence of toxicity	Indications of benthic alteration	Conduct TIE to identify contaminants of concern, based on TIE metric, initiate TRE
8.	Persistent exceedance of water quality objectives	No evidence of toxicity	Indications of benthic alteration	Initiate upstream source identification

[7] Persistent exceedance shall mean the exceedance of relevant Basin Plan or California Toxics Rule objectives by 20% for 3 sampling events.
[8] Evidence of toxicity shall mean a high score, in relation to other stations, on metric that combines magnitude and persistence of toxicity over an entire year.
[9] Indications of benthic alteration shall mean an IBI score of Fair, Poor, or Very Poor.

a) Toxicity Identification Evaluations (TIE)

The goal of a TIE is to identify the pollutant(s) causing toxicity in the receiving waters.

(1) Permittees shall conduct Phase I TIEs in accordance with Table 2 above. Permittees shall use EPA protocol described in *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003) or subsequent editions.

(2) If the Phase I TIE is not sufficient to identify the toxicant(s), a Phase II TIE may be required in order to identify or confirm the identity of the pollutants causing toxicity. Phase II TIEs shall be conducted in accordance with Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080), or subsequent editions.

(3) In the event that the pollutant causing toxicity has been sufficiently identified through previous TIEs or corresponding chemical monitoring data, a TIE may not need to be conducted.

b) Toxicity Reduction Evaluations (TRE)

The purpose of a TRE is to investigate the cause of and to identify corrective actions to eliminate toxicity from urban runoff in receiving waters.

When a TIE identifies a pollutant(s) associated with urban runoff as a cause of toxicity, Permittees shall initiate a TRE immediately. The TRE shall include all reasonable steps to identify the source(s) of toxicity and propose appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Permittees shall submit the TRE to the SDRWQCB for review. Within 30 days following the approval by the SDRWQCB, Permittees shall revise their SWMPs to incorporate the modified BMPs that will be implemented. At a minimum, a TRE shall include a discussion of the following items:

(1) The potential sources of pollutant(s) causing toxicity;

(2) A list of municipalities and other entities that may have jurisdiction over sources of pollutant(s) causing toxicity; and

(3) Proposed actions that will be taken to reduce the pollutants causing toxicity and methods to measure the effectives of those actions.

5. Tributary Monitoring

a) The Permittees shall collect a grab sample from the first storm event of each monitoring year, a minimum of one additional storm event, and two dry weather events during each monitoring year at the following four tributary stations to help identify sources of pollutants. Alternative locations representative of urban/urbanizing drainage areas may be selected.

(1) Warm Springs Creek, near the confluence with Murrieta Creek;

(2) Santa Gertudis Creek, near the confluence with Murrieta Creek;

(3) Long Canyon Creek near the confluence with Murrieta Creek; and

(4) Redhawk Channel, near the confluence with Temecula Creek

b) If flow is insufficient to collect a sample, this shall be documented in the subsequent annual report.

c) Tributary samples shall be analyzed for constituents of concern. Constituents of concern shall be determined based on exceedances of water quality objectives at respective triad and dry weather monitoring stations, as well as land uses in the area.

d) Sampling at tributary stations shall begin no later than the first storm after October 2004.

A.II Regional Monitoring

The Permittees shall participate and coordinate with federal, state, and local agencies and other dischargers in the Santa Margarita Watershed in development and implementation of a regional watershed monitoring program as directed by the Executive Officer. The intent of a regional monitoring program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the watershed. During a coordinated watershed sampling effort, the Permittees' sampling and analytical effort may be reallocated to provide a regional assessment of the impact of discharges to the watershed.

A.III Special Studies

Special studies are intended to address specific research or management issues that are not addressed by the routine core monitoring program. The Permittees' shall conduct special studies as directed by the Executive Officer, including the study described below.

Numeric Criteria to Control Runoff from New Developments

The Permittees shall develop and implement a study to determine numeric criteria for controlling the volume, velocity, duration, and peak discharge rate of runoff from new developments (required in section F.2.b(9) of Order No. 2004-001) to minimize erosion of natural stream channels and impacts to instream habitat. The Permittees shall propose numeric criteria and a time-schedule for implementation of the criteria on Priority Development Projects within 365 days of the identification of the criteria and no later than the fourth-year Annual Report, or the application for permit renewal. In each Annual Report, the Permittees shall describe the status of this special study, details of implementation, and progress towards the development of numeric criteria. Permittees may satisfy this requirement if they can demonstrate to the SDRWQCB that criteria developed in other areas of Southern California are applicable to and protective of the conditions in the Upper Santa Margarita Watershed. This should be accomplished through demonstrating similarities in areas monitored as part of studies outside of the Santa Margarita Watershed.

B. Illicit Discharge Monitoring

Each Permittee shall develop and implement an Illicit Discharge Monitoring program that meets or exceeds the requirements of this section within 365 days of the adoption of Order No. R9-2004-001. Each Permittees' program shall be designed to emphasize frequent, geographically widespread inspections, monitoring, and follow-up investigations to detect illicit discharges and connections. Each Permittees' Illicit Discharge Monitoring Program shall be described in the Individual SWMP.

1. Station Location

   a) Each Permittee shall select Illicit Discharge Monitoring stations within its jurisdiction. The number of stations shall be sufficient to represent the MS4 and detect illicit discharges that may occur throughout the system. Stations shall be accessible points in the MS4 (i.e., outfalls, manholes or open channels) located downstream of potential sources of illicit discharges (i.e., commercial, industrial, and residential areas). Permittees shall use the MS4 map, developed pursuant to section J.2 of Order No. R9-2004-001, to help locate dry weather monitoring stations and to determine the number necessary to adequately represent the entire MS4. Each identified station shall be inspected at least twice between May 1st and September 30th of each year, and more frequently if the Permittee determines necessary to comply with section J of Order No. R9-2004-001.

   b) In addition to the stations required in section B.1.a. above, each Permittee shall inspect all other dry weather flows that are observed or reported.

2. Illicit Discharge Monitoring Methods

   a) At each inspected site, Permittees shall record the following general information:
      - Time since last rain;
      - Quantity of last rain;
      - Site descriptions (i.e., conveyance type, dominant land uses in drainage area);
      - Flow estimation (i.e., width of surface, approximate depth of water, approximate flow velocity, flow rate); and
      - Visual observations (e.g., odor, color, clarity, floatables, deposits/stains, oil sheen, surface scum, vegetation condition, structural condition, and biology).

   b) If flow or ponded water is observed at a station and there has been at least seventy-two hours of dry weather, a field screening analysis using suitable methods to estimate the following constituents shall be conducted:

      (1) Specific conductance (or calculate estimated Total Dissolved Solids);
      (2) Turbidity;
      (3) PH;
      (4) Temperature; and
      (5) Dissolved Oxygen.

   c) If field screening analysis or visual observations at a site indicate a potential illicit discharge, a sample shall be collected for laboratory analysis. At a minimum, samples shall be analyzed at a laboratory for the following constituents:

      (1) Total hardness;

(2) Oil and grease;
(3) Ammonia Nitrogen;
(4) Total phosphorus;
(5) Copper (total and dissolved);
(6) Surfactants (MBAS);
(7) Diazinon and Chlorpyrifos;
(8) Lead (dissolved);
(9) Nitrate Nitrogen;
(10) E. coli;
(11) Total coliform; and
(12) Fecal coliform.

3. As part of the Illicit Discharge Monitoring Program, the Permittees shall develop numeric criteria for field screening and analytical monitoring results that will trigger follow-up investigations to identify the source causing the exceedance of the criteria. In the event of an exceedance of the criteria, Permittees shall implement the follow-up investigation procedures developed pursuant to section J.4 of Order No. R9-2004-001.

C. Monitoring Provisions

All monitoring activities shall meet the following requirements:

a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR 122.41(j)(1)].

b) The Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the SDRWQCB or EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge. [40 CFR 122.41(j)(2), CWC section 13383(a)]

c) Records of monitoring information shall include [40 CFR 122.41(j)(3)]:

(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and,
(6) The results of such analyses.

d) All sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this MRP or approved by the Executive Officer [40 CFR 122.41(j)(4)].

e) Where procedures are not otherwise specified in this MRP, sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Program Plan (QAPP) for the State of California's Surface Water Ambient Monitoring Program, adopted

by the State Water Resources Control Board (SWRCB). The QAPP can be downloaded from the SWRCB web page at: http://www.swrcb.ca.gov/swamp/docs/swamp_qapp.pdf.

f) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. [40 CFR 122.41(j)(5)]

g) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this MRP [40 CFR 122.41(l)(4)(iii)].

h) All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.

i) For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 *Fed. Reg.* 31682), the Permittees shall instruct its laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Permittee must submit documentation from the laboratory to the SDRWQCB for approval prior to raising the ML for any priority toxic pollutant.

j) The SDRWQCB Executive Officer or the SDRWQCB may make revisions to this MRP at any time during the term of Order No R9-2004-001, and may include a reduction or increase in the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.

III. REPORTING PROGRAM

A. SWMP Reporting Requirements

The Principal Permittee shall submit a SWMP Annual Report to the SDRWQCB on or before October 31 annually. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted on or before October 31, 2005 shall cover the reporting period July 1, 2004 to June 30, 2005. The SWMP Annual Report shall contain the Watershed Annual Report, and the four Individual Annual Reports.

1. **Individual Annual Report** - Each Individual Annual Report shall be a documentation of the activities conducted by each Permittee during the previous annual reporting period. Each Permittee shall submit their Individual Annual Report to the Principal Permittee by a date determined by the Principal Permittee for inclusion in the SWMP Annual Report. Each Individual Annual Report shall, at a minimum, contain the following:

   a) Comprehensive description of all activities conducted by the Permittee to meet all requirements of Order No. R9-2004-001, including, but not limited to, the following information:

      (1) Development Planning (Section F):
         (i) Description of any amendments to the General Plan or the development project approval process;
         (ii) Number of grading permits issued;
         (iii) Number of developments conditioned to meet SUSMP requirements*;
         (iv) Attach one example of a development project that was conditioned to meet SUSMP requirements and a description of the required BMPs;
         (v) Description of any updates to the environmental review process;
         (vi) Description and number of training efforts conducted during the reporting period (for staff, developers, contractors, etc.), including the number of staff trained; and
         (vii) An assessment of program effectiveness based on the measurable goals established in the Permittee's Individual SWMP.*

      (2) Construction (Section G):
         (i) Number of inspections conducted;
         (ii) Number and type of enforcement actions related to construction sites;
         (iii) Description of modifications made to the construction and grading approval process;
         (iv) Description and number of training efforts conducted during the reporting period (for staff inspectors, contractors, and construction site operators); and
         (v) An assessment of program effectiveness based on the measurable goals established in the Permittee's Individual SWMP.*

      (3) Municipal (Section H.1):
         (i) Number of municipal inspections conducted;
         (ii) Number and types of enforcement actions taken;
         (iii) Number of catch basins and inlets that were inspected and the number that were cleaned;

* Items with an asterisk are not applicable to the first annual report.

(iv) Assessment of the amount and type of debris removed from catch basins, streets, and open channels, including an identification of problem areas that generate the most pollutants;

(v) Assessment of effectiveness of BMPs that have been implemented for municipal facilities and activities;

(vi) Description and number of training efforts conducted over the last year (for municipal facility operators and/or inspectors); and

(vii) An assessment of program effectiveness based on the measurable goals established in each Permittee's Individual SWMP.*

(4) Industrial/Commercial (Section H.2):

(i) Number of inspections conducted;

(ii) Number and type of enforcement actions taken; and

(iii) An assessment of overall program effectiveness based on the measurable goals established in the Permittee's Individual SWMP.*

(5) Residential (Section H.3):

(i) A description of residential areas that were focused on during the past year;

(ii) Number and types of enforcement actions taken; and

(iii) Assessment of overall program effectiveness based on the measurable goals established in the Permittee's Individual SWMP.*

(6) Education (Section I):

(i) Description of education efforts conducted by the Permittee (not collectively with other Permittees) during the previous year;

(ii) Assessment of overall program effectiveness based on the measurable goals established in the Permitee's Individual SWMP.*

(7) Illicit Discharge Detection and Elimination (Section J):

(i) Number of illicit discharges, connections and spills reported and/or identified during the reporting period;

(ii) Number of illicit discharges or connections investigated during the reporting period and the outcome of the investigations;

(iii) Number and types of enforcement actions taken for illicit discharges or connections during the reporting period;

(iv) Number of times your agency's hotline was called during the reporting period, as compared to previous reporting periods;

(v) Number and location of dry weather monitoring sites that were monitored during the reporting period;

(vi) Summary of Illicit Discharge Monitoring Program results, including: 1) All inspection, field screening, and analytical monitoring results; 2) All follow-up and elimination activities; and 3) Any proposed changes to station locations and/or sampling frequencies; and

(vii) An assessment of overall program effectiveness based on the measurable goals established in the Permittee's Individual SWMP.*

(8) Public Participation – a description of efforts to include the public in urban runoff management programs during the reporting period (i.e., river clean-ups, volunteer monitoring, Permittee council meetings related to the SWMP, etc.).

b) Assessment of Program Effectiveness - each Permittee shall include an assessment of the effectiveness of its Individual SWMP using the measurable goals and direct and indirect assessment measurements developed in the SWMP, in accordance with **Attachment D** of Order No. R9-2004-001.

c) Fiscal Analysis Component - each Permittee shall include an annual fiscal analysis, for each fiscal year covered by Order No. R9-2004-001, in its Individual Annual Report. This analysis shall evaluate the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) necessary to accomplish the activities of the Pemittee's Individual SWMP. The analysis shall include the following:

(1) A report of the previous reporting period's budget, and a budget for the upcoming reporting period. To the extent possible, the budgets should be broken down by the following programs:

(i) Program management;
(ii) Construction Inspections;
(iii) Development plan review/SUSMP implementation;
(iv) Industrial/Commercial inspections;
(v) Illicit discharge and connection response and elimination;
(vi) Municipal activities (catch basin cleaning, BMP maintenance, etc.);
(vii) Education;
(viii) Monitoring; and
(ix) Other

(2) A description of the source(s) of funds that were utilized during the previous fiscal year and the source(s) of funds proposed to meet the necessary expenditures for the subsequent year, including legal restrictions on the use of such funds.

d) Non-Storm Water Discharges – Permittees shall report on any discharge category listed in Requirement B.2 of Order No. R9-2004-001 that was identified as a source of pollutants during the reporting period. For each identified category, the Permittee shall report whether it elected to prohibit the discharge or to require BMPs to reduce pollutants in the discharge to the MEP. If the discharge is not prohibited, the BMPs that will be implemented, or required to be implemented, shall be described in each Permittee's Individual SWMP Annual Report.

e) Receiving Water Limitations – the report required pursuant to Requirement C.2.a. of Order No. R9-2004-001, if applicable.

f) A summary of all urban runoff related data not included in the annual monitoring report (e.g., special investigations); and

g) Proposed revisions to the Individual SWMP, including areas in need of improvement based on the assessment of effectiveness of each program component.

2. **Watershed Annual Report** – The Watershed Annual Report, to be produced by the Principal Permittee shall describe the area-wide and watershed-based programs and activities (as described in

the Watershed SWMP) conducted during the previous reporting period. At a minimum, the Watershed Annual Report shall contain the following information:

a) A description of all area-wide and watershed-based activities conducted during the reporting period;

b) A description of efforts to coordinate with other stakeholders in the Santa Margarita Watershed, such as San Diego County and the U.S. Marine Corps Base Camp Pendleton;

c) An assessment of water quality in the Santa Margarita watershed area of Riverside County, this assessment shall include data from the previous monitoring report;

d) Identification of water quality improvement or degradation;

e) A prioritization of water quality problems and potential sources;

f) A description of watershed-specific educational activities conducted during the reporting period;

g) Recommended activities to be conducted jointly by the Permittees to address the identified water quality problems;

h) An assessment of overall program effectiveness based on the measurable goals established in the Watershed SWMP; and

i) Proposed revisions to the Watershed SWMP.

B. Receiving Waters Monitoring Reporting Requirements

1. Monitoring Program Annual Report

The Principal Permittee shall submit the Monitoring Program Annual Report (Monitoring Report) to the SDRWQCB on or before October 31 of each year. The Monitoring Report shall contain tabular and graphical summaries as well as discussions and interpretations of the receiving water monitoring data obtained during the previous monitoring year. At a minimum, each Monitoring Report shall include the following:

a) Description of each receiving water monitoring station, including but not limited to:

(1) Station location (latitude and longitude, and a narrative description).
(2) Photographs of triad stations.
(3) Approximate size and land uses of the drainage area.
(4) Any other relevant information.

b) A description of monitoring methods for each type of monitoring, including but not limited to:

(1) Monitoring equipment.
(2) Sampling procedures.
(3) Quality assurance/quality control (QA/QC) procedures (laboratory QA/QC documentation shall be submitted with the report).
(4) Laboratory analytical methods including the method detection limits (MDLs). Analytical data shall be reported with one of the following methods, as appropriate:

- An actual numerical value for sample results greater than or equal to the MDL;
- "Not-detected (ND)" for sample results less than the laboratory's MDL; or

- "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

c) A description of monitoring results, including but not limited to:

(1) Data and data products, including but not limited to:

- Actual data.
- Identification of exceedances of Basin Plan and CTR objectives.
- Estimated annual mass loadings at each station.
- Toxicity testing results in Toxic Units (TUs).
- Bioassessment data (including electronic data formatted to California Department of Fish and Game Aquatic Bioassessment Laboratory specifications) and analysis using metrics in the CSBP and the San Diego IBI.
- Graphical summaries of data.

(2) Methods used to evaluate data. Methods shall be appropriate to answer the management questions listed in Section II.A of this MRP and to assess the progress towards achieving the goals listed in Section I of this MRP. Examples of methods include, but are not limited to:

- Site-by-site summaries and comparisons of results at triad and tributary stations for wet and dry weather, including graphs of concentrations and toxicity.
- Rough estimates of the relative contribution of urban runoff to total pollutant loads.
- Maps of potential sources of pollutants.
- Any other appropriate analysis.

(3) Discussion of results and analyses of each Monitoring Program Component, including but not limited to:

- Discussion of pollutants of concern and their potential sources.
- Interpretation of bioassessment metric values.
- Discussion of any TIEs that were conducted and the potential sources of toxic pollutants.
- If applicable, a discussion of the development, implementation, and results of any TREs.
- Discussion of any relevant information or conclusions from the Illicit Discharge Monitoring Program.
- Discussion of the progress towards answering the management questions listed in Section II.A of this MRP and achieving the goals listed in Section I of this MRP.
- Discussion of any other data analyses performed.

d) In addition to the information required above, the fourth-year Monitoring Report due no later than October 31, 2008, shall include:

- A discussion of any long-term trends that can be detected from existing data (from all previous permit terms).
- Recommendations for future monitoring based on the results of previous efforts and the progress towards answering the management questions listed in Section II.A of this MRP and achieving the goals listed in Section I of this MRP.
- Recommended modifications to Individual or Watershed SWMPs to address identified source of pollutants in urban runoff.

e) If the Permittees monitor any pollutant more frequently than required by this MRP using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results

of this monitoring shall be included in the calculation and reporting of the data submitted in the Monitoring Reports [40 CFR 122.41(l)(4)(ii)].

f) All Monitoring Reports shall be submitted in both electronic and paper formats.

C. Certified Perjury Statement

All reports submitted to the SDRWQCB shall include the following signed, certified perjury statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Monitoring and Reporting Program adopted by the California Regional Water Quality Control Board, San Diego Region, on July 14, 2004.

John. H. Robertus
Executive Officer

FACT SHEET/TECHNICAL REPORT

FOR

SDRWQCB ORDER NO. R9-2004-001
MUNICIPAL STORM WATER PERMIT

FOR

THE COUNTY OF RIVERSIDE, THE CITY OF MURRIETA, THE CITY OF TEMECULA, AND THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
WITHIN THE SANTA MARGARTIA WATERSHED
IN THE SAN DIEGO REGION
(UPPER SANTA MARGARITA WATERSHED)

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I. LIST OF ACRONYMS

ADT – Average Daily Traffic

BAT – Best Available Technology

BMP – Best Management Practice

CEQA – California Environmental Quality Act

CWA – Clean Water Act

CWC – California Water Code

DAMP – Santa Margarita Regional Drainage Area Management Plan

EPA – United States Environmental Protection Agency

GIS – Geographic Information System

MEP – Maximum Extent Practicable

MS4 – Municipal Separate Storm Sewer System

NOI – Notice of Intent

NPDES – National Pollutant Discharge Elimination System

NURP – Nationwide Urban Runoff Program

RWQCB – Regional Water Quality Control Board

SDRWQCB – San Diego Regional Water Quality Control Board

SIC – Standard Industrial Classification Code

SUSMP – Standard Urban Storm Water Mitigation Plan

SWMP – Storm Water Management Plan

SWRCB – State Water Resources Control Board

SWPPP – Storm Water Pollution Prevention Plan

TAC - State Water Resources Control Board Urban Runoff Technical Advisory Committee

TMDL – Total Maximum Daily Load

II. FACT SHEET FORMAT

This Fact Sheet briefly sets forth the principle facts and the significant factual, legal, methodological, and policy questions that the San Diego Regional Water Quality Control Board (SDRWQCB) considered in preparing Order No. R9-2004-001. In accordance with the Code of Federal Regulations (CFR) title 40 parts 124.8 and 124.56, this Fact Sheet includes, but is not limited to, the following information:

- **Contact information (Section III);**
- **Public process and notification procedures (Section IV);**
- **A brief description of the type of facility or activity that is being regulated by the Order (Section V);**
- **The type and quantity of pollutants discharged (Section VI);**
- **A brief summary of the basis for the requirements in the Order, including references to the applicable statutory or regulatory provisions (Section VII); and**
- **A discussion of the requirements in the Order (Sections VIII and IX).**

Findings contained in the Order are discussed throughout this Fact Sheet. The findings that broadly apply to the entire Order are discussed in Sections V, VI and VII. Findings that justify specific requirements in the Order are discussed in the applicable subsections of Section VIII.

III. CONTACT INFORMATION

SDRWQCB

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The Order and other related documents can be downloaded from the SDRWQCB website at: http://www.swrcb.ca.gov/rwqcb9/programs/rsd_stormwater.html

All documents referenced in this Fact Sheet and in Order No. R9-2004-001 are available for public review at the SDRWQCB office, located at the address listed above. Public records are available for inspection during regular business hours, from 8:00 am to 5:00 pm Monday through Friday. To schedule an appointment to inspect public records, contact Megan Quigley at 858-268-5363, or DiAnne Broussard at 858-492-1763.

Permittees

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IV. PUBLIC PROCESS AND NOTIFICATION PROCEDURES

The SDRWQCB followed the schedule listed below for the preparation of Order No. R9-2004-001:

- The SDRWQCB received the Report of Waste Discharge (ROWD) on May 30, 2003
- On December 15, 2003, the SDRWQCB released the Order and supporting Fact Sheet, beginning the public comment period. The documents were available on the SDRWQCB web page at http://www.swrcb.ca.gov/rwqcb9/programs/rsd_stormwater.html and mailed to the Permittees and all other parties who requested a copy.
- A public notice was published in the Riverside Press-Enterprise on December 20, 2003 notifying the public of the opportunity to submit written comments and to present verbal comments to the San Diego Regional Board at the February 11, 2004 meeting.
- The SDRWQCB held a public workshop on January 23, 2004 at the Temecula City Hall. The purpose of the workshop was to answer questions regarding the Order and to discuss the affect of potential new requirements on the business community.
- A public hearing to receive testimony at the San Diego Regional Board meeting was conducted on February 11, 2004.
- The public comment period closed at 5:00 pm on March 10, 2004.
- A response to written comments received during the public comment period and the revised Order were issued on May 7, 2004.
- After deliberation, the San Diego Regional Board adopted the Order at the July 14, 2004 meeting.

In addition to the public process described above, various informal meetings have been conducted with SDRWQCB staff and the Permittees. The meetings served as workshops for the Permittees to express their concerns and questions regarding the permit.

V. DESCRIPTION OF THE TYPE OF FACILITY OR ACTIVITY THAT IS BEING REGULATED BY THE NPDES PERMIT

A. Permit History (Finding Nos. 1 and 2)

The Riverside County Flood Control and Water Conservation District (District), the County of Riverside, and the Cities of Murrieta and Temecula (hereinafter called Permittees), own or operate municipal separate storm sewer systems (MS4s) through which urban runoff is discharged into waters of the United States (U.S.) within the portion of the Santa Margarita watershed located in Riverside County in the San Diego Region (hereinafter referred to as the Upper Santa Margarita Watershed) (**Finding No. 1**). Pursuant to the 1987 Water Quality Act (WQA) and the U. S. Environmental Protection Agency's (EPA) final storm water regulations (the "Phase I rule" at 55 Fed. Reg. 47990), the Permittees obtained a National Pollutant Discharge Elimination System (NPDES) permit for discharges from their MS4(s) to waters of the U.S. in the Upper Santa Margarita Watershed.

In July of 1990, the District, the County, and the City of Temecula obtained a first-round NPDES permit (Order No. R9-90-46). Following its incorporation, the City of Murrieta was added to that permit on May 18, 1992. Then, on May 13, 1998, the SDRWQCB adopted Order No. R9-98-02 as a second-round MS4 permit for the Upper Santa Margarita Watershed. The EPA objected to the order due to the Receiving Water Limitations (RWL) language, which EPA determined did not comply with the federal Clean Water Act (CWA) and its implementing regulations. EPA assumed responsibility and reissued the permit on April 27, 1999. Subsequently on November 8, 2000, the SDRWQCB issued Addendum No. 1 to Order R9-98-02, which incorporated EPA's permit by reference. On May 30, 2003, the District, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of their NPDES MS4 permit (**Finding No. 2**). Order No. R9-2004-001 is the third-round Phase I NPDES MS4 permit for the Upper Santa Margarita Watershed.

B. Permit Coverage (Finding Nos. 19 and 20)

The Order regulates discharges of urban runoff from MS4s owned or operated by the Permittees, and discharges into MS4s from areas within the Permittees' jurisdiction. In the Order, urban runoff is defined as "all flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows)."

A MS4 is defined in the federal regulations as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), owned or operated by a Permittee, and designed or used for collecting or conveying urban runoff (EPA, 2000a). In addition, natural drainage patterns and urban streams are frequently used by municipalities to convey urban runoff away from development within their jurisdiction. Therefore, as stated in **Finding No.19**, the SDRWQCB considers natural drainages that are used for conveyances of urban runoff, regardless of whether or not they've been altered by the municipality, as both part of the MS4s **and** as receiving waters. To clarify, an unaltered natural drainage, which receives runoff from a point source (channeled by a Permittee to drain an area within their

jurisdiction), which then conveys the runoff to an altered natural drainage or a man-made MS4 is both an MS4 and a receiving water (SDRWQCB, 2001c). Whereas, a natural channel which receives sheet flow from a property in a rural area is not part of the MS4.

Federal, state, regional, or local entities within the Permittees' boundaries, and which are not named in the Order, may operate storm drain facilities and/or discharge urban runoff to storm drains and water courses covered by the Order. In addition, discharges into the Permittees' MS4s from agricultural and other activities identified in 40 CFR 122.3 are excluded from federal NPDES regulations. However, the Permittees are responsible for all discharges from their MS4s to receiving waters, and discharges from entities and activities not specifically regulated by the Order may cause or contribute to a condition of contamination or exceedances of water quality objectives. Therefore, Permittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to a MS4 that conveys discharges to waters of the U.S., the operator of the MS4 that does not prohibit or control discharges into its own system essentially accepts responsibility for those discharges (**Finding No. 20**).

In their comments on the Order, the Permittees proposed a procedure to address discharges from third parties outside of their jurisdictions (Permittees, 2004a). The proposed procedure includes documenting and sampling discharges, utilizing the Hazardous Materials Emergency Response Team in emergency situations, verbally notifying the discharger, notifying the appropriate enforcement agency and/or the SDRWQCB, and notifying the discharger of available assistance to address the discharge. The proposed procedure meets the SDRWQCB's expectations for addressing discharges from third parties.

C. Description of Permitted Area (Finding No. 3)

The Upper Santa Margarita Watershed is approximately 548 square miles and includes unincorporated portions of Riverside County, the Cities of Murrieta and Temecula, as well as portions of the Cleveland and San Bernardino National Forests, and the Cahuilla, Ramona, Pauma, and Pechanga Indian Reservations. Approximately 168,400 people reside within the permitted area (Permittees, 2003). Approximately 36,400 people reside in the unincorporated area while approximately 132,000 people reside within the Cities of Murrieta and Temecula (Permittees, 2003).

Temecula Creek, which drains the Palomar Mountains, and Murrieta Creek, which drains the Santa Ana Mountains, are the main drainages in the permitted area. They join to form the Santa Margarita River near the City of Temecula. Main tributaries to Murrieta Creek include Warm Springs Creek and Santa Gertrudis Creek. Main tributaries to Temecula Creek include Pechanga Creek and Arroyo Seco Creek. Vail Lake, Skinner Reservoir, and Diamond Valley Reservoir are major impoundments in the permitted area. For more information about watershed characteristics, see the ROWD (Permittees, 2003).

The Water Quality Control Plan for the San Diego Basin (SDRWQCB, 1994) identifies the following beneficial uses for water bodies in the Santa Margarita Watershed: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) (potential use), Non-contact Water Recreation (REC2), Warm Freshwater Habitat

WARM, Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), and Rare, Threatened, or Endangered Species (RARE) (**Finding No. 3**).[1]

In addition to providing habitat and recreation opportunities, residents and businesses in the permitted area rely heavily on local water for drinking, agriculture, and industrial supply. Over 40% of water used in the watershed is locally produced (Jenks, 2002). In 2001, local water production in the watershed was 41,765 acre-feet. Imported supplies totaled 66,369 acre-feet. Of the total water supply, 49,212 acre-feet were used for agriculture, 5,390 acre-feet were used for commercial purposes, and 41,802 acre feet were used for domestic purposes (Jenks, 2002). In addition, portions of Fallbrook in San Diego County and the U.S. Marine Corps Base Camp Pendleton, depend on surface and ground water that originates form the Upper Santa Margarita Watershed.

The Santa Margarita River is one of the few remaining natural gorge rivers in Southern California, with approximately 70 species of special concern (rare, threatened, or endangered, regularly inhabiting the watershed, including 30 that are currently protected under the Federal Endangered Species Act (Stein, 1998). Although the majority of the river is not within the jurisdiction of the Permittees, the riparian systems in the upper watershed play an integral role in the maintenance of sensitive downstream ecological functions (Stein, 1998). The upper watershed riparian habitats are in direct hydrologic contact with downstream systems and are associated with freshwater recharge to a series of downstream aquifers (Shapiro, 1991). In addition, these riparian systems in the Upper Santa Margarita Watershed often provide breeding, migratory, or escape habitat for many animal species that reside in the lower watershed (Stein, 1998).

VI. TYPE AND QUANTITY OF POLLUTANTS DISCHARGED

A. Background

Pollutants in Urban Runoff (Finding Nos. 4, 5 and 6)

Urban runoff contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of waters of the State. The discharge of urban runoff from an

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[1] **MUN** – Municipal and Domestic Supply – Uses of water for community, military, or individual water supply systems (i.e., drinking water).
AGR – Agricultural Supply – Uses of water for farming, horticulture, or ranching.
IND – Industrial Service Supply – Uses of water for industrial activities that do not depend primarily on water quality (i.e., mining, cooling water supply, gravel washing, fire protection).
PROC – Industrial Process Supply – Uses of water for industrial activities that depend primarily on water quality.
GWR – Ground Water Recharge – Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
REC1 – Contact Water Recreation – Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible (i.e., swimming, wading, fishing, and white water activities). * Means this is a potential use.
REC2 – Non-contact Water Recreation – Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water (i.e., picnicking, hiking, camping, boating, and sightseeing).
WARM – Warm Freshwater Habitat – Uses of water that support warm water ecosystems.
COLD – Cold Freshwater Habitat – Uses of water that support cold water ecosystems including.
WILD – Wildlife Habitat – Uses of water that support terrestrial ecosystems.
RARE – Rare, Threatened, or Endangered Species – Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant and animal species established under state or federal law as rare, threatened, or endangered.

MS4 is a "discharge of pollutants from a point source" into waters of the United States as defined in the CWA (**Finding No. 4**). Section 13050(d) of the CWC defines "waste" as "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." 40 CFR 122.2 defines "point source" as "any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff." 40 CFR 122.2 defines "discharge of a pollutant" as "Any addition of any pollutant or combination of pollutants to waters of the U.S. from any point source." Also, the justification for control of pollution into Californian waters can be found at CWC section 13260(a)(1), and State Water Resource Control Board (SWRCB) Order WQ 2001-15 verifies that urban runoff contains waste (SWRCB, 2001).

The quality of urban runoff is fundamentally important to the health of the environment and the quality of life in Southern California. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance (**Finding No. 6**). The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by the EPA showed a trend of impairment in the Nation's waters from contaminated storm water and urban runoff (EPA, 2000b). The 1998 National Water Quality Inventory Report showed that urban runoff discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries (EPA, 2000b). The report states that ocean shoreline impairment due to urban runoff increased from 55% in 1996 to 63% in 1998. The report notes that urban runoff discharges are the leading source of pollution and the main factor in the degradation of surface water quality in California's coastal waters, rivers, and streams (EPA, 2000b).

Furthermore, the National Urban Runoff Program (NURP) Study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health (EPA, 1993b).

The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash (**Finding No. 5**). The NURP study showed that heavy metals, organics, coliform bacteria, nutrients, oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are found at relatively high levels in urban runoff (EPA, 1993b). It also found that MS4 discharges draining residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. The Basin Plan goes on to identify urban runoff pollutants to include lawn and garden chemicals, household and automotive care products dumped or drained on streets, and sediment that

erodes from construction sites (SDRWQCB, 1994). In addition, the SWRCB Urban Runoff Technical Advisory Committee (TAC) finds that urban runoff pollutants include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides (SWRCB, 1994). Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through storm drain networks directly to the receiving waters of the Upper Santa Margarita Watershed.

According to the Center for Watershed Protection, the quality of both surface and ground water in urbanizing areas of arid and semi-arid regions of the southwest is strongly shaped by urbanization. Since rain events are so rare, pollutants have more time to build up on impervious surfaces compared to humid regions. Therefore, the pollutant concentrations of storm water runoff from arid watersheds tends to be higher than that of humid watersheds (Center for Watershed Protection, Article 66).

Impacts From Urbanization (Finding No. 12)

The Natural Resources Defense Council (NRDC) 1999 Report, "Stormwater Strategies, Community Responses to Runoff Pollution" identifies two main causes of the storm water pollution problem in urban areas (NRDC, 1999). Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

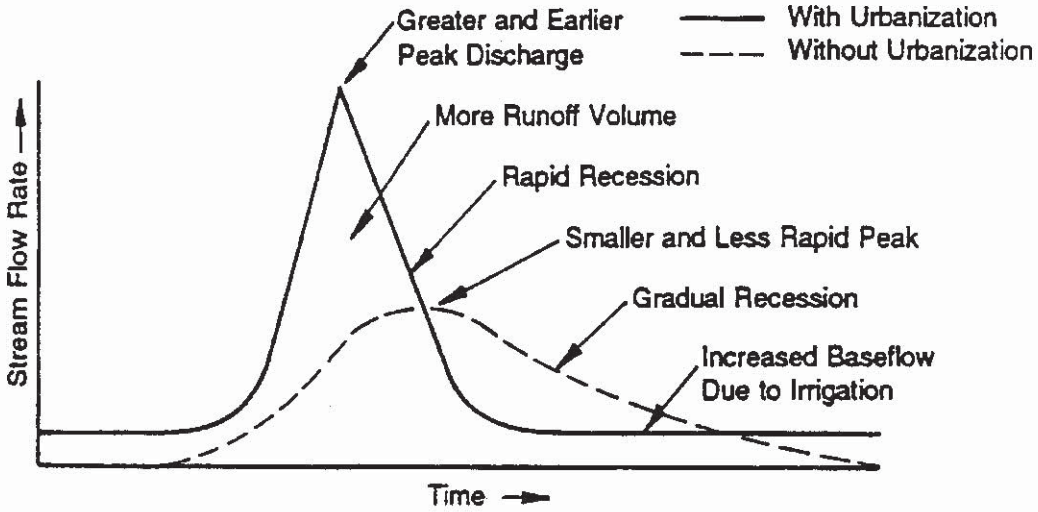
2. The concentration of pollutants in the runoff. As discussed above, certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in urban runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area (**Finding No. 12**). The Permittees have demonstrated their support for this finding in the DAMP (Permittees, 1993), which states:

> "Many storm water runoff problems are primarily a consequence of urbanization. Water that previously soaked into the ground, removing pollutants by filtering through soil, and eventually replenishing groundwater supplies, now must flow overland and therefore enters local streams more rapidly. The rapid transport of water increases the erosion of stream banks and hillsides and does not permit filtering of pollutants. Sediment carried by storm water runoff can build up in streambeds, harming fish and aquatic habitat. The sediment acts as a transport mechanism for pollutants which adhere to soil particles. Typical urban runoff pollutants found in surface waters include heavy metals, nutrients, petroleum products, sediment, bacteria, chemicals, and litter."

Studies have shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters (EPA, 1999b). One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness as low as 10 – 20% (EPA, 1999b). Stream degradation is a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness greater than or equal to 25% (EPA, 1999b). To provide some perspective, a medium density, single-family home area can be from 25% to 60% impervious (variation due to street and parking design) (Schueler, 1994).

To demonstrate the principle of increased volume and velocity of runoff from urbanization, the following figure shows the flow rate of an urban vs. a natural stream. What the figure demonstrates is that urban stream flows have greater peaks and volumes, as well as shorter retention times than natural stream flows. The greater peak flows and volumes result in stream degradation through increased erosion of stream banks and damage to aquatic habitat. The shorter retention times result in less time for sediments and other pollutants to settle before being carried out to the ocean. This sediment, and the associated pollutants it carries, can be a significant cause of water quality degradation.



Source: Adapted from Schueler, 1997

Increased volume and velocity of runoff adversely impacts receiving waters and their beneficial uses in many ways. According to the TAC report (SWRCB, 1994), increases in population density and imperviousness result in changes to stream hydrology including:

1. Increased peak discharges compared to pre-development levels;
2. Increased volume of storm water runoff with each storm compared to pre-development levels;
3. Decreased travel time to reach receiving water; increased frequency and severity of floods;
4. Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;

5. Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization, and
6. Decreased infiltration and diminished ground water recharge.

Even though the rainfall depths in arid watersheds are lower, watershed development can greatly increase peak discharge rates during rare flood events (Center for Watershed Protection, Article 66). A study conducted in arid watersheds around Riverside, CA showed that, over two decades, impervious cover increased from 9% to 22%, which resulted in an increase of more than 100% in the peak flow rate for the two-year storm event. The study also showed that the average annual storm water runoff volume had increased by 115% to 130% over the same time span (Center for Watershed Protection, Article 66).

Flooding caused by the increased volume and velocity of runoff from urbanization in the Upper Santa Margarita Watershed are clear examples of the effects described above. Disastrous flooding has occurred more frequently in recent years. In the last century, major flood events occurred in 1938, 1969, 1980, 1993, 1995, and 1998 (U.S. Army Corps of Engineers, 2000). In the 1993 flood event, the Cities of Murrieta and Temecula sustained $12 million dollars in damage, and Camp Pendleton sustained $88 million in damage (U.S. Army Corps of Engineers, 2000). Future flooding is expected to occur more frequently because of continued urban development within the watershed, and flood damages are expected to continue accruing at an estimated annual rate of $1,780,300 (U.S. Army Corps of Engineers, 2000).

Impacts to Aquatic Life (Finding No. 9)

In addition to chemical and physical impacts, urban runoff often contains pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters (**Finding No. 9**). A study of urban runoff samples from Chollas Creek in San Diego County, revealed toxic concentrations of organophospate pesticides and metals (Bay, 2001). In Los Angeles County, storm water samples were found to be toxic to various aquatic organisms in the Los Angeles River, the San Gabriel River, Ballona Creek, and the Santa Monica Bay (LARWQCB, 2001). Also, a water quality data assessment conducted in Aliso Creek in Orange County showed that storm events caused varying degrees of mortality to test organisms (SDRWQCB, 2002a). To date, there has not been sufficient monitoring to determine if toxicity from urban runoff exists in the Upper Santa Margarita Watershed, however, the land uses causing toxicity in other urbanized areas of Southern California are little different than urbanized areas in Murrieta and Temecula.

Impacts to Human Health (Finding No. 7)

In addition to impairing receiving water quality and aquatic life, pollutants in urban runoff can also threaten human health. According to the EPA, spilled fuel, solvents, waste oil, paints, and other maintenance fluids pose a risk to the environment but may be especially harmful if they enter someone's drinking water supply (EPA, 2004b). "The percolation of

contaminated runoff can cause unacceptable consequences to ground water resources." Urban runoff discharges were identified in a California Department of Health Services assessment as one of the most prevalent possible contaminating activities for drinking water sources (EPA, 2004b). This issue of potential source water contamination is of fundamental importance, because of the dependence on local water for domestic use in the Santa Margarita Watershed. Rancho California Water District and Eastern Municipal Water District, which serve the Upper Santa Margarita Watershed, the Fallbrook Public Utilities District, which serves the community of Fallbrook, and Camp Pendleton are among those agencies in the watershed who are directly dependent on surface and ground water for domestic use.

Human health is also a concern related to body contact recreation. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters (**Finding No. 7**). A landmark study, conducted by the Santa Monica Bay Restoration Project, found that there was an increased occurrence of illness in people that swam in proximity to a flowing storm drain (Haile, 1996). Although the Upper Santa Margarita Watershed is inland, the watershed drains to the Pacific Ocean, and pollutants generated in the permitted area may impact coastal waters. For example, the Santa Margarita River system provides the main source of beach sand for the beaches of northern San Diego County (Shapiro, 1991). Also, residents in the permitted area who recreate at Southern California beaches benefit from clean water.

Furthermore, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may eventually be consumed by humans (**Finding No. 7**). Pollutants such as heavy metals and pesticides, which are commonly found in urban runoff, have been found to bioaccumulate and biomagnify in long-lived organisms at the higher trophic levels (Abel, 1996). Since many aquatic species are utilized for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health. The EPA supports this finding when it states, "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such and lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans" (EPA, 2000c).

Environmentally Sensitive Areas (Finding No. 8)

Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use and CWA section 303(d) impaired water bodies. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional control to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an environmentally sensitive area (**Finding No. 8**). ESAs are defined in the Order as "areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would easily be disturbed or degraded by human activities and developments (California Public Resources Code section 30107.5). ESAs subject to urban runoff requirements include but are not limited to

all CWA section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the SWRCB (Basin Plan); water bodies designated with the RARE beneficial use by the SWRCB (Basin Plan); areas within the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP) plan area that contain rare or especially valuable plant or animal life or their habitat; and any other equivalent environmentally sensitive areas which the Permittees have identified." Areas that meet this definition are inherently sensitive habitats containing unique, rare, threatened, or endangered species, or are not achieving their designated beneficial uses. As discussed above, urban runoff is known to contain a wide range of pollutants and have demonstrated toxicity to plants and animals. Therefore, it is necessary to apply additional controls for developments within, adjacent to, or directly discharging to ESAs. This need for additional controls is addressed within each component of the Order.

The EPA supports the requirement for additional controls, stating "For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered" (EPA, 1992a). Further support for requiring additional controls to reduce pollutants in discharges to ESAs can be found in *Mitigation of Storm Water Impacts From New Developments in Environmentally Sensitive Areas*, a technical report written by the LARWQCB (LARWQCB, 2001b).

B. Water Quality Concerns in the Upper Santa Margarita Watershed

In addition to the general information about typical urban runoff-related pollutants discussed above in Section VI.A, various sources document water quality concerns in the Upper Santa Margarita Watershed. **Tables 1 and 2** below summarize existing and potential problems. **Table 3** summarizes exceedances of urban runoff-related pollutants reported in the Permittees water quality monitoring reports, and **Table 4** lists potential sources of the reported exceedances.

Table 1. Water Quality Concerns in the Santa Margarita Watershed

Source	Existing or Potential Problem
SWRCB 303(d) List[2]	**Listings:** Phosphorus (entire 12 miles of Murrieta Creek and upper 18 miles of Santa Margarita River) Eutrophication (estuary) **Constituents of concern:** sedimentation/siltation, iron, manganese, TDS
Riverside County General Plan[3]	Sediment from construction-related erosion; Pollution due to urban storm water runoff
San Diego County WURMP[4]	Eutrophication, nitrogen, phosphorus, diazinon, TDS, other toxic substances, trash
SDRWQCB	Degraded biological and physical integrity

[2] SDRWQCB. 2003. Final 2002 Clean Water Act Section 303(d) List of Water Quality Limited Segments.

[3] County of Riverside. October 2003. County of Riverside General Plan: Multipurpose Open Space Element. Chapter 5, OS-10.

[4] County of San Diego. January 2003. Watershed Urban Runoff Management Program for the Santa Margarita Watershed. Table 4-5.

Bioassessment Data[5]	
SDRWQCB, EPA Draft Operational Guidebook for reference based assessment[6]	Severe physical impacts (Excessive erosion, down cutting, sedimentation, etc.) from rapid and high volumes of urban runoff and a lack of effective runoff management practices
Santa Margarita Regional DAMP[7]	Oxygen demanding substances, heavy metals, pesticides, herbicides, oil and grease, nutrients, settleable solids, TDS, TSS Volatile organic carbon, pathogens, and debris

Impairments and Pollutants of Concern (Finding Nos. 10 and 11)

According to the *Final 2002 CWA Section 303(d) List of Water Quality Limited Segments* (SDRWQCB, 2003a), the entire length of Murrieta Creek (12 miles) and the upper 18 miles of the Santa Margarita River are impaired for phosphorus. Potential sources of the phosphorus impairment include urban runoff and unknown point and nonpoint sources. The Santa Margarita Lagoon is listed as impaired for eutrophication. (**Finding No. 10**). In addition to the impairments, the SDRWQCB has identified various constituents of potential concern (SWRCB, 2003b). These constituents, listed above in Table 1, were not included on the 2002 303(d) list as impairments because available data was not adequate and more information is needed to determine whether water quality objectives and beneficial uses are being met. The impairments and constituents of concern were based on quarterly data collected and analyzed by Camp Pendleton from 1997-2000, data collected and analyzed by the Department of Water Resources from May 1998-November 2000, Rancho California Water District's receiving water monitoring, and grab sampling conducted by the SDRWQCB in June 1998.

The San Diego County's *Watershed Urban Runoff Management Program (WURMP) for the Santa Margarita Watershed* (San Diego County, 2003) states that eutrophication (associated with low dissolved oxygen, and the presence of solids and excessive nutrients), toxic substances (trace elements and synthetic organics), diazinon contamination, and high levels of TDS are potential water quality issues in the watershed, and that these constituents of concern may have detrimental impacts to the beneficial uses. The WURMP prioritizes the problems based on potential beneficial use impairment (Table 2 below). The WURMP states that data is limited and further data collection and assessment should be made to substantiate concerns.

Table 2. WURMP Prioritization of Water Quality Problems[8]

[5] California Department of Fish and Game. 2002. SDRWQCB 2002 Biological Assessment Report: Results of May 2001 Reference Site Study and Preliminary Index of Biotic Integrity.

[6] EPA. November 2003. Draft Operational Guidebook for reference based assessment of the functions of riverine waters/wetlands in the Santa Margarita Watershed, Riverside County. Chapter 4.

[7] Permittees, 1993

[8] Table 2 was modified from Table 4-5 of the WURMP (San Diego County, 2003)

Constituents of Concern	Potential Beneficial Use Impairment	Priority
Eutrophication, nitrogen, phosphorus	MUN, REC1, REC2, WARM, COLD, WILD, and RARE	High
Toxic substances – diazinon	WARM, COLD, WILD and RARE	Medium
TDS	MUN and AGR	Medium
Toxic substances – other	WARM, COLD, WILD and RARE	Low
Trash	REC1, REC2, WARM, COLD, WILD and RARE	Low

In addition to the sources discussed above, the Permittees have been conducting water quality monitoring pursuant to the MS4 permit since 1993. Although the program has many deficiencies (SDRWQCB, 2002b), the data shows various persistent exceedances of water quality objectives for urban runoff-related pollutants. Table 3 below lists the monitoring stations and the constituents for which multiple or persistent exceedances of water quality objectives have been reported (Permittees, 2002a, 2002b, and 2003b). Due to inadequate monitoring and reporting, it was not possible to conduct a detailed analysis.

Table 3. MS4 Monitoring Results[9]

Stn #	Station Name	Multiple or Persistent Exceedances of Water Quality Objectives[10] (from 1993 – 2003)
188	Cole Creek	Color, Total Nitrogen, Total Phosphorus, Iron, Manganese
404	Wildomar outlet	MBAS, Color, Total Nitrogen, Total Phosphorus, Fecal Coliform, Chromium, Iron, Manganese, Nitrogen-Nitrate, Ammonia, Odor, Thallium, Turbidity, pH, Antimony, Beryllium, Chlorpyrifos, Diazinon
768	Redhawk Channel	Boron, MBAS, Color, Total Nitrogen, Total Phosphorus, Fecal Coliform, Fluoride, Iron, Manganese, Nitrogen-Nitrate, Ammonia, Odor, DO, TDS, Sulfate, Turbidity, pH, Antimony, Beryllium, Chlorpyrifos, Diazinon
769	Empire Creek	Boron, MBAS, Color, Total Nitrogen, Total Phosphorus, Fecal Coliform, Chromium, Iron, Manganese, Nitrogen-Nitrate, Odor, DO (increasing trend), TDS, Thallium, Turbidity, pH, Antimony, Beryllium, Chlorpyrifos, Diazinon
776	Cal Oaks Channel (Line F)	MBAS, Color, Total Nitrogen, Total Phosphorus, Fecal Coliform, Chromium, Iron, Manganese, Nitrogen-Nitrate, Ammonia, Odor, TDS, Turbidity, pH, Antimony, Chlorpyrifos, Diazinon
777	Temecula Creek	Color, Total Nitrogen, Total Phosphorus, Fecal Coliform, Iron, Manganese, Nitrogen-Nitrate, DO, TDS, Sulfate, Turbidity, Antimony
778	Lower Murrieta	Color, Total Nitrogen, Total Phosphorus, Fecal Coliform,

[9] Information obtained from Permittee Annual Program Reports (Permittees, 2002a, 2002b, and 2003b).

[10] Does not include California Toxics Rule

	Creek	Iron, Manganese, Nitrogen-Nitrate, Odor, DO, TDS, Sulfate, Turbidity, Antimony, Chlorpyrifos, Diazinon
779	Upper Murrieta Creek	Color, Total Nitrogen, Total Phosphorus, Fecal Coliform, Iron, Manganese, Nitrogen-Nitrate, Ammonia, TDS, Turbidity, pH, Antimony
828	Santa Margarita River near Temecula	Color, Total Nitrogen, Total Phosphorus, Fecal Coliform, Chromium, Iron, Manganese, Nitrogen-Nitrate, Odor, DO, TDS, Turbidity, Antimony, Chlorpyrifos, Diazinon

Table 4 below identifies potential sources of the pollutants that exceeded water quality objectives at the majority of the MS4 monitoring stations. This information indicates that urban runoff from construction, residential, industrial, commercial and municipal activities is contributing to the degradation of water quality. Specifically, the data indicate potential illicit discharges from industrial and commercial activities, over-application of pesticides and fertilizers by residents and/or businesses, and sediment discharges from construction sites and/or eroding channels.

Table 4. Potential Sources of Pollutants[11]

Pollutant	Potential Sources
Antimony	Industrial activity
Chlorpyrifos	Organophosphate pesticide commonly used in residential areas
Chromium	Industrial activity (plating operations, manufacture of paints, dyes, explosives, ceramics, and paper)
Diazinon	Organophosphate pesticide commonly used in residential areas
Dissolved oxygen	Biodegradable organics, increased temperatures and salinity decrease dissolved oxygen
Fecal coliform	Bacteria originating from humans, animals, amphibians and birds
Iron	Industrial activity, acid mine drainage, corrosion from iron pipes and other material
Manganese	Industrial sources (manufacture of steel alloys, dry-cell batteries, glass and ceramics, paints and varnishes, inks and dyes, matches and fireworks and agriculture
MBAS	Detergents typically associated with dry cleaners
Nitrogen	Excessive application of fertilizer in agriculture and urban areas, septic tank leachate
Phosphorus	Excessive application of fertilizer in agriculture and urban areas
PH	Industrial wastes can be strongly acidic, and laundry waste, and soda and sulfate-pump rinse water are alkaline wastes
Sulfate	Agricultural runoff, mining, tanneries, sulfate-pump mills, and other plants that use sulfates or sulfuric acid

[11] Potential source information from Permittees, 2003b and San Diego County, 2003.

Turbidity	Microorganisms, detritus, mineral substances, manganese compounds, industrial wastes, and eroded soil and silt.
TDS	Urban runoff, imported water, irrigation practices

Biological and Physical Concerns

In addition to the chemical water quality data described above, biological and physical monitoring in the Upper Santa Margarita Watershed also indicates impacts to receiving waters from urbanization.

According to the *San Diego Regional Water Quality Control Board: 2002 Biological Assessment Report*, based on data collected from 1998 – 2001, the bioassessment stations located in lower Murrieta Creek, lower Temecula Creek, and upper Santa Margarita River exhibited degraded biological and physical integrity (Index of Biotic Integrity (IBI) ranged from "Very Poor" to "Good"). As a comparison, the reference stations in the watershed, located in Sandia Creek and DeLuz Creek, were characterized by a high degree of biological and physical integrity (IBI was consistently "Very Good"). This data indicates that urbanization, not agriculture, is contributing to the impairment of the biological and physical integrity of the receiving waters.

The *Draft Operational Guidebook for reference based assessment of the functions of riverine waters/wetlands in the Santa Margarita Watershed, Riverside and San Diego Counties, California* (EPA, 2003) documents the physical impacts that have resulted from urbanization, including but not limited to:

- Temecula and Murrieta Creeks have been moderately to severely impacted by development and degradation of their watersheds. No hydrogeomorphic reference standard conditions were observed. Local effects are caused by **(a) massive earthwork associated with flood control projects, (b) channelization, (c) hardening of the channel bed and banks with concrete, rip-rap, etc., (d) rapid and high volume inputs of storm water runoff from impervious surfaces associated with urbanizing areas, (e) rapid and concentrated inputs of urban pollutants associated with untreated storm water, and (f) large accumulations of trash/debris**. "Currently, development pressures along the Temecula, Murrieta and Wilson Creeks are severe and apparently irreversible in the context of current land use practices and rates of urbanization."
- **Storm water inputs from roads, yards, and parking areas tend to be direct, without benefit of oil-water separators, grit removal, or retention/detention of storm flows**. "The consequences of poor watershed, riparian, and channel management practices in agricultural and developing areas are clear."
- **It is clear that Murrieta and Temecula Creeks are not performing hydrologic functions to their potential.** Specifically, given the urban setting of these creeks, the degree of development taking place within and near their floodplains, and **the current lack of effective stormwater management practices**, improvements in ecosystem functioning within these systems are likely to occur very slowly, if at all. **"Functional improvements in Murrieta and Temecula Creeks depend not only on changes in stream management techniques, but also upon BMPs throughout the upper watershed."**

- "As a result of urban/suburban development, infiltration rates have decreased, peak flows have increased, and base flows have been diminished in both durations and volume"
- "Significant impacts from erosion resulted from poor sediment and erosion control practices and/or development of impervious and smoothed surfaces in the contributing area."
- **"Landscape-scale development in the Santa Margarita watershed appears to be causing main stem hydrologic and biogeochemical functions to degrade at unprecedented rates."**

A recent environmental assessment of Murrieta Creek (USFWS, 2000) further describes some of the physical impacts that have occurred as a result of urbanization in the Upper Santa Margarita Watershed:

> "Since the 1980's, rapid development and urbanization in Murrieta Creek's watershed, including its floodplain and riparian corridor, has severely altered the watershed's drainage. The urbanization has simultaneously introduced artificial flows from activities such as landscape irrigation, washing down of parking lots, and washing of personal vehicles, and has increased impervious surface, which reduces groundwater recharge. Consequently, the volumes and velocities of the discharges from the surface flows and flows through the storm water conveyance systems into Murrieta Creek have increased dramatically. The changes in the hydrology and the hydraulics of Murrieta Creek and its watershed caused by development, flood control activities, ground water dewatering, and a reduction in groundwater recharge, have upset the natural fluvial processes and greatly diminished the ecological value of Murrieta Creek and its riparian corridor. The increased volumes and velocities have intensified the erosion along the stream bed and banks of Murrieta Creek, its tributaries, and downstream of Murrieta Creek. This erosion has exacerbated the sediment loading into Murrieta Creek and the Santa Margarita River."

The assessment goes on to say that, without appropriate controls, water quality is expected to continue to decline. "Advancing erosion and downcutting of stream channels will continue to feed larger amounts of sediment into the system. [...] Increasing development of the watershed is expected to continue to impact available habitat. In addition, an elimination of infiltration zones, increase in peak discharges with associated impacts on downstream riparian area, and the replacement of native plants with non-native species would likely occur." (USFWS, 2000)

Overall, the chemical, biological, and physical data and information described above indicate that urban runoff is causing degradation of the quality and the biological and physical integrity of the receiving waters in the Santa Margarita Watershed.

VII. BASIS FOR PERMIT REQUIREMENTS

This section discusses the broad legal authority that supports the requirements contained in Order No. R9-2004-001. It also discusses the intent of the federal NPDES storm water regulations and several findings that broadly support all requirements in the Order.

A. Broad Legal Authority (Finding No. 22)

Order No. R9-2004-001 implements the CWA, the Porter-Cologne Water Quality Control Act (Division 7 of the CWC, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the SWRCB, and the Basin Plan adopted by the SDRWQCB (**Finding No. 22**).

In 1987, Congress established CWA Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act, the SWRCB and each Regional Water Quality Control Board (RWQCB) have primary responsibility for the coordination and control of water quality, including the authority to implement the CWA. Porter Cologne (section 13240) directs the RWQCBs to set water quality objectives via adoption of Basin Plans that conform to all state policies for water quality control. As a means for achieving those water quality objectives, Porter Cologne (section 13243) further authorizes the RWQCBs to establish waste discharge requirements (WDRs) to prohibit waste discharges in certain conditions or areas. Since 1990 the SDRWQCB has issued area-wide MS4 NPDES permits. The Order will renew Order No. R9-98-02 as a means to attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by urban runoff and to comply with CWA. Further discussions of the broad and specific legal authority associated with the prohibitions and directives of the Order are provided throughout this document.

Specific federal regulations include 40 CFR parts 122, 123, 124 (NPDES Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (NPDES – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), and 40 CFR 131 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule).

The following broad legal authority citations generally apply to all requirements in Order No. R9-2004-001, and provide the SDRWQCB with ample underlying authority to require each of the directives.

CWA 402(p)(3)(B)(ii) – The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from MS4s "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers."

CWA 402(p)(3)(B)(iii) – The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from MS4s "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Permittee's permit application "shall consist of: (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [...] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through

ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; [...] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer."

40 CFR 122.26(d)(2)(iv) – Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Permittee shall develop and implement a proposed management program which "shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. [...] Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. [...] Proposed management programs shall describe priorities for implementing controls."

CWC section 13377 – CWC section 13377 provides that "Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act (CWA), as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

In addition to the broad legal authority items cited above, which underlie all of the directives in Order No. R9-2004-001, additional specific legal authority citations applicable to particular directives of the Order are provided in this Fact Sheet as necessary.

Order No. R9-2004-001 is an essential mechanism for achieving the water quality objectives that have been established for protecting the beneficial uses of the water resources in the Santa Margarita Watershed. Federal NPDES regulation 40 CFR 122.44(d)(1) requires MS4 permits to include any requirements necessary to "achieve water quality standards established under CWA section 303, including State narrative criteria for water quality." The term "water quality standards" in this context refers to a water body's beneficial uses and the water quality objectives necessary to protect those beneficial uses, as established in the Basin Plan.

B. Maximum Extent Practicable (Finding No. 14)

Under CWA section 402(p), municipalities are required to reduce the discharge of pollutants from their MS4s to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard that municipalities must attain in order to comply with their MS4 permits. The MEP standard establishes the level of pollutant reductions the municipality must achieve. The MEP standard can be achieved by means of implementing pollution prevention and source control BMPs (as the first line of defense) in combination with treatment control BMPs serving as a backup (additional line of defense).

The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of storm water pollutants to the MEP requires Permittees to conduct and document evaluation and assessment of each program component and revise activities, control measures, best management practices (BMPs), and measurable goals, as necessary to meet MEP. Because MEP is a dynamic performance standard, it is necessary to describe in greater detail, necessary and effective measures that are essential for compliance. **(Finding No. 14)**

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

1. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
2. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
3. Public Acceptance: Does the BMP have public support?
4. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
5. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented. (SWRCB, 1993)

A definition of MEP is not provided in either the federal statute or in the federal regulations. The final determination regarding whether a municipality has reduced pollutants to the MEP can only be made by the SDRWQCB or the SWRCB, and not by the municipal discharger. While the SDRWQCB or the SWRCB ultimately define MEP, it is the responsibility of the Permittees to initially propose actions that implement BMPs to reduce pollution to the MEP. In other words, the Permittees' Individual and Watershed SWMPs to be developed under the Order are the Permittees' proposals of MEP. Their total collective and individual activities

conducted pursuant to their SWMPs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities.

It is the SDRWQCB's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's 1994 decision in NRDC v. California Department of Transportation, Federal District Court, Central District of California. The federal court stated that a permittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the SDRWQCB, the SDRWQCB will define MEP by requiring implementation of additional measures by the Permittees.

The Order represents the SDRWQCB's definition of MEP. The Order provides a minimum framework that allows Permittees the flexibility to develop and implement their own unique programs and BMP requirements and to improve and modify them as necessary to achieve and maintain compliance with the Order, and therefore, the MEP standard. The EPA supports the SDRWQCB's finding that the Order is consistent with the MEP standard when it states, "Overall, we believe that the permit [Order No. R9-2004-001] is fully consistent with the Clean Water Act (CWA), EPA regulations, and is appropriate for the Santa Margarita Watershed..." (EPA, 2004).

C. BMP Implementation (Finding Nos. 15, 16 and 17)

Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants from urban runoff. (**Finding No. 15**)

The SWRCB finds in its Order WQ 98-01 that BMPs are effective in reducing pollutants in urban runoff, stating that "implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable." The TAC further supports this finding by recommending "that nonpoint source pollution control can be accomplished most effectively by giving priority to [BMPs] in the following order:

1. Pollution Prevention – implementation of practices that use or promote pollution free alternatives;
2. Source Control – implementation of control measures that focus on preventing or minimizing urban runoff from contacting pollution sources;
3. Treatment Control – implementation of practices that require treatment of polluted runoff either onsite or offsite."

Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMP implementation. By limiting the generation of pollutants by urban activities, less pollutants are available to be washed from urban areas, resulting in reduced

pollutant loads in storm water discharges from these areas. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media (Schueler, 2000).

In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. CWC section 13263.3(a) also supports pollution prevention, stating "The Legislature finds and declares that pollution prevention should be the first step in a hierarchy for reducing pollution and managing wastes, and to achieve environmental stewardship for society. The Legislature also finds and declares that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters." Finally, the Basin Plan also supports this finding by stating "To eliminate pollutants in storm water, one can either clean it up by removing pollutants or prevent it from becoming polluted in the first place. Because of the overwhelming volume of storm water and the enormous costs associated with pollutant removal, pollution prevention is the only approach that makes sense" (SDRWQCB, 1994).

Controlling urban runoff pollution by using a combination of onsite source control BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention (**Finding No. 17**).

The EPA also supports the utilization of a combination of BMPs to address pollutants in urban runoff. For example, the EPA has found there has been success in addressing illicit discharge related problems through BMP initiatives like storm drain stenciling and recycling programs, including household hazardous waste special collection days (EPA, 1999b). Structural BMP performance data has also been compiled and summarized by the EPA (EPA, 1999e). This data indicates that structural BMPs can be effective in reducing pollutants in urban runoff discharges. The summary provides the performance ranges of various types of structural BMPs for removing suspended solids, nutrients, pathogens, and metals from storm water flows. These pollutants are in general the pollutants of most concern in storm water in the San Diego Region. For suspended solids, the least effective structural BMP type was found to remove 30-65% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For nutrients, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For pathogens, the least effective structural BMP type was found to remove <30% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For metals, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load.

As discussed above, developing minimum BMPs and implementing or requiring their implementation at industrial and commercial facilities, construction sites, and residential areas is necessary for the Permittees to ensure that, ultimately, discharges of pollutants into and from its MS4 are reduced to the MEP (**Finding No. 16**). Therefore, **Sections F through H of the Order** require Permittees to develop and require the implementation of minimum BMPs, including pollution prevention as a first line of defense, to reduce the discharge of pollutants in urban runoff to the MEP from all areas and activities with their jurisdictions.

D. Permittee Responsibility for Requiring BMPs (Finding No. 28)

Through its permitting processes, each Permittee authorizes the three major phases of urban development within its jurisdiction. Therefore, each Permittee must assume responsibility for its urban development decisions. The federal regulations clearly require municipalities to address urban runoff during each stage of development. Regarding BMP implementation during each stage of urban development, the EPA recommends that Permittees ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for noncompliance with design, construction or operation and maintenance (EPA, 1999b).

Since municipalities approve and permit construction and land use within their jurisdiction, they must assume responsibility for urban runoff discharges from these activities and land uses. The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of urban runoff from third party activities and land uses to their MS4 (EPA, 2000a). In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing urban runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. As stated in **Finding No. 28**, each Permittee is responsible for adoption and enforcement of ordinances and/or policies, implementation of identified BMPs, and for the allocation of funds for the capital, operation, and maintenance, and enforcement expenditures necessary to implement and enforce such BMPs within its jurisdiction. Therefore, when a Permittee determines a violation of its storm water ordinance, it must pursue correction of the violation. Without enforcement, third parties do not have incentive to correct violations. The EPA supports inspections and enforcement by municipalities when it states "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described" (EPA, 1992a).

MS4 permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term water quality degradation that results from urbanization lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the urbanization (i.e., conversion of natural pervious ground cover to impervious urban surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which

the pollutants and increased flows are conveyed, and ultimately discharged into natural receiving waters, are owned and operated by the same local governments. In summary, the Permittees under the Order are responsible for discharges into and out of their MS4s because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses with generate the pollutants and increased flows in the first place.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Permittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Permittee has the authority to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Permittee that the project will not violate the Permittee's ordinances or cause the Permittee to be in violation of its MS4 permit. Since the Permittee will ultimately be held responsible for any discharges from the grading project by the SDRWQCB, the Permittee will want to use its own permitting authority to ensure that whatever measures the Permittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

Order No. R9-2004-001 holds the local government accountable for this direct link between its land use decisions and water quality degradation. The Order recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Developing minimum BMPs and implementing or requiring their implementation at industrial and commercial facilities, construction sites, and residential areas is necessary for the Permittees to ensure that, ultimately, discharges of pollutants into and from its MS4 are reduced to the MEP (**Finding No. 16**). As discussed in **Finding No. 20**, Permittees cannot passively receive and discharge pollutants from third parties (within or outside of their jurisdiction). In the absence of BMPs, these discharges may cause or contribute to a condition of contamination or exceedances of receiving water quality objectives. Accordingly, the Order requires the local government to implement, or require others to implement, appropriate BMPs to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

E. Dual Regulation of Industrial and Construction Sites (Finding No. 21)

In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the SDRWQCB is responsible for enforcing the statewide General Construction Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Construction Permit) and the statewide General Industrial Activities Storm Water Permit, SWRCB Order 99-08 DWQ, NPDES No. CAS000002 (General Industrial Permit), and each municipal Permittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits. (**Finding No. 21**)

According to the EPA, the storm water regulations envision that NPDES permitting authorities [SDRWQCB] and municipal operators [the Permittees] will cooperate to develop programs to monitor and control pollutants in storm water discharges from industrial facilities (EPA, 1992a).

The EPA discusses the "dual regulation" of construction sites in its Storm Water Phase II Compliance Assistance Guide (EPA, 2000c), which states "Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure [...] is needed to induce more localized site regulation and enforcement efforts, and to enable operators [...] to more effectively control construction site discharges into their MS4s." While the Storm Water Phase II Compliance Assistance Guide applies to small municipalities, it is applicable to the Permittees, because they are similar in size and have the potential to discharge similar pollutant types as Phase II municipalities.

Municipalities assume initial responsibility for enforcement against illegal discharges from land uses and activities within their jurisdiction because of their land use authority. Since the municipality approves and permits development and land use, it must ensure that its development or land use decisions do not result in receiving water quality degradation. The SDRWQCB will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

VIII. DISCUSSION OF PERMIT REQUIREMENTS

This section discusses each component of Order No. R9-2004-001. Each discussion includes the specific legal authority in addition to the broad legal authority discussed in section VII.A of this Fact Sheet, a discussion of the requirements, and comments on the Permittees' existing and proposed programs related to each component.

A. PROHIBITIONS (Order Section A)

1. Specific Legal Authority for Prohibitions

- CWA section 402(p)(3)(B)(ii) states that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers."
- CWA section 402(p)(3)(B)(iii) requires that permits for discharges from MS4s "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."
- Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4.
- Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff **from** commercial, residential, industrial, and construction land uses or activities.
- Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

- The Basin Plan contains the following waste discharge prohibition: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code section 13050, is prohibited."
- CWC section 13050(l) states "(1) 'Pollution' means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) 'Pollution' may include 'contamination'."
- CWC section 13050(k) states "'Contamination' means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected."
- CWC section 13050(m) states "'Nuisance' means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes."
- CWC section 13241 requires each RWQCB to "establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance [...]."
- CWC section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."
- CWC section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

2. Discussion of Prohibitions

The entire thrust of Order No. R9-2004-001 is to prevent discharges from MS4s from causing, or threatening to cause, a condition of pollution, contamination, or nuisance. In fact, **Prohibition A.1** exhibits a major component of the SDRWQCB's mission, and is included in its Basin Plan. The SDRWQCB seeks to preserve and enhance the quality of the region's waters, and one primary method to achieve this is by preventing conditions of pollution, contamination, or nuisance in the region's waters.

Because discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, **Prohibition A.1** applies to both discharges into and from MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal

authority to control various discharges to their MS4. This concept is further supported in the Preamble to the Phase II Final Rule NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties" (EPA, 1999b). As discussed in section VII.E of this Fact Sheet, Phase II Final Rule findings are applicable to the Permittees. Finally, underlying the Federal NPDES storm water regulations is the CWA, which states in Section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges into the storm sewers."

As with Prohibition A.1, **Prohibition A.2** also characterizes a primary goal of Order No. R9-2004-001 and the SDRWQCB. This goal is to protect the beneficial uses of the region's waters and achieve the water quality objectives necessary to protect those uses. The overarching intent of the CWA embodies **Prohibition A.2** as well; the CWA's objective is to "restore and maintain all chemical, physical and biological integrity of the Nation's waters [to make all surface waters] fishable [and] swimmable."

Prohibition A.3 is consistent with the direction provided in SWRCB Order WQ 2001-15 (SWRCB, 2001). The CWA and Federal NPDES regulations clearly require operators of MS4s to reduce pollutants in discharges from MS4s to the MEP. Therefore, the SDRWQCB has prohibited discharges that do not meet this requirement.

Prohibition A.4 pertains to the Basin Plan Prohibitions, which were established by the SDRWQCB pursuant to CWC section 13243. The SDRWQCB is required to implement Basin Plan Prohibitions in Order No. R9-2004-001 pursuant to CWC section 13263(a).

3. Comments on Existing and Proposed Programs Related to Prohibitions

The Permittees report in Section 2.5 of the ROWD states "The Permittees shall continue to maintain adequate legal authority to control the contribution of pollutants to the MS4s by urban runoff and enforce those authorities." The Permittees further report that they are taking "the necessary steps… to ensure that non-storm water discharges to their MS4s do not cause or contribute to violations of water quality objectives or discharge pollutants to waters of the U.S." In addition, Section 3.1 of the ROWD states "The Permittees shall prohibit illicit discharges from entering into the MS4 and require controls to reduce the discharge of pollutants to the [MEP]." The Permittees should determine if they need to revise their existing ordinances to provide the authority to specifically prohibit discharges from their MS4s that have not been reduced to the MEP.

Discharge Prohibition A.4 is not specifically addressed in the ROWD. Again the Permittees should determine if they need to revise their existing ordinances to provide the authority to specifically prohibit discharges in violation of Basin Plan prohibitions cited in Attachment A to Order No. R9-2004-001.

B. NON-STORM WATER DISCHARGES (Order Section B)

1. Specific Legal Authority for Non-Storm Water Discharge Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Permittees shall prevent all types of illicit discharges into the MS4 except for the non-storm water discharges listed in Prohibition B.2, provided that these discharges are not found to be a significant source of pollutants to waters of the U.S.
- CWA section 402(p)(3)(B)(ii) requires each Permittee to prohibit non-storm water discharges into its MS4.
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) requires that Permittees shall provide "A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that Permittees shall "investigate portions of the separate storm sewer system that, based on the results of a field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources on non-storm water."
- CWC section 13267 provides that "the regional board may require that any person who has discharged [...] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

2. Discussion of Non-Storm Water Discharge Requirements

The discharges listed in Non-Storm Water Discharges **Requirement B.2** are referred to as "de minimis" discharges in the Federal NPDES regulations. However, if a municipality identifies any of these discharges as a source of pollutants to waters of the U.S., they must be addressed in the municipalities storm water management plan (40 CFR 122.26(d)(2)(iv)(B)(1)).

The list of "de minimis" discharges in **Requirement B.2** is essentially the same as the current list prescribed by EPA in NPDES Permit No. CAS0108766 and identical to the list in State Board Order No. 2003-0005-DWQ, the General Storm Water Permit for small MS4s (SWRCB, 2003).

3. Comments on Existing and Proposed Programs Related to Non-Storm Water Discharge Requirements

The Permittees currently have the legal authority to prohibit non-storm water discharges to the MS4, and their existing ordinance contains a list of non-prohibited non-storm water discharges that is consistent with the Order.

In Section 3.1 of the ROWD, the Permittees proposed to add street wash water, fire hydrant testing and flushing, and other types of discharges identified and recommended by the Permittees to their list of allowable non-storm water discharges. Fire hydrant testing and flushing is a category of discharge that is considered by the SDRWQCB as a Non-emergency fire fighting flow (**Requirement B.2.q.**). Order No. R9-2004-001 requires that Permittees address discharges from non-emergency fire fighting activities when those discharges are identified as a significant source of pollutants. However, the EPA determined street wash water to be contaminated and deleted it as a non-prohibited discharge when it issued NPDES Permit CAS0108766 in April 1999 (EPA, 1999d). The Permittees have not provided

monitoring data to document that street wash water does not contain pollutants that pose a threat to water quality. In addition, SWRCB Order No. 99-06-DWQ, the Statewide Storm Water permit for Caltrans and State Board Order No. 2003-0005-DWQ, the General Storm Water Permit for small MS4s do not include street wash water as a non-prohibited discharge. Therefore, the SDRWQCB did not include street wash water on the list in **Requirement B.2** of the Order.

The discharge categories in 40 CFR 122.26(d)(2)(iv)(B)(1) comprise an inclusive and not exemplary list. Consequently, the SDRWQCB does not have the authority to add other discharge categories to the list. Pursuant to **Requirement B.1**, discharges other than those listed in Requirement B.2. are allowed if authorized by a separate NPDES permit.

Although Section 3.1 of the ROWD states that Permittees will prohibit any of the listed discharges if they are identified by the Permittees or the SDRWQCB as a source of pollutants, **Requirement B.2** of the Order allows the Permittees the option to implement BMPs to reduce pollutants to the MEP.

Pursuant to Order No. R9-98-02, the Permittees developed BMPs to address fire fighting activities (Permittees, 2000). These BMPs should be incorporated into the Permittees' SWMPs.

C. RECEIVING WATER LIMITATIONS (Order Section C)

1. Specific Legal Authority for Receiving Water Limitations (RWL) Requirements

- CWC section 13241 provides that the "SDRWQCB shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance."
- CWC section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

2. Discussion of RWL Requirements

As stated in **Finding No. 23**, the RWL language specified in the Order is consistent with language recommended by the EPA and established in SWRCB Order WQ-99-05 (SWRCB, 1999a). The RWL in the Order require compliance with water quality standards through an iterative approach for implementing improved and better-tailored BMPs over time.

The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality objectives. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP that is anticipated to result in compliance with receiving water quality objectives.

On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the RWQCBs on how to proceed in the future (SWRCB, 1999b). In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the

discretion of the EPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states, "[...] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As total maximum daily loads (TMDLs) are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions." In summary, the SWRCB concludes that the RWQCBs should continue to include the RWL language established in SWRCB Order WQ 99-05 in all future permits.

It should be noted that while implementation of the iterative BMP process is a means to achieve compliance with water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with water quality objectives. Consistent with EPA guidance (EPA, 1998a and 1998b) regardless of whether or not an iterative process is being implemented, discharges that cause or contribute to an exceedance of water quality objectives are in violation of Order No. R9-2004-001.

3. Comments on Existing and Proposed Programs Related to RWL Requirements

The RWL requirements were not discussed in the ROWD.

D. LEGAL AUTHORITY (Order Section D)

1. Specific Legal Authority for Legal Authority Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Permittees shall develop and implement legal authority to "Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Permittees shall develop and implement legal authority to "Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."
- Illicit discharge is defined under Federal NPDES regulation 40 CFR 122.26(b)(2) as "any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."
- Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for purposes of this subsection: [...] Construction activity including clearing, grading and excavation activities [...]."
- Federal NPDES regulation 40 CFR 122.26(d)(1)(ii) requires from the Permittee "A description of existing legal authority to control discharges to the municipal separate storm sewer system."

- Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.
- CWC section 13243 also provides that a "regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

2. Discussion of Legal Authority Requirements

An important means for a municipality to control the discharge of pollutants in urban runoff is through development of municipal legal authority. The EPA states "A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged **to** its MS4. [...] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. [...] 'Control,' in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4" (EPA, 1992a).

Since discharges that enter the MS4 are generally discharged unimpeded directly into receiving waters, the Permittees' legal authority is to apply to both discharges **into** and **from** MS4s. Federal NPDES regulations clearly provide the SDRWQCB with the legal authority to require municipalities to control discharges from third parties into their MS4. 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities. Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges **to** their MS4. This concept is further supported in the Preamble to the Phase II NPDES storm water regulations, which states "The operators of regulated small MS4s cannot passively receive and discharge pollutants **from** third parties" (EPA, 1999b). As discussed in section VII.E of this Fact Sheet, Phase II findings for small municipalities are applicable to the Permittees. Finally, underlying the Federal NPDES storm water regulations is the CWA, which states in section 402(p)(3)(B)(ii) that municipalities shall "effectively prohibit non-stormwater discharges **into** the storm sewers."

In order to effectively prohibit illicit or non-storm water discharges, legal authority addressing the discharges must be developed and implemented by each Permittee (see discussion of **Finding No. 28** in Section VII.D of this Fact Sheet). An illicit connection is a connection to the MS4 that carries an illicit discharge. Because illicit discharges to the MS4 are prohibited, illicit connections are also prohibited and must be eliminated. In order to effectively prohibit and eliminate illicit connections, legal authority addressing the discharges must be developed and implemented by each Permittee.

In order for the ordinances to be effective, each Permittee must be able to require compliance with the ordinances. Lack of ordinance enforcement by a Permittee allows third parties to violate a municipality's ordinances with little fear of retribution, leading to receiving water quality degradation. The EPA recommends that a municipality in its urban runoff management program "identify the administrative and legal procedures available to mandate compliance with appropriate ordinances, and therefore, with permit conditions. [Programs] should contain descriptions of how ordinances are implemented and appealed. In particular,

a municipality should indicate if it can issue administrative orders and injunctions or if it must go through the court system for enforcement actions" (EPA, 1992a).

Discharges from Permittees that share an MS4 eventually reach the same receiving water body. Each Permittee that discharges to the shared MS4 is therefore responsible for discharges from the shared MS4, and the impacts of those discharges on receiving waters. The Permittees of a shared MS4 must demonstrate that together they can control the contribution of pollutants over the whole shared MS4. To this effect, the EPA states "When two or more municipalities submit a joint application, each coapplicant must demonstrate that it individually possesses adequate legal authority over the entire municipal system it operates and owns. A coapplicant need not fulfill every component of legal authority specified in the regulations, as long as the combined legal authority of all coapplicants satisfies the regulatory criteria for every segment of the MS4 (including authority over all sources that discharge to the MS4). [...] Coapplicants also may use interjurisdictional agreements to show legal authority and to ensure planning, coordination, and the sharing of the resource burden of permit compliance" (EPA, 1992a).

The Permittees' ability to determine compliance and noncompliance with permit conditions is critical to control pollutant discharges to and from MS4s. Determination of compliance and noncompliance allows for significant sources of pollutants to be identified and addressed, thereby minimizing the discharge of pollutants from the MS4 and the resulting receiving water quality degradation. For this reason each Permittee must have legal authority to carry out the inspections, surveillance, and monitoring necessary to assess compliance. Regarding compliance determination, the EPA states "municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports" (EPA, 1992a).

Permittees must demonstrate that they can operate pursuant to legal authority to meet the requirements of Federal NPDES regulations 40 CFR 122.26(d)(2)(A-F). For the Permittee to demonstrate this legal authority, the EPA suggests that "One acceptable way to support a declaration of adequate legal authority, including the ability to enforce appropriate ordinances, is for the municipality to provide a certification from the Municipal General Counsel or equivalent. The certification should state that the applicant has the legal authority to apply and enforce the requirements of 40 CFR 122.26(d)(2)(i)(A-F) in State or local courts. The certification would, therefore, cite specific ordinances and the reasons why they are enforceable. The statement should discuss what the municipality can do to ensure full compliance with 40 CFR 122.26(d)(2)(i)" (EPA, 1992a).

3. Comments on Existing and Proposed Programs Related to Legal Authority

Section 2.4.1 of the ROWD states that the Permittees have adopted a comprehensive storm water ordinance and have previously provided a certification of adequate legal authority to the SDRWQCB. The Permittees may have had adequate legal authority to implement Order No. R9-98-02, but the existing ordinances may need to be updated to reflect requirements contained in Order No. R9-2004-001 (i.e. the required implementation of designated minimum BMPs that each Permittee develops for industrial and commercial sites, residential areas and activities, and construction sites), and a new certification will need to be submitted. The Permittees report in Section 2.4 of the ROWD that the Permittees have the legal authority

to prohibit the disposal of pollutants onto public or private land, to prohibit illicit connections and discharges and to prohibit non-storm water discharges (except for those specifically listed).

Section 2.4.1 of the ROWD states that Permittees have the authority to require construction activity to comply with local erosion and sediment control ordinances. Industrial sites are not specifically addressed in the ROWD. However, the ordinances that are currently in place in Riverside County and the City of Temecula state that any industrial discharger, discharger associated with construction activity, or other discharger subject to an NPDES permit shall comply with all requirements of such permit. Compliance with the General Industrial Permit and the General Construction Permit is specifically required.

Section 2.4.1 of the ROWD states that the Permittees have the authority to prohibit illicit connections and discharges to the MS4 and to prohibit the disposal of pollutants on public or private land.

Section 2.4.2.2 of the ROWD lists various enforcement/compliance mechanisms, but is vague about how they will be used. The ROWD states that the SDRWQCB will take the lead in initiating enforcement actions related to high priority incidents. This is incorrect and must be revised in the SWMP. Permittees are responsible for enforcing compliance with all aspects of Order No. R9-2004-001.

Although specific **Requirements D.1.g., D.1.h. and D.1.i**. are not addressed in the ROWD, the model urban runoff ordinance adopted by the Permittees (Riverside County, 1995), requires compliance with existing and future MS4 permits. This general statement may provide adequate legal authority to comply with these requirements of Order No. R9-2004-001.

It should be noted that the ROWD states that the SDRWQCB will take the lead in initiating enforcement actions related to high priority incidents. This is incorrect and must be revised in the SWMP. Permittees are responsible for enforcing compliance with all aspects of Order No. R9-2004-001.

It should also be noted that the District does not have an ordinance to prohibit illicit discharges to its MS4(s) or to require implementation of MS4 permits. The District relies on the legal authority of the municipalities that have jurisdiction over the land uses within the District.

E. STORM WATER MANAGEMENT PLAN (SWMP) (Order Section E)

1. Specific Legal Authority for SWMP Requirements

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A) – (D) require that permittees develop a management program that covers the duration of the permit. The regulations require that permittee plans include descriptions of each required program component to demonstrate how they will reduce pollutants to the MEP using management practices, control techniques and systems, design and engineering methods.

2. Discussion of SWMP Requirements

To meet the above-referenced federal requirements, Section E of the Order requires the development of **Individual and Watershed SWMPs**, and Attachment D provides specific

information that, where applicable, must be included in each Permittee's SWMP. The framework provided in Attachment D allows the Permittees to develop the programs, activities, and measures that will satisfy or exceed the requirements of the federal regulations, and therefore, the Order. It provides the Permittees with the flexibility and discretion to build upon existing programs and develop BMP requirements most appropriate for their jurisdiction.

The Order requires each Permittee to develop its own **Individual SWMP**. This is necessary for each Permittee to describe their own specific programs and activities that will be implemented to reduce pollutants in discharges of urban runoff within their jurisdiction to the MEP. For example, Permittees may have different enforcement protocol or development project review procedures, while another Permittee may lack a program component altogether (i.e., the District has no jurisdiction over residential, commercial, or industrial areas). Therefore, individual plans specific to each Permittee are necessary.

Section E of the Order also requires the development of a **Watershed SWMP**. This is necessary because watershed-wide issues should be addressed collectively (see Section VIII.K of this Fact Sheet for a discussion of the watershed management approach). Also, some programs are conducted collectively by the Permittees, or solely by the Principal Permittee on behalf of the Permittees. For example, the Permittees collaborate to develop materials and implement the public education program. These area-wide programs and activities should be described in an area-wide plan.

The Order requires the Permittees to develop, submit, and implement the SWMP within one year from the date of adoption (**Finding No. 13**). The one-year time schedule is both necessary and feasible for the following reasons:

- In accordance with 40 CFR 122.26(d)(2)(iv)(A) – (D), the Permittees should have developed a comprehensive SWMP as part of their application for permit renewal. In various correspondence, beginning in July of 2002, the SDRWQCB provided the Permittees with specific information that should have been addressed in the management plan to be submitted as an application. The Permittees have disregarded these requests for a detailed SWMP and submitted an application that stated that the DAMP would be revised within 18 months of permit adoption. Providing the Permittees 365 days from the date of permit adoption, is essentially providing them with an additional year. Further additional time is not justified.
- The requirements are based on federal NPDES regulations that have been in place for 13 years. Therefore, the Permittees should have an existing plan that can feasibly be improved to meet the current expectation of the MEP standard within one year.
- 34 other permittees in the San Diego Region were given 365 days to develop and implement similar requirements. All of these permittees met the requirements in a timely fashion. The City of Escondido said the one-year schedule was reasonable, including the inter-departmental planning and review, public meetings, Planning Commission review and approval, and City Counsel approval. The Permittees have not proven that they are significantly different procedurally from the 34 other permittees to warrant additional time.

- The SDRWQB has provided the Permittees with several acceptable models that can be used as examples.
- In order to reduce pollutants in runoff to the MEP, the Permittees, in the rapidly-developing Upper Santa Margarita Watershed, must implement improved urban runoff management programs as soon as possible.

3. Comments on Existing and Proposed Programs Related to SWMP Requirements

As part of the ROWD, the Permittees proposed to update and modify their existing DAMP, dated March 1993, to incorporate new programs and commitments. Section E and Attachment D of the Order provide direction to the Permittees in revising the DAMP, which serves the purpose of, and should be referred to as, a SWMP. It is not required or necessary for the Permittees to abandon existing programs and management measures. The SWMP is just a framework for each Permittee to describe existing and improved programs that will be implemented during the permit term.

The Permittees proposed to improve the DAMP within 18 months from the adoption of the Order. For the reasons described above, and considering that Permittees will be building on existing programs, one year is ample time to develop a SWMP (consisting of the Individual and Watershed SWMPs).

F. DEVELOPMENT PLANNING (Order Section F)

1. Specific Legal Authority for Development Planning Requirements

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Permittees' proposed SWMPs must include "A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed." This regulation generally applies to all directives contained in Requirements F.1-F.4 of Order No. R9-2004-001.

2. Discussion of Development Planning Requirements

As discussed in section VI of this Fact Sheet, urban development can negatively impact water quality by increasing the pollutant load, volume, and velocity of urban runoff. An effective means for minimizing these impacts is to address water quality concerns during the planning phase of urban development. The EPA supports this, stating "Post-construction storm water management in areas undergoing new development or redevelopment is necessary because runoff from these areas has been shown to significantly effect receiving water bodies. Many studies indicate that prior planning and design for the minimization of pollutants in post-construction storm water discharges is the most cost-effective approach to storm water quality management" (EPA, 2000c). The Preamble to the Phase I Final Rule emphasizes that municipalities with large areas of new development have a greater opportunity to focus controls to reduce pollutants in storm water generated by new developments during the planning phase (55 Fed. Reg. 48053). For these reasons, section F

of the Order No. R9-2004-001 includes requirements for the development and implementation of BMPs to reduce the discharge of pollutants in urban runoff from development projects to the MEP.

The EPA finds that the Permittee "must thoroughly describe how the municipality's comprehensive plan is compatible with the storm water regulations" (EPA, 1992a). To achieve this, in accordance with **Requirement F.1**, the Permittee shall incorporate water quality and watershed protection principles and policies into its general plan (or equivalent plan). The EPA supports addressing urban runoff problems in general plans (or equivalent plans) when it states "Runoff problems can be addressed efficiently with sound planning procedures. Master plans, comprehensive plans, and zoning ordinances can promote improved water quality by guiding the growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality" (EPA, 2000c).

In the Santa Margarita Watershed, there is concern among resource managers that the cumulative impacts associated with rapid development of the upper watershed will degrade the ecological integrity of the entire watershed (Stein and Ambrose, 1998). Controls on new development are critical for the protection of the sensitive ecological functions and downstream aquifers in the Santa Margarita Watershed.

The principles and policies included in **Requirement F.1** are based on TAC findings (SWRCB, 1994). They incorporate basic measures that have been found to minimize pollutants in urban runoff from new development and redevelopment.

Requirement F.2 directs Permittees to incorporate post-construction BMPs into all new development and redevelopment projects during the planning and approval. The EPA finds that review of development plans during the project approval process is necessary, stating:

> "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective. Further, storm water management program goals should be reviewed during planning processes that guide development to appropriate locations and steer intensive land uses away from sensitive environmental areas. [...] A municipality should describe how it plans to implement the proposed standards (e.g., through an ordinance requiring approval of storm water management programs, a review and approval process, and adequate enforcement)" (EPA, 1992a).

Regarding conditions of approval in storm water permits, the EPA finds that "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective" (EPA, 1992a). The EPA further finds that "The municipality should consider storm water controls and structural controls in planning, zoning, and site or subdivision plan approval" (EPA, 1992a). In addition, the EPA states each Permittee should "have an ordinance or other

regulatory mechanism requiring the implementation of post-construction runoff controls [...]" (EPA 2000c).

Furthermore, in its Phase II Final Rule, EPA requires small municipalities to "Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects [...]" (EPA, 1999b). As discussed in section VII.E of this Fact Sheet, Phase II findings and guidance are applicable to the Permittees.

Standard Urban Storm Water Mitigation Plan (SUSMP) - (Requirement F.2.b):

As part of the SWMP, Permittees must also develop SUSMPs for Priority Development Projects. The SUSMPs include requirements for implementation of minimum source control and treatment control BMPs. The treatment control BMPs also have numeric sizing criteria that must be met based on volume or flow (of runoff). By developing and implementing the SUSMPs, the Permittees are reducing the potential negative impacts of urban runoff on receiving waters.

SUSMP requirements are necessary due to the potential for new development to increase the volume, flow velocity, and pollutant load of urban runoff. As the TAC states, "Urban development often results in impacts to the land and consequently the water bodies adjacent to the land. The two major changes that result from urbanization are changes in stream hydrology and an increase in pollutant loading" (SWRCB, 1994). To alleviate these potential negative impacts on receiving waters, each Permittee must develop and implement a SUSMP for various categories of development. This is consistent with EPA guidance, which states "Through ordinances, permits, or contracts, municipalities may mandate storm water controls for new residential, commercial, or industrial developments in order to improve or assure maintenance of the quality of receiving water at or near pre-development levels (EPA, 1992a)". Also, EPA recommends design criteria (such as numeric sizing criteria) and performance standards for post construction BMPs at development sites (EPA, 1992a).

The post-construction requirements and design standards contained in **Section F** of Order No. R9-2004-001 are consistent SWRCB guidance, Superior Court decision, and RWQCB requirements. The SWRCB and RWQCBs have made several recent decisions in regards to inclusion of SUSMP in MS4 permits. In a precendential decision, SWRCB WQ Order No. 2000-11 (SWRCB, 2000b), SWRCB found that the SUSMP provisions constitute MEP for addressing pollutant discharges resulting from Priority Development Projects (**Finding No. 24**). The provisions of Section F of the Order are consistent with those previously issued by the SDRWQCB for Orange County (Order No. R9-2002-0001) and San Diego County (Order No. R9-2001-001), as well as requirements in the Los Angeles County MS4 permit (Order No. R4-2001-182). In SWRCB Order WQ 2001-15, the SWRCB reaffirmed the inclusion of SUSMP requirements as meeting MEP (SWRCB, 2001). On February 13, 2003, the State Superior Court dismissed an appeal of the San Diego County MS4 permit (Order No. R9-2001-001) that includes the SUSMP requirements (Superior Court of CA, 2003).

Requirement F.2.b. gives the Permittees 365 days to develop, adopt, and implement local SUSMPs. This requirement is reasonable because the SUSMPs have been implemented by various neighboring municipalities and several examples of documents and programs exist for the Permittees to use in the development of their own local SUSMPs. For example, on June 12, 2002, the SDRWQCB approved a Final Model SUSMP as meeting the new development and redevelopment controls and SUSMP requirements of the San Diego County

Permit (San Diego Co-Permittees, 2002). The Orange County permittees developed a Model Water Quality Management Plan that can also be used for guidance (County of Orange, 2003). The 640 days for SUSMP implementation requested by the Permittees has not been incorporated into the Order. In addition to the multiple SUSMP examples already available for the Permittees, the City of Murrieta and Riverside County will have developed SUSMP-type requirements pursuant to the Santa Ana RWQCB MS4 permit (Order No. R8-2002-0011) by January 2005, well before the 365-day schedule contained in the Order. Furthermore, the Permittees already have the authority to require BMPs for new development through their existing storm water ordinances. Overall, the 365-day time schedule is practicable for the Permittees.

Priority Development Project Categories

Priority Development Projects include: a) all new development projects; and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site[12], that are listed under the project categories or locations in **Requirement F.2.b.(1)**. The project categories generally result in the large increases in impervious surfaces, are potential significant sources of pollutants, or have a history of storm water mismanagement. SWRCB Order WQ Order 2000-11 addressed the majority of the categories included in **Requirement F.2.b.(1)** and gave RWQCBs discretion to include additional categories or locations in SUSMP requirements in future MS4 permits (SWRCB, 2000b). Those categories that were not included in the precedential outcome of the SWRCB Order are discussed below.

Requirement F.2.b.1.(h) includes streets, roads, highways, and freeways as a SUSMP Priority Development Project category. This is due to their potential to be a significant contributor of pollutants in urban runoff. A Federal Highway Administration (FHA) report finds that concentrations of total suspended solids, nitrate + nitrite nitrogen, and zinc exceed EPA benchmark values for concentrations of these pollutants in urban runoff (FHA, 1990). Another study found that, "Water quality impacts due to highway runoff could be significant particularly in environmentally sensitive areas, such as wetlands, ground-water recharge zones, and drinking water supply watershed" (CTE, 1998). Streets, roads, highways, and freeways also consist of extensive impervious surfaces, which alter flow regimes and increase potential for downstream erosion.

Requirement F.2.b.1.(i) includes retail gasoline outlets (RGOs) as a Priority Development Project category because RGOs are points of confluence for motor vehicles for automotive related surfaces such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly greater loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. These are

[12] Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where redevelopment results in an increase of less then fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in Requirement F.2.b.(3) applies only to the addition, and not to the entire development.

appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters. (**Finding No. 25**)

In SWRCB WQ Order No. 2000-11, the SWRCB removed RGOs as a SUSMP category because they were already heavily regulated, and limited on their ability to construct infiltration devices or perform treatment. Order No. 2000-11 also acknowledged that a threshold (size, average daily traffic, etc.) appropriate to trigger SUSMP requirements should be developed and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement (SWRCB, 2000b). The SWRCB removed the RGO category from the San Diego County MS4 permit (Order No. R9-2001-01) because the SDRWCB did not specifically address the issues raised in WQ Order No. 2000-11. As discussed below, the LARWQCB and the SDRWQCB have adequately addressed the issues, and RGOs have been included as a SUSMP category in the Los Angeles County MS4 permit (Order No. R4-01-182), and the statewide general Phase II MS4 permit (WQ Order No. 2003-0005-DWQ). Additional detailed supporting information can found in the technical Report, *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts* (LA and SDRWQCB, 2001b).

- Heavily Regulated - The heavily regulated distinction does not remove RGOs as significant source of pollutants in urban runoff and therefore should not be a basis for exempting them. Other regulation of RGOs is separate from regulation under the CWA and does not necessarily relate to water quality from urban runoff. Other municipalities already require that RGOs implement structural BMPs even though they are regulated under other programs.

- Treatment Limitations - Structural treatment BMPs are available for RGOs to reduce pollutants and control peak flow rates and velocities that that are both inexpensive and effective. Studies have shown that catch basin inserts can remove hydrocarbons and heavy metals that are the pollutants of concern. Sand or media filters have also been found to be effective and available for use at RGOs. Cisterns are examples of established BMPs to control flow, but RGOs could also use site design measures such as small weirs, baffles, and redirecting roof runoff to pervious areas.

- Safety - No evidence has been provided to indicate that use of these structural BMPs will pose a safety risk. In fact, filter BMP have been installed at RGOs in other municipalities without apparent adverse safety effects. In addition, similar BMPs such as oil/water separators have been used for years by RGOs without apparent adverse safety risks.

- Threshold - Studies indicate that runoff from RGOs contains similar pollutants to runoff from commercial parking lots. In precedential WQ Order 2000-11, the SWRCB determined that parking lots with a size threshold of 5,000 square feet or more is an appropriate SUSMP category (SWRCB, 2000b). Based in part on the similarity of pollutants, the 5,000 square feet size threshold was also included for RGOs in the Order. In addition, other municipalities currently use similar size thresholds for RGOs to require design standards to mitigate storm water runoff. To provide additional flexibility for the Permitees, another threshold of 100 or more motor vehicles ADT has been added to the Order. This threshold is based on requirements from Washington and Oregon for what is

considered a "high use" site. This is an appropriate threshold since vehicular traffic is a good indicator of the amount of pollutants generated at a site.

The SDRWQCB followed the SWRCB's direction for the inclusion of RGOs as a Priority Development Project category by including the above discussion in this Fact Sheet, as well as a specific finding (Finding No. 25) that justifies the regulation of urban runoff from RGOs that meet certain criteria. The SWRCB also addressed the inclusion of RGOs through the appeals of MS4 permits issued by the Los Angeles and San Francisco RWQCBs that included RGOs as a priority development category. The SWRCB held a workshop that identified RGOs as significant sources of pollutants and dismissed the petitions for removal of RGOs from the SUSMP requirements in the permits. The Western States Petroleum Association, who filed the petitions to the inclusion of RGOs, did not appeal the SWRCB's dismissal of the petitions and did not comment on the Order. Finally, the SWRCB adopted a General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ), which includes RGOs as a priority development category.

Considering all of the supporting documentation discussed above, it is appropriate to include RGOs as a Priority Development Project category.

ESAs are also included as a Priority Development Project location for the reasons discussed in section VI of this Fact Sheet. For further information regarding the inclusion of ESAs is contained in the technical report, *Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas* (LARWQCB, 2000c).

Requirement F.2.b.2 specifies that SUSMPs include a list of recommended source control and treatment control BMPs for all projects falling under the Priority Development Project categories. This requirement also establishes criteria that these BMPs must meet. The intent of the requirement is to allow the Permittees and developers flexibility in choosing which combination of source control and treatment control BMPs are to be implemented at a site and to define what minimum performance standards must be met by these selected BMPs.

As described in **Finding No. 18**, urban runoff treatment and/or mitigation in accordance with any of the requirements in Order No. R9-2004-001 must occur prior to the discharge of storm water or urban runoff into receiving waters. Allowing polluted runoff to enter a receiving water prior to treatment to the MEP will result in degradation of the water body and potential exceedances of water quality standards, from the discharge point to the point of dissipation, infiltration, or treatment. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This requirement is supported by federal regulation 40 CFR 131.10(a) and EPA guidance. According to the EPA, "To the extent possible, municipalities should avoid locating structural controls in natural wetlands. Before considering siting of controls in a natural wetland, the municipality should demonstrate that it is not possible or practicable to construct them in sites that do not contain natural wetlands... Practices should be used that settle solids, regulate flow, and remove contaminants prior to discharging storm water into a wetland" (EPA, 1992a).

The numeric sizing criteria is included to ensure that structural BMPs are sized effectively to remove the pollutants of concern. The sizing criteria are based on capture of runoff from a

24-hour 85th percentile rainfall depth. The 24-hour 85th percentile storm represents the "knee" of a precipitation probability curve from which it is no longer cost effective to treat runoff. The precipitation curve is calculated by using local historical rainfall data on the number and intensity of storm events. SDRWQCB staff has calculated the average 24-hour 85th percentile rainfall depth for area covered by the permit to be 0.6 inch (See Table 2 below). The San Diego SUSMP Staff Report developed for the San Diego MS4 Permit is available for example calculations on how staff determined the average 85th percentile rainfall depth t (SDRWQCB, 2001b). However, the requirements allow needed flexibility for the Permittees and developers to mitigate runoff based on either volume or flow. In addition, the requirements allow for several different options to calculate the amount of runoff to ensure that projects are not required to capture runoff from storm events beyond the point of diminishing returns. For example, a project proponent may demonstrate that the 24-hour 85th rainfall depth may be less than the average 0.6 inch by using local precipitation data.

Table 5. Calculation of 85th Percentile Rainfall Depth for the Upper Santa Margarita Watershed

Wildomar

Total Range (Inches)	Number of Storms	Cumulative	Cumulative Percent
0.01 - 0.09	917	917	29.80
0.10 - 0.49	1344	2261	73.46
0.50 - 0.99	467	2728	88.63
1.00 - 1.99	246	2974	96.62
2.00 - 2.99	78	3052	99.16
3.00 - 3.99	14	3066	99.61
4.00 - 4.99	8	3074	99.87
5.00 - 5.99	2	3076	99.93
6.00 – 6.99	2	3078	100.00

Temecula

Total Range (Inches)	Number of Storms	Cumulative	Cumulative Percent
0.01 - 0.09	652	652	33.94
0.10 - 0.49	758	1410	73.40
0.50 - 0.99	281	1691	88.03
1.00 - 1.99	171	1862	96.93
2.00 - 2.99	44	1906	99.22
3.00 - 3.99	10	1916	99.74
4.00 – 4.99	5	1921	100.00

Winchester

Total Range (Inches)	Number of Storms	Cumulative	Cumulative Percent
0.01 - 0.09	725	725	36.47
0.10 - 0.49	826	1551	78.02
0.50 - 0.99	281	1832	92.15
1.00 - 1.99	126	1958	98.49
2.00 - 2.99	26	1984	99.80
3.00 - 3.99	3	1987	99.95
5.00 – 5.99	1	1988	100.00

Average 85th Percentile Rainfall Depth For Area=(Wildomar + Temecula + Winchester)/3
(0.4 + 0.8 + 0.6)/3= 0.6 inch 85th Percentile Rainfall Depth for Southern Riverside County

Requirement F.2.b.4 allows Permittees the opportunity to develop an equivalent method for calculating the volume or flow to be mitigated. The intent of the requirement is to provide necessary flexibility to Permittees to develop equivalent methods in calculating the volume or flow that must be mitigated from the 24-hour 85th percentile rainfall depth.

As part of the SUSMP (**Requirement F.2.b.5**), the Permittees are required to develop a procedure to identify pollutants or conditions or concern for each Priority Development Project. Identifying the pollutants or conditions or concern for a project is crucial to selecting the appropriate BMPs.

Requirement F.2.b.7 allows Permittees to waive treatment control BMPs when all available BMPs have been considered and rejected as infeasible. The requirement also allows the Permittees to develop a program to require projects that receive waivers, to transfer the cost savings to a fund. The intent of the requirements is to allow Permittees necessary flexibility to waive treatment control BMPs when it can be established that the implementation of treatment control BMPs that meet numeric sizing criteria is not feasible at a given site. This provision also allows Permittees discretion to transfer the costs saving from such a waiver to a fund for water quality projects within the watershed.

Requirement F.2.b.8 defines what restrictions to protect groundwater quality are placed on treatment control BMPs that are designed to primarily function as infiltration devices, but allows Permittees to develop alternative restrictions. Applying large amounts of runoff water in a small area has the potential to adversely impact groundwater quality. The intent of these requirements is to provide necessary restrictions for use of these structural BMPs to protect the beneficial uses (municipal, agricultural, industrial) of groundwater in the Santa Margarita watershed. The intent of the requirements is also to provide the Permittees needed flexibility to develop alternative restrictions for projects or locations.

Requirement F.2.b.9 directs Permittees to develop numeric criteria to ensure discharges from Priority Development Projects maintain or reduce pre-development downstream erosion and protect stream habitat. Development can cause increases in runoff amount and velocity causing down erosion problems. Simply maintaining the peak flow rate may not be adequate to prevent increased downstream erosion because of the increase in duration of erosive flows. According to several studies, this approach is an oversimplification of geomorphological processes (Brown, 2001). Simply controlling the post-development peak discharge rate

causes the duration of erosive flows to increase, which may actually exacerbate channel erosion since bank are exposed to a longer duration of erosive events (Brown, 2001). Development of numeric criteria over the permit cycle is needed to establish a design storm type and level of discharge that is appropriate to protect downstream habitat from increased erosion. Due to urbanization, there is a substantial increase in volume and rates of runoff during smaller storm events. The intent of the requirements in the Order to control peak rates, velocities, volumes, and durations from these smaller storms (typically 1 or 2 year storm events) to maintain downstream erosion and not the larger storm events (Brown, 2001). Section II.A of Monitoring and Reporting Program No. R9-2004-001 requires the Permittees to conduct a study to help develop the numeric criteria.

The Ventura County Flood Control District and the Southern California Coastal Water Research Project are currently conducting studies to evaluate the erosive effects on urbanization in part, to quantitatively predict downstream impacts due to development. The development of numeric criteria by the Permittees should build upon these efforts and not duplicate them. The intent of these requirements is to mitigate these potential increases and prevent downstream erosion problems like the severe bank erosion and channel degradation that has occurred in Murrieta Creek (USFWS, 2000 and EPA, 2003).

The Permittees are encouraged to use any existing programs to meet these requirements and should provide detail on how these programs are implemented in the SUSMPs. It is expected that the Permittees will utilize information from any studies that are conducted on numeric criteria to protect downstream erosion and incorporate them into their development of their own numeric criteria by 2009.

Requirement F.3 requires the Permittees to consider the effects of development projects on water quality during project approval processes. This measure will help ensure that potential water quality problems resulting from the development are identified and addressed. The EPA finds that "Proposed storm water management programs should include planning procedures for both during and after construction to implement control measures to ensure that pollution is reduced to the maximum extent practicable in areas of new development and redevelopment. Design criteria and performance standards may be used to assist in meeting this objective" (EPA, 1992a). The EPA further finds that "The municipality should consider storm water controls and structural controls in planning, zoning, and site or subdivision plan approval" (EPA, 1992a). The TAC advises that the Permittees' CEQA initial study checklists be revised to include consideration of water quality effects from new development or redevelopment. The questions included in Requirement F.3. are based on questions recommended by the TAC (SWRCB, 1994).

Requirement F.4 requires Permittees to educate staff (on an annual basis) and the development community on the impacts from development and the requirements of the Order. Training of municipal planning and development review staff is a critical aspect of an urban runoff management program. With adequate training, municipal planning and development review staff can require implementation of BMPs early in the project planning process, thereby minimizing the urban runoff impacts of development in a cost effective manner. The EPA supports training of municipal staff when it identifies "training for

appropriate employees" as a measurable goal of an urban runoff management program (EPA, 2000c).

Education on urban runoff planning issues for the public sector involved with development is equally critical. When the public sector has knowledge of urban runoff issues and regulations, it is more likely to incorporate storm water planning in the development and redevelopment process. In this manner, implementation of measures to address these issues will be included in development plans, saving time and money for the developer and the municipality. The TAC finds that Permittees should "Establish an education/information dissemination program that includes such things as: brochures to distribute to developers and contractors at permit counters and by mail; reference and training manuals for planners, engineers, inspectors, developers, contractors; and training and information exchange workshops" (SWRCB, 1994).

Furthermore, in its Phase II Final Rule, EPA requires small municipalities to "...implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities [...]" (EPA, 1999b). As discussed in section VII.E oft his Fact Sheet, Phase II findings are applicable to the Permittees.

3. Comments on Existing and Proposed Programs Related to Development Planning

Section 6.3 of the ROWD states that, "Within 10 months of permit adoption, each Co-Permittee will review its general plan and land use ordinances to assess whether the following principles and policies are properly considered:

1. Limit disturbance of natural water bodies and drainage systems; conserve natural areas; protect slopes and channels; minimize impacts from urban runoff on the biological integrity of natural drainage systems and water bodies;
2. Minimize changes in hydrology and pollutant loading; require incorporation of source control and structural BMPs to mitigate the projected increases in pollutant loads and flows; ensure that post-construction runoff rates and velocities from a site do not result in significant adverse impact on downstream erosion and stream habitat; limit the quantity of Urban Runoff directed to impermeable surfaces and the MS4s; and maximize the percentage of permeable surfaces to allow more percolation of Urban Runoff in to the ground;
3. Preserve wetlands, riparian corridors, and buffer zones, establish reasonable limits on the clearing of vegetation from the project site;
4. Encourage the use of BMPs to manage Urban Runoff quality and quantity;
5. Provide for appropriate permanent measures to reduce pollutant loads in Urban Runoff from the development site; and
6. Establish development guidelines for areas particularly susceptible to erosion and sediment loss.

In addition each Co-Permittee shall provide a summary of the review and assessment in that year's Annual Progress Report and within 24 months the Co-Permittees shall revise their general plans and land use ordinances as determined necessary during review and assessment."

This proposal is basically consistent with **Requirement F.1**.

Section 6.3 of the ROWD proposes that Permittees will reduce pollutants and runoff flows form new developments and significant redevelopment to the MEP by:

1. Reviewing and revising their respective land use approval and CEQA review processes to ensure that they address urban runoff issues.
2. Developing and implementing a public/business education program.

To be consistent with the **Requirement F.2.a**. the Permittees' proposal must also provide that BMPs will be required and that new developments will not cause or contribute to an exceedance of water quality standards.

Section 6.3 of the ROWD states that Permittees will continue to implement the New Development Guidelines and will continue to address the maintenance, operation and funding of structural BMPs that ensure management of Urban Runoff quality from new development. The Permittees' current processes, including the New Development Guidelines, do not contain specific requirements consistent with those in **Requirement F.2.b.(1)**.

Section 6.3 of the ROWD proposes that, within 9 months of permit adoption, the Permittees will develop a Model Water Quality Management Plan (WQMP) identifying BMPs, including design standards for source control and structural BMPs to be applied when discretionary approval is sought. The WQMP is intended to address regional and sub-regional BMPs and to provide guidelines for site-specific, post-construction BMPs to address management of urban runoff quantity and quality in new development and significant redevelopment projects. The ROWD does not specify priority development categories, numeric criteria, or any other specific provisions required in **Requirement F.b**, which must be included in the WQMP. It should also be noted that the SDRWQCB requires the use of site-specific source and treatment control BMPs and does not encourage the use of regional or sub-regional BMPs. Regional and sub-regional BMPs are sometimes necessary in an area that has already been developed without urban runoff management measures, but it is not justified for a developing area that has the opportunity to incorporate low-impact designs and management measures into new developments during the planning process.

Also, if the Permittees choose to develop a model document, this should be completed within 6 months of the permit adoption date, so that Permittees have sufficient time to begin implementation of SUSMP requirements within 1 year. Permittees are encouraged to use existing model SUSMP documents (County of Orange, 2003; San Diego Co-Permittees, 2002), which the SDRWQCB has previously approved, so that resources can be focused on program implementation instead of developing another similar model.

Section 6.3 of the ROWD proposes that, within 10 months of permit adoption, Permittees shall review their land use approval and CEQA processes to ensure that urban runoff issues are properly considered, and revise if necessary to mitigate impacts to water quality. The ROWD states that the following six factors will be considered in each Permittee's environmental assessment:

- Potential impact that construction of the project may have on urban runoff;
- Potential impact that operation of the project may have on urban runoff;

- Potential for discharge of pollutant in urban runoff from areas identified within the project site to be used for material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
- Potential for pollutants in urban runoff discharged from a project site to affect the beneficial uses of receiving waters;
- Potential for significant changes in the flow velocity or volume of urban runoff from a project site to result in environmental harm; and
- Potential for significant increases in erosion of a project site or surrounding areas.

These factors are similar to the examples listed in **Requirement F.3**, therefore, this proposal is sufficient to comply with the **Requirement F.3**.

No specific internal or external training regarding development planning is proposed in the ROWD. It states that the New Development Guidelines, which contains the information needed to acquaint developers and contractors with the requirements for post-construction BMPs, will be made available during the review process for project planning and permitting. This proposal does not meet the MEP standard and, therefore, is insufficient to meet the requirements in **Requirement F.4**.

G. CONSTRUCTION (Order Section G)

1. Specific Legal Authority for Construction Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include "A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include "A description of procedures for site planning which incorporate consideration of potential water quality impacts."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include "A description of requirements for nonstructural and structural best management practices."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Permittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."
- Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for the purposes of this subsection: [...] Construction activity including clearing, grading and excavation activities [...]."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for

inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

2. Discussion of Construction Requirements

CWA sections 402(p)(3)(B)(ii-iii) requires each Permittee to prohibit non-storm water discharges into its MS4 and to reduce the discharge of pollutants to the MEP for all urban land uses. The purpose of these two broad requirements is to minimize the short and long-term impacts of urban runoff on receiving water quality. Land used for construction activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the MEP by each Permittee.

Requirements G.2 and G.3 are consistent with the EPA statement that "A description of the local erosion and sediment control law or ordinance is needed to satisfy this requirement [i.e., Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2)]" (EPA, 1992a). Regarding Permittee approval of construction activities, the EPA further states, "applicants must propose site review and approval procedures that address sediment and erosion controls, storm water management, and other appropriate measures. Approvals should be clearly tied to commitments to implement structural and nonstructural BMPs during the construction process" (EPA, 1992a).

Furthermore, the EPA requires small municipalities to develop and implement for construction sites "An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance [...]" (EPA, 2000c).

Requirement G.2 provides the Permittees with 365 days to update their grading ordinances and not the 640 days requested the Permittees. The Permittees will have adequate authority to require and enforce minimum BMPs at construction sites prior to the next rainy season and 365 days is adequate to allow for the only minor changes needed in the grading ordinances.

An effective means for reducing pollutants discharges from construction and grading activities is specified under **Requirement G.3** for the Permittees to develop conditions of approval for grading and construction permits that require measures to minimize pollutant discharges. The EPA recommends approval processes which consider water quality impacts, stating that approval process requirements should "include phasing development to coincide with seasonal dry periods, minimizing areas that are cleared and graded to only the portion of the site that is necessary for construction, exposing areas for the briefest period possible, and stabilizing and reseeding disturbed areas rapidly after construction activity is completed (EPA, 1992a)". Other suggested construction and grading conditions of approval listed in this item are based on TAC recommendations (SWRCB, 1994).

During approval and issuance of grading and construction permits, each Permittee must review construction and grading plans to ensure that the conditions of approval are met. The EPA states that to determine if a construction site is in compliance with construction and

grading ordinances and permits, the "MS4 operator should review the site plans submitted by the construction site operator before ground is broken" (EPA, 2000c). Furthermore, the EPA requires small municipalities to develop and implement for construction sites "Procedures for site plan review which incorporate consideration of potential water quality impacts" (EPA, 1999b).

Development of an inventory of construction sites as specified by **Requirement G.4**. will help identify potential sources of pollutants in storm water. By assessing information provided in the inventory (such as site topography and site proximity to receiving waters), sites can be prioritized by threat to water quality. Those sites that pose the greatest threat can then be targeted for inspection and monitoring. This will allow for limited inspection and monitoring time to be most effective. The EPA requires that all construction sites be addressed (and therefore inventoried), stating: "All construction sites, regardless of size, must be addressed by the municipality. To begin to identify these sites, the applicant should obtain lists of construction site operators that are covered by general or individual storm water NPDES permits from the NPDES permitting authority. However, construction sites not covered by a storm water discharge permit also need to be addressed by the municipality. The best way to identify these construction sites and implement an effective BMP program to reduce pollutants in their runoff is through the site planning process" (EPA, 1992a).

Designation of a set of minimum BMPs for construction sites as specified by **Requirement G.5** will help ensure that appropriate, consistent controls are implemented and that discharges of pollutants from construction sites are reduced to the MEP. **Requirement G.5.c.** provides the Permittees with the flexibility to allow different BMPs for the wet and dry seasons. See the discussions regarding BMP Implementation and Permittee Responsibility for Requiring BMPs in Sections VII.C. and VII.D of this Fact Sheet.

Regarding designation of BMPs to be implemented, the EPA states, "the proposed management program should describe requirements for nonstructural and structural BMPs that operators of construction activities that discharge to MS4s must meet" (EPA, 1992a). While minimum BMPs will be required at all construction sites, implementation of particular BMPs will be site specific in order to address various conditions at different sites. Regarding site specific BMPs, the EPA states, "Appropriate structural and nonstructural control requirements will vary by project. Project type, size, and duration, as well as soil composition, site slope, and proximity to sensitive receiving waters will determine the appropriate structural and nonstructural BMPs" (EPA, 1992a).

In order to comply with Order No. R9-2004-001 requirements, implemented BMPs may need to be more stringent than those required under the General Construction Permit. The EPA implies that local sediment and erosion control requirements may be more stringent than General Construction Permit requirements when it states that "construction sites covered under NPDES permit regulations must indicate whether they are in compliance with State and local sediment and erosion control plans" (EPA, 1992a).

Requirement G.6. specifies requirements for inspecting construction sites. Inspections provide a necessary means by which Permittees can evaluate compliance with their municipal ordinances. Inspections are especially important at high-risk areas for pollutant discharges, such as industrial and construction sites. The Order (Attachment C - Definitions) defines the wet season as Oct 1 through April 30, which is consistent with Order No. R9-

2001-001, Order No. R9-2001-0001, Order No. R8-2002-0011, and the SDRWQCB implementation of the General Construction Permit. To ensure that BMPs are properly installed and maintained, the EPA states MS4 operators should "develop procedures for site inspection and enforcement of control measures to deter infractions" (EPA, 1992a).

The EPA further states that "Site inspections are expected to be the primary enforcement mechanism by which erosion and sediment controls are maintained" (EPA, 1992a). When inspections result in findings of noncompliance, follow-up by the Permittee to ensure compliance is necessary. The EPA states "Effective inspection and enforcement requires [...] intervention by the municipal authority to correct violations" (EPA, 1992a). This is supported by the North Carolina Study that provided empirical support for the importance of inspections in increasing construction site compliance with local and state ordinances. Both the frequency and duration of project inspections were positively associated with the level of installation and maintenance compliance at the construction sites (Malcom, 1990). The EPA further finds "inspections give the MS4 operator an opportunity to provide additional guidance and education, issue warnings or assess penalties" (EPA, 2000c). Frequent inspections by Permittees of high priority construction sites will keep compliance a priority, and allow opportunities for inspectors to enhance problem-solving skills among site personnel.

Construction site inspection frequencies are to be based on threat to water quality. The EPA supports this, stating that site inspection procedures should "identify priority sites for inspection and enforcement based on the nature and extent of the construction activity, topography, and the characteristics of soils and receiving water quality" (EPA, 2000c). For example, construction sites that are considered a high threat to water quality are to be given a high priority for inspection. This will allow for limited inspection and monitoring time to be most effective. Bi-weekly to monthly inspection of high threat sites is necessary due to the dynamic nature of construction activities. Medium and low threat construction sites can be inspected less frequently, due to their reduced risk of negatively impacting receiving waters. The minimum inspection schedule in the Permit is reasonable for the Permittees to ensure that construction sites are implementing adequate BMPs. More frequent inspections may be necessary due to site conditions. Review of storm water pollution prevention plans (SWPPPs) can be one effective tool for determining frequency of site inspections. Construction sites that effectively implement the measures of a comprehensive SWPPP may not need to be inspected as frequently as less diligent sites.

Each Permittee must develop grading and storm water ordinances under its Individual SWMP. When a Permittee determines a violation of its grading or storm water ordinance, it must pursue correction of the violation. A critical aspect of the correction of violations is enforcement of ordinances. Enforcement increases the probability of correction of a violation. The EPA supports development of enforceable ordinances and permits when it states "applicants must describe proposed regulatory programs to reduce pollutants in storm water runoff from construction sites to the MS4" (EPA, 1992a). The EPA supports enforcement of these ordinances and permits at construction sites when it states "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms [...] also must be described" (EPA, 1992a).

Furthermore, the EPA requires small municipalities to develop and implement "An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance [...]" (EPA, 1999b).

Implementation of an education program is an important best management practice for construction sites and activities. The TAC "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The TAC points out several target communities for education efforts, including "Government: Educate agencies and officials to achieve better communication, consistency, collaboration, and coordination at the federal, state and local levels" and "Development Community: Educate the development community, including developers, contractors, architects, and local government planners, engineers, and inspectors, on nonpoint source pollution problems associated with development and redevelopment and construction activities and involve them in problem definitions and solutions" (SWRCB, 1994).

The EPA also supports education efforts for parties involved in construction, stating "technical information on how to incorporate storm water management with erosion and sediment control and other BMP training courses are recommended for municipal employees and construction site operators" (EPA, 1992a).

3. Comments on Existing and Proposed Programs Related to Construction

Pollution Prevention as required in **Requirement G.1** is not specifically mentioned in the ROWD.

Section 2.5 of the ROWD proposes that Permittees will, within 18 months of permit adoption, review and revise grading/erosion control ordinances in order to reduce erosion caused by new development and significant redevelopment. The ROWD proposal does not include the specific provisions required in **Requirement G.2**, and ordinances must be revised and adopted no later than 6 months following permit adoption (SWMPs must be implemented in full within 1 year).

The ROWD does not indicate that the Permittees' construction approval processes will be modified to include the requirements in **Requirement G.3**, except that the requirement for evidence of coverage under the General Construction Permit prior to issuance of grading permits.

Section 5.2 of the ROWD states that, within 10 months of permit adoption, "each Permittee will develop an inventory (database) of active construction sites within its jurisdiction for projects for which a building or grading permit has been issued for a site that is 1 acre or larger." This proposal is not consistent with **Requirement G.4** of the Order, since all construction sites, regardless of size, must be included in the inventory.

Section 5.2 of the ROWD proposed that, within 6 months of permit adoption, Permittees shall develop a list of erosion control BMPs appropriate for use during construction. The proposed time frame is adequate, but the list must also include minimum erosion prevention and sediment control BMPs that address **Requirement G.5**. Also, the ROWD does not state that the BMPs will be required, which is necessary to comply with Order No. R9-2004-001. The ROWD does not require additional controls for construction sites that are tributary to

CWA section 303(d) water bodies or within/adjacent to or discharging directly to receiving waters within environmentally sensitive areas, which is necessary to comply with the Order.

The ROWD proposes to initiate inspections of all inventoried sites within 11 months of permit adoption. The ROWD proposal is not sufficient to meet the requirements in Order No. R9-2004-001 because it does not include inspection frequencies. Also, construction inspections should be ongoing, as they were required in Order No. R9-98-02, until new programs begin. Stating that inspections will be "initiated" 11 months after permit adoption would cause Permittees to be in violation of the requirement to continue implementation of Order No. R9-98-02 until the SWMP is fully implemented.

Section 2.4.2.2. of the ROWD, which describes enforcement and compliance responses, states that Permittees will emphasize and encourage voluntary compliance and will initiate enforcement/compliance actions within 60 days form the date a violation was identified. It also says that the SDRWQCB will take all enforcement actions related to compliance with the General Construction Permit and that the SDRWQCB will take the lead in initiating enforcement actions related to high-priority incidents. The Permittees are responsible for enforcing their ordinances and permits related to all violations, especially those of high priority. The SDRWQCB is responsible for enforcement of the General Construction Permit, however, if Permittee ordinances are also violated, Permittees must address these violations. Furthermore, 60 days is an inappropriately long amount of time to allow a violation to occur. The ROWD does not include adequate sanctions to ensure that BMPs are implemented at construction sites. The authority to issue sanctions (including the authority to stop work) at construction sites for lack of adequate BMPs is necessary to proactively prevent discharges. The Enforcement/Compliance Strategy, as described in the ROWD, is insufficient to maintain compliance with Order No. R9-2004-001.

Section 5.2 of the ROWD proposes that, within 10 months of permit adoption, each Permittee will have arranged for training of its current inspection staff and on an annual basis thereafter, and new hires and transfers will be trained within 6 months of starting inspection duties. This proposal to train municipal staff on an annual basis is adequate to meet permit requirements. However, the ROWD does not address external training.

H. EXISTING DEVELOPMENT (Order Section H)

The Existing Development section contains the following three sections:

H.1 Municipal Program

H.2 Industrial/Commercial Facilities Program

H.3 Residential Program

H.1 MUNICIPAL PROGRAM (Order Section H.1)

1. Specific Legal Authority for Municipal Program Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include "A description of maintenance activities and a

maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers."

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include "A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include "A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include "A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."
- Federal NPDES regulation 40 CFR 122.26(d)(1)(iii) requires source identification, including the location of MS4 outfalls, the location and description of the activities of each currently operating or closed municipal land fill or other treatment, storage or disposal facility for municipal waste, the location of major structural controls for storm water discharge, and the identification of publicly owned parks, recreational areas, and other open lands.

2. Discussion of Municipal Program Requirements

Municipal facilities and activities are clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the MEP. The EPA targets municipal areas and activities "to help ensure a reduction in the amount and type of pollution that (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems" (EPA, 2000c).

As specified by **Requirement H.1.b**, Permittees must first identify all of the municipal areas and activities that generate pollutants within their jurisdiction. The areas and activities listed in **Requirement H.1.b** are either specifically addressed in the federal NPDES regulations

referenced above, or have been determined by the Permittees (Permittees, 2003), the SDRWQCB (SDRWQCB, 2002a), or the EPA (EPA, 1992a) to contribute pollutants to the MS4. Source identification is necessary to characterize the nature and extent of pollutants in discharges and to develop appropriate control measures. It is the first step in developing a targeted approach to urban runoff management.

Regarding **Requirement H.1.d**, MS4 Maintenance is critical to the successful implementation of every SWMP. The requirement to conduct a maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. The EPA finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. [...] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year" (EPA, 1992a). Regarding catch basin cleaning, the EPA states, "The removal of sediment, decaying debris, and highly polluted water from catch basins has aesthetic and water quality benefits, including reducing foul odors, reducing suspended solids, and reducing the load of oxygen-demanding substances that reach receiving waters" (EPA, 1999c). It goes on to say, "Catch basin cleaning is an efficient and cost-effective method for preventing the transport of sediment and pollutants to receiving water bodies. The requirement (Requirement H.1.d.(d)) is necessary to identify problem areas and sources of debris in catch basins.

Requirement H.1.e, Management of Pesticides, Herbicides and Fertilizers, is supported by the EPA finding that "The proposed program should include educational measures for the public and commercial applicators, and should include integrated pest management measures that rely on non-chemical solutions to pest control. The program should also describe how educational materials will be developed and distributed. Applicants are encouraged to consider providing information for the collection and proper disposal of unused pesticides, herbicides, and fertilizers, or to establish their own program. [...] In addition, applicants must include a discussion of controls for the application of pesticides, herbicides, and fertilizers in public rights-of-way and at municipal facilities. Planting low-maintenance vegetation, such as perennial ground covers, reduces pesticide and herbicide use. Native vegetation is often preferable because there is less need to apply fertilizers and herbicides, and to perform other forms of maintenance, such as mowing" (EPA, 1992a).

Requirement No. H.1.f, Inspections of Municipal Facilities and Activities, is specified to insure that proper measures are being undertaken to reduce pollutant discharges to the MEP. The EPA supports inspections of municipal areas and activities, stating "Applicants must describe programs that identify measures to monitor and reduce pollutants in storm water discharges from facilities that handle municipal waste, including sewage sludge. [...] The types of facilities that should be included are: active or closed municipal waste landfills; publicly owned treatment works, including water and wastewater treatment plants; incinerators; municipal solid waste transfer facilities; land application sites; uncontrolled sanitary landfills; maintenance and storage yards for waste transportation fleets and equipment; sites for disposing or treating sludge from municipal treatment works; and other treatment, storage, or disposal facilities for municipal waste" (EPA, 1992a). The EPA further states, "Procedures to evaluate, inspect, monitor, and establish control measures for

municipal waste sites over the term of the NPDES permit should be described" (EPA, 1992a)."

3. Comments on Existing and Proposed Municipal Programs

Section 4.1 of the ROWD describes the Municipal Facilities Strategy, which the Permittees developed pursuant to Order No. R9-98-02 to identify BMPs for activities conducted at municipal facilities. This section of the ROWD identifies the types of municipal facilities and the activities conducted at those facilities that have the potential to contribute pollutants to urban runoff (ROWD Table 4-1). The Permittees identified maintenance yards, vehicle and equipment maintenance areas, waste transfer stations, corporation and storage yards, and parks and recreational facilities as "facilities of concern". The number of each type of facility operated by each Permittee is listed in Table 4-2 of the ROWD. All other facilities that may be sources of pollutants, including parking areas, hazardous material collection facilities, and other facilities covered under the General Industrial Permit were not identified as "facilities of concern", and were not included in Table 4-2. As discussed above, all facilities and activities listed in **Requirement H.1.b** of the Order must be identified in the inventory. Also, Table 4-2 only lists the number of each type of facility in each Permittee's jurisdiction. The inventory must include, at a minimum, the name, address, and description of activities conducted at each facility.

The ROWD also identifies potential pollutants of concern from municipal facilities and activities (Table 4-3) and "potential" source control BMPs to address the pollutant-generating activities (Table 4-4). The Permittees propose to "maintain up-to-date site-specific Urban Runoff pollution prevention plans for public agency facilities and activities." If the "potential" BMPs listed in Table 4-4 include pollution prevention methods, and are required to be implemented (as applicable) these programs are adequate to comply with **Requirements H.1.a and c** of the Order.

It is important to note that the ROWD claims that brake pad wear, the operation of internal combustion engines, and tire wear, among other thing, are beyond the ability of the Permittees to control. The EPA and the SDRWQCB do not concur with this claim. The EPA states, "proposed management programs must include a description of practices for operation and maintenance of public streets, roads, and highways, and procedures for reducing the impact of runoff from these areas on receiving waters. [...] Pollutants from traffic can be minimized by using nonstructural controls (e.g., traffic reduction and improved traffic management), structural controls (e.g., traditional and innovative BMPs), and changing maintenance activities" (EPA, 1992a).

Regarding MS4 maintenance, Section 4.2 of the ROWD proposes that, within 12 months of permit adoption, Permittees will develop "Model Maintenance Procedures" for public agency activities and drainage facilities. However, in December 1999, the Permittees submitted proposed "Storm Drain System Inspection and Maintenance" programs, pursuant to Order No. R9-98-02 (Permittees, 1999). Each Permittee's proposed program would satisfy the requirements in **Requirement H.1.d** of the Order. Because such plans have already been submitted, the Permittees do not need 12 months to develop another program, and they do not need additional time to implement maintenance activities. Considering that this is a third-round permit, the Permittees should already be conducting the proposed MS4

maintenance activities and continued implementation would be adequate for compliance with Order No. R9-2004-001 without requiring additional resources.

Regarding the management of pesticides, herbicides, and fertilizers, Section 4.2 of the ROWD proposes that "Permittees shall continue to provide training to municipal staff and to contract field operations staff on fertilizer and pesticide management, maintenance procedures, and other pollution control measures. Permittee staff shall attend at least 3 out of 5 annual training sessions." This proposal satisfies **Requirement H.1.e** of the Order, but it does not address the requirements to include integrated pest management measures that rely on non-chemical solutions.

Section 4.2 of the ROWD proposes to "review municipal activities and facilities annually to identify needed revisions of the Municipal Facilities Strategy". In order to identify needed revisions to BMP requirements and municipal programs, inspections are necessary. Therefore, it is assumed that the Permittees proposal includes inspections of municipal facilities and activities. Considering the small number of municipal facilities that each Permittee operates, with the exception of parks (ROWD Table 4-2), inspecting each facility annually is feasible.

Regarding parks and recreation facilities, the Permittees identified these areas as facilities of concern in the ROWD due to their potential to generate pollutants. Therefore, parks and recreation facilities, or the municipal activity conducted at the facilities must be inspected annually. If the same municipal maintenance staff perform similar landscaping or other activities at all parks, the inspection process could be streamlined to focus on the activities. For example, the Permittees could possibly develop one pollution prevention plan for all parks that includes all activities conducted at municipal parks, and conduct annual inspections of the activities performed to ensure that effective BMPs are being implemented (not necessarily inspecting all parks annually).

Enforcement of municipal areas and activities is not specifically addressed in the ROWD. This program will need to be developed as part of each Permittee's Individual SWMP.

Overall, with minor refinement, the existing and proposed municipal programs are adequate to meet the requirements of **Requirement H.1** of the Order.

H.2 INDUSTRIAL/COMMERCIAL FACILITIES PROGRAM (Order Section H.2)

1. Specific Legal Authority for Industrial/Commercial Facilities Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) provides that the proposed management program include "A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the permittee must "identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the permittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the permittee "Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."
- Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

2. Discussion of Industrial/Commercial Facilities Requirements

The requirements contained in Section H.2 provide a framework for developing management programs to reduce pollutants in urban runoff discharges from industrial and commercial facilities to the MEP.

The EPA supports the industrial/commercial facility requirements when it states, "NPDES permits for MS4s will establish responsibilities for municipal system operators to control pollutants from industrial storm water discharged through their system" (EPA, 1992a). The guidance further states that Permittees are ultimately responsible for discharges to their MS4. Therefore, storm water management programs should do the following:

- Identify priority industries discharging to their systems;
- Review and evaluate SWPPPs and other procedures that industrial facilities must develop under general or individual permits;
- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities to verify that the industries discharging storm water to the MS4 are in compliance with their NPDES storm water permit, if required.

Source identification is necessary to characterize the nature and extent of pollutants in discharges and to develop appropriate BMPs. The industrial and commercial facilities listed in **Requirement H.2.b** are either specifically addressed in the federal NPDES regulations referenced above, or have been determined by the Permittees, or the SDRWQCB (SDRWQCB, 2002a) to contribute pollutants to the MS4. The Permittees have not provided data, or other information, documenting that any of the facilities should be removed from the list because they are not a source of pollutants in the Upper Santa Margarita Watershed.

The EPA supports the list of facilities in the Order when it states the following (EPA, 2004):

> "EPA regulations at 40 CFR 122.26(d)(2)(iv)(A) provide for a broad program of 'source control and structural control measures to reduce pollutants from runoff from commercial and residential areas…' We believe that this regulation provides a firm basis for the permit's [Order] requirements related to commercial facilities. The requirements for outreach to commercial facilities, inspections, and the follow-up enforcement would all be consistent with a program of 'source control' measures to be included in a storm water management program…"

Regarding the list of industrial facilities, EPA goes on to say:

> "The issue of industrial inspections also arose for the Los Angeles County MS4 permit. The State Board, in a memo dated November 9, 2001, from Michael Lauffer of the State Board to Dennis Dickerson, Executive Officer of the Los Angeles Regional Board, noted that under Section 402 (p)(3)(B)(iii) of the CWA, the Board has broad authority to require 'such other provisions…as the State determines appropriate…' and that this would provide a basis for requirements that go beyond specific provisions of the EPA regulations. We would agree with the State Board on this matter, and that the Regional Board would have the authority to require inspections of all the industrial facilities listed in the permit [Order], notwithstanding the specific provisions of the EPA regulations."

Regarding **Requirement H.2.c**, BMP Implementation, guidance from the EPA makes it clear that Permittees are required to designate BMPs for industrial and commercial facilities when it states that permittees should, "Establish and implement BMPs to reduce pollutants from these facilities (or require industry to implement them)" (EPA, 1992a). The EPA goes on to say that BMPs more stringent than those required under the General Industrial Permit may be necessary. The EPA finds that "nothing in the Federal regulations would prohibit the municipality from requiring additional controls beyond the permit requirements for industrial activities. For this reason, the EPA recommends that municipal applicants incorporate a provision in the proposed storm water management program that allows the municipality to require priority industrial facilities to implement the controls necessary for the municipality to meet its permit responsibilities" (EPA, 1992a). These statements from the EPA support the requirement for dual regulation of facilities covered by the General Industrial Permit (see discussion in support of **Finding No. 21** in Section VII.E of this Fact Sheet).

In support of **Requirement H.2.c.(3)**, the EPA recommends that Permittees provide BMP guidance to industrial facilities, stating, "The applicant should suggest procedures for requiring pollutant control measures in runoff from priority industrial facilities. Applicants should provide information to the industrial facilities that discharge to the MS4s and industry-specific guidance on appropriate control measures that industries discharging to the systems should follow" (EPA, 1992a). The EPA goes on to say, "Applicants should provide information to the industrial facilities that discharge to the MS4s and industry-specific guidance on appropriate control measures that industries discharging to their systems should follow" (EPA, 1992a).

Furthermore, inspections are necessary to verify that industries are in compliance with the MS4 permit and local ordinances (EPA, 1992a). According to the EPA, "The proposed management program should describe the inspection procedures that will be followed. […]

Proposed management programs should address minimum frequency for routine inspections. For example, how often, how much of the site, and how long an inspection may take are appropriate to explain in this proposed management program component. Applicants should also describe procedures for conducting inspections and provide an inspector's checklist" (EPA, 1992a). In further support of inspections and dual regulation of industrial facilities, the EPA states "Municipalities are urged to evaluate pollution prevention plans and discharge monitoring data collected by the industrial facility to ensure that the facility is in compliance with its NPDES storm water permit. Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an onsite visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan" (EPA, 1992a).

The EPA also finds that follow-up actions are to be implemented based upon site inspection findings: "The results of inspection may be used as a basis for requiring storm water management controls and enhanced pollution prevention measures" (EPA, 1992a).

Industrial site inspection frequencies specific in **Requirement H.2.d** are based on threat to water quality prioritization in order to allow for limited inspection resources to be most effective. Annual or bi-annual inspection of high threat sites is necessary to ensure that changes to the site that may be detrimental to water quality are identified and addressed.

Requirement H.2.f, Reporting of Non-Filers, is necessary to ensure effective oversight of industrial facilities.

3. Comments on Existing and Proposed Industrial/Commercial Programs

Pursuant to Order No. R9-98-02, the Permittees have developed and implemented an industrial/commercial facilities program that meets or exceeds several of the requirements in Section H.2 of the Order. Each Permittee has already developed a prioritized list of facilities, including industrial facilities as defined at 40 CFR 122.26(b)(14), food facilities, and all other facilities that store, generate, or handle hazardous waste. The method of prioritization used in developing the current lists is consistent with what the SDRWQCB considers to be "high", "medium", and "low". Section 7.3 of the ROWD proposes that, within 9 months of permit adoption, each Permittee will update its existing inventories of industrial and commercial facilities within its jurisdiction that have the potential to discharge pollutants to the MS4. The ROWD says that the industrial and commercial facilities databases will include the name, address, location reference, facility contact and phone number, SIC code, WDID number, assessor's parcel number, and site size.

Also pursuant to Order No. R9-98-02, the Permittees developed the Commercial/Industrial Compliance Assistance Program (CAP) as a mechanism to conduct the required inspections of inventoried facilities. The CAP was formed as an agreement between the District and the County's Department of Environmental Health and involves the completion of a "storm water compliance survey" in addition to the routine inspections that the Department Environmental Health conducts pursuant to other regulations. Through the CAP, the County currently inspects sites with underground storage tanks once per year, sites that handle and generate hazardous waste every two years (began in May 2002), and retail food facilities 1-3 times annually (began in January 2002). Section 7.3 of the ROWD proposes that, within 12

months of permit adoption, each Permittee will implement an inspection frequency for industrial and commercial facilities of no less than:

- Once a year for industrial facilities designated as high priority;
- Once biannually for commercial facilities designated as medium priority; and
- Once during the permit term for facilities designated as low priority.

Except for the facilities that are not captured under the CAP, which must be addressed by each Permittee, the Permittees existing and proposed programs are adequate to comply with the requirements in **Requirement H.2.b and H.2.d.**

Section 7.2 of the ROWD states that, "In conducting a commercial/industrial facility inspection, if it appears that the facility may be required to have coverage under the General Permit for Stormwater Discharges Associated with Industrial Activities and the facility operator has indicated that an NOI has not been filed, the inspector will provide the operator with an informational sheet on the requirements of the General Permit for Stormwater Discharges Associated with Industrial Activities. The inspector also documents the name, address, and SIC code of the facility. Subsequently, a listing of such facilities is compiled and forwarded to the San Diego Regional Board staff on a frequency to be determined by the Permittees." This proposal meets **Requirement H.2.f.**

It is important to note that there are approximately 25 industrial facilities currently covered by the General Industrial Permit within the Upper Santa Margarita Watershed. Most of these facilities are already included in the Permittees' inventories and covered under the CAP. The remaining few that will require inspections and oversight will not constitute a significant burden on the Permittees. Therefore, dual regulation of these sites should not be an issue. In the Permittees comments on the Order, they proposed BMP requirements to comply with Requirement H.2.c.1. The proposed BMPs may be adequate minimum requirements for food facilities and for facilities that store hazardous waste. However, broadly applying these few BMPs to all types of inventoried industrial and commercial facilities may not be adequate or appropriate. Adequate minimum BMPs should address all facility types and activities that could potentially contribute pollutants to the MS4.

Regarding enforcement, Section 2.4.2.2. of the ROWD states that Permittees will emphasize and encourage voluntary compliance and will initiate enforcement/compliance actions within 60 days form the date a violation was identified. It also says that the SDRWQCB will take all enforcement actions related to compliance with the General Industrial Permit and that the SDRWQCB will take the lead in initiating enforcement actions related to high-priority incidents. These statements are incorrect and do not meet the requirements of **Requirement H.2.e**. As discussed in Sections VII.D and VII.E of this Fact Sheet, the Permittees are responsible for enforcing their ordinances and permits related to ALL violations, especially those of high priority. The SDRWQCB is responsible for enforcement of the General Industrial Permit, however, if Permittee ordinances are also violated, Permittees must address these violations. Furthermore, 60 days is an inappropriately long amount of time to allow a violation to occur. The Permittees' Enforcement/Compliance Strategy, as described in the ROWD, is insufficient to meet the enforcement requirements contained in Order No. R9-2004-001.

Section 7.3 of the ROWD proposes that, within 1 year of permit adoption, each Permittee will have arranged for adequate training of all staff inspectors and on an annual basis thereafter. New hires that will be performing inspections will be trained within 6 months of starting field duties. This proposed training schedule meets **Requirement H.2.g** of the Order.

H.3 RESIDENTIAL PROGRAM (Order Section H.3)

1. Specific Legal Authority for Residential Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Permittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."
- Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

2. Discussion of Residential Requirements

Land used for residential activities is clearly identified in the federal regulations as one of several high priority land uses from which pollutants in urban runoff discharges must be reduced to the MEP by each Permittee (40 CFR 122.26(d)(2)(iv)). Residential activities have the potential to be significant sources of pollutants in urban runoff. In residential areas, pollution sources conveyed by the MS4 include activities related to automobile maintenance, landscaping/gardening, home-improvement, pets, and others, including those listed in **Requirement H.3.b.** The requirements contained in Section H.3 will provide a program for the development and implementation of BMPs to reduce pollutants in urban runoff discharges from residential activities to the MEP (see discussion of **BMP Implementation** in Section VII.C of this Fact Sheet).

Pursuant to Order No. R9-98-02 and pre-existing programs, the Permittees have instituted or promoted residential pollution prevention BMPs, including street sweeping, household hazardous waste collections, and education. Nationally, education is increasingly being used as a tool for pollution prevention in residential areas, where the use of regulatory enforcement actions has traditionally been less than in other land use areas. Pollution prevention can encourage responsible residential nutrient management, such as proper fertilization rates and proper pet waste disposal, when a connection is established between such practices and local or regional water quality needs (Nonpoint Source News Notes, 2000). Similarly, source control is vital to protect urban watersheds from pesticides that are applied in residential areas and are transported to streams via the MS4. For example in a

review, "Diazinon Sources in Runoff from the San Francisco Region," the Center for Watershed Protection concluded that, "the only real tool to control diazinon in urban watersheds is source control to either reduce the use of diazinon or to apply it in a safer manner." In addition, where structural BMPs or MS4 facilities are owned or operated by the residential community, pollution prevention activities taken by local governments can include maintenance guidance.

3. Comments on Existing And Proposed Residential Programs

Section 8.0 of the ROWD states that pollution prevention is a major focus of the Permittees' existing StormWater/CleanWater Protection Program, and the following pollution prevention themes are emphasized in public outreach activities and materials:

- Proper disposal of household hazardous waste;
- Proper disposal of used motor oil;
- Pesticide and fertilizer use guidelines;
- Good housekeeping BMPs; and
- Proper disposal of pet waste.

Section 8.2 of the ROWD proposes to educate the public regarding pollutants in urban runoff. Education and outreach may be sufficient to reduce the discharge of pollutants to the MEP from residential areas, however, additional BMPs may be necessary in some cases. These minimum BMP requirements should be identified in each Permittee's Individual SWMP.

I. EDUCATION (Order Section I)

1. Specific Legal Authority for Education Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include "A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

2. Discussion of Education Requirements

Education is a critical BMP and an important aspect of the SWMP. The EPA finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following:

> "Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. [...]
>
> Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters". (EPA, 2000c)

Regarding target audiences, EPA states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children" (EPA, 2000c). The target communities included in Requirement I. are based on recommendations of the TAC (SWRCB, 1994).

3. Comments on Existing and Proposed Education Programs

Public education was strongly emphasized in the Permittees' 1993 DAMP implemented under the first and second term permits. Consequently, the Permittees already have well-developed education programs that may be readily reviewed and revised, as necessary, to satisfy the requirements of Order No. R9-2004-001.

Section 8.2 of the ROWD includes several good program commitments, such as conducting a survey to measure changes in awareness, which should be incorporated into the SWMP.

J. ILLICIT DISCHARGE DETECTION AND ELIMINATION (Order Section J)

1. Specific Legal Authority for Illicit Discharge Detection and Elimination Requirements

- Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) and 40 CFR 122.26(d)(2)(iv)(B)(1) generally apply to all directives under Section J. Illicit Discharge Detection and Elimination of Order No. R9-2004-0001.
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the permittee include in its proposed management program "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."
- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the permittee include in its proposed management program "procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."
- Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(5) provides that the permittee include in its proposed management program "a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges

or water quality impacts associated with discharges from municipal separate storm sewers."

- Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the permittee include in its proposed management program "a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

2. Discussion of Illicit Discharge Detection and Elimination Requirements

In accordance with 40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1), **Requirement J.1** requires each Permittee to actively seek and eliminate illicit discharges and illicit connections. As guidance for detecting and eliminating illicit discharges and connections, the EPA suggests "The proposed management program must include a description of inspection procedures, orders, ordinances, and other legal authorities necessary to prevent illicit discharges to the MS4" (EPA, 1992a).

In order to detect illicit discharges and connections, **Requirement J.2** requires each Permittee to develop and maintain an accurate, up-to-date map of its MS4. An accurate map of the MS4 will enable the Permittees to monitor the system for illicit discharges and connections and to be aware of the entire MS4 within its jurisdiction.

Requirement J.3 requires Permittees to develop and implement an Illicit Discharge Monitoring Program as specified in **section II.B of Monitoring and Reporting Program No. R9-2004-001 (hereafter referred to as the MRP)**. If results indicate that an illicit discharge or connection may be present, **Requirement J.4** specifies that the Permittees shall conduct follow-up procedures to pinpoint the source of the illicit discharge or connection. Once the illicit discharge or connection source is identified, steps may be taken to eliminate the discharge or connection. In this manner, monitoring of dry weather urban runoff can lead to the elimination of illicit discharges and connections and the reduction of pollutants in urban runoff.

Requirement J.5 requires the elimination of illicit discharges and illicit connections as soon as possible. The time needed to eliminate the discharge/connection will depend on the nature and circumstance of the problem including conditions that are not under the control of the Permittees. However, discharges that the Permittees have the ability to eliminate immediately must be eliminated immediately. The EPA supports elimination as soon as possible when it states, "Once the source is identified, the offending discharger should be notified and directed to correct the problem. Education efforts and working with the discharger can be effective in resolving the problem before taking legal action" (EPA, 1992a).

The EPA states that the "proposed management program component should describe how the prohibition on illicit discharges will be implemented and enforced. The description could include a schedule and allocation of staff and resources. A direct linkage should exist between this program component and the adequate legal authority requirements for the ordinances and orders to effectively implement the prohibition of illicit discharges" (EPA, 1992a). Consistent with this statement, **Requirement J.6** requires Permittees to implement and enforce its ordinance, orders, or other legal authority over illicit discharges and connections.

Requirement J.7 pertains to sewage spill prevention and response. Such spills into and from the MS4 can severely impair receiving water quality and pose a significant threat to public health. To avoid these negative impacts, the Order requires Permittees to implement appropriate procedures to prevent, contain, and respond to spills that may discharge into the MS4. The Order contains suggestions of possible appropriate actions. The EPA states, "The goal of a spill prevention program is to reduce the frequency and extent of spills of hazardous materials which can cause water quality impairment" (EPA, 1992a).

Requirement J.8 pertains to public reporting of illicit discharges or water quality impacts associated with discharges from MS4s. Regarding this issue, the EPA states "Timely reporting by the public of improper disposal and illicit discharges are critical components of programs to control such sources. To enhance public awareness, programs may include setting up a public information hotline number, educating school students, community and volunteer watchdog groups, using inserts into utility bills, and newspaper, radio, and television announcements to inform the public about what to look for and how to report incidents" (EPA, 1992a).

The EPA states "If private individuals find the proper disposal of used oil or toxic materials difficult, incidents of improper disposal (such as into the MS4) increase" (EPA, 1992a). Therefore **Requirement J.9** directs the Permittees to propose a program component that will facilitate the proper disposal of used oil and toxics from households by establishing municipally operated collection sites, or ensuring that privately operated collections sites are available. The EPA suggests this program component "should describe outreach plans to handlers of used oil and to the public, and operating plans for oil and household waste collection programs" (EPA, 1992a).

3. Comments on Existing and Proposed Illicit Discharge Detection and Elimination Programs

The ROWD references a reconnaissance survey that the Permittees conducted pursuant to their first-round MS4 permit (Order No. R9-90-46), which identified and removed any illicit connections. According to the 2001-2002 Annual Progress Report, the Reconnaissance survey showed that illicit connections were almost non-existent within the Upper Santa Margarita Watershed, whereas illegal discharges were more commonplace (Permittees, 2001). Based on these results, the Permittees concluded that focusing on inspections of open channels and the curtailment of illicit discharges is a more effective use of resources than inspections of underground storm drains. The EPA concurs with this conclusion when it says, "Permits for older municipalities may emphasize control of cross-connections, while permits for municipalities with large areas of new development may emphasize the installation of permanent structural controls during construction" (EPA, 1992a). **Requirement J.1** of the Order gives the Permittees the flexibility to focus their programs on priority areas, so long as they are actively seeking and eliminating illegal discharges. It should be noted that the reconnaissance survey was conducted 10 years ago and the length of the MS4 has increased significantly. The survey, dated September 30, 1993, covered approximately 25.2 miles of underground storm drains and over 8.9 miles of open channels. According to the ROWD, the District's MS4 currently consists of about 71 miles of open and closed storm drains, and the City of Murrieta's MS4 currently consists of about 18 miles of open and closed storm drains. The total length of Temecula's MS4 is unknown. Therefore, the survey covered less than half

of the current MS4 and cannot serve as evidence that illicit connections are currently non-existent.

Section 3.2 of the ROWD states that the Permittees have programs in place to identify and eliminate illicit connections. According to the 2001-2002 Annual Progress Report, the City of Murrieta conducts annual video inspections of portions of its MS4 and investigates any illicit connections identified, and District and County staff perform visual inspections of open storm drains to check for discharges. The City of Temecula seems to have a reactive program that relies on reports of illegal discharges.

Regarding **Requirement J.2**, the District and the City of Murrieta submitted a map of their MS4s with the ROWD. The City of Temecula has not yet submitted a map.

Section 3.5 of the ROWD proposes that Permittees shall continue to implement and improve routine inspection and monitoring and reporting programs for their MS4s. In order to satisfy **Requirement J.3** of the Order, each Permittee shall describe their inspection and monitoring programs to meet the requirements of Section II.B of the MRP in their Individual SWMPs.

Section 3.5 of the ROWD proposes that, "If routine inspections or dry weather monitoring indicate illicit connections or illegal discharges, they shall be investigated and eliminated or permitted within sixty (60) calendar days of receipt of notice." Sixty days is an unreasonably long time frame for the investigation and elimination of illicit discharges and connections. As stated above, these discharges can cause or contribute to receiving water degradation and are prohibited. Also, illicit discharges are often a discrete event that must be investigated immediately to identify the source. Therefore, the proposed timeframe for investigation and elimination must be decreased to represent the most immediate response time as is possible for the Permittees. In accordance with **Requirement J.5**, illicit discharges that pose a serious threat to public health or the environment must be eliminated immediately, and all others must be eliminated as soon as possible.

Section 3.2 of the ROWD states that the Permittees have programs in place to identify, eliminate, and respond to illicit connections and discharges. However, these programs are not described. According to the 2001-2002 Annual Progress Report, the District manages a toll-free reporting hotline, which satisfies **Requirement J.8** of the Order (Permittees, 2002a). The reports do not mention hotlines for the Cities of Murrieta and Temecula and it is not clear if the countywide hotline is coordinate with the other Permittees. In order for the Cities to satisfy this requirement, Individual SWMPs must either discuss individual public reporting hotlines or describe how the countywide hotline is coordinated.

As indicated in Section 3.3 of the ROWD, the Permittees already have mechanisms in place to facilitate the proper management and disposal of used oil and toxic materials that meet or exceed **Requirement J.8**.

K. WATERSHED-BASED ACTIVITIES (Order Section K)

1. Discussion of Watershed Requirements

Management of urban runoff on a watershed basis is recommended by the SWRCB and the SDRWQCB. The TAC defines watershed-based water quality protection as "the prevention/control of pollution and management of human activities in a geographically or other defined drainage area to protect, restore, and/or enhance the natural resources and

beneficial uses within the watershed" (SWRCB, 1994). The TAC recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis" (SWRCB, 1994). The SDRWQCB also recommends watershed-based water quality protection, stating in the Basin Plan that "Public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources" (SDRWQCB, 1994).

The requirements in Section K of the Order are necessary for the Permittees to identify and mitigate sources of pollutants in urban runoff from the entire watershed that impact common downstream receiving waters. This is the key to addressing the impacts from areas and activities within the Permittees' jurisdiction on downstream receiving waters and their beneficial uses (i.e. Camp Pendleton's drinking water supply) as well as addressing pollutant sources in the watershed which are outside the Permittees' jurisdiction. **Finding No. 20** emphasizes the need for watershed-based activities and collaboration among dischargers in a common watershed. It states, "As operators of the MS4s, the Permittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or exceedances of receiving water quality objectives." Permittees could be held responsible for discharges of pollutants from sources outside of their jurisdiction if they cause or contribute to exceedances of water quality objectives, therefore, it is necessary for Permittees to make efforts to address all sources of pollutants in the watershed.

2. Comments on Existing and Proposed Watershed Programs

The Permittees already collaborate with each other through monthly meetings. However, these meetings, as well as many aspects of the existing DAMP, are countywide. In order to address watershed-specific issues, the Permittees should meet separately to focus on the Upper Santa Margarita Watershed. The Permittees also already participate in San Diego County's current effort to develop a Santa Margarita Watershed Management Plan, the Southern California Stormwater Monitoring Coalition, and the Santa Margarita River Executive Management Team. At this time, this level of participation is appropriate to meet the objectives of Requirement K.3. of the Order.

L. MONITORING AND REPORTING PROGRAM (Order Section L)

See discussion in Section IX of this Fact Sheet.

M. PRINCIPAL PERMITTEE RESPONSIBILITIES (Order Section M)

1. Specific Legal Authority for Principal Permittee Responsibility Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Permittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

- Federal NPDES regulation 40 CFR 122.26(a)(3)(iii)(C) provides that "A regional authority may be responsible for submitting a permit application."

2. Discussion of Principal Permittee Responsibility Requirements

The Principal Permittee responsibilities required in Section M are necessary to facilitate intergovernmental coordination and for the standardization and compilation of required reports. Standardized documents provide for easier assessment and application of report data, making reports more useful for the SDRWQCB and the Permittees, which can result in more effective urban runoff management. The EPA recommends intergovernmental coordination, such as a memorandum of understanding, to define specific municipal roles, responsibilities and points of coordination (EPA, 1992a).

3. Comments on Existing and Proposed Principal Permittee Responsibilities

The Permittees currently operate under an Implementation Agreement, which was executed in November 1998. The Implementation Agreement sets forth the responsibilities of the Principal Permittee and the Permittees and provides for funding of "umbrella" activities. In Section 2.1 of the ROWD, the Permittees propose to amend the implementation agreement to set forth the responsibilities of the Permittees in accordance with the Order.

N. STANDARD PROVISIONS (Order Section O and Attachment B)

The standard provisions included in **Attachment B** of Order No. R9-2004-001 are consistent to all NPDES permits and are generally found in federal NPDES regulation 40 CFR sections 122.22, 122.41, 122.42 and the CWC (specific citations are provided in **Attachment B** of Order No. R9-2004-001).

IX. MONITORING AND REPORTING PROGRAM

The MRP consists of requirements for receiving waters monitoring, monitoring of dry weather flows/illicit discharges, and annual reporting.

A. RECEVING WATERS MONITORING

1. Specific Legal Authority for Receiving Waters Monitoring Requirements

Federal NPDES regulations at 40 CFR 122.26(d)(2)(iii)(D) require municipal permittees to propose a monitoring program for representative data collection for the term of the permit that describes the location of outfalls, field screening points, instream stations, why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

2. Discussion of Monitoring Requirements

According to the EPA, the benefits of sampling data include, but are not limited to (EPA, 1992b):

- Providing a means for evaluating the environmental risk of storm water discharges by identifying types and amounts of pollutants present;

- Determining the relative potential for storm water discharges to contribute to water quality impacts or water quality standard violations;
- Identifying potential sources of pollutants; and
- Eliminating or controlling identified sources more specifically through permit conditions.

Most importantly, monitoring programs are an essential link in urban runoff management efforts. Data collected from monitoring programs can be assessed to determine the effectiveness of management programs and practices, which is vital for the success of the iterative approach used to meet the MEP standard. Specifically, when data indicates that a particular BMP is not effective, an improved BMP can be selected. Also, when water quality data indicate that water quality standards or objectives are being exceeded, particular pollutants, sources, and drainage areas can be identified and targeted for urban runoff management and specific education efforts.

Considering the benefits described above, the MRP has been designed to determine impacts to receiving water quality and beneficial uses from urban runoff and to use the results to refine the SWMP for the reduction of pollutant loadings to the MEP. The primary goals of the MRP include:

1. Assess compliance with Order No. R9-2004-001;
2. Measure and improve the effectiveness of the SWMPs;
3. Assess the chemical, physical, and biological impacts of receiving waters from urban runoff;
4. Characterize urban runoff discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
8. Assess the overall health of receiving waters.

Each of the components of the Receiving Waters and Illicit Discharge Monitoring Programs is necessary to meet the objectives listed above. The justifications for each component are discussed below.

Framework

The SDRWQCB typically uses the following framework in NPDES MRPs:

1. Core monitoring to address ongoing, site-specific needs, such as estimating pollutant loads and assessing trends;
2. Regional monitoring to address large spatial scales at infrequent (i.e. every five years) intervals. Regional monitoring is useful to put localized site-specific results into context of the larger ecosystem; and
3. Special studies to address directed needs or to answer specific questions. This monitoring is useful to address unique issues, oftentimes triggered by routine monitoring

to help understand results or identify efficient management measures. Special studies are short-term studies with a predefined beginning, middle and end.

Core Monitoring

Section II.A.1 of the MRP requires mass loading monitoring at three triad[13] and four tributary stations. The mass loading monitoring will provide data representing the total pollutant loadings from specific drainage and sub-drainage areas. This data can be used to help achieve the MRP goals listed above and answer the following management questions:

- Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- What is the extent and magnitude of the current or potential receiving water problems?
- What is the relative urban runoff contribution to the receiving water problem(s)?
- What are the sources of urban runoff that contribute t receiving water problem(s)?
- Are conditions in receiving waters getting better or worse?

The number and locations of triad and tributary stations are consistent with the Permitees' proposal (Permittees, 2004b). In addition to one reference station, the triad stations are existing Permittee monitoring stations located in lower Murrieta Creek and lower Temecula Creek. These stations are located at the downstream end of the Upper Santa Margarita Watershed and should be representative of discharges from the entire permitted area. The tributary station locations were proposed by the Permittees and are representative of urbanized sub-drainage areas. Data from these locations will allow the Permittees to better identify sources of pollutants, prioritize drainage areas for management actions, and determine the conditions of the tributary streams (MRP Goals 4,5,6 and 8).

Federal NPDES regulations at 40 CFR 122.21(g)(7)(ii) require the sampling protocols specified in **section II.A.1 of the MRP.** These protocols are necessary to ensure consistent sampling, adequate representation of storm events, and accurate, comparable data.

Section II.A.2 of the MRP requires the Permittees to conduct toxicity monitoring to evaluate the extent and causes of toxicity in receiving waters. Toxicity testing is used to assess the impact of urban runoff on the overall quality of aquatic systems (Center for Watershed Protection, 1996). Evidence of toxicity indicates that pollutants are bioavailable and have the potential to cause degradation to aquatic systems. When combined with chemical data, which by itself does not necessarily reveal the impacts of urban runoff to aquatic life or the beneficial uses of receiving waters, toxicity monitoring data can be used to better determine the extent and causes of impacts to aquatic systems (MRP Goals 3 and 8).

Toxicity testing can also be used to evaluate the effectiveness of urban runoff BMPs and other management measures (MRP Goal No. 2). The Center for Watershed Protection rated it as a "very useful" indicator for assessing municipal storm water programs. Permittees can use the results of toxicity testing to identify areas of high concern and to establish priority locations for BMPs (MRP Goal No. 6).

[13] Triad means a station where chemical, toxicity, and bioassessment monitoring occur.

Section II.A.2.a specifies three freshwater test species for use, because multiple species are needed to provide a more complete assessment of the causes of toxicity in urban runoff (Bay, 2001). Different species vary in their sensitivity to contaminants and, therefore, multiple species can reveal when varying contaminants are present at toxic levels (Bay, 2001). Reliance on single species tests may not provide an accurate assessment of toxicity (Center for Watershed Protection, 1996). The rationale for the specified test species is as follows:

- *Ceriodaphnia dubia* (water flea): represents the invertebrates that live in the water column and serve as a food source for larger invertebrates and small fish. This species is known to be sensitive to metals and pesticides in water, as well as other contaminants. (San Diego County, 2004)
- *Hyalella azteca* (freshwater amphipod): an invertebrate associated with the sediment at the bottom of streams and lakes. It serves as a food source for larger invertebrates as well as fish. This species is generally sensitive to metals and pesticides, as well as nitrogen compounds such as ammonia. (San Diego County, 2004)
- *Pseudokirchneriella subcapitata*, formally known as *Selenastrum capricornutum*: unicellular algae present in the water column of streams and lakes. It is the base of the food chain in freshwater systems. It is sensitive to herbicides and metals and its growth is greatly affected by nutrient loads. (San Diego County, 2004)

An additional reason to use the species listed above, is for consistency with other monitoring in the Santa Margarita Watershed. Pursuant to the County of San Diego's MS4 permit (Order No. R9-2001-01), toxicity testing using these three species occurs at the mass loading station near the mouth of the Santa Margarita River. Using the same species throughout the watershed will allow the results to be comparable and potential sources of toxicity to be better identified.

For cost purposes, toxicity testing is only required on wet weather samples.

Section II.A.3 of the MRP requires the Permittees to conduct bioassessment monitoring. Bioassessment data is a cost-effective tool that measures the effects of water quality over time (CDFG, 2002). It is an important indicator of stream health and impacts from urban runoff. It can detect impacts that chemical and toxicity monitoring cannot. The EPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of impacts from urban runoff (EPA, 1996c). Therefore, the SDRWQCB and other RWQCBs commonly require bioassessment monitoring in MS4 and other types of discharge permits.

Bioassessment is the direct measurement of the biological and physical condition, and the attainment of beneficial uses (COLD, WARM, WILD, and RARE) of receiving water, using benthic macroinvertebrates. Bioassessment monitoring integrates the effects of both water chemistry and physical habitat impacts (e.g., sedimentation or erosion) of various discharges on the biological community native to the receiving waters. Moreover, bioassessment is a direct measurement of the impact of cumulative, sub-lethal doses of pollutants that may be below reasonable water chemistry detection limits, but that still have biological affects.

Because bioassessment focuses on communities of living organisms as integrators of cumulative impacts resulting from water quality or habitat degradation, it defines the ecological risks resulting from urban runoff. Bioassessment not only identifies that an

impact has occurred, but also measures the effect of the impact and tracks recovery when control or restoration measures have been taken. These features make bioassessment a powerful tool to assess compliance, evaluate the effectiveness of BMPs, and to track both short and long-term trends (MRP Goals 1,2,3, and 8).

From 1998 through 2001, the SDRWQCB implemented the Ambient Bioassessment Monitoring Program, which monitored rivers and streams in the San Diego region. The monitoring concluded that waters in the Upper Santa Margarita Watershed, including Murrieta Creek, Temecula Creek, and the upper Santa Margarita River, exhibited degraded biological and physical integrity (Index of Biotic Integrity (IBI) ranged from "Very Poor" to "Good"). As a comparison, the reference stations in the watershed, located in Sandia Creek and De Luz Creek, were characterized by a high degree of biological and physical integrity (IBI was consistently "Very Good") (CDFG, 2002). These conclusions support the need for continued bioassessment monitoring to determine the long-term health of the receiving waters and impacts from MS4 discharges.

Through a CWC section 13225 directive, issued in March 2003, the Permittees were required to begin implementing a bioassessment monitoring program. The bioassessment required in the MRP replaces that required under the directive. The program consists of sampling, monitoring, and analysis of data at the three triad stations. The Permittees began bioassessment monitoring four stations in November 2003, pursuant to the directive. For cost purposes, the number of stations was reduced to three.

Section II.A.4 of the MRP requires the Permittees to use the results of the chemistry, toxicity, and bioassessment monitoring, to determine if impacts from urban runoff are occurring and when follow-up actions are necessary. The triad approach allows a wide range of measurements to be combined to more efficiently identify pollutants, their sources, and appropriate follow-up actions. Results from the three types of monitoring shall be assessed to evaluate the extent and causes of pollution in receiving waters and to prioritize management actions to eliminate or reduce the sources. The framework provided in Table 6 below shall be used to determine conclusions from the data and appropriate follow-up actions. The framework in Table 6 was derived from the *Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California* (SMC, 2004).

When, based on the framework in Table 6, data indicates the presence of toxic pollutants in runoff, Permittees are required to conduct a Toxicity Identification Evaluation (TIE). A TIE is a set of procedures used to identify the specific chemical(s) responsible for toxicity to aquatic organisms. When discharges are toxic to a test organism, a TIE must be conducted to confirm potential constituents of concern and rule out others, therefore allowing Permittees to determine and prioritize appropriate management actions. If a sample is toxic to more than one species, it is necessary to determine the toxicant(s) affecting each species. If the type and source of pollutants can be identified based on the data alone and an analysis of potential sources in the drainage area, a TIE is not necessary.

When a TIE identifies a pollutant associated with urban runoff as a cause of toxicity, it is then necessary to conduct a toxicity reduction evaluation (TRE). A TRE is a study conducted in a step-wise process to identify the causative agents of toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. A TRE should include an analysis and discussion of all potential

source(s) causing toxicity, proposed BMPs to eliminate or reduce the pollutants causing toxicity, and suggested follow-up monitoring to demonstrate that toxicity has been removed.

Table 6. Triad Approach to Determining Follow-Up Actions

	Chemistry	Toxicity	Bioassessment	Possible Conclusion Determining Action	Action
1.	Persistent[14] exceedance of water quality objectives	Evidence of toxicity[15]	Indications of benthic alteration[16]	Strong evidence of pollution-induced degradation	Conduct TIE to identify contaminants of concern, based on TIE metric, initiate TRE
2.	No persistent exceedances of water quality objectives	No evidence of toxicity	No indications of benthic alteration	No evidence of pollutant-induced degradation	No action necessary
3.	Persistent exceedance of water quality objectives	No evidence of toxicity	No indications of benthic alteration	Contaminants are present but not bioavailable	Assess possible upstream sources of pollutants causing exceedances
4.	No persistent exceedances of water quality objectives	Evidence of toxicity	No indications of benthic alteration	Unmeasured contaminants exist with the potential to cause degradation to aquatic life	Conduct TIE to identify contaminants of concern, based on TIE metric, initiate TRE
5.	No persistent exceedances of water quality objectives	No evidence of toxicity	Indications of benthic alteration	Alteration probably not due to toxic pollutants	No action necessary due to toxic chemicals Initiate TRE for physical sources of benthic alteration
6.	Persistent exceedance of water quality objective	Evidence of toxicity	No indications of benthic alteration	Toxic contaminants are bioavailable, but in situ effects are not demonstrable	If chemical and toxicity tests indicate persistent degradation, conduct TIE to identify

[14] Persistent exceedance shall mean the exceedance of relevant Basin Plan or CTR objectives by 20% for three sampling events.

[15] Evidence of toxicity shall mean a high score, in relation to other stations, on metric that combines magnitude and persistence of toxicity over an entire year.

[16] Indications of benthic alteration shall mean an IBI score of Fair, Poor, or Very Poor.

					contaminants of concern, based on TIE metric, initiate TRE
7.	No persistent exceedances of water quality objectives	Evidence of toxicity	Indications of benthic alteration	Unmeasured toxic contaminants are causing degradation	Conduct TIE to identify contaminants of concern, based on TIE metric, initiate TRE
8.	Persistent exceedance of water quality objectives	No evidence of toxicity	Indications of benthic alteration	Inconclusive	Initiate upstream source identification (TIE cannot be conducted when toxicity is not present)

Regional Monitoring

Section II.A.II of the MRP requires that the Permittees participate and coordinate with federal, state, and local agencies and other dischargers in the Santa Margarita Watershed in development and implementation of a regional monitoring program as directed by the Executive Officer. The purpose of regional monitoring is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the watershed. If a coordinated watershed sampling effort is approved or directed by the Executive Officer, the Permittees' sampling and analytical efforts may be reallocated.

Special Studies

Special studies are intended to address specific research or management issues that are not addressed by the routine core monitoring program. The MRP requires the Permittees to develop and implement a study to determine appropriate numeric criteria for controlling the volume, velocity, duration, and peak discharge rate of runoff to minimize erosion of natural channels and impacts to in-stream habitat. The study is necessary to comply with section F.2.b.9 of the Order.

Various similar studies and other efforts have occurred in southern California to address the issue of downstream erosion caused by increased runoff rates, volumes, velocities and durations. MS4 permits in San Diego, Orange, Los Angeles, and Ventura Counties have similar requirements, and the Southern California Stormwater Monitoring Coalition (SMC) is in the process of conducting a study (funded by Los Angeles County) to assess the connection between stream erosion and urbanization in natural drainage systems in southern California (SCCWRP, 2004). Ventura County has also conducted a similar study. It is expected that the Permittees will build on existing work and utilize the results and

conclusions of previous studies. The Permittees are encouraged to continue the SMC study in an area in the Santa Margarita Watershed.

3. Comments on Existing and Proposed Monitoring Program

The current monitoring program, the *Consolidated Program for Water Quality Monitoring* (District, 1994), was submitted as an element of the NPDES Municipal Storm Water Application for Permit Renewal, Santa Margarita Watershed, dated January 17, 1995. The objectives and components of the program are listed below (the program does not contain sampling frequencies):

1. Program Objectives:
   - Assessment of mass loadings from storm drains
   - Assess influence of land use on water quality
   - Verification and control of illicit discharges
   - Compliance monitoring of water quality
   - Assess effectiveness of various urban practices designed to control pollution
   - Identify problem areas and/or trends
   - Establish database for future reference
   - Identify baseline conditions
   - Identify pollutants of concern

2. Dry weather sampling stations:
   - Wildomar Channel
   - Cal Oaks Drain (permanent station)
   - Empire Creek Channel
   - Redhawk Parkway Drain

3. Wet weather stations:
   - Wildomar Channel
   - Cal Oaks Drain
   - Empire Creek Channel

4. Sediment sampling at the above stations plus the I-15 basin

5. Receiving water stations
   - Upper Murrieta
   - Lower Murrieta
   - Temecula Creek

6. Toxicity testing

The *Consolidated Program for Water Quality Monitoring* contains many of the same program objectives and components as the Monitoring Program. However, as determined and discussed in several documents (SDRWQCB, 2002b, 2002d, 2003b; Permittees, 2002b), the current program has been inadequate to meet its objectives and needs to be improved.

For details regarding previous monitoring, see the documents referenced herein. The Permittees did not propose a monitoring program as part of the ROWD.

B. ILLICIT DISCHARGE MONITORING PROGRAM

1. Specific Legal Authority for Illicit Discharge Monitoring Requirements

- Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the permittee include in its proposed management program "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

2. Discussion of Illicit Discharge Monitoring Requirements

Section II.B of the MRP describes the Illicit Discharge Monitoring Program. The requirements are consistent with the specifications for developing a field screening program contained at 40 CFR 122.26 (d)(1)(iv)(D). Although the minimum number of inspections is set at twice during the period of May 1st to September 30th of each year, it is expected that more frequent inspections may be necessary. An emphasis is placed on designing a program with clear criteria and rationale. The programs designed should be flexible and implemented in a manner that will enable the Permittees to identify illicit discharges and illegal connections, respond to citizen complaints, and follow-up on ongoing investigations to identify and eliminate sources.

3. Discussion of Existing and Proposed Dry Weather Monitoring

The Permittees' current water quality monitoring program identifies four dry weather monitoring stations, but no sampling frequencies, sampling protocol, or specific screening program are specified. In order to comply with **Requirement J.3** of the Order, Permittees will need to develop an Illicit Discharge Monitoring Program that meets the requirements in **section II.B of the MRP**.

C. MONITORING COSTS

The cost of the Receiving Waters and Illicit Discharge Monitoring Programs is reasonable, considering the need for the data in the Upper Santa Margarita Watershed. All of the monitoring requirements are necessary to meet the goals of the MRP, stated in Section IX.A above, and are consistent with other MS4 monitoring programs in southern California.

As part of their written comments on the Order (Permittees, 2004b), the Permittees provided cost estimates for the MRP, dated December 15, 2003, and for their proposed revised MRP. The Permittees estimated that the annual cost of the original Receiving Waters and Dry Weather Monitoring Programs would be $468,353. They estimated the annual cost of their proposed revised program to be $255,873. Due to variability of necessary overtime, parameters to be analyzed, necessary TIEs, etc., it is difficult to estimate a total cost of the monitoring program. Therefore, the SDRWQCB is assuming that the Permittees' estimate is representative.

In response to the cost information the Permittees submitted, the SDRWQCB revised and reduced the Receiving Waters and Illicit Discharge Monitoring Program requirements to the essential equivalent of the Permittees' proposal. Therefore, the cost should be equivalent to the Permittees' estimate and is reasonable for an MS4 monitoring program in southern California.

D. REPORTING REQUIREMENTS

1. Specific Legal Authority for Reporting Requirements

- Standard provisions and reporting requirements are consistent to all NPDES permits and are generally found in federal NPDES regulation 40 CFR 122.41.
- Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system of a municipal separate storm sewer system that has been designated by the Director under section 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and (7) Identification of water quality improvements or degradation."

2. Discussion of Annual Reporting Requirements

SWMP Reporting Requirements (Section III.A of the MRP)

All of the SWMP reporting requirements are necessary to meet the above-referenced federal requirements and to measure the effectiveness of programs and BMPs. According to the EPA, measurable goals are necessary to evaluate the effectiveness of individual BMPs and the storm water management program as a whole (EPA, 2000d). The EPA strongly recommends that measurable goals include: (1) The activity, or BMP, to be implemented; (2) A schedule or date of implementation; and (3) A quantifiable target to measure progress toward achieving the activity or BMP (EPA, 2002d). The Order is structured so that the descriptions of programs and BMPs are included in the SWMP, and the quantifiable measurements are reported in each annual report.

The current permit, Order No. R9-98-02 requires the annual report to be submitted on September 15 of each year. However, the District submitted a request, dated November 3, 2003, to change the annual report date to October 31. The District's request was based on the difficulty of obtaining necessary materials with sufficient time to prepare a report. The SDRWQCB concurs with the request.

Monitoring Provisions and Reporting Requirements (Sections II.C and III.B of the MRP)

The majority of the monitoring provisions and reporting requirements contained in sections II.C and III.B of the MRP are specified in 40 CFR 122.41. Those that are not are standard provisions in SDRWQCB NPDES permits, or are necessary to meet the objectives of the MRP.

Section II.C.h of the MRP specifies that the Minimum Levels (MLs) listed in Appendix 4 of the State Board Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed

Bays, and Estuaries of California, 2000 (SIP) shall be used for analyses of priority toxic pollutants identified in the CTR (65 Fed. Reg. 31682). The MLs from the SIP represent the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences (SWRCB, 2000a). The SIP's MLs therefore represent the best available science for determining the presence of toxic pollutants at concentrations of concern. If MLs are not used, concentrations of concern of priority toxic pollutants may not be detected. Detection and control of toxic pollutants in surface waters is necessary to achieve the CWA's goals and objectives (65 Fed. Reg. 31683). Using MLs will also provide quantifiable data that is necessary to better assess water quality and BMP effectiveness. Non-detects cannot be used to accurately determine mass loadings. Therefore, the method detection limits (MDLs) used for analysis of priority toxic pollutants must be equivalent to or lower than the MLs in Appendix 4 of the SIP.

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ATTACHMENT H-3

California Regional Water Quality Control Board
San Diego Region

Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the Incorporated Cities of Riverside County, and the Riverside County Flood Control and Water Conservation District within the San Diego Region

Order No. R9-2010-0016
NPDES No. CAS0108766

November 10, 2010

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
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To request copies of the Riverside County Municipal Storm Water Permit, please contact Ben Neill, Water Resources Control Engineer at (858) 467 – 2983, bneill@waterboards.ca.gov

Documents also are available at: http://www.waterboards.ca.gov/sandiego

Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the Incorporated Cities of Riverside County, and the Riverside County Flood Control and Water Conservation District within the San Diego Region

Adopted by the
California Regional Water Quality Control Board
San Diego Region
on
November 10, 2010

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Attachment F – Data

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board), finds that:

A. BASIS FOR THE ORDER

1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable State and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (State Water Board), the Water Quality Control Plan for the San Diego Basin adopted by the San Diego Water Board (Basin Plan), the California Toxics Rule, and the California Toxics Rule Implementation Plan.

2. This Order reissues National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, which was first adopted by the San Diego Water Board on July 16, 1990 (Order No. 90-38), and then reissued on May 13, 1998 (Order No. 98-02). On May 26, 1998, the United States Environmental Protection Agency (USEPA), Region IX, objected to Order No. 98-02 due to concerns regarding Receiving Water Limitations (RWL) language. The USEPA concluded that the RWL language in the permit did not comply with the CWA and its implementing regulations. On April 27, 1999, the USEPA reissued the MS4 permit, which the San Diego Water Board adopted as Addendum No. 1 to Order No. 98-02 on November 8, 2000. On July 14, 2004, the San Diego Water Board adopted the third term MS4 permit, Order No. R9-2004-001. On January 15, 2009, the Riverside County Flood Control and Water Conservation District (RCFCD), as the Principal Copermittee, submitted a Report of Waste Discharge (ROWD) for reissuance of the municipal separate storm sewer system (MS4) Permit.

3. This Order is consistent with the following precedential Orders adopted by the State Water Board addressing MS4 NPDES Permits: Order 99-05, Order WQ-2000-11, Order WQ 2001-15, and Order WQO 2002-0014.[1]

[1] In July 2010, the court in Los Angeles County v. State Water Resources Control Board remanded the Los Angeles Water Board's MS4 permit underlying Order WQ 2009-0008 for procedural reasons occurring during the permit adoption process. The court did not evaluate or rule upon the substantive findings and reasoning set forth in Order WQ 2009-0008. The State Water Board rescinded and voided Order WQ 2009-0008 to comply with the court's order. While the San Diego Water Board may no longer cite Order WQ 2009-0008, the San Diego Water Board has independently considered whether the requirement to eliminate non-storm water discharges is subject to the MEP standard. The San Diego Water Board concludes that the MEP standard does not apply to non-storm water discharges for the same reasons expressed by the State Water Board.

4. The Fact Sheet / Technical Report for the Order No. R9-2010-0016, NPDES No. CAS0108766, Waste Discharge Requirements for Discharges from the MS4s Draining the County of Riverside, the Incorporated Cities of Riverside County, and the Riverside County Flood Control and Water Conservation District within the San Diego Region, includes cited regulatory and legal references and additional explanatory information and data in support of the requirements of this Order. This information, including any supplements thereto, is hereby incorporated by reference into these findings.

B. REGULATED PARTIES

Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates an MS4, through which it discharges into waters of the United States (U.S.) within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 that contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the U.S.

Table 1. Municipal Copermittees

1. City of Murrieta	4. County of Riverside
2. City of Temecula	5. Riverside County Flood Control and Water Conservation District
3. City of Wildomar	

The Cities of Murrieta, Menifee and Wildomar also discharge into the waters of the U.S. in the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board), so are located partially within both the San Diego and Santa Ana Water Board boundaries. Water Code (WC) section 13228 provides a way to streamline the regulation of entities whose jurisdictions straddle the border of two or more Regions. WC section 13228 is implemented in this Order to ease the regulatory burden on Storm Water Agencies and Municipalities that lie in both the San Diego Water Board and the adjacent Santa Ana Water Board's jurisdiction. As allowed by California Water Code (CWC) §13228, the Cities of Murietta, Menifee, and Wildomar submitted written requests to be regulated for MS4 purposes under a permit adopted by only one Water Board. As authorized by CWC §13228 and pursuant to written agreements dated September 28, 2010 between the San Diego Water Board and the Santa Ana Water Board, the Cities of Murrieta and Wildomar are wholly regulated by the San Diego Water Board under this Order, including those portions of the Cities jurisdiction not within the San Diego Water Board's region. Similarly, the City of Menifee is wholly regulated by the Santa Ana Water Board under Order No. R8-2010-0033, including those portions of the City of Menifee within the San Diego Water Board's region.

C. DISCHARGE CHARACTERISTICS

1. Discharges from the MS4 contain waste, as defined in the CWC, and pollutants that adversely affect the quality of the waters of the State. The discharge from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA.

2. MS4 storm water and non-storm water discharges are likely to contain pollutants that cause or threaten to cause a violation of water quality standards, as outlined in the Basin Plan. Storm water and non-storm water discharges from the MS4 are subject to the conditions and requirements established in the Basin Plan for point source discharges.

3. The most common categories of pollutants in runoff include total suspended solids, sediment, pathogens (e.g., bacteria, viruses, protozoa), heavy metals (e.g., copper, lead, zinc and cadmium), petroleum products and polynuclear aromatic hydrocarbons, synthetic organics (e.g., pesticides, herbicides, and PCBs), nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), detergents, and trash.

4. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and/or impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

5. Pollutants in runoff can threaten and adversely affect human health. Human illnesses have been clearly linked to recreating near storm drains flowing to receiving waters. Also, runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

6. Runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

7. The Copermittees discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within one of the eleven hydrologic units (Santa Margarita Hydrologic Unit) comprising the San Diego Region as shown in Table 2. Some of the receiving water bodies have been designated as impaired by the San Diego Water Board in 2009 pursuant to CWA section 303(d).

Table 2. Common Watersheds and CWA Section 303(d) Impaired Waters in the San Diego Region.

Hydrologic Area (HA) or Hydrologic Subarea (HSA) of the Santa Margarita Hydrologic Unit	Major Receiving Water Bodies	303(d) Pollutant(s)/Stressor or Water Quality Effect[2]
DeLuz Creek HSA (902.21)	De Luz Creek	Iron, Manganese, Nitrogen, Sulfates
Murrieta HSA (902.32)	Long Canyon Creek (tributary to Murrieta Creek)	Chlorpyrifos, E. Coli, Fecal Coliform, Iron, Manganese
Wolf HSA (902.52)	Murrieta Creek	Chlorpyrifos, Copper, Iron, Manganese, Nitrogen, Toxicity
Pauba HSA (902.51)	Redhawk Channel	Chlorpyrifos, Copper, Diazinon, E. Coli, Fecal Coliform, Iron, Manganese, Nitrogen, Phosphorus, Total Dissolved Solids
Gavilan HSA (902.22)	Sandia Creek	Iron, Sulfates
Gertrudis HSA (902.42)	Santa Gertrudis Creek	Chlorpyrifos, Copper, E. Coli, Fecal Coliform, Iron, Phosphorous
Lower Ysidora HSA (902.11)	Santa Margarita Lagoon	Eutrophic
Lower Ysidora HSA (902.11)	Santa Margarita River (Lower)	Enterococcus, Fecal Coliform, Phosphorus, Total Nitrogen as N
Gavilan HSA (902.22)	Santa Margarita River (Upper)	Toxicity
Pauba HSA (902.51)	Temecula Creek	Chlorpyrifos, Copper, Phosphorus, Total Dissolved Solids, Toxicity
French HSA (902.33)	Warm Springs Creek (Riverside County)	Chlorpyrifos, E. Coli, Fecal Coliform, Iron, Manganese, Phosphorus, Total Nitrogen as N

[2] The listed 303(d) pollutant(s) do not necessarily reflect impairment of the entire corresponding WMA or all corresponding major surface water bodies. The specific impaired portions of each WMA are listed in the State Water Resources Control Board's 2008 Section 303(d) List of Water Quality Limited Segments.

8. Trash is a persistent pollutant that can enter receiving waters from the MS4, accumulate, and be transported downstream into receiving waters over time. Trash poses a serious threat to the beneficial uses of the receiving waters, including, but not limited to, human health, rare and endangered species, navigation and human recreation.

9. The Copermittees' water quality monitoring data submitted to date documents persistent violations of Basin Plan water quality objectives for various runoff-related pollutants (indicator bacteria, dissolved solids, turbidity, metals, pesticides, etc.) at various watershed monitoring stations. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicate that the majority of the monitored receiving waters have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Riverside County.

10. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area is significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff, and decreased natural clean sediment loads, greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 3-5 percent conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

11. Development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

12. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d)-impaired water bodies. Such areas have a much lower capacity to withstand pollutant loads than other, more sensitive areas. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional controls to reduce storm water pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

13. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; (4) ensuring that each drainage feature is adequately maintained in perpetuity; and (5) pretreatment.

14. Non-storm water (dry weather) discharge from the MS4 is not considered a storm water (wet weather) discharge and therefore is not subject to regulation under the Maximum Extent Practicable (MEP) standard from CWA 402(p)(3)(B)(iii), which is explicitly for "Municipal … *Stormwater Discharges* (emphasis added)" from the MS4. Rather, non-storm water discharges into the storm sewers, per CWA 402(p)(3)(B)(ii), are to be effectively prohibited. Such dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds and are to be effectively prohibited under the CWA.

15. Non-storm water discharges to the MS4 granted an influent exception [i.e., which are exempt from the effective prohibition requirement set forth in CWA section 402(p)(3)(B)(ii)] under 40 CFR 122.26 are included within this Order. Any exempted discharges identified by Copermittees as a source of pollutants are subsequently required to be *addressed* (emphasis added) as illicit discharges through prohibition and incorporation into existing IC/ID programs. Furthermore, the USEPA contemplates that permitting agencies such as the San Diego Water Board may also identify exempted discharges as a source of pollutants required to be addressed as illicit discharges (See Vol. 55 Fed. Reg. 48037). The San Diego Water Board and the Copermittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the U.S.

D. RUNOFF MANAGEMENT PROGRAMS

1. General

a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in storm water to the MEP. However, since MEP is a dynamic performance standard, which evolves over time as runoff management knowledge increases, the Copermittees' runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of runoff management program implementation is expected to ultimately achieve compliance with water quality standards in the Region.

b. The Copermittees have generally been implementing the jurisdictional runoff management programs (JRMPs) required pursuant to Order No. R9-2004-001 since July 14, 2005. Prior to that, the Copermittees were regulated by Order No. 98-02, since May 13, 1998. MS4 discharges, however, continue to cause or contribute to violations of water quality standards as evidenced by the Copermittees' monitoring results.

c. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in storm water runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the revised Watershed Water Quality Workplan (Watershed Workplan) section, are designed to specifically address high priority water quality problems. Other requirements, such as for unpaved roads, are a result of San Diego Water Board's identification of water quality problems through investigations and complaints during the previous permit period. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other San Diego Water Board compliance assessment activities. Additional changes in the monitoring program provide consistency with the Code of Federal Regulations, USEPA guidance, State Water Board guidance, and the Southern California Monitoring Coalition recommendations.

d. Updated individual Storm Water Management Plans (Individual SWMP or JRMP), and Watershed Stormwater Management Plans (watershed SWMPs or Watershed Workplans), which, together with references in the DAMP, describe the Copermittees' runoff management programs in their entirety, are needed to guide the Copermittees' runoff management efforts and aid the Copermittees in tracking runoff management program implementation. Hereinafter, the individual SWMP is referred to as the JRMPs and the Watershed SWMP is referred to as the Watershed Workplan. It is practicable for the Copermittees to update the

JRMPs and Watershed Workplans within the timeframe specified in this Order, since significant efforts to develop these programs have already occurred.

e. Pollutants can be effectively reduced in storm water runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense." Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants that have been mobilized by wet-weather or dry-weather flows.

f. Runoff needs to be addressed during the three major phases of urban development (planning, construction, and use) in order to reduce the discharge of pollutants from storm water to the MEP, effectively prohibit non-storm water discharges and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can negatively impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in runoff to receiving waters.

g. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.

h. This Order establishes Storm Water Action Levels (SALs) for selected pollutants based on USEPA Rain Zone 6 (arid southwest) Phase I MS4 monitoring data for pollutants in storm water. The SALs were computed as the 90th percentile of the data set, utilizing the statistical based population approach, one of three approaches recommended by the State Water Board's Storm Water Panel in its report, 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006). SALs are identified in Section D of this Order. Copermittees must implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the SALs. Exceedance of SALs may indicate inadequacy of programmatic measures and BMPs required in this Order.

2. Development Planning

a. The Standard Storm Water Mitigation Plan (SSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the State Water Board on October 5, 2000. In the precedential order, the State Water Board

found that the design standards, which essentially require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SSMP requirements are appropriately applied to the majority of the Priority Development Project categories that are also contained in Section F.1 of this Order. The State Water Board also gave California Regional Water Quality Control Boards (Regional Water Boards) the needed discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in SSMPs.

b. Controlling runoff pollution by using a combination of onsite source control and site design BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. (2) Whereas, onsite source control BMPs can be applied during all runoff conditions end-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the pollutant source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

c. Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit projects can be an effective means for minimizing the impact of storm water runoff discharges from the development projects on receiving waters. LID is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. Current runoff management, knowledge, practices and technology have resulted in the use of LID BMPs as an acceptable means of meeting the storm water MEP standard.

d. RGOs are significant sources of pollutants in storm water runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas.

e. Industrial sites are significant sources of pollutants in runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID site design,

source control, and treatment control BMPs are needed at industrial sites in order to meet the MEP standard. These BMPs are necessary where the industrial site is larger than 10,000 square feet. The 10,000 square feet threshold is appropriate, since it is consistent with requirements in other Phase I NPDES storm water regulations throughout California.

f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). Proper BMP design and maintenance to avoid standing water, however, can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities, local vector control agencies, and the California Department of Public Health during the development and implementation of runoff management programs.

g. The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in storm water runoff and the volume of storm water runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by natural vegetated soil. Hydromodification measures for discharges to hardened channels are needed for the future restoration of the hardened channels to their natural state, thereby restoring the chemical, physical, and biological integrity and beneficial uses of local receiving waters.

3. Construction and Existing Development

a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (State and local) storm water regulation. Under this dual system, each Copermittee is responsible for enforcing its local permits, plans, and ordinances, and the San Diego Water Board is responsible for enforcing the General Construction Activities Storm Water Permit, State Water Board Order 2009-0009-DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, State Water Board Order 97-03 DWQ, NPDES No. CAS000001 (General Industrial Permit) and any reissuance of these permits. NPDES municipal regulations require that municipalities develop and implement measures to address runoff from industrial and construction activities. Those measures may include the implementation of other BMPs in addition to those BMPs that are required under the statewide general permits for activities subject to both State and local regulation.

b. Identification of sources of pollutants in runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants from its MS4 in storm water are reduced to the MEP and that non-storm water discharges are not occurring. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at areas that are at high risk for pollutant discharges.

c. Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Urban streams used in this manner are part of the municipalities' MS4s regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the urban stream is both an MS4 and receiving water.

d. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or otherwise control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges from storm water into MS4s must be reduced using a combination of management measures, including source control and an effective MS4 maintenance program implemented by each Copermittee.

f. Enforcement of local runoff related ordinances, permits, and plans is an essential component of every runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction. Education is an important aspect of every effective runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and understand their specific roles and responsibilities for compliance with this

Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions affect receiving water quality and how adverse effects can be minimized.

g. Public participation during the development of runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

h. Retrofitting existing development with storm water treatment controls, including LID, is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Although SSMP BMPs are required for redevelopment, the current rate of redevelopment will not address water quality problems in a timely manner. Cooperation with private landowners is necessary to effectively identify, implement and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.

4. Watershed Runoff Management

a. Since runoff within a watershed can flow from and through multiple land uses and political jurisdictions, watershed-based runoff management can greatly enhance the protection of receiving waters. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Effective watershed-based runoff management actively reduces pollutant discharges and abates pollutant sources causing or contributing to watershed water quality problems. Watershed-based runoff management that does not actively reduce pollutant discharges and abate pollutant sources causing or contributing to watershed water quality problems can necessitate implementation of the iterative process outlined in section A.3 of this Order. Watershed management of runoff does not require Copermittees to expend resources outside of their jurisdictions. In some cases, however, this added flexibility provides more, and possibly more effective, alternatives for minimizing waste discharges. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

b. Some runoff issues, such as general education and training, can be effectively addressed on a regional basis. Regional approaches to runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

c. It is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially the State of California Department of Transportation, the U.S. federal government, sovereign American Indian tribes, and water and sewer districts, is also important.

E. STATUTE AND REGULATORY CONSIDERATIONS

1. The RWL language specified in this Order is consistent with language recommended by the USEPA and established in State Water Board Order WQ-99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Water Board on June 17, 1999. The RWL language in this Order requires compliance with water quality standards, which for storm water discharges is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution, contamination, or nuisance.

2. The Basin Plan, identifies the following existing and potential beneficial uses for surface waters in Riverside County: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Hydropower Generation (POW), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Spawning, Reproduction and/or Early Development (SPWN) and Preservation of Biological Habitats of Special Significance (BIOL).

3. This Order is in conformance with State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*, and the federal Antidegradation Policy described in 40 CFR 131.12.

4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Copermittee from developing a non-point source plan, for the urban category, under CZARA. The San Diego Water Board addresses septic systems through the administration of other programs.

5. Section 303(d)(1)(A) of the CWA requires that "Each state shall identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired water bodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired water bodies is called the Section 303(d) List. The 2006 Section 303(d) List was approved by the State Water Board on October 25, 2006. On June 28, 2007, the 2006 303(d) List for California was given final approval by the USEPA. The 303(d) List was recently updated, and on December 16, 2009, the 2008 303(d) List was approved by the San Diego Water Board. The 2008 303(d) List for the San Diego Region was approved by the State Water Board on August 4, 2010. The 2008 303(d) List is awaiting USEPA approval.

6. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under CWA §402. (33 U.S.C. § 1342(p)(3)(B).) Second, the local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges. Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA §301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their MS4 discharges (i.e. effluent limitations). Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIIIB, Section (6) of the California Constitution. Likewise, the provisions of this Order to implement TMDLs are federal mandates. The CWA requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. sec. 1313(d).) Once the USEPA or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation. (40 C.F.R. sec. 122.44(d)(1)(vii)(B).)

7. Runoff treatment and/or mitigation must occur prior to the discharge of runoff into receiving waters. Treatment BMPs must not be constructed in waters of the U.S. or State unless the runoff flows are sufficiently pretreated to protect the values and functions of the water body. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the

construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. Without federal authorization (e.g., pursuant to CWA § 404), waters of the U.S. may not be converted into, or used as, waste treatment or conveyance facilities. Similarly, waste discharge requirements pursuant to CWC §13260 are required for the conversion or use of waters of the State as waste treatment or conveyance facilities. Diversion from waters of the U.S./State to treatment facilities and subsequent return to waters of the U.S. is allowable, provided that the effluent complies with applicable NPDES requirements.

8. The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

9. Storm water discharges from developed and developing areas in Riverside County are significant sources of certain pollutants that cause, may be causing, threatening to cause or contributing to water quality impairment in the waters of Riverside County. Furthermore, as delineated in the CWA section 303(d) list in Table 2, the San Diego Water Board has found that there is a reasonable potential that municipal storm water and non-storm water discharges from MS4s cause or may cause or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria (including Fecal Coliform and E. Coli), Copper, Manganese, Iron, Chlorpyrifos, Diazinon, Sulfates, Phosphorous, Nitrogen, Total Dissolved Solids (TDS), and Toxicity. In accordance with CWA section 303(d), the San Diego Water Board is required to establish TMDLs for these pollutants to these waters to eliminate impairment and attain water quality standards. Therefore, certain early pollutant control actions and further pollutant impact assessments by the Copermittees are warranted and required pursuant to this Order.

10. This Order requires each Copermittee to effectively prohibit all types of unauthorized discharges of non-storm water into its MS4. However, historically pollutants have been identified as present in dry weather non-storm water discharges from the MS4s through 303(d) listings, monitoring conducted by the Copermittees under Order No. R9-2004-0001, and there are others expected to be present in dry weather non-storm water discharges because of the nature of these discharges. This Order includes action levels for pollutants in non-storm water, dry weather discharges from the MS4. The non-storm water action levels are designed to ensure that the Order's requirement to effectively prohibit all types of unauthorized discharges of non-storm water into the MS4 is being complied with. Non-storm water action levels in the Order are based upon numeric or narrative water quality objectives and criteria as defined in the Basin Plan, the State Water Board's Water Quality Control Plan for Ocean Waters of California (Ocean Plan), and the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). An exceedance of an action level

requires specified responsive action by the Copermittees. This Order describes what actions the Copermittees must take when an exceedance of an action level is observed. Exceedances of non-storm water action levels do not alone constitute a violation of this Order but could indicate non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4 or other prohibitions established in this Order. Failure to undertake required source investigation and elimination action following an exceedance of a non-storm water action level (NAL or action level) is a violation of this Order. The San Diego Water Board recognizes that use of action levels will not necessarily result in detection of all unauthorized sources of non-storm water discharges because there may be some discharges in which pollutants do not exceed established action levels. However, establishing NALs at levels appropriate to protect water quality standards is expected to lead to the identification of significant sources of pollutants in dry weather non-storm water discharges.

11. In addition to federal regulations cited in the Fact Sheet / Technical Report for the Order No. R9-2010-0016, monitoring and reporting required under Order No. R9-2010-0016 is required pursuant to authority under CWC section 13383.

12. With this Order, the San Diego Water Board has completed the re-issuance of the fourth iteration of the Phase I MS4 NPDES Permits for the Copermittees in the portions of San Diego County, Orange County, and Riverside County within the San Diego Region. The NPDES Permit requirements issued to the Copermittees in each county have substantially the same core requirements such as discharge prohibitions, receiving water limitations, jurisdictional components, and monitoring. In addition, the Copermittees cooperate regionally to develop monitoring with the Southern California Stormwater Monitoring Coalition and to develop program effectiveness with the California Stormwater Quality Association. Regional programs could improve the Copermittees' compliance with other permit components such as development of the Hydromodification Management Plans and Retrofitting Existing Development with more consistent implementation and cost sharing. Re-issuing the NPDES Permit requirements within five years for three counties under three different permits requires the San Diego Water Board to expend significant time and resources for issuance of the permits through three separate public proceedings, thereby greatly reducing the time and resources available to oversee compliance. Multiple permits also create confusion for determining compliance among regulated entities, especially the land development community. The San Diego Water Board recognizes that issuing a single MS4 permit for all Phase I entities in the San Diego Region will provide consistent implementation, improve communication among agencies within watersheds crossing multiple jurisdictions, and minimize staff resources spent with each permit renewal. The San Diego Water Board plans to develop a single regional MS4 permit prior to the expiration of this Order that will transfer the Copermittees' enrollment to the regional permit upon expiration of this Order.

F. PUBLIC PROCESS

1. The San Diego Water Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing MS4 discharges of pollutants in waters of the U.S.

2. The San Diego Water Board has held a public hearing on November 10, 2010 and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, must each comply with the following:

A. PROHIBITIONS AND RECEIVING WATER LIMITATIONS

1. Discharges into and from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in receiving waters of the state are prohibited.[3]

2. Storm water discharges from MS4s containing pollutants which have not been reduced to the MEP are prohibited.[3]

3. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses, water quality objectives developed to protect beneficial uses, and the State policy with respect to maintaining high quality waters) are prohibited.

a. Each Copermittee must comply with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in storm water discharges in accordance with this Order, including any modifications. If exceedance(s) of water quality standards persist notwithstanding implementation of this Order, the Copermittee must assure compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:

(1) Upon a determination by either the Copermittee or the San Diego Water Board that storm water MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee must notify the San Diego Water Board within 30 days and thereafter submit a report to the San Diego Water Board that describes best management practices (BMPs) that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the Annual Report unless the San Diego Water Board[4] directs an earlier submittal. The report must include an implementation

[3] This prohibition does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants in storm water discharges to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer). Runoff treatment and/or mitigation must occur prior to the discharge of runoff into receiving waters per finding E.7.

[4] The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to CWC §13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under CWC §13223 or this Order explicitly states otherwise.

schedule. The San Diego Water Board may require modifications to the report

(2) Submit any modifications to the report required by the San Diego Water Board within 30 days of notification;

(3) Within 30 days following acceptance of the report described above by the San Diego Water Board, the Copermittee must revise its JRMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required; and

(4) Implement the revised JRMP and monitoring program in accordance with the approved schedule.

b. The Copermittee must repeat the procedure set forth above to comply with the receiving water limitations for continuing or recurring exceedances of the same water quality standard(s) following implementation of scheduled actions unless directed to do otherwise by the San Diego Water Board's Executive Officer.

c. Nothing in section A.3 prevents the San Diego Water Board from enforcing any provision of this Order while the Copermittee prepares and implements the above report.

4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

B. NON-STORM WATER DISCHARGES

1. Each Copermittee must effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate NPDES permit; or not prohibited in accordance with sections B.2 and B.3 below.

2. The following categories of non-storm water discharges are not prohibited unless a Copermittee or the San Diego Water Board identifies the discharge category as a source of pollutants to waters of the U.S. Where the Copermittee(s) have identified a category as a source of pollutants, the category must be addressed as an illicit discharge and prohibited through ordinance, order or similar means. The San Diego Water Board may identify categories of discharge that either require prohibition, or other controls for non-anthropogenic sources. For a discharge category determined to be a source of pollutants, the Copermittee, under direction of the San Diego Water Board, must either prohibit the discharge category or develop and implement appropriate control measures for non-anthropogenic sources to prevent the discharge of pollutants to the MS4 and report to the San Diego Water Board pursuant to Section K.1 and K.3 of this Order. The discharge categories are:

a. Diverted stream flows;
b. Rising ground waters;
c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
d. Uncontaminated pumped ground water[5];
e. Foundation drains[5];
f. Springs;
g. Water from crawl space pumps[5];
h. Footing drains[5];
i. Air conditioning condensation;
j. Flows from riparian habitats and wetlands;
k. Water line flushing[6,7];
l. Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
m. Individual residential car washing; and
n. Dechlorinated swimming pool discharges[8].

3. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited.

a. As part of the JRMP, each Copermittee must develop and implement a program to address pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified as significant sources of pollutants to waters of the U.S.

b. Building fire suppression system maintenance discharges (e.g. sprinkler line flushing) contain waste. Therefore, such discharges are to be prohibited by the Copermittees as illicit discharges through ordinance, order, or similar means.

4. Each Copermittee must examine all dry weather effluent analytical monitoring results collected in accordance with section F.4 of this Order and Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2010-0016 to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in section B.2. Follow-up investigations must be conducted to identify and control, pursuant to section B.2, any non-prohibited discharge category(ies) listed above.

[5] Requires enrollment under Order R9-2008-002. Discharges into the MS4 require authorization from the owner and operator of the MS4 system.
[6] This exemption does not include fire suppression sprinkler system maintenance and testing discharges. Those discharges may be regulated under Section B.3.
[7] Requires enrollment under Order R9-2002-0020.
[8] Excluding saline swimming pool discharges.

C. NON-STORM WATER DRY WEATHER ACTION LEVELS

1. Each Copermittee, beginning no later than July 1, 2012, must implement the non-storm water dry weather action level (NAL) monitoring as described in Attachment E of this Order.

2. In response to an exceedance of an NAL, the Copermittee(s) having jurisdiction must investigate and seek to identify the source of the exceedance in a timely manner. However, if any Copermittee identifies a number of NAL exceedances that prevents it from adequately conducting source investigations at all sites in a timely manner, then that Copermittee may submit a prioritization plan and timeline that identifies the timeframe and planned actions to investigate and report its findings on all of the exceedances. Depending on the source of the pollutant exceedance, the Copermittee(s) having jurisdiction must take action as follows:

a. If the Copermittee identifies the source of the exceedance as natural (non-anthropogenically influenced) in origin and in conveyance into the MS4; then the Copermittee must report its findings and documentation of its source investigation to the San Diego Water Board in its Annual Report.

b. If the Copermittee identifies the source of the exceedance as an illicit discharge or connection, then the Copermittee must eliminate the discharge to its MS4 pursuant to Section F.4.f and report the findings, including any enforcement action(s) taken, and documentation of the source investigation to the San Diego Water Board in the Annual Report. If the Copermittee is unable to eliminate the source of discharge prior to the Annual Report submittal, then the Copermittee must submit, as part of its Annual Report, its plan and timeframe to eliminate the source of the exceedance. Those dischargers seeking to continue such a discharge must become subject to a separate NPDES permit prior to continuing any such discharge.

c. If the Copermittee identifies the source of the exceedance as an exempted category of non-storm water discharge, then the Copermittees must determine if this is an isolated circumstance or if the category of discharges must be addressed through the prevention or prohibition of that category of discharge as an illicit discharge. The Copermittee must submit its findings including a description of the steps taken to address the discharge and the category of discharge, to the San Diego Water Board for review in its Annual Report. Such description must include relevant updates to or new ordinances, orders, or other legal means of addressing the category of discharge, and the anticipated schedule for doing so. The Copermittees must also submit a summary of its findings with the Report of Waste Discharge.

d. If the Copermittee identifies the source of the exceedance as a non-storm water discharge in violation or potential violation of an existing separate NPDES permit

(e.g. the groundwater dewatering permit), then the Copermittee must report, within three business days, the findings to the San Diego Water Board including all pertinent information regarding the discharger and discharge characteristics.

e. If the Copermittee is unable to identify the source of the exceedance after taking and documenting reasonable steps to do so, then the Copermittee must perform additional focused sampling. If the results of the additional sampling indicate a recurring exceedance of NALs with an unidentified source, then the Copermittee must update its programs within a year to address the common contributing sources that may be causing such an exceedance. The Copermittee's annual report must include these updates to its programs including, where applicable, updates to their watershed workplans (Section G.2), retrofitting consideration (Section F.3.d) and program effectiveness work plans (Section J.4).

f. The Copermittees, or any interested party, may evaluate existing NALs and propose revised NALs for future Board consideration.

3. NALs can help provide an assessment of the effectiveness of the prohibition of non-storm water discharges and of the appropriateness of exempted non-storm water discharges. An exceedance of an NAL does not alone constitute a violation of the provisions of this Order. An exceedance of an NAL may indicate a lack of compliance with the requirement that Copermittees effectively prohibit all types of unauthorized non-storm water discharges into the MS4 or other prohibitions set forth in Sections A and B of this Order. Failure to timely implement required actions specified in this Order following an exceedance of an NAL constitutes a violation of this Order. Neither the absence of exceedances of NALs nor compliance with required actions following observed exceedances, excuses any non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4s or any non-compliance with the prohibitions in Sections A and B of this Order. During any annual reporting period in which one or more exceedances of NALs have been documented the Copermittee must report in response to Section C.2 above, a description of whether and how the observed exceedances did or did not result in a discharge from the MS4 that caused, or threatened to cause or contribute to a condition of pollution, contamination, or nuisance in the receiving waters.

4. Monitoring of effluent will occur at the end-of-pipe prior to discharge into the receiving waters, with a focus on Major Outfalls, as defined in 40 CFR 122.26(B 5-6) and Attachment E of this Order. The Copermittees must develop their monitoring plans to sample a representative percentage of major outfalls and identified stations within each hydrologic subarea. At a minimum, outfalls that exceed any NALs once during any year must be monitored in the subsequent year. Any station that does not exceed an NAL, or only has exceedances that are identified as natural in origin and conveyance into the MS4 pursuant to Section C.2.a, for 3 successive years may be replaced with a different station.

5. Each Copermittee must monitor for the non-storm water dry weather action levels, which are incorporated into this Order as follows:

Action levels for discharges to inland surface waters:

Table 3.a: General Constituents

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Fecal Coliform	MPN/ 100 ml	200[A] 400[B]	-		BPO
Enterococci	MPN/ 100 ml	33	-	61[C]	BPO
Turbidity	NTU	-	20		BPO
pH	Units	Within limit of 6.5 to 8.5 at all times			BPO
Dissolved Oxygen	mg/L	Not less than 5.0 in WARM waters and not less than 6.0 in COLD waters			BPO
Total Nitrogen	mg/L	-	1.0	See MDAL	BPO
Total Phosphorus	mg/L	-	0.1	See MDAL	BPO
Methylene Blue Active Substances	mg/L	-	0.5	See MDAL	BPO
Iron	mg/L	-	0.3	See MDAL	BPO
Manganese	mg/L	-	0.05	See MDAL	BPO

A – Based on a minimum of not less than five samples for any 30-day period
B – No more than 10 percent of total samples may exceed 400 per 100 ml during any 30 day period
C – This Value has been set to Basin Plan Criteria for Designated Beach Areas
BPO – Basin Plan Objective
MDAL – Maximum Daily Action Level
AMAL – Average Monthly Action Level

Table 3.b: Priority Pollutants

		Freshwater (CTR)	
Parameter	Units	MDAL	AMAL
Cadmium	ug/L	**	**
Copper	ug/L	*	*
Chromium III	ug/L	**	**
Chromium VI (hexavalent)	ug/L	16	8.1
Lead	ug/L	*	*
Nickel	ug/L	**	**
Silver	ug/L	*	*
Zinc	ug/L	*	*

CTR – California Toxic Rule
*- Action Levels developed on a case-by-case basis (see below)
**- Action Levels developed on a case-by-case basis (see below), but calculated criteria are not to exceed Maximum Contaminant Levels under the California Code of Regulations[9]

[9] California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64431.

The NALs for Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data (receiving water hardness). For these priority pollutants, the following equations (40 CFR 131.38.b.2) will be required:

Cadmium (Total Recoverable)	= exp(0.7852[ln(hardness)] -2.715)
Chromium III (Total Recoverable)	= exp(0.8190[ln(hardness)] + .6848)
Copper (Total Recoverable)	= exp(0.8545[ln(hardness)] - 1.702)
Lead (Total Recoverable)	= exp(1.273[ln(hardness)] - 4.705)
Nickel (Total Recoverable)	= exp(.8460[ln(hardness)] + 0.0584)
Silver (Total Recoverable)	= exp(1.72[ln(hardness)] - 6.52)
Zinc (Total Recoverable)	= exp(0.8473[ln(hardness)] + 0.884)

D. STORM WATER ACTION LEVELS

1. The Copermittees must implement the Wet Weather MS4 Discharge Monitoring as described in Attachment E of this Order, and beginning three years after the Order adoption date, the Copermittees must annually evaluate their data compared to the Stormwater Action Levels (SALs). At each monitoring station, a running average of twenty percent or greater of exceedances of any discharge of storm water from the MS4 to waters of the U.S. that exceed the SALs for each of the pollutants listed in Table 4 (below) requires the Copermittee(s) having jurisdiction to affirmatively augment and implement all necessary storm water controls and measures to reduce the discharge of the associated class of pollutants(s) to the MEP. The Copermittees must utilize the exceedance information when adjusting and executing annual work plans, as required by this Order. Copermittees must take the magnitude, frequency, and number of constituents exceeding the SAL(s), in addition to receiving water quality data and other information, into consideration when prioritizing and reacting to SAL exceedances in an iterative manner. Failure to appropriately consider and react to SAL exceedances in an iterative manner creates a presumption that the Copermittee(s) have not reduced pollutants in storm water discharges to the MEP.

Table 4. Storm Water Action Levels

Pollutant	Action Level
Turbidity (NTU)	126
Nitrate & Nitrite total (mg/L)	2.6
P total (mg/L)	1.46
Cd total (µg/L)	3.0
Cu total (µg/L)	127
Pb total (µg/L)	250
Zn total (µg/L)	976

2. The end-of-pipe assessment points for the determination of SAL compliance are major outfalls, as defined in 40 CFR 122.26(b)(5) and (b)(6) and Attachment E of this Order. The Copermittees must develop their monitoring plans to sample a representative percentage of the major outfalls within each hydrologic subarea. At a minimum, outfalls that exceed SALs must be monitored in the subsequent year. Any station that does not exceed an SAL for 3 successive years may be replaced with a different station. SAL samples must be 24 hour time-weighted composites.

3. The absence of SAL exceedances does not relieve the Copermittees from implementing all other required elements of this Order.

4. This Order does not regulate natural sources and conveyances into the MS4 of constituents listed in Table 5. To be relieved of the requirements to take action as described in D.1 above, the Copermittee must demonstrate that the likely and expected cause of the SAL exceedance is not anthropogenic in nature. This demonstration does not need to be repeated for subsequent exceedances of the same SAL at the same monitoring station.

5. The SALs will be reviewed and updated at the end of every permit cycle. The data collected pursuant to D.2 above and Attachment E can be used to create SALs based upon local data. The purpose of establishing the SALs is that through the iterative and MEP process, outfall storm water discharges will meet all applicable water quality standards.

E. LEGAL AUTHORITY

1. Each Copermittee must establish, maintain, and enforce adequate legal authority within its jurisdiction to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. Nothing herein shall authorize a Copermittee or other discharger regulated under the terms of this order to divert, store or otherwise impound water if such action is reasonably anticipated to harm downstream water rights holders in the exercise of their water rights. This legal authority must, at a minimum, authorize the Copermittee to:

a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites. This requirement applies both to industrial and construction sites which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites which do not. Grading ordinances must be updated and enforced as necessary to comply with this Order;
b. Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2;
c. Prohibit and eliminate illicit connections to the MS4;

d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;
e. Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
f. Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;
g. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees;
h. Control of the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as the State of California Department of Transportation, the U.S. federal government, or sovereign Native American Tribes is encouraged;
i. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites;
j. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s from storm water to the MEP; and
k. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of storm water pollutants to the MS4 to the MEP.

2. Each Copermittee must submit on or before June 30, 2012, a statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority within its jurisdiction to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. These statements must include:

a. Citation of runoff related ordinances and the reasons they are enforceable;
b. Identification of the local administrative and legal procedures available to mandate compliance with runoff related ordinances and therefore with the conditions of this Order, and a statement as to whether enforcement actions can be completed administratively or whether they must be commenced and completed in the judicial system; and
c. A brief description of how runoff related ordinances are adopted and the process by which they may be challenged.

F. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM (JRMP)

Each Copermittee must implement all requirements of section F of this Order no later than July 1, 2012, unless otherwise specified. Upon adoption of this Order and until an updated JRMP is developed and implemented or July 1, 2012, whichever occurs first, each Copermittee must at a minimum implement its JRMP document, as the document was developed and amended to comply with the requirements of Order No. R9-2004-001.

Each Copermittee must develop and implement an updated JRMP for its jurisdiction no later than July 1, 2012. Each updated JRMP must meet the requirements of section F of this Order, reduce the discharge of storm water pollutants from the MS4 to the MEP, effectively prohibit non-storm water discharges, and prevent runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. In addition, each Copermittee's JRMP must identify all departments and positions within its jurisdiction that conduct runoff related activities, and their roles and responsibilities under this Order. This identification must include an up to date organizational chart specifying these departments and key personnel.

1. DEVELOPMENT PLANNING COMPONENT

Each Copermittee must implement a program which meets the requirements of this section and (1) reduces Development Project discharges of storm water pollutants from the MS4 to the MEP; (2) prevents Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; (3) prevents illicit discharges into the MS4; and (4) manages increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

a. GENERAL PLAN

Each Copermittee must revise as needed its General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) to include water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for all development, redevelopment, and retrofit projects. Examples of water quality and watershed protection principles and policies to be considered include the following:

(1) Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible slow runoff and maximize on-site infiltration of runoff.

(2) Implement pollution prevention methods supplemented by pollutant source controls and treatment BMPs. Use small collection strategies located at, or as close as possible to, the source (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into an MS4.

(3) Preserve, and where possible, create, or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones. Encourage land acquisition of such areas.

(4) Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.

(5) Prior to making land use decisions, utilize methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require incorporation of BMPs to mitigate the projected increases in pollutant loads and flows.

(6) Avoid development of areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that identifies these areas and protects them from erosion and sediment loss.

(7) Reduce pollutants associated with vehicles and increasing traffic resulting from development.

(8) Post-development runoff from a site must not contain pollutant loads that cause or contribute to an exceedance of receiving water quality objectives and which have not been reduced to the MEP.

b. **ENVIRONMENTAL REVIEW PROCESS**

Each Copermittee must revise as needed its current environmental review processes to accurately evaluate water quality impacts and cumulative impacts and identify appropriate measures to avoid, minimize, and mitigate those impacts for all Development Projects.

c. **APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS**

For all proposed Development Projects, each Copermittee, during the planning process, and prior to project approval and issuance of local permits, must prescribe the necessary requirements so that Development Project discharges of storm water pollutants from the MS4 will be reduced to the MEP, will not cause or

contribute to a violation of water quality standards, and will comply with the Copermittee's ordinances, permits, plans, and requirements, and with this Order.

Performance Criteria: Discharges from each approved development project must be subject to the following management measures:

(1) Source control BMPs that reduce storm water pollutants of concern in runoff; prevent illicit discharges into the MS4; prevent irrigation runoff; storm drain system stenciling or signage; properly design outdoor material storage areas; properly design outdoor work areas; and properly design trash storage areas.

(2) The following LID BMPs listed below must be implemented at all Development Projects where applicable and feasible.

(a) Conserve natural areas, including existing trees, other vegetation, and soils;
(b) Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety is not compromised;
(c) Minimize the impervious footprint of the project;
(d) Minimize soil compaction to landscaped areas;
(e) Minimize disturbances to natural drainages (e.g., natural swales, topographic depressions, etc.); and
(f) Disconnect impervious surfaces through distributed pervious areas.

(3) Buffer zones for natural water bodies, where technically feasible. Where buffer zones are technically infeasible, require project proponent to implement other buffers such as trees, access restrictions, etc.

(4) Other measures necessary so that grading or other construction activities meet the provisions specified in section F.2 of this Order.

(5) Submittal of documentation of a mechanism under which ongoing long-term maintenance of all structural post-construction BMPs will be conducted.

(6) Infiltration and Groundwater Protection

To protect groundwater quality, each Copermittee must apply restrictions to the use of treatment control BMPs that are designed to primarily function as large, centralized infiltration devices (such as large infiltration trenches and infiltration basins). Such restrictions must be designed so that the use of such infiltration treatment control BMPs does not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, each treatment control BMP designed to primarily function as a centralized infiltration device must meet the restrictions below, unless the Development Project demonstrates to the Copermittee that a restriction is not necessary to protect groundwater quality. The Copermittees may collectively or individually

develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as centralized infiltration devices. Alternative restrictions developed by the Copermittees can partially or wholly replace the restrictions listed below. The restrictions do not apply to small infiltration systems dispersed throughout a development project.

(a) Runoff must undergo pretreatment such as sedimentation or filtration prior to infiltration;

(b) All dry weather flows containing significant pollutant loads must be diverted from infiltration devices and treated through other BMPs;

(c) Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;

(d) Infiltration treatment control BMPs must be adequately maintained so that they remove storm water pollutants to the MEP;

(e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark must be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;

(f) The soil through which infiltration is to occur must have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of runoff for the protection of groundwater beneficial uses;

(g) Infiltration treatment control BMPs must not be used for areas of industrial or light industrial activity; and other high threat to water quality land uses and activities as designated by each Copermittee unless first treated or filtered to remove pollutants prior to infiltration; and

(h) Infiltration treatment control BMPs must be located a minimum of 100 feet horizontally from any water supply wells.

(7) Where feasible, landscaping with native or low water species shall be preferred in areas that drain to the MS4 or to waters of the U.S.

(8) Rain water harvesting and water reuse, where feasible, must be encouraged as part of the site design and construction to reduce pollutants in storm water discharges to the MEP.

d. **STANDARD STORM WATER MITIGATION PLANS (SSMPS) – APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR PRIORITY DEVELOPMENT PROJECTS**

On or before June 30, 2012, the Copermittees must submit an updated SSMP, to the San Diego Water Board's Executive Officer for a 30 day public review and comment period. The San Diego Water Board's Executive Officer has the discretion to determine whether to hold a public hearing or to limit public input to written comments. Within 180 days of determination that the SSMP is in compliance with this Order's provisions, each Copermittee must amend its local ordinances consistent with the updated SSMP, and begin implementing the updated SSMP. Any updated local ordinances must be submitted to the San Diego Water Board with the Annual Report. The SSMP must meet the requirements of section F.1.d of this Order to (1) reduce Priority Development Project discharges of storm water pollutants from the MS4 to the MEP, and (2) prevent Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.[10]

(1) Definition of Priority Development Project:

Priority Development Projects are:

(a) All new Development Projects that fall under the project categories or locations listed in section F.1.d.(2), and

(b) Those redevelopment projects that create, add, or replace at least 5,000 square feet of impervious surfaces on an already developed site and the existing development and/or the redevelopment project falls under the project categories or locations listed in section F.1.d.(2). Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SSMP requirements, the numeric sizing criteria discussed in section F.1.d.(6) applies only to the addition or replacement, and not to the entire development. Where redevelopment

[10] Updated SSMP and hydromodification requirements must apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SSMP or hydromodification requirement commences. If lawful prior approval of a project exists, whereby application of an updated SSMP or hydromodification requirement to the project is illegal, the updated SSMP or hydromodification requirement need not apply to the project. Updated Development Planning requirements set forth in Sections F.1. (a) through (h) of this Order must apply to all projects or phases of projects, unless, at the time any updated Development Planning requirement commences, the projects or project phases meet any one of the following conditions: (i) the project or phase has begun grading or construction activities; or (ii) a Copermittee determines that lawful prior approval rights for a project or project phase exist, whereby application of the Updated Development Planning requirement to the project is legally infeasible. Where feasible, the Permittees must utilize the SSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SSMP and hydromodification requirements in its plans.

results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development.

(c) One acre threshold: In addition to the Priority Development Project Categories identified in section F.1.d.(2), Priority Development Projects must also include all other post-construction pollutant-generating new Development Projects that result in the disturbance of one acre or more of land by July 1, 2012.[11]

(2) Priority Development Project Categories

Where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SSMP requirements.

(a) New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site) including commercial, industrial, residential, mixed-use, and public projects. This category includes development projects on public or private land which fall under the planning and building authority of the Copermittees.

(b) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

(c) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet must meet all SSMP requirements except for structural treatment BMP and numeric sizing criteria requirement F.1.d.(6) and hydromodification requirement F.1.h.

(d) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.

(e) Environmentally Sensitive Areas (ESAs). All development located within, or directly adjacent to, or discharging directly to an ESA (where

[11] Pollutant generating Development Projects are those projects that generate pollutants at levels greater than natural background levels.

discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10 percent or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.

(f) Impervious parking lots 5,000 square feet or more and potentially exposed to runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

(g) Street, roads, highways, and freeways. This category includes any paved impervious surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles. To the extent that the Copermittees develop revised standard roadway design and post-construction BMP guidance that comply with the provisions of Section F.1 of the Order, then public works projects that implement the revised standard roadway sections do not have to develop a project specific SSMP. The standard roadway design and post-construction BMP guidance must be submitted with the Copermittee's updated SSMP.

(h) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

(3) Pollutants of Concern

As part of its local SSMP, each Copermittee must implement an updated procedure for identifying pollutants of concern for each Priority Development Project. The procedure must address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d)); (2) Land-use type of the Development Project and pollutants associated with that land use type; and (3) Pollutants expected to be present on site.

(4) Low Impact Development BMP Requirements

Each Copermittee must require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss.

(a) The Copermittees must take the following measures to ensure that LID BMPs are implemented at Priority Development Projects:

(i) Each Copermittee must require LID BMPs or make a finding of technical infeasibility for each Priority Development Project in accordance with the LID waiver program in Section F.1.d.(7);

(ii) Each Copermittee must incorporate formalized consideration, such as thorough checklists, ordinances, and/or other means, of LID BMPs into the plan review process for Priority Development Projects; and

(iii) On or before July 1, 2012, each Copermittee must review its local codes, policies, and ordinances and identify barriers therein to implementation of LID BMPs. Following the identification of these barriers to LID implementation, where feasible, the Copermittee must take, by the end of the permit cycle, appropriate actions to remove such barriers. The Copermittees must include this review with the updated JRMP.

(b) The following LID BMPs must be implemented at each Priority Development Project:

(i) Maintain or restore natural storage reservoirs and drainage corridors (including depressions, areas of permeable soils, swales, and ephemeral and intermittent streams) to the extent feasible[12].

(ii) Projects with landscaped or other pervious areas must, where feasible, properly design and construct the pervious areas to effectively receive and infiltrate, retain and/or treat runoff from impervious areas, prior to discharge to the MS4. Soil compaction for these areas must be minimized. The amount of the impervious areas that are to drain to pervious areas must be based upon the total size, soil conditions, slope, and other pertinent factors.

(iii) Projects with low traffic areas and appropriate soil conditions must be constructed with permeable surfaces.

[12] Priority Development Projects proposing to dredge or fill materials in waters of the U.S. must obtain a CWA Section 401 Water Quality Certification. Priority Development Projects proposing to dredge or fill waters of the State must obtain Waste Discharge Requirements.

(c) LID BMPs sizing criteria:

(i) LID BMPs must be sized and designed to ensure onsite retention without runoff, of the volume of runoff produced from a 24-hour 85th percentile storm event[13] ("design capture volume");

(ii) If onsite retention[14] LID BMPs are technically infeasible per section F.1.d.(7)(b), other LID BMPs may treat any volume that is not retained onsite provided that the total volume of the other LID BMPs, including pore spaces and pre-filter detention volume, are sized to hold at least 0.75 times the portion of the design capture volume that is not retained onsite. The LID BMPs must be designed for an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP.

(d) If it is shown to be technically infeasible per Section F.1.d.(7)(b) to retain and/or treat the remaining volume up to and including the design capture volume using LID BMPs, then the project must implement conventional treatment control BMPs in accordance with Section F.1.d.(6) below and must participate in the LID waiver program in Section F.1.d.(7).

(e) All LID BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

(5) Source Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement applicable source control BMPs. The source control BMPs to be required must:

(a) Prevent illicit discharges into the MS4;
(b) Minimize storm water pollutants of concern in runoff;
(c) Eliminate irrigation runoff;

[13] This volume is not a single volume to be applied to all of Riverside County. The size of the 85th percentile storm event is different for various parts of the County. The Copermittees are encouraged to calculate the 85th percentile storm event for each of its jurisdictions using local rain data pertinent to its particular jurisdiction (0.6 inch standard is a rough average for the County and should only be used where appropriate rain data is not available). In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees must describe their method for using isopluvial maps in its SSMPs.

[14] Infiltration LID BMPs are the preferred method for onsite retention, but does not preclude the use and implementation of all other retention LID BMPs (e.g. evapotranspiration, evaporation, and/or harvest), where technically feasible, prior to considering biofiltration LID BMPs for treatment of the design capture volume that is not otherwise retained onsite.

(d) Include storm drain system stenciling or signage;
(e) Include properly designed outdoor material storage areas;
(f) Include properly designed outdoor work areas;
(g) Include properly designed trash storage areas; and
(h) Include water quality protection requirements applicable to individual priority project categories.

(6) Treatment Control BMP Requirements

Each Copermittee must require each Priority Development Project that meets the Copermittee's technical infeasibility criteria in Section F.1.d(7) below, to implement conventional treatment control BMPs to treat the portion of the "design capture volume" that was not treated by LID BMPs per Section F.1.d(4) above. Conventional treatment control BMPs must meet the following requirements:

(a) All treatment control BMPs for a single Priority Development Project must collectively be sized to comply with the following numeric sizing criteria:

(i) Volume-based treatment control BMPs must be designed to mitigate (infiltrate, filter, or treat) the remaining portion of the design capture volume that was not retained and/or treated with LID BMPs; or

(ii) Flow-based treatment control BMPs must be designed to mitigate (filter, or treat) either: a) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or b) the maximum flow rate of runoff produced by the 85^{th} percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two.

(b) All treatment control BMPs for Priority Development Projects must, at a minimum:

(i) Be ranked with high or medium pollutant removal efficiency for the project's most significant pollutants of concern, as the pollutant removal efficiencies are identified in the Copermittees' SSMP. Treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.
(ii) Be correctly sized and designed so as to remove storm water pollutants to the MEP.

(c) Target removal of pollutants of concern from runoff.

(d) Be implemented close to pollutant sources, and prior to discharging into waters of the U.S.

(e) Include proof of a mechanism under which ongoing long-term maintenance will be conducted to ensure proper maintenance for the life of the project. The mechanisms may be provided by the project proponent or Copermittee.

(f) Be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies.

(7) Low Impact Development (LID) BMP Waiver Program

The Copermittees must develop, collectively or individually, a LID waiver program for incorporation into the SSMP, which would allow a Priority Development Project to substitute implementation of all or a portion of required LID BMPs in Section F.1.d(4) with implementation of treatment control BMPs and either 1) on-site mitigation, 2) an off-site mitigation project, and/or 3) other mitigation developed by the Copermittees. The Copermittees must submit the LID waiver program as part of their updated SSMP. At a minimum, the program must meet the requirements below:

(a) Prior to implementation, the LID waiver program must clearly exhibit that it will not allow Priority Development Projects to result in a net impact (after consideration of any mitigation) from pollutant loadings over and above the impact caused by projects meeting the onsite LID retention requirements;

(b) For each Priority Development Project participating, the Copermittee must find that it is technically infeasible to implement LID BMPs that comply with the requirements of Section F.1.(d)(4). The Copermittee(s) must develop criteria to determine the technical feasibility of implementing LID BMPs . Each Priority Development Project participating must demonstrate that LID BMPs were implemented as much as feasible given the site's unique conditions. Technical infeasibility may result from conditions including, but not limited to:

(i) Locations that cannot meet the infiltration and groundwater protection requirements in section F.1.c.(6) for large, centralized infiltration BMPs. Where infiltration is technically infeasible, the project must still examine the feasibility of other onsite LID BMPs;
(ii) Insufficient demand for storm water reuse;

(iii) Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the LID BMP requirements; and

(iv) Other site, geologic, soil, or implementation constraints identified in the Copermittees updated SSMP document.

(c) Each Priority Development Project that participates in the LID waiver program must mitigate for the pollutant loads expected to be discharged due to not implementing the LID retention BMPs in section F.1.d.(4). The pollutant loading must be estimated for each project participating in the LID waiver program. The estimated impacts from not implementing the required LID retention BMPs in section F.1.d.(4) must be fully mitigated. Mitigation projects must be implemented within the same hydrologic unit as the Priority Development Project. Mitigation projects outside of the hydrologic subarea but within the same hydrologic unit may be approved provided that the project proponent demonstrates that mitigation projects within the same hydrologic subarea are infeasible and that the mitigation project will address similar beneficial use impacts as expected from the Priority Development Projects pollutant load. Onsite mitigation may include increasing the conventional treatment sizing factors to achieve pollutant load removal equal to or greater than the pollutant load removal expected from implementing onsite retention of the design capture volume. Offsite mitigation projects may include green streets projects, existing development retrofit projects, retrofit incentive programs, regional BMPs and/or riparian restoration projects. Project applicants seeking to utilize these alternative compliance provisions may propose other offsite mitigation projects, which the Copermittees may approve if they meet the requirements of this subpart.

(d) A Copermittee may choose to implement additional mitigation programs (e.g., pollutant credit system, mitigation fund) as part of the LID waiver program provided that the mitigation program clearly exhibits that it will not allow Priority Development Projects to result in a net impact from pollutant loadings over and above the impact caused by projects meeting LID requirements. Any additional mitigation programs that a Copermittee chooses to implement must be submitted to the San Diego Water Board Executive Officer for review and acceptance prior to implementation.

(8) <u>LID and Treatment Control BMP Standards</u>

(a) As part of the SSMP, each Copermittee must develop and require Priority Development Projects to implement siting, design, and maintenance criteria for each LID and treatment control BMP listed in the SSMP to determine feasibility and applicability and so that implemented LID and treatment control BMPs are constructed correctly and are effective at pollutant removal, runoff control, and vector minimization. Development of

BMP design worksheets which can be used by project proponents is encouraged.

(b) LID and treatment control BMPs implemented at any Priority Development Projects must mitigate (treat through infiltration, settling, filtration or other unit processes) the required volume or flow of runoff from all developed portions of the project, including landscaped areas.

(c) All LID and treatment control BMPs must be located so as to remove pollutants from runoff prior to its discharge to any receiving waters. Multiple Priority Development Projects may use shared post-construction BMPs as long as construction of any shared BMP is completed prior to the use or occupation of any Priority Development Project from which the BMP will receive runoff. Post construction BMPs must not be constructed within a waters of the U.S. or waters of the State.

(9) Implementation Process

(a) As part of its local SSMP, each Copermittee must implement a process to verify compliance with SSMP requirements. The process must identify at what point in the planning process Priority Development Projects will be required to meet SSMP requirements and at a minimum, the Priority Development Project must implement the required post-construction BMPs prior to occupancy and/or the intended use of any portion of that project. The process must also include identification of the roles and responsibilities of various municipal departments in implementing the SSMP requirements, as well as any other measures necessary for the implementation of SSMP requirements.

(b) Each Copermittee must establish a mechanism not only to track post-construction BMPs, but also to ensure that appropriate easements and ownerships are properly recorded in public records and the information is conveyed to all appropriate parties when there is a change in project or site ownership.

(10) Post-construction BMP Review

(a) The Copermittees must review and update the BMPs that are listed in their SSMP as options for treatment control. At a minimum, the update must include removal of obsolete or ineffective BMPs and addition of LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, etc. The update must also add appropriate LID BMPs to any tables or discussions in the local SSMPs addressing pollutant removal efficiencies of treatment control BMPs. In addition, the update must include review and revision where necessary of treatment control BMP pollutant removal efficiencies.

(b) The update must incorporate findings from BMP effectiveness studies conducted by the Copermittees for projects funded wholly or in part by the State Water Board or Regional Water Boards.

(c) Each Copermittee must implement a mechanism for annually incorporating findings from local treatment BMP effectiveness studies (e.g., ones conducted by, or on-behalf of, public agencies in Riverside County) into SSMP project reviews and permitting.

e. **BMP CONSTRUCTION VERIFICATION**

Prior to occupancy and/or intended use of any portion of the Priority Development Project subject to SSMP requirements, each Copermittee must inspect the constructed site design, source control, and treatment control BMPs applicable to the constructed portion of the project to verify that they have been constructed and are operating in compliance with all specifications, plans, permits, ordinances, and this Order.

f. **BMP MAINTENANCE TRACKING**

(1) Inventory of SSMP projects: Each Copermittee must develop and maintain a watershed-based database to track and inventory all projects constructed within their jurisdiction, that have a final approved SSMP (SSMP projects), and its structural post-construction BMPs implemented therein since July, 2005. LID BMPs implemented on a lot by lot basis at single family residential houses, such as rain barrels, are not required to be tracked or inventoried. At a minimum, the database must include information on BMP type(s), location, watershed, date of construction, party responsible for maintenance, dates and findings of maintenance verifications, and corrective actions, including whether the site was referred to the local vector control agency or department.

(2) Each Copermittee must verify that approved post-construction BMPs are operating effectively and have been adequately maintained by implementing the following measures:

(a) The designation of high priority SSMP Projects must consider the following:

(i) BMP size,
(ii) Recommended maintenance frequency,
(iii) Likelihood of operational and maintenance issues,
(iv) Location,

(v) Receiving water quality,
(vi) Compliance record,
(vii) Land use, and
(viii) Other pertinent factors;

At a minimum, high priority projects include those projects that generate pollutants (prior to treatment) within the tributary area of and within the same hydrologic subarea as a 303(d) listed waterbody impaired for that pollutant; or those projects generating pollutants within the tributary area for and within the same hydrologic subarea as an observed action level exceedance of that pollutant.

(b) Beginning on July 1, 2012, each Copermittee must verify that the required structural post-construction BMPs on the inventoried SSMP projects have been implemented, are maintained, and are operating effectively through inspections, self-certifications, surveys, or other equally effective approaches with the following conditions:

(i) The implementation, operation, and maintenance of all (100 percent) approved and inventoried final project public and private SSMPs (a.k.a. WQMPs) must be verified every five years;
(ii) All (100 percent) projects with BMPs that are high priority must be inspected by the Copermittee annually prior to each rainy season;
(iii) All (100 percent) Copermittee projects with BMPs must be inspected by the Copermittee annually;
(iv) At the discretion of the Copermittee, its inspections may be coordinated with the facility inspections implemented pursuant to section F.3. of this Order;
(v) For verifications performed through a means other than direct Copermittee inspection, adequate documentation must be submitted to the Copermittee to provide assurance that the required maintenance has been completed;
(vi) Appropriate follow-up measures (including re-inspections, enforcement, maintenance, etc.) must be conducted to ensure the treatment BMPs continue to reduce storm water pollutants as originally designed; and
(vii) Inspections must note observations of vector conditions, such as mosquitoes. Where conditions are identified as contributing to mosquito production, the Copermittee must notify its local vector control agency.

g. **ENFORCEMENT OF DEVELOPMENT SITES**

Each Copermittee must enforce its storm water ordinance for all development projects as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms must include appropriate sanctions to achieve compliance. Sanctions must include the following tools or their equivalent: Non-monetary penalties, fines, bonding requirements, liens, and/or permit or occupancy denials for non-compliance.

h. **HYDROMODIFICATION – LIMITATIONS ON INCREASES OF RUNOFF DISCHARGE RATES AND DURATIONS**[15]

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects. The HMP must be incorporated into the SSMP and implemented by each Copermittee so that estimated post-project runoff discharge rates and durations must not exceed pre-development discharge rates and durations. Where the proposed project is located on an already developed site, the pre-project discharge rate and duration must be that of the pre-developed, naturally occurring condition. The draft HMP must be submitted to the San Diego Water Board on or before June 30, 2013. The HMP will be made available for public review and comment and the San Diego Water Board Executive Officer will determine whether to hold a public hearing before the full San Diego Water Board or whether public input will be through written comments to the Executive Officer only.

(1) The HMP must:

(a) Identify a method for assessing susceptibility and geomorphic stability of channel segments which receive runoff discharges from Priority Development Projects. A performance standard must be established that ensures that the geomorphic stability within the channel will not be compromised as a result of receiving runoff discharges from Priority Development Projects.

[15] Updated SSMP and hydromodification requirements must apply to all Priority Development Projects or phases of Priority Development Projects which have not yet begun grading or construction activities at the time any updated SSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SSMP or hydromodification requirement to the project is legally infeasible, the updated SSMP or hydromodification requirement need not apply to the project. The Copermittees must utilize the SSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SSMP and hydromodification requirements in its plans.

(b) Identify a range of runoff flows[16] based on continuous simulation of the entire rainfall record (or other analytical method proposed by the Copermittees and deemed acceptable by the San Diego Water Board) for which Priority Development Project post-project runoff flow rates and durations must not exceed pre-development (naturally occurring) runoff flow rates and durations by more than 10 percent, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses. The lower boundary of the range of runoff flows identified must correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches. In the case of an artificially hardened (concrete lined, rip rap, etc.) channel, the lower boundary of the range of runoff flows identified must correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks of a comparable natural channel (i.e. non-hardened, pre-development).

(c) Identify a method to assess and compensate for the loss of sediment supply to streams due to development. A performance and/or design standard must be created and required to be met by Priority Development Projects to ensure that the loss of sediment supply due to development does not cause or contribute to increased erosion within channel segments downstream of Priority Development Project discharge points.

(d) Designate and require Priority Development Projects to implement control measures so that (1) post-project runoff flow rates and durations do not exceed pre-development (naturally occurring) runoff flow rates and durations by more than 10 percent for the range of runoff flows identified under section F.1.h.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses; (2) post-project runoff flow rates and durations do not result in channel conditions which do not meet the channel standard developed under section F.1.h.(1)(a) for channel segments downstream of Priority Development Project discharge points; and (3) the design of the project and/or control measures compensate for the loss of sediment supply due to development.

[16] The identified range of run off flows to be controlled should be expressed in terms of peak flow rates of rainfall events, such as “10% of the pre-development 2-year runoff event up to the pre-development 10-year runoff event.”

(e) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects to meet the range of runoff flows identified under Section F.1.h.(1)(b).

(f) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent runoff from the projects from increasing and/or continuing unnatural rates of erosion of channel beds and banks, silt pollutants generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

(g) Include a review of pertinent literature.

(h) Identify areas within the Santa Margarita Hydrologic Unit for potential opportunities to restore or rehabilitate stream channels with historic hydromodification of receiving waters that are tributary to documented low or very low Index of Biotic Integrity (IBI) scores.

(i) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.

(j) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.

(k) Include technical information, including references, supporting any standards and criteria proposed.

(l) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.

(m) Include a description of monitoring and other program evaluations to be conducted to assess the effectiveness of implementation of the HMP. Monitoring and other program evaluations must include an evaluation of changes to physical (e.g., cross-section, slope, discharge rate, vegetation, pervious/impervious area) and biological (e.g., habitat quality, benthic flora and fauna, IBI scores) conditions of receiving water channels as areas with Priority Development Projects are constructed (i.e. pre- and post-project), as appropriate.

(n) Include mechanisms for assessing and addressing cumulative impacts of Priority Development Projects within a watershed on channel morphology.

(2) In addition to the control measures that must be implemented by Priority Development Projects per section F.1.h.(1)(d), the HMP must include a suite of management measures that can be used on Priority Development Projects to mitigate hydromodification impacts, protect and restore downstream beneficial uses and prevent or further prevent adverse physical changes to downstream channels. The measures must be based on a prioritized consideration of the following elements in this order:

(a) Site design control measures;
(b) On-site management measures;
(c) Regional control measures located upstream of receiving waters; and
(d) In-stream management and control measures.

Where stream channels are adjacent to, or are to be modified as part of a Priority Development Project, management measures must include buffer zones and setbacks. The suite of management measures must also include stream restoration as a viable option to achieve the channel standard in section F.1.h.(1)(a). In-stream controls used as management measures to protect and restore downstream beneficial uses and for preventing or minimizing further adverse physical changes must not include the use of non-naturally occurring hardscape materials such as concrete, riprap, gabions, etc. to reinforce stream channels.

(3) As part of the HMP, the Copermittees may develop a waiver program that allows a redevelopment Priority Development Project, as defined in Section F.1.d.(1)(b), to implement offsite mitigation measures. A waiver may be granted if onsite management and control measures are technically infeasible to fully achieve post-project runoff flow rates and durations that do not exceed the pre-development (naturally occurring) runoff flow rates and durations. Redevelopment projects that are granted a waiver under the program must not have post-project runoff flow rates and durations that exceed the pre-project runoff flow rates and durations. The estimated incremental hydromodification impacts from not achieving the pre-development (naturally occurring) runoff flow rates and durations for the project site must be fully mitigated. The offsite mitigation must be within the same stream channel system to which the project discharges. Mitigation projects not within the same stream channel system but within the same hydrologic unit may be approved provided that the project proponent demonstrates that mitigation within the same stream channel is infeasible and that the mitigation project will address similar impacts as expected from the project.

(4) Each individual Copermittee has the discretion to not require Section F.1.h. at Priority Development Projects where the project:

(a) Discharges storm water runoff into underground storm drains discharging directly to water storage reservoirs and lakes;

(b) Discharges storm water runoff into conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs and lakes; or
(c) Discharges storm water runoff into other areas identified in the HMP as acceptable to not need to meet the requirements of Section F.1.h by the San Diego Water Board Executive Officer.

(5) HMP Reporting and Implementation

(a) On or before June 30, 2013, the Copermittees must submit to the San Diego Water Board a draft HMP that has been reviewed by the public, including the identification of the appropriate limiting range of flow rates per section F.1.h.(1)(b).

(b) Within 180 days of receiving San Diego Water Board comments on the draft HMP, the Copermittees must submit a final HMP that addressed the San Diego Water Board's comments.

(c) Within 90 days of receiving a determination of adequacy from the San Diego Water Board, each Copermittee must incorporate and implement the HMP for all Priority Development Projects.

(d) Prior to acceptance of the HMP by the San Diego Water Board, the early implementation measures likely to be included in the HMP must be encouraged by the Copermittees.

(6) Interim Hydromodification Criteria

Immediately following adoption of this Order and until the final HMP required by this Order has been determined by the San Diego Water Board to be adequate, each Copermittee must ensure that all Priority Development Projects are implementing the hydromodification (aka Hydrologic Condition of Concern) requirements found in Section 4.4 of the 2006 Riverside County WQMP (updated in 2009) unless one of the following conditions in lieu of those specified in the WQMP are met:

(a) Runoff from the Priority Development Project discharges (1) directly to a conveyance channel or storm drain that is concrete lined all the way from the point of discharge to the ocean, bay, lagoon, water storage reservoir or lake; and (2) the discharge is in full compliance with Copermittee requirements for connections and discharges to the MS4 (including both quality and quantity requirements); and (3) the discharge will not cause increased upstream or downstream erosion or adversely impact downstream habitat; and (4) the discharge is authorized by the Copermittee.

(b) The Priority Development Project disturbs less than one acre. The Copermittee has the discretion to require a project specific WQMP to address hydrologic condition concerns on projects less than one acre on a case by case basis. The disturbed area calculation should include all disturbances associated with larger common plans of development.

(c) The runoff flow rate, volume, velocity, and duration for the post-development condition of the Priority Development Project do not exceed the pre-development (i.e. naturally occurring) condition for the 2-year, 24-hour and 10-year, 24-hour rainfall events. This condition must be substantiated by hydrologic modeling acceptable to the Copermittee.

Once a final HMP is determined to be adequate and is required to be implemented, compliance with the final HMP is required by this Order and compliance with the 2004 WQMP (updated in 2009) or the in-lieu interim hydromodification criteria set forth above no longer satisfies the requirements of this Order.

(7) No part of section F.1.h eliminates the Copermittees' responsibilities for implementing the Low Impact Development requirements under section F.1.d.(4).

i. UNPAVED ROADS DEVELOPMENT

The Copermittees must develop, where they do not already exist, and implement or require implementation of erosion and sediment control BMPs after construction of new unpaved roads. At a minimum, the BMPs must include the following, or alternative BMPs that are equally effective:

(1) Practices to minimize road related erosion and sediment transport;
(2) Grading of unpaved roads to slope outward where consistent with road engineering safety standards;
(3) Installation of water bars as appropriate; and
(4) Unpaved roads and culvert designs that do not impact creek functions and where applicable, that maintain migratory fish passage.

2. CONSTRUCTION COMPONENT

Each Copermittee must implement a construction program which meets the requirements of this section, prevents illicit discharges into the MS4, implements and maintains structural and non-structural BMPs to reduce pollutants in storm water runoff from construction sites to the MS4, reduces construction site discharges of storm water pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

a. ORDINANCE UPDATE

By July 1, 2012, each Copermittee must review and update its grading ordinances and other ordinances as necessary to achieve full compliance with this Order, including requirements for the implementation of all designated BMPs and other measures.

b. SOURCE IDENTIFICATION

Each Copermittee must maintain an updated watershed-based inventory of all construction sites within its jurisdiction. The use of an automated database system, such as Geographical Information Systems (GIS) is strongly encouraged.

c. SITE PLANNING AND PROJECT APPROVAL PROCESS

Each Copermittee must incorporate consideration of potential water quality impacts prior to approval and issuance of construction and grading permits.

(1) Each construction and grading permit must require proposed construction sites to implement designated BMPs and other measures so that illicit discharges into the MS4 are prevented, storm water pollutants discharged from the site will be reduced to the MEP, and construction discharges from the MS4 are prevented from causing or contributing to a violation of water quality standards.

(2) Prior to permit issuance, the project proponent's runoff management plan (or equivalent construction BMP plan) must be required to comply, and reviewed to verify compliance with the local grading ordinance, other applicable local ordinances, and this Order.

(3) Prior to permit issuance, each Copermittee must verify that project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), have existing coverage under the General Construction Permit.

d. **BMP IMPLEMENTATION**

(1) Designate BMPs: Each Copermittee must designate a minimum set of BMPs and other measures to be implemented at all construction sites. The designated minimum set of BMPs must include:

(a) Management Measures:

(i) Pollution prevention, where appropriate;
(ii) Development and implementation of a runoff management plan;
(iii) Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction;
(iv) Minimization of exposure time of disturbed soil areas;
(v) Minimization of grading during the rainy season and correlation of grading with seasonal dry weather periods to the extent feasible;
(vi) Limitation of grading to a maximum disturbed area as determined by each Copermittee before either temporary or permanent erosion controls are implemented to prevent storm water pollution. The Copermittee has the option of temporarily increasing the size of disturbed soil areas by a set amount beyond the maximum, if the individual site is in compliance with applicable storm water regulations and the site has adequate control practices implemented to prevent storm water pollution;
(vii) Temporary stabilization and reseeding of disturbed soil areas as rapidly as feasible;
(viii) Wind erosion controls;
(ix) Tracking controls;
(x) Non-stormwater management measures to prevent illicit discharges and control storm water pollution sources;
(xi) Waste management measures;
(xii) Preservation of natural hydrologic features where feasible;
(xiii) Preservation of riparian buffers and corridors where feasible;
(xiv) Evaluation and maintenance of all BMPs, until removed; and
(xv) Retention, reduction, and proper management of all storm water pollutant discharges on site to the MEP standard.

(b) Erosion and Sediment Controls:

(i) Erosion prevention. Erosion prevention is to be used as the most important measure for keeping sediment on site during construction;
(ii) Sediment controls. Sediment controls are to be used as a supplement to erosion prevention for keeping sediment on-site during construction;

(iii) Slope stabilization must be used on all active slopes during rain events regardless of the season and on all inactive slopes during the rainy season and during rain events in the dry season;
(iv) Permanent revegetation or landscaping as early as feasible; and
(v) Erosion and sediment controls must be required during the construction of unpaved roads.

(2) Each Copermittee must implement, or require implementation of, enhanced[17] measures to address the threat to water quality posed by all construction sites tributary to CWA section 303(d) water body segments impaired for sediment or turbidity. Each Copermittee must also implement, or require implementation of, enhanced, measures for construction sites within, or adjacent to, or discharging directly to receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(3) Active/Passive Sediment Treatment (AST): Each Copermittee must require implementation of AST for sediment at construction sites (or portions thereof) that are determined by the Copermittee to be an exceptional threat to water quality. In evaluating the threat to water quality, the following factors must be considered by the Copermittee:

(a) Soil erosion potential or soil type;
(b) The site's slopes;
(c) Project size and type;
(d) Sensitivity of receiving water bodies;
(e) Proximity to receiving water bodies;
(f) Non-storm water discharges;
(g) Ineffectiveness of other BMPs;
(h) Proximity and sensitivity of aquatic threatened and endangered species of concern;
(i) Known effects of AST chemicals; and
(j) Any other relevant factors.

(4) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each construction site within its jurisdiction year round. BMP implementation requirements, however, can vary based on wet and dry seasons. Dry season BMP implementation must plan for and address unseasonal rain events that may occur during the dry season (May 1 through September 30).

[17] Enhanced BMPs are control actions specifically targeted to the pollutant or condition of concern and of higher quality and effectiveness than the minimum control measures otherwise required. Enhanced in this Order means better, not simply more, BMPs.

e. **INSPECTION OF CONSTRUCTION SITES**

Each Copermittee must conduct construction site inspections for compliance with its ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order. Priorities for inspecting sites must consider the nature and size of the construction activity, topography, and the characteristics of soils and receiving water quality.

(1) During the rainy season, each Copermittee must inspect at least every two weeks, all construction sites within its jurisdiction meeting any of the following criteria:

(a) All sites 30 acres or more in size with rough grading or with active, unstabilized slopes occurring during the rainy season;

(b) All sites one acre or more, and within the same hydrologic subarea and tributary to a CWA section 303(d) water body segment impaired for sediment; or within, directly adjacent to, or discharging directly to a receiving water within an ESA; and

(c) Other sites determined by the Copermittees or the San Diego Water Board as a significant threat to water quality. In evaluating threat to water quality, the following factors must be considered: (1) soil erosion potential; (2) site slope; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; (7) known past record of non-compliance by the operators of the construction site; and (8) any other relevant factors.

(2) During the rainy season, each Copermittee must inspect at least monthly, all construction sites with one acre or more of soil disturbance not meeting the criteria specified above in section F.2.e.(1).

(3) During the rainy season, each Copermittee must inspect construction sites less than one acre in size as needed to ensure compliance with its ordinances and this Order.

(4) Each Copermittee must inspect all construction sites as needed during the dry season. Sites meeting the criteria in section F.2.e.(1) must be inspected at least once in August or September each year.

(5) Re-inspections: Based upon site inspection findings, each Copermittee must implement all follow-up actions (i.e., re-inspection, enforcement) necessary to comply with this Order. Reinspection frequencies must be determined by each Copermittee based upon the severity of deficiencies, the nature of the construction activity, and the characteristics of soils and receiving water quality.

(6) Inspections of construction sites must include, but not be limited to:

(a) Check for coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.) during initial inspections;
(b) Assessment of compliance with Copermittee ordinances and permits related to runoff, including the implementation and maintenance of designated minimum BMPs;
(c) Assessment of BMP effectiveness;
(d) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
(e) Review of site monitoring data results, if the site monitors its runoff
(f) Education and outreach on storm water pollution prevention, as needed; and
(g) Creation of a written or electronic inspection report.

(7) The Copermittees must track the number of inspections for each inventoried construction site throughout the reporting period to verify that each site is inspected at the minimum frequencies required.

f. **ENFORCEMENT OF CONSTRUCTION SITES**

(1) Each Copermittee must develop and implement an escalating enforcement process that achieves prompt corrective actions at construction sites for violations of the Copermittee's water quality protection permits, requirements, and ordinances. This enforcement process must include authorizing the Copermittee's construction site inspectors to take immediate enforcement actions when appropriate and necessary. The enforcement process must include appropriate sanctions such as stop work orders, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

(2) Each Copermittee must be able to respond to construction complaints received from third-parties and to ensure the San Diego Water Board that corrective actions have been implemented, if warranted.

g. **REPORTING OF NON-COMPLIANT SITES**

(1) In addition to the notification requirements in Attachment B, each Copermittee must notify the San Diego Water Board when the Copermittee issues high level enforcement (as defined in the Copermittee's JRMP) to a construction site that poses a significant threat to water quality in its jurisdiction as a result of violations of its storm water ordinances.

(2) Each Copermittee must annually notify the San Diego Water Board, prior to the commencement of the rainy season, of all construction sites with alleged violations that pose a significant threat to water quality. Information may be

provided as part of the JRMP annual report if submitted prior to the rainy season. Information provided must include, but not be limited to, the following:

(a) WDID number if enrolled under the General Construction Permit
(b) Site Location, including address
(c) Current violations or suspected violations

3. EXISTING DEVELOPMENT COMPONENT

a. MUNICIPAL

Each Copermittee must implement a municipal program for the Copermittee's areas and activities that meets the requirements of this section, prevents illicit discharges into the MS4, reduces municipal discharges of storm water pollutants from the MS4 to the MEP, and prevents municipal discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification / Inventory

Each Copermittee must maintain an updated watershed-based inventory of all its municipal areas and those activities that have the potential to generate pollutants. The inventory must include the name, address (if applicable), and a description of the area/activity; which pollutants are potentially generated by the area/activity; whether the area/activity is adjacent to an ESA; and identification of whether the area/activity is tributary to and within the same hydrologic subarea as a CWA section 303(d) water body segment and generates pollutants for which the water body segment is impaired. Linear facilities, such as roads, streets, and highways, do not need to be individually inventoried. The use of an automated database system, such as Geographical Information Systems (GIS) is highly recommended.

(2) General BMP Implementation

(a) Pollution Prevention: Each Copermittee must implement pollution prevention methods in its municipal program and must require their use by appropriate departments, personnel, and contractors.

(b) Designate Minimum BMPs: Each Copermittee must designate a minimum set of BMPs for all municipal areas and those activities that have the potential to generate pollutants. The designated minimum BMPs for municipal areas and activities must be area or activity specific as appropriate.

(c) Each Copermittee must designate BMPs for special events that are expected to generate significant trash and litter. Controls to consider must include:

(i) Temporary screens on catch basins and storm drain inlets;
(ii) Temporary fencing to prevent windblown trash from entering adjacent water bodies and MS4 channels;
(iii) Proper management of trash and litter;
(iv) Catch basin cleaning following the special event and prior to an anticipated rain event;
(v) Street sweeping of roads, streets, highways and parking facilities following the special event; and
(vi) Other equivalent controls.

(d) Designate BMPs for ESAs and 303(d) Impairments: Each Copermittee must designate enhanced measures for its municipal areas and activities tributary to and within the same hydrologic subarea as CWA section 303(d) impaired water body segments when an area or those activities have the potential to generate pollutants for which the water body segment is impaired. Each Copermittee must also designate additional controls for its municipal areas and activities within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(e) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum and enhanced BMPs and any additional measures necessary based on its inventory to comply with this Order for each of its municipal area and those activities that have the potential to discharge pollution.

(3) <u>BMP Implementation for Management of Pesticides, Herbicides, and Fertilizers</u>

Each Copermittee must implement BMPs to reduce the contribution of storm water pollutants to the MEP associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from its municipal areas and activities to MS4s and receiving waters. Such BMPs must include, at a minimum:

(a) Educational activities, permits, certifications and other measures for municipal applicators and distributors;
(b) Integrated Pest Management (IPM) measures that rely on non-chemical solutions;
(c) The use of native vegetation;
(d) Schedules for irrigation and chemical application; and

(e) The collection and proper disposal of unused pesticides, herbicides, and fertilizers.

(4) BMP implementation for Flood Control Structures

(a) Each Copermittee must implement procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies.

(b) Each Copermittee must include water quality protection measures, where feasible, when retrofitting existing flood control structural devices.

(c) Each Copermittee must evaluate its existing flood control structures as part of ongoing routine maintenance, identify structures causing or contributing to a condition of pollution, implement measures to reduce or eliminate the structure's effect on pollution, and evaluate the feasibility of retrofitting the structural flood control device. The inventory and evaluation must be completed by and submitted to the San Diego Water Board in each JRMP Annual Report.

(5) BMP Implementation for Sweeping of Municipal Areas

Where municipal area sweeping is implemented as an MS4 BMP for municipal roads, streets, highways, and parking facilities, each Copermittee must design and implement the program based on the following criteria:

(a) Roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris must be swept at least two times per month.

(b) Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris must be swept at least monthly.

(c) Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris must be swept as necessary, but no less than once per year.

(6) Operation and Maintenance of Municipal Separate Storm Sewer System (MS4) and Treatment Controls

(a) Treatment Controls: Each Copermittee must implement a schedule of inspection and maintenance activities to verify proper operation of all its municipal structural treatment controls designed to reduce storm water pollutant discharges to or from its MS4s and related drainage structures.

(b) MS4 and Facilities: Each Copermittee must implement a schedule of maintenance activities for its MS4 and facilities (including but not limited to catch basins, storm drain inlets, detention basins, etc). The maintenance activities must, at a minimum, include:

(i) Inspection and removal of accumulated waste at least once a year between May 1 and September 30 of each year for all MS4 facilities;
(ii) Additional facilities cleaning as necessary between October 1 and April 30 of each year;
(iii) Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less than every other year;
(iv) Open channels and basins must be cleaned of observed anthropogenic litter in a timely manner;
(v) Maintenance activities within open channels must not adversely impact beneficial uses;
(vi) Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed;
(vii) Proper disposal of waste removed pursuant to applicable laws; and
(viii) Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

(7) Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance

(a) Each Copermittee must implement controls and measures to prevent and eliminate infiltration of seepage from sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that operates both a municipal sanitary sewer system and a MS4 must implement controls and measures to prevent and eliminate infiltration of seepage from the sanitary sewers to the MS4s that must include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

(b) Each Copermittee must implement controls to limit infiltration of seepage from sanitary sewers to municipal separate storm sewer systems where necessary. Such controls must include:

(i) Adequate plan checking for construction and new development;
(ii) Incident response training for its municipal employees that identify sanitary sewer spills;
(iii) Code enforcement inspections;
(iv) MS4 maintenance and inspections;
(v) Interagency coordination with sewer agencies; and

(vi) Proper education of its municipal staff and contractors conducting field operations on the MS4 or its municipal sanitary sewer (if applicable).

(8) Inspection of Municipal Areas and Activities

(a) At a minimum, each Copermittee must inspect the following high priority municipal areas and activities annually:

(i) Roads, Streets, Highways, and Parking Facilities;
(ii) Flood Management Projects and Flood Control Devices not otherwise inspected per Section F.3.a.(6)(b);
(iii) Areas and activities tributary to and within the same hydrologic subarea as a CWA section 303(d) impaired water body segment, where an area or activity generates pollutants for which the water body segment is impaired;
(iv) Areas and activities within or adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order);
(v) Municipal Facilities:
[a] Active or closed municipal landfills;
[b] Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
[c] Solid waste transfer facilities;
[d] Land application sites;
[e] Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
[f] Household hazardous waste collection facilities.
(vi) Municipal airfields;
(vii) Parks and recreation facilities;
(viii) Special event venues following special events (festivals, sporting events, etc.);
(ix) Power washing activities; and
(x) Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.

(b) Other municipal areas and activities must be inspected as needed and in response to water quality data, valid public complaints, and findings from municipal or contract staff.

(c) Based upon site inspection findings, each Copermittee must implement all follow-up actions necessary to comply with this Order.

(9) Enforcement of Municipal Areas and Activities

Each Copermittee must enforce its storm water ordinance for all its municipal areas and activities as necessary to maintain compliance with this Order.

(10) Copermittee Maintained Unpaved Roads Maintenance

(a) The Copermittees must develop, where they do not already exist, and implement or require implementation of BMPs for erosion and sediment control measures during their maintenance activities on Copermittee maintained unpaved roads, particularly in or adjacent to receiving waters.

(b) The Copermittees must develop and implement or require implementation of appropriate BMPs to minimize impacts on streams and wetlands during their unpaved road maintenance activities.

(c) The Copermittees must maintain as necessary their unpaved roads adjacent to streams and riparian habitat to reduce erosion and sediment transport;

(d) Re-grading of unpaved roads during maintenance must be sloped outward where consistent with road engineering safety standards or alternative equally effective BMPs must be implemented to minimize erosion and sedimentation from unpaved roads; and

(e) Through their maintenance of unpaved roads, the Copermittees must examine the feasibility of replacing existing culverts or design of new culverts or bridge crossings to reduce erosion and maintain natural stream geomorphology.

b. COMMERCIAL / INDUSTRIAL

Each Copermittee must implement a commercial / industrial program that meets the requirements of this section, prevents illicit discharges into the MS4, reduces commercial / industrial discharges of storm water pollutants from the MS4 to the MEP, and prevents commercial / industrial discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification

(a) Each Copermittee must maintain an updated watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. The inventory must include the following minimum

information for each industrial and commercial site/source: name; address; pollutants potentially generated by the site/source; and identification of whether the site/source is tributary to a CWA §303(d) water body segment and generates pollutants for which the water body segment is impaired; and a narrative description including SIC codes which best reflects the principal products or services provided by each facility.

At a minimum, the following sites/sources must be included in the inventory:

(i) Commercial Sites/Sources:

[a] Automobile repair, maintenance, fueling, or cleaning;
[b] Airplane repair, maintenance, fueling, or cleaning;
[c] Boat repair, maintenance, fueling, or cleaning;
[d] Equipment repair, maintenance, fueling, or cleaning;
[e] Automobile and other vehicle body repair or painting;
[f] Mobile automobile or other vehicle washing;
[g] Automobile (or other vehicle) parking lots and storage facilities;
[h] Retail or wholesale fueling;
[i] Pest control services;
[j] Eating or drinking establishments, including such retail establishments with food markets;
[k] Mobile carpet, drape or furniture cleaning;
[l] Cement mixing or cutting;
[m] Masonry;
[n] Painting and coating;
[o] Botanical or zoological gardens and exhibits;
[p] Landscaping;
[q] Nurseries and greenhouses;
[r] Golf courses, parks and other recreational areas/facilities;
[s] Cemeteries;
[t] Pool and fountain cleaning;
[u] Marinas;
[v] Portable sanitary services;
[w] Building material retailers and storage;
[x] Animal boarding facilities and kennels;
[y] Mobile pet services;
[z] Power washing services;
[aa] Plumbing services; and
[bb] Other sites and sources with a history of un-authorized discharges to the MS4.

(ii) Industrial Sites/Sources:

[a] Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;
[b] Operating and closed landfills;
[c] Facilities subject to SARA Title III; and
[d] Hazardous waste treatment, disposal, storage and recovery facilities.

(iii) ESAs and 303(d) Listed Waterbodies: All other commercial or industrial sites/sources tributary to and within the same hydrologic subarea as a CWA Section 303(d) impaired water body segment, where the site/source generates pollutants for which the water body segment is impaired. All other commercial or industrial sites/sources within or directly adjacent to or discharging directly to receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order) or that generate pollutants tributary to and within the same hydrologic subarea as an observed exceedance of an action level.

(iv) All other commercial or industrial sites/sources that the Copermittee determines may contribute a significant pollutant load to the MS4.

(2) <u>General BMP Implementation</u>

(a) Pollution Prevention: Each Copermittee must require the use of pollution prevention methods by the inventoried industrial and commercial sites/sources.

(b) Designate / Update Minimum BMPs: Each Copermittee must designate a minimum set of BMPs for all inventoried industrial and commercial sites/sources. Where BMPs have already been designated, each Copermittee must review and update its existing BMPs for adequacy no later than with the submittal of the JRMP. Copermittees may continue to regularly review and update their designated BMPs for adequacy and subsequently submit any updates in their Annual Report. The designated minimum BMPs must be specific to facility types and pollutant-generating activities, as appropriate.

(c) Designate Enhanced BMPs for ESAs and 303(d) Impairments: Each Copermittee must designate enhanced measures for inventoried industrial and commercial sites/sources tributary to and within the same hydrologic subarea as CWA section 303(d) impaired water body segments (where a site/source generates pollutants for which the water body segment is

impaired). Each Copermittee must also designate additional controls for industrial and commercial sites/sources within or directly adjacent to or discharging directly to coastal lagoons, the ocean, or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order). Copermittees may continue to regularly review and update their designated enhanced BMPs for adequacy and subsequently submit any updates in their next Annual Report.

(d) Implement BMPs: Each Copermittee must implement, or require the implementation of, the designated minimum and enhanced BMPs and any additional measures necessary based on inspections, incident responses, and water quality data to comply with this Order at each industrial and commercial site/source within its jurisdiction.

(3) Mobile Businesses Program

(a) Each Copermittee must develop and implement a program to reduce the discharge of storm water pollutants from mobile businesses to the MEP and to prohibit non-storm water discharges pursuant to Section B of this Order. Each Copermittee must keep as part of its commercial source inventory a listing of mobile businesses known to operate within its jurisdiction that conduct services listed above in section F.3.b.(1)(a). The program must include:

(i) Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses;
(ii) Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses;

(iii) Notification of those mobile businesses known to operate within the Copermittee's jurisdiction of the minimum standards and BMP requirements;
(iv) Development and implementation of an outreach and education strategy; and
(v) Inspection of mobile businesses as needed to implement the program.

(b) If they choose to, the Copermittees may cooperate in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, enforcement action information, and education.

(4) Inspection of Industrial and Commercial Sites/Sources

Each Copermittee must conduct industrial and commercial site inspections for compliance with its ordinances, permits, and this Order. Mobile businesses must be inspected as needed pursuant to section F.3.b.(3).

(a) Inspection Procedures: Inspections must include but not be limited to:

(i) Review of BMP implementation plans not including SSMPs required pursuant to section F.1.d, if the site uses or is required to use such a plan;
(ii) Review of facility monitoring data, if the site monitors its runoff;
(iii) Check for coverage under the General Industrial Permit (Notice of Intent (NOI) and/or Waste Discharge Identification Number), if applicable;
(iv) Assessment of compliance with Copermittee ordinances and Copermittee issued permits related to runoff;
(v) Assessment of the implementation, maintenance and effectiveness of the designated minimum and/or enhanced BMPs;
(vi) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and
(vii) Education and training on storm water pollution prevention, as conditions warrant.

(b) Frequencies: At a minimum all sites determined to pose a high threat to water quality must be inspected each year. All inventoried sites must be inspected at least once during a five year period. In evaluating threat to water quality, each Copermittee must consider, at a minimum, the following:

(i) Type of activity (SIC code);
(ii) Materials used at the facility;
(iii) Wastes generated;
(iv) Pollutant discharge potential, including whether the facility generates a pollutant that exceeds an action level;
(v) Non-storm water discharges;
(vi) Size of facility;
(vii) Proximity to receiving water bodies;
(viii) Sensitivity of receiving water bodies;
(ix) Whether the facility is subject to the General Industrial Permit or an individual NPDES permit;
(x) Whether the facility has filed a No Exposure Certification/Notice of Non-Applicability;
(xi) Facility design;

(xii) Total area of the site, portion of the site where industrial or commercial activities occur, and area of the site exposed to rainfall and runoff;
(xiii) The facility's compliance history; and
(xiv) Any other relevant factors.

(c) Third-Party Certifications: Each Copermittee may propose to develop and implement a third party certification program subject to San Diego Water Board Executive Officer acceptance. This program would verify industrial and commercial site/source compliance with the Copermittees' ordinances, permits, and this Order. To the extent that third party certifications are conducted to fulfill the requirements of Section F.3.b.(4) above, the Copermittee retains responsibility for compliance with this Order and will be responsible for conducting and documenting quality assurance and quality control of the third-party certifications.

The Copermittee's proposed third party certification program must include the following:

(i) A description of the procedures and measures for quality assurance and quality control;
(ii) A listing of sites/sources that may and may not participate in the program;
(iii) The representative percentage of certifications that would qualify to satisfy the inspection requirements in section F.3.b(4)(c) above;
(iv) Photo documentation of potential storm water violations identified during the third party inspection;
(v) Reporting to the Copermittee of identified significant potential violations, including imminent or observed illegal discharges, within 24 hours of the third party inspection;
(vi) Reporting to the Copermittee of all findings within one week of the inspection being conducted; and
(vii) Copermittee follow-up and/or enforcement actions for identified potential storm water violations within two business days of the potential violation report receipt.

(d) Based upon site inspection findings, each Copermittee must implement all follow-up actions and enforcement necessary to comply with this Order.

(e) To the extent that the San Diego Water Board has conducted an inspection of an industrial site during a particular year, the requirement for the responsible Copermittee to inspect this facility during the same year is deemed satisfied.

(f) The Copermittees must track the number of inspections for the inventoried industrial and commercial sites/sources throughout the reporting period to verify that the sites/sources are inspected at the minimum frequencies listed in this Order.

(5) Enforcement of Industrial and Commercial Sites/Sources

Each Copermittee must enforce its storm water ordinance for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms must include appropriate sanctions to achieve compliance. Sanctions must include the following tools or their equivalent: Non-monetary penalties, fines, bonding requirements, liens and/or permit denials for non-compliance.

(6) Reporting of Non-Compliant Sites

Each Copermittee must annually notify the San Diego Water Board, prior to the commencement of the wet season, of any unresolved high level enforcement action (as defined in the Copermittees' JRMP) that poses a significant threat to water quality in its jurisdiction as a result of violations of their storm water ordinances.

c. RESIDENTIAL

Each Copermittee must implement a residential program that meets the requirements of this section, prevents illicit discharges into the MS4, reduces residential discharges of storm water pollutants from the MS4 to the MEP, and prevents residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Threat to Water Quality Prioritization

Each Copermittee must identify residential areas and activities that pose a high threat to water quality. At a minimum, these must include:

(a) Automobile repair, maintenance, washing, and parking;
(b) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
(c) Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);
(d) Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;

(e) Any residential areas tributary to and within the same hydrologic subarea as a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and

(f) Any residential areas within or directly adjacent to or discharging directly to receiving waters within an environmentally sensitive area (as defined in Attachment C of this Order)

(2) BMP Implementation

(a) Pollution Prevention: Each Copermittee must actively encourage the use of pollution prevention methods by residents.

(b) Designate BMPs: Each Copermittee must designate minimum BMPs for high-threat-to-water quality residential areas and activities. The designated minimum BMPs for high-threat-to-water quality residential areas and activities must be area or activity specific.

(c) Hazardous Waste BMPs: Each Copermittee must facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation must include educational activities, public information activities, and establishment of collection sites operated individually and/or jointly by the Copermittee(s) or a private entity. Curbside collection of household hazardous wastes is encouraged.

(d) Implement BMPs: Each Copermittee must implement, or require implementation of, the designated minimum BMPs and any additional measures necessary to comply with Sections A and B of this Order.

(e) Each Copermittee must implement, or require implementation of, BMPs for residential areas and activities that have not been designated a high threat to water quality, as necessary.

(3) Enforcement of Residential Areas and Activities

Each Copermittee must enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

(4) Common Interest Areas (CIA) / Home Owner Association (HOA) Areas, and Mobile Home Parks

Each Copermittee must ensure that effective measures exist and are implemented or required to be implemented to ensure that runoff within and from common interest developments, including areas managed by associations and mobile home parks, and meets the objectives of this section and Order.

(a) BMP Implementation: Each Copermittee must implement or require implementation of management measures based on a review of pertinent factors, including:

(i) Maintenance duties and procedures typically used by CIA/HOA maintenance associations within its jurisdiction;
(ii) Whether streets and storm drains are publicly or privately owned within the CIA/HOA or mobile home park;
(iii) Whether the CIA/HOA area or mobile home park has been identified as a high priority residential area based on an evaluation of the site potential to generate pollutants contributing to a 303(d) listed waterbody or an observed action level exceedance; and
(iv) Other activities conducted or authorized by the HOA that may pose a significant risk to inland receiving waters.

(b) Legal Authority and Enforcement: By July 1, 2012, each Copermittee must review, and if necessary update, its Municipal Code to verify that they have the legal authority to implement and enforce its ordinances within CIA/HOA areas and mobile home parks.

d. RETROFITTING EXISTING DEVELOPMENT

Each Copermittee must develop and implement a retrofitting program that meets the requirements of this section. The goals of the existing development retrofitting program are to address the impacts of existing development through retrofit projects that reduce impacts from hydromodification, promote LID, support riparian and aquatic habitat restoration, reduce the discharges of storm water pollutants from the MS4 to the MEP, and prevent discharges from the MS4 from causing or contributing to a violation of water quality standards. Where feasible, at the discretion of the Copermittee, the existing development retrofitting program may be coordinated with flood control projects and other infrastructure improvement programs.

(1) The Copermittee(s) must identify and inventory existing areas of development (i.e. municipal, industrial, commercial, residential) as candidates for retrofitting. Potential retrofitting candidates must include but are not limited to:

(a) Areas of development that generate pollutants of concern to a TMDL or an ESA;
(b) Receiving waters that are channelized or otherwise hardened;
(c) Areas of development tributary to receiving waters that are channelized or otherwise hardened;

(d) Areas of development tributary to receiving waters that are significantly eroded; and
(e) Areas of development tributary to an ASBS or SWQPA.

(2) Each Copermittee must evaluate and rank the inventoried areas of existing developments to prioritize retrofitting. Criteria for evaluation must include but is not limited to:

(a) Feasibility;
(b) Cost effectiveness;
(c) Pollutant removal effectiveness, including reducing pollutants exceeding action level;
(d) Tributary area potentially treated;
(e) Maintenance requirements;
(f) Landowner cooperation;
(g) Neighborhood acceptance;
(h) Aesthetic qualities;
(i) Efficacy at addressing concern; and
(j) Potential improvements on public health and safety.

(3) Each Copermittee must consider the results of the evaluation in prioritizing work plans for the following year in accordance with Sections G.1 and J. Highly feasible projects expected to benefit water quality should be given a high priority to implement source control and treatment control BMPs. Where feasible, the retrofit projects may be designed in accordance with the SSMP requirements within sections F.1.d.(3) through F.1.d.(8) and the Hydromodification requirements in Section F.1.h.

(4) The Copermittees must cooperate with private landowners to encourage site specific retrofitting projects. The Copermittee must consider the following practices in cooperating and encouraging private landowners to retrofit their existing development:

(a) Demonstration retrofit projects;
(b) Retrofits on public land and easements that treat runoff from private developments;
(c) Education and outreach;
(d) Subsidies for retrofit projects;
(e) Requiring retrofit projects as enforcement, mitigation or ordinance compliance;
(f) Public and private partnerships; and
(g) Fees for existing discharges to the MS4 and reduction of fees for retrofit implementation.

(5) The known completed retrofit BMPs must be tracked in accordance with Section F.1.f. Retrofit BMPs on publicly owned properties must be inspected per section F.1.f . Privately owned retrofit BMPs must be inspected as needed.

(6) Where constraints on retrofitting preclude effective BMP deployment on existing developments at locations critical to protect receiving waters (as identified in section F.3.d.(1)), a Copermittee may propose a regional mitigation project to improve water quality. Such regional projects may include but are not limited to:

(a) Regional water quality treatment BMPs;
(b) Urban creek or wetlands restoration and preservation;
(c) Daylighting and restoring underground creeks;
(d) Localized rainfall storage and reuse to the extent such projects are fully protective of downstream water rights;
(e) Hydromodification project; and
(f) Removal of invasive plant species.

(7) A retrofit project or regional mitigation project may qualify as a Watershed Water Quality Activity provided it meets the requirements in section G. Watershed Workplan.

4. ILLICIT DISCHARGE DETECTION AND ELIMINATION

Each Copermittee must implement a program that meets the requirements of this section to actively detect and eliminate illicit discharges and disposal into the MS4. The program must address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with section B of this Order.

a. PREVENT AND DETECT ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must implement measures to prevent and detect illicit discharges to the MS4.

(1) Legal Authority: Each Copermittee must retain legal authority to prevent and eliminate illicit discharges and connections to the MS4.

(2) Inspections: Each Copermittee must include use of appropriate Copermittee personnel and contractors to assist in identifying illicit discharges and connections during their daily activities.

(a) Visual inspections for illegal discharges and connections must be conducted during routine maintenance of all MS4 facilities.

(b) Copermittee staff and contractors conducting non-MS4 field operations must be trained to report suspected illegal discharges and connections to proper Copermittee staff.

b. **MAINTAIN MS4 MAP**

Each Copermittee must maintain an updated map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of GIS is strongly encouraged. The MS4 map must include all segments of the storm sewer system owned, operated, and maintained by the Copermittee, as well as all known locations of inlets that discharge and/or collect runoff into the Copermittee's MS4, all known locations of connections with other MS4s (e.g. Caltrans), and all known locations of all the outfalls that discharge runoff from the Copermittee's MS4. The accuracy of the MS4 map must be confirmed during dry weather field screening and analytical monitoring and must be updated at least annually. The MS4 map including any GIS layers must be submitted with the updated JRMP.

c. **FACILITATE PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS - PUBLIC HOTLINE**

Each Copermittee must promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee must facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines must be capable of receiving reports in both English and Spanish 24 hours per day and seven days per week. All reported incidents, and how each was resolved, must be summarized in each Copermittee's Annual Report.

d. **DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING**

Each Copermittee must conduct dry weather field screening and analytical monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect illicit discharges and connections in accordance with Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2010-0016 in Attachment E of this Order.

e. **INVESTIGATION / INSPECTION AND FOLLOW-UP**

Each Copermittee must implement procedures to investigate and inspect portions of its MS4 that, based on the results of field screening, analytical monitoring, or other appropriate information, indicate a reasonable potential of containing illicit discharges, illicit connections, or other sources of pollutants in non-storm water.

(1) Develop response criteria for data: Each Copermittee must develop, update, and use numeric criteria action levels (or other actions level criteria where appropriate) to determine when follow-up investigations will be performed in response to water quality monitoring. The criteria must include required non-storm water action levels (see Section C) and a consideration of 303(d)-listed waterbodies and environmentally sensitive areas (ESAs) as defined in Attachment C.

(2) Respond to data: Each Copermittee must investigate portions of the MS4 for which water quality data or conditions indicates a potential illegal discharge or connection.

(a) Obvious illicit discharges (i.e. color, odor, or significant exceedances of action levels) must be investigated immediately.

(b) Field screen data: Within two business days of receiving dry weather field screening results that exceed action levels, the Copermittee(s) having jurisdiction must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation must be included in the Annual Report.

(c) Analytical data: Within five business days of receiving analytical laboratory results that exceed action levels, the Copermittee(s) having jurisdiction must either initiate an investigation to identify the source of the discharge or document the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. This documentation must be included in the Annual Report.

(3) Respond to notifications: Each Copermittee must respond to and resolve each reported incident (e.g., public hotline, staff notification, etc.) made to the Copermittee in a timely manner. Criteria may be developed to assess the validity of, and prioritize the response to, each report.

f. **ELIMINATION OF ILLICIT DISCHARGES AND CONNECTIONS**

Each Copermittee must take immediate action to initiate steps necessary to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections after detection within its jurisdiction. Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to the public's health or the environment must be eliminated immediately.

g. **ENFORCE ORDINANCES**

Each Copermittee must implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4 and to eliminate detected illicit discharges and connections to its MS4.

h. **PREVENT AND RESPOND TO SEWAGE SPILLS (INCLUDING FROM PRIVATE LATERALS AND FAILING SEPTIC SYSTEMS) AND OTHER SPILLS**

Each Copermittee must implement management measures and procedures (including a notification mechanism) to prevent, respond to, contain and clean up all sewage (see below) and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Copermittees must coordinate with spill response teams to prevent entry of spills into the MS4 and contamination of surface water, ground water and soil. Each Copermittee must coordinate spill prevention, containment and response activities throughout all appropriate Copermittee departments, programs and agencies so that maximum water quality protection is available at all times.

5. PUBLIC PARTICIPATION COMPONENT

Each Copermittee must incorporate a mechanism for public participation in the updating, development, and implementation of the JRMP.

6. EDUCATION COMPONENT

Each Copermittee must implement education programs to (1) measurably increase the knowledge regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutants in storm water discharges and eliminate prohibited non-storm water discharges to MS4s and the environment. At a minimum, the education programs must meet the requirements of this section and address the following target communities:

- Copermittee Departments and Personnel
- New Development / Redevelopment Project Applicants, Developers, Contractors, Property Owners, and other Responsible Parties
- Construction Site Owners and Operators
- Commercial Owners and Operators
- Industrial Owners and Operators
- Residential Community and General Public

a. **GENERAL REQUIREMENTS**

(1) At a minimum, the Copermittee education programs must educate each target community on the following topics, as appropriate to the target community's potential storm water and non-storm water discharges to the MS4:

(a) Applicable water quality laws, regulations, permits, and requirements;
(b) Best management practices;
(c) General runoff concepts;
(d) Existing water quality, including local water quality conditions, impaired waterbodies and environmentally sensitive areas; and
(e) Other topics, as determined by the Copermittee(s), such as public reporting mechanisms, water conservation, low-impact development techniques, and public health and vector issues associated with runoff.

(2) Each Copermittee must implement educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.

b. **SPECIFIC REQUIREMENTS**

(1) <u>Copermittee Departments and Personnel</u>

(a) Each Copermittee must implement an education program so its staff and contractors (and Planning Boards and Elected Officials, if applicable) responsible for implementing the requirements of this Order have an understanding of the following topics as applicable to their responsibilities:

(i) Applicable water quality laws and regulations;
(ii) The potential effects and impacts that Copermittee departments and personnel activities related to their job duties can have on water quality);
(iii) Plan review policies and procedures to verify consistent application;
(iv) Methods of minimizing impacts to receiving water quality resulting from development, construction, and other potential pollutant generating activities;

(v) Proper implementation of erosion and sediment control, source control, treatment control, and other BMPs to minimize the impacts to receiving water quality resulting from development, construction, and other potential pollutant generating activities;
(vi) Applicable recordkeeping and tracking mechanisms; and
(vii) Inspection and enforcement procedures, BMP implementation, and review of monitoring data.

(b) Each Copermittee must train its staff responsible for oversight and conducting storm water compliance inspections and enforcement of construction activities (e.g. construction, building, code enforcement, grading review staffs, inspectors, and other responsible construction staff) annually prior to the rainy season.

(c) Each Copermittee must train its staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year.

(2) New Development / Redevelopment and Construction Sites

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee must notify parties responsible for the project about the importance of educating all construction workers in the field about storm water issues and BMPs, in addition to the topics under Section F.6.a.(1).

(3) Commercial and Industrial Sites / Sources

At least once during the five-year period of this Order, each Copermittee must notify the owner/operator of each of its inventoried commercial and industrial site/source of the BMP requirements applicable to the site/source.

(4) Residential and General Public

Each Copermittee shall collaboratively conduct or participate in development and implementation of a program to educate residential and general public target communities. The Copermittee residential and general public education programs must address potential pollutant generating activities (e.g., car washing, mobile operations, yard maintenance) and pollutant generating products (e.g., pesticides, fertilizers, household chemicals). The target audiences of the residential and general public education programs must include underserved target audiences (e.g., disadvantaged communities), residents and managers of CIA/HOA areas, and owners and residents of mobile home parks.

G. WATERSHED WATER QUALITY WORKPLAN

Each Copermittee must collaborate with other Copermittees to develop and implement a Watershed Water Quality Workplan (Watershed Workplan) to identify, prioritize, address, and mitigate the highest priority water quality issues/pollutants in the Upper Santa Margarita Watershed.

1. Watershed Workplan Components

The work plan must, at a minimum:

a. Characterize the receiving water quality in the watershed. Characterization must include assessment and analysis of regularly collected water quality data, reports, monitoring and analysis generated in accordance with the requirements of the Receiving Waters Monitoring and Reporting Program, as well as applicable information available from other public and private organizations. This characterization must include an updated watershed map.

b. Identify and prioritize water quality problem(s) in terms of constituents by location, in the watershed's receiving waters. In identifying water quality problem(s), the Copermittees must, at a minimum, give consideration to TMDLs, receiving waters listed on the CWA section 303(d) list, waters with persistent violations of water quality standards, toxicity, or other impacts to beneficial uses, and other pertinent conditions.

c. Identify the likely sources, pollutant discharges and/or other factors causing the highest water quality problem(s) within the watershed. Efforts to determine such sources must include, but not be limited to: use of information from the construction, industrial/commercial, municipal, and residential source identification programs required within the JRMP of this Order; water quality monitoring data collected as part of the Receiving Water Monitoring and Reporting Program required by this Order, and additional focused water quality monitoring to identify specific sources within the watershed.

d. Develop a watershed BMP implementation strategy to attain receiving water quality objectives in the identified highest priority water quality problem(s) and locations. The BMP implementation strategy must include a schedule for implementation of the BMPs to abate specific receiving water quality problems and a list of criteria to be used to evaluate BMP effectiveness. Identified watershed water quality problems may be the result of jurisdictional discharges that will need to be addressed with BMPs applied in a specific jurisdiction in order to generate a benefit to the watershed. This implementation strategy must include a map of any implemented and/or proposed BMPs.

e. Develop a strategy to monitor improvements in receiving water quality directly

resulting from implementation of the BMPs described in the Watershed Workplan. The monitoring strategy must review the necessary data to report on the measured pollutant reduction that results from proper BMP implementation. Monitoring must, at a minimum, be conducted in the receiving water to demonstrate reduction in pollutant concentrations and progression towards attainment of receiving water quality objectives.

f. Establish a schedule for development and implementation of the Watershed strategy outlined in the Workplan. The schedule must, at a minimum, include forecasted dates of planned actions to address Provisions E.2(a) through E.2(e) and dates for watershed review meetings through the remaining portion of this Permit cycle. Annual watershed workplan review meetings must be open to the public and appropriately publically noticed such that interested parties may come and provide comments on the watershed program.

2. Watershed Workplan Implementation

Watershed Copermittee's must implement the Watershed Workplan within 90 days of submittal unless otherwise directed by the San Diego Water Board.

3. Copermittee Collaboration

Watershed Copermittees must collaborate to develop and implement the accepted Watershed Workplan. Watershed Copermittee collaboration must include frequent regularly scheduled meetings. The Copermittees must pursue efforts to obtain any interagency agreements, or other coordination efforts, with non-Copermittee owners of the MS4 (such as Caltrans, Native American tribes, and school districts) to control the contribution of pollutants from one portion of the shared MS4 to another portion of the shared MS4. The Copermittees must, as appropriate, participate in watershed management efforts to address water quality issues within the entire Santa Margarita Watershed (such as the County of San Diego and U.S. Marine Corps Camp Pendleton).

4. Public Participation

Watershed Copermittees must implement a watershed-specific public participation mechanism within each watershed. A required component of the watershed-specific public participation mechanism must be a minimum 30-day public review of and opportunity to comment on the Watershed Workplan prior to submittal to the San Diego Water Board. The Workplan must include a description of the public participation mechanisms to be used and identification of the persons or entities anticipated to be involved during the development and implementation of the Watershed Workplan.

5. Watershed Workplan Review and Updates

Watershed Copermittees must review and update the Watershed Workplan annually to identify needed changes to the prioritized water quality problem(s) listed in the workplan. All updates to the Watershed Workplan must be presented during an Annual Watershed Review Meeting. Annual Watershed Review Meetings must occur once every calendar year and be conducted by the Watershed Copermittees. Annual Watershed Review Meetings must be open to the public and adequately noticed. Individual Watershed Copermittees must also review and modify their jurisdictional programs and JRMP Annual Reports, as necessary, so that they are consistent with the updated Watershed Workplan.

6. Pyrethroid Toxicity Reduction Evaluation

The Watershed Copermittees must incorporate the pyrethroid pollutant reduction program[18] into the Watershed Workplan. The pyrethroid pollutant reduction program must include the following elements:

a. Pursue state and federal regulatory change;
b. Implement a set of source controls targeted specifically at urban pyrethroid use;
c. Through the annual reporting process, monitor the implementation of those controls, assess effectiveness, and identify sources or areas where additional effort is needed;
d. Implement additional controls as needed; and
e. Continue to monitor implementation, as well as conditions within the target receiving waters, assess effectiveness, and re-evaluate control programs.

H. FISCAL ANALYSIS

1. Secure Resources: Each Copermittee must exercise its full authority to secure the resources necessary to meet all requirements of this Order.

2. Annual Analysis: Each Copermittee must conduct an annual fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs required by this Order. The analysis must include estimated expenditures for the current reporting period, the preceding period, and the next reporting period.

a. Each analysis must include a description of the source of funds that are proposed to meet the necessary expenditures.
b. Each analysis must include a narrative description of circumstances resulting in a 25 percent or greater annual change for any budget line items.

[18] The pyrethroid pollutant reduction program is described in the "Riverside County – Santa Margarita Region Pyrethroid Source Identification Toxicity Reduction Evaluation, Final Phase II Report", January 2009 by MACTEC.

3. Annual Reporting: Each Copermittee must submit its annual fiscal analysis with the annual JRMP report.

I. TOTAL MAXIMUM DAILY LOADS

1. The waste load allocations (WLAs) of fully approved and adopted TMDLs are incorporated as Water Quality Based Effluent Limitations on a pollutant by pollutant, watershed by watershed basis. Early TMDL requirements, including monitoring, may be required and inserted into this Order pursuant to Finding E.10.

2. The Cities of Wildomar and Murrieta must comply with the requirements and WLAs assigned to the discharges from their MS4s contributing to the Lake Elsinore/Canyon Lake (San Jacinto Watershed) Nutrient TMDLs as specified in Section VI.D.2 of the Santa Ana Water Board's Order R8-2010-0033, including relevant sections of the fact sheet and findings, and subsequent revisions thereto.

J. PROGRAM EFFECTIVENESS ASSESSMENT AND REPORTING

Beginning with the Annual Report due in 2013, each Copermittee must annually assess and report upon the effectiveness of its JRMP and Watershed Workplan implementation to (1) reduce the discharge of storm water pollutants from its MS4 to the MEP; (2) prohibit non-stormwater discharges; and (3) prevent runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.

1. Program Effectiveness Assessments

a. IDENTIFY EFFECTIVENESS ASSESSMENTS

With the JRMP and Watershed Workplan submittal, each Copermittee must establish assessment measures or methods for each of the six outcome levels described by CASQA[19], using data from each JRMP program component, the MRP, and the Watershed Workplan.

(1) Assessment interval: For each established assessment measure or method, an assessment interval must be established as appropriate to the measure or method.

(2) Projected Timeframe: For each established assessment measure or method, each Copermittee must identify the projected timeframe within which the associated outcome level can adequately assess change.

[19] Effectiveness assessment outcome levels as defined by CASQA are defined in Attachment C of this Order. See "*Municipal Stormwater Program Effectiveness Assessment Guidance"* (CASQA, May 2007) for guidance for assessing program activities at the various outcome levels.

b. **PERFORM ASSESSMENTS**

(1) Annually: Each year, the Copermittee must perform each applicable assessment based on the associated assessment interval, and determine whether the desired outcome has been met.

(2) With the submittal of the Report of Waste Discharge, the Copermittees must determine whether their program implementation is resulting in the protection and/or improvement of water quality through an Integrated Assessment.

2. Respond to Assessments

a. Where the assessments indicate that the desired outcome level has not been achieved at the end of the projected timeframe, the Copermittee must review its applicable activities and BMPs to identify any modifications and improvements needed to maximize effectiveness, as necessary to comply with this Order. If the Copermittee determines that the existing activities/BMPs are adequate, or that the projected timeframe should be extended, justification and an updated timeframe for attainment of the outcome level must be provided in the Annual Report.

b. Each Copermittee must develop and implement a work plan and schedule to address any program modifications and improvements in response to the findings of its assessment. The work plan and schedule must be provided and updated with the applicable Annual Report. The work plan must include, at a minimum, the following:

(1) The problems and priorities identified during the assessment;
(2) A list of priority pollutants and known or suspected sources;
(3) A brief description of the strategy employed to reduce, eliminate or mitigate the negative impacts;
(4) A description and schedule for new and/or modified BMPs. The schedule is to include dates for significant milestones;
(5) A description of how the selected activities will address an identified high priority problem. This will include a description of the expected effectiveness and benefits of the new and/or modified BMPs;
(6) A description of implementation effectiveness metrics;
(7) A description of how efficacy results will be used to modify priorities and implementation; and
(8) A review of past activities implemented, progress in meeting water quality standards, and planned program adjustments.

3. Assessment and Response Reporting

Each Copermittee must include a summary of its effectiveness assessments within each Annual Report. Beginning with the FY 2012-2013 Annual Report, the Program Effectiveness reporting must include:

a. The results of each of the effectiveness assessments performed pursuant to J.1.b, including the demonstrated CASQA effectiveness level(s);

b. Responses to effectiveness assessments: A description of any program modifications planned in accordance with section J.2, including the work plan and identified schedule for implementation. The description must include the basis for determining that each modified activity and/or BMP represents an improvement expected to result in improved water quality; and

c. A description of any steps to be implemented to improve the Copermittee's ability to assess program effectiveness.

K. REPORTING

The Copermittees may propose alternate reporting criteria and schedules, as part of their updated JRMP, for the Executive Officer's acceptance.

1. Runoff Management Plans

a. **JURISDICTIONAL RUNOFF MANAGEMENT PLANS**

(1) The written account of the overall program to be conducted by each Copermittee to meet the jurisdictional requirements of section F of this Order is referred to as the Jurisdictional Runoff Management Plan (JRMP). Each Copermittee must revise and update its existing JRMP so that it describes all activities the Copermittee will undertake to implement the requirements of this Order. Each Copermittee must submit its updated and revised JRMP to the San Diego Water Board no later than June 30, 2012.

(2) At a minimum, each Copermittee's JRMP must be updated and revised to demonstrate compliance with each applicable section of this Order.

b. **WATERSHED WORKPLANS**

Copermittees must update and revise the Watershed Workplan to describe any changes in water quality problems or priorities, and any necessary change to actions Copermittees will take to implement jurisdictional or watershed BMPs to address those identified. The Copermittees must assemble and submit the Watershed Workplan to the San Diego Water Board no later than June 30, 2012, and must implement the Workplan within 90 days unless otherwise directed by the San Diego Water Board.

2. Other Required Reports and Plans

a. **SSMP UPDATES**

(1) Copermittees must submit their updated SSMP in accordance with the applicable requirements of section F.1 with the JRMP by June 30, 2012.

(2) Within 180 days of determination that the SSMP is in compliance with this Order's provisions, each Copermittee must amend its ordinances consistent with the SSMP and implement the updated SSMP. Any amended or new ordinances must be submitted to the San Diego Water Board the applicable Annual Report.

b. **HMP**

(1) By June 30, 2013, the Copermittees must submit to the San Diego Water Board Executive Officer a draft HMP that has been reviewed by the public, including identification of the appropriate limiting range of flow rates in accordance with the applicable requirements of section F.1.h.

(2) Within 180 of receiving San Diego Water Board comments on the draft HMP, the Copermittees must submit a final HMP that addressed the San Diego Water Board's comments.

(3) Within 90 days of receiving a finding of adequacy from the Executive Officer each Copermittee must incorporate and implement the HMP for all Priority Development Projects.

(4) Prior to acceptance of the HMP by the San Diego Water Board, the early implementation measures likely to be included in the HMP shall be encouraged by the Copermittees.

c. **REPORT OF WASTE DISCHARGE**

The Copermittees must submit to the San Diego Water Board, no later than 180 days in advance of the expiration date of this Order, a Report of Waste Discharge (ROWD) as an application for issuance of new waste discharge requirements. The fourth annual report for this Order may supplement the ROWD, provided the ROWD contains the minimum information below.

At a minimum, the ROWD must include the following: (1) Proposed changes to the Copermittees' runoff management programs; (2) Proposed changes to monitoring programs; (3) Justification for proposed changes; (4) Name and mailing addresses of the Copermittees; (5) Names and titles of primary contacts of the Copermittees; (6) Any other information necessary for the reissuance of this Order and (7) Any other information required by federal regulations for permit reapplications.

3. Annual Reports

JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM (JRMP) ANNUAL REPORTS

a. Each Copermittee must generate individual JRMP Annual Reports that cover implementation of its jurisdictional activities during the past annual reporting period. Each Annual Report must verify and document compliance with this Order as directed in this section. Each Copermittee must retain records in accordance with the Standard Provisions in Attachment B of this Order, available for review, that document compliance with each requirement of this Order. The reporting period for these annual reports must be the previous fiscal year.

b. Each Copermittee must submit its JRMP Annual Reports to the San Diego Water Board by October 31of each year, beginning on October 31, 2013.

c. Each JRMP Annual Report must contain, at a minimum, the following information, as applicable to the Copermittee:

(1) Information required to be reported annually in Section H (Fiscal Analysis) of this Order;
(2) Information required to be reported annually in Section J (Program Effectiveness) of this Order;
(3) The completed Reporting Checklist found in Attachment D; and
(4) Information for each program component as described in the following Table 5:

Table 5. Annual Reporting Requirements

Program Component	Reporting Requirement
New Development	1. All updated relevant sections of the General Plan and environmental review process and a description of any planned updates within the next annual reporting period, if applicable;
	2. All revisions to the SSMP, including where applicable: (a) Identification and summary of where the SSMP fails to meet the requirements of this Order; (b) Updated procedures for identifying pollutants of concern for each Priority Development Project; (c) Updated treatment BMP ranking matrix; (d) Updated site design and treatment control BMP design standards;
	3. Number of Priority Development Projects reviewed and approved during the reporting period. Brief description of BMPs required at approved Priority Development Projects. Verification that site design, source control, and treatment BMPs were required on all applicable Priority Development Projects;
	4. Name and location of all Priority Development Projects that were granted a waiver from implementing LID BMPs pursuant to section F.1.d.(4) during the reporting period;
	5. Updated watershed-based BMP maintenance tracking database of approved treatment control BMPs and treatment control BMP maintenance within its jurisdiction, including updates to the list of high-priority Priority Development Projects; and verification that the requirements of this Order were met during the reporting period;

Table 5. Annual Reporting Requirements (Cont'd)

Program Component	Reporting Requirement
New Development (Cont'd)	6. Name and brief description of all approved Priority Development Projects required to implement hydrologic control measures in compliance with section F.1.h including a brief description of the management measures planned to protect downstream beneficial uses and prevent adverse physical changes to downstream stream channels;
	7. Number and description of all enforcement activities applicable to the new development and redevelopment component and a summary of the effectiveness of those activities.
Construction	1. All updated relevant ordinances and description of planned ordinance updates within the next annual reporting period, if applicable;
	2. A description of any changes to procedures used for identifying priorities for inspecting sites and enforcing control measures that consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality;
	3. Any changes to the designated minimum and enhanced BMPs;
	4. Summary of the inspection program, including the following information: (a) Total number and date of inspections conducted at each facility; (b) Number, date, and types of enforcement actions by facility; (c) Brief description of each high-level enforcement actions at construction sites including the effectiveness of the enforcement. Supporting paper (or electronic) files must be maintained by the Copermittees and made available upon San Diego Water Board request. Supporting files must include a record of inspection dates, the results of each inspection, photographs (if any), and a summary of any enforcement actions taken.
Municipal	1. Updated source inventory;
	2. All changes to the designated municipal BMPs;
	3. Descriptions of any changes to procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies;
	4. Summary and assessment of BMP retrofits implemented at flood control structures, including: (a) List of projects retrofitted; (b) List and description of structures evaluated for retrofitting; (c) List of structures still needing to be evaluated and the schedule for evaluation;

Table 5. Annual Reporting Requirements (Cont'd)

Program Component	Reporting Requirement
Municipal (Cont'd)	5. Summary of the municipal structural treatment control operations and maintenance activities, including: (a) Number of inspections and types of facilities; (b) Summary of findings;
	6. Summary of the MS4 and MS4 facilities operations and maintenance activities, including: (a) Number and types of facilities maintained; (b) Amount of material removed; (c) List of facilities planned for bi-annual inspections and the justification;
	7. Summary of the municipal areas/programs inspection activities, including: (a) Number and date of inspections conducted at each facility; (b) The BMP violations identified during the inspection by facility; (c) Number, date and types of enforcement actions by facility; (d) Summary of inspection findings and follow-up activities for each facility;
	8. Description of activities implemented to address sewage infiltration into the MS4;
	9. Description of BMPs and their implementation for unpaved roads construction and maintenance.
Commercial / Industrial	1. Updated inventory of commercial / industrial sources;
	2. Summary of the inspection program, including the following information: (a) Number and date of inspections conducted at each facility or mobile business; (b) The BMP violations identified during the inspection by facility; (c) Number, date, and types of enforcement actions by facility or mobile business; (d) Brief description of each high-level enforcement actions at commercial/industrial sites including the effectiveness of the enforcement and follow-up activities for each facility;
	3. All changes to designated minimum and enhanced BMPs;
	4. A list of industrial sites, including each name, address, and SIC code, that the Copermittee suspects may require coverage under the General Industrial Permit, but has not submitted an NOI.

Table 5. Annual Reporting Requirements (Cont'd)

Program Component	Reporting Requirement
Residential	1. All updated minimum BMPs required for residential areas and activities;
	2. Quantification and summary of applicable runoff and storm water enforcement actions within residential areas and activities;
	3. Description of efforts to manage runoff and storm water pollution in common interest areas and mobile home parks.
Retrofitting Existing Development	1. Updated inventory and prioritization of existing developments identified as candidates for retrofitting;
	2. Description of efforts to retrofit existing developments during the reporting year;
	3. Description of efforts taken to encourage private landowners to retrofit existing development;
	4. A list of all retrofit projects that have been implemented, including site location, a description of the retrofit project, pollutants expected to be treated, and the tributary acreage of runoff that will be treated;
	5. Any proposed retrofit or regional mitigation projects and timelines for future implementation;
	6. Any proposed changes to the Copermittee's overall retrofitting program.
Illicit Discharge Detection and Elimination	1. Any changes to the legal authority to implement Illicit Discharge Detection and Elimination activities;
	2. Any Changes to the established investigation procedures;
	3. Any changes to public reporting mechanisms, including phone numbers and web pages;
	4. Summaries of illicit discharges (including spills and water quality data events) and how each significant case was resolved;
	5. A description of instances when field screening and analytical data exceeded action levels, including those instances for which no investigation was conducted;
	6. A description of follow-up and enforcement actions taken in response to investigations of illicit discharges and a description of the outcome of the investigation/enforcement actions.
Workplans	Updated workplans including priorities, strategy, implementation schedule and effectiveness evaluation.

d. Each JRMP Annual Report must also include the following information regarding non-storm water discharges (see Section B.2. of this Order):

(1) Identification of non-storm water discharge categories identified as a source of pollutants to waters of the U.S;
(2) A description of any updates to ordinances, orders, or similar means to prohibit non-storm water discharge categories identified under section B.2 above ;
(3) Identification of any control measures to be required and implemented for

non-storm water discharge categories identified as needing controls by the San Diego Water Board; and

(4) A description of a program to address pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.

4. Interim Reporting Requirements

For the reporting periods, prior to submittal of the JRMP, each JRMP Annual Report must be submitted in accordance with the requirements and deadlines described in Order No. 2004-001.

5. Universal Reporting Requirements

All submittals must include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal. The Principal Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.

L. MODIFICATION OF PROGRAMS

Modifications of JRMPs and/or Watershed Workplan may be initiated by the Executive Officer of the San Diego Water Board or by the Copermittees. Requests by Copermittees must be made to the Executive Officer, and must be submitted during the annual review process. Requests for modifications should be incorporated, as appropriate, into the Annual Reports or other deliverables required or allowed under this Order.

1. Minor modifications to JRMPs, and/or Watershed Workplan, may be accepted by the Executive Officer where the Executive Officer finds the proposed modification complies with all discharge prohibitions, receiving water limitations, and other requirements of this Order.

2. Proposed modifications that are not minor require amendment of this Order in accordance with this Order's rules, policies, and procedures.

M. PRINCIPAL COPERMITTEE RESPONSIBILITIES

Within 180 days of adoption of this Order, the Copermittees must designate the Principal Copermittee and notify the San Diego Water Board of the name of the Principal Copermittee. The Principal Copermittee must, at a minimum:

1. Serve as liaison between the Copermittees and the San Diego Water Board on general permit issues, and when necessary and appropriate, represent the Copermittees before the San Diego Water Board.

2. Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order.

3. Coordinate the submittal of the documents and reports as required by section K of this Order and Receiving Waters and MS4 Discharge Monitoring and Reporting Program No. R9-2010-0016 in Attachment E of this Order.

N. RECEIVING WATERS AND MS4 DISCHARGE MONITORING AND REPORTING PROGRAM

Pursuant to CWC section 13267, the Copermittees must comply with all the requirements contained in Receiving Waters and MS4 Discharge Monitoring and Reporting Program (MRP) No. R9-2010-0016 in Attachment E of this Order.

O. STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. Each Copermittee must comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment B of this Order. This includes 24 hour/5 day reporting requirements for any instance of non-compliance with this Order as described in section 5.e of Attachment B.

2. All plans, reports and subsequent amendments submitted in compliance with this Order must be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

P. ADDITIONAL PROVISIONS

The Executive Officer shall meet with Camp Pendleton and other stakeholders at six (6) month intervals to identify and investigate water quality impacts, flow impacts, and impacts to water rights that may derive from the implementation of Low Impact Development BMPs required by Order R9-2010-0016 as they are developed by the storm water Copermittees. Any key issues or amendments to the Order that derive from those analyses and discussions will be promptly brought to the San Diego Water Board for their consideration.

I, David W. Gibson, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on November 10, 2010.

David W. Gibson
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

FACT SHEET / TECHNICAL REPORT

FOR

ORDER NO. R9-2010-0016
NPDES NO. CAS0108766

WASTE DISCHARGE REQUIREMENTS

FOR

DISCHARGES FROM THE
MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE COUNTY OF RIVERSIDE,
THE INCORPORATED CITIES OF RIVERSIDE COUNTY,
AND THE RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
WITHIN THE SAN DIEGO REGION

NOVEMBER 10, 2010

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LIST OF ACRONYMS AND ABBREVIATIONS

ADT	Average Daily Traffic
AMAL	Average Monthly Action Level
AST	Active/Passive Sediment Treatment
BAT	Best Available Technology
BIA	Building Industry Association
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the San Diego Basin
CASQA	California Stormwater Quality Association
CCC	California Coastal Commission
CC&Rs	Covenants, Conditions and Restrictions
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
Colorado River Water Board	California Regional Water Quality Control Board, Colorado River Region
Copermittees	County of Riverside, the 4 incorporated cities within the County of Riverside in the San Diego Region, and the Riverside County Flood Control and Water Conservation District
CWA	Clean Water Act
CWC	California Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
DAMP	Drainage Area Management Plan
DNQ	Did Not Quantify
ESAs	Environmentally Sensitive Areas
FR	Federal Register
GIS	Geographic Information System
HMP	Hydromodification Management Plan
HU	Hydrologic Unit
IBI	Index of Biotic Integrity
IC/ID	Illicit Connections and Illicit Discharges
JRMP	Jurisdictional Runoff Management Plan
Los Angeles Water Board	California Regional Water Quality Control Board, Los Angeles Region
LID	Low Impact Development
MDAL	Maximum Daily Action Level
MEP	Maximum Extent Practicable
MRP	Receiving Waters Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System

LIST OF ACRONYMS AND ABBREVIATIONS (CONT'D)

NAL	Non-storm Water Action Levels
ND	Not Detected
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
NURP	Nationwide Urban Runoff Program
OAL	Office of Administrative Law
RCFCD	Riverside County Flood Control and Water Conservation District
Regional Water Board	California Regional Water Quality Control Board
RGOs	Retail Gasoline Outlets
ROWD	Riverside County Copermittees' Report of Waste Discharge (application for NPDES reissuance)
RWL	Receiving Water Limitations
SAL	Storm Water Action Level
Santa Ana Water Board	California Regional Water Quality Control Board, Santa Ana Region
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
San Francisco Bay Water Board	California Regional Water Quality Control Board, San Francisco Bay Region
SIC	Standard Industrial Classification Code
SIP	State Implementation Plan
SSMP	Standard Storm Water Mitigation Plan
State Water Board	State Water Resources Control Board
SWMP	Storm Water Management Plan
TAC	State Water Resources Control Board Urban Runoff Technical Advisory Committee
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WLA	Waste Load Allocation
WQO	Water Quality Objective
WQBEL	Water Quality Based Effluent Limitations
WQMP	Water Quality Management Plan
WQS	Water Quality Standard
WRMP	Watershed Runoff Management Plan

I. FACT SHEET FORMAT

This Fact Sheet briefly sets forth the principle facts and the significant factual, legal, methodological, and policy questions that the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) considered in preparing Order No. R9-2010-0016. In accordance with the Code of Federal Regulations (CFR) title 40 parts 124.8 and 124.56 (40 CFR 124.8 and 124.56), this Fact Sheet includes, but is not limited to, the following information:

A. Contact information
B. Public process and notification procedures
C. Background information
D. Permitting approach
E. Economic issues
F. Legal authority
G. Findings
H. Directives

Tentative Order No. R9-2010-0016 was distributed for public review on July 23, 2010. The San Diego Water Board accepted written comments on the Tentative Order until September 7, 2010. A public hearing was subsequently held on November 10, 2010 to receive oral comments from interested persons.

The San Diego Water Board's files applicable to the issuance of Order No. R9-2010-0016 are incorporated into the administrative record in support of the findings and requirements of Order No. R9-2010-0016.

II. CONTACT INFORMATION

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The Order and other related documents can be downloaded from the San Diego Water Board website at http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/rsd_stormwater.shtml

All documents referenced in this Fact Sheet and in Order No. R9-2010-0016 are available for public review at the San Diego Water Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 8:00 am to 5:00 pm Monday through Friday. To schedule an appointment to inspect public records, contact the San Diego Water Board Records Management Officer at 858-467-2952.

Copermittees

1. City of Murrieta	4. County of Riverside
2. City of Temecula	5. Riverside County Flood Control and Water Conservation District
3. City of Wildomar	

III. PUBLIC PROCESS AND NOTIFICATION PROCEDURES

The San Diego Water Board followed the schedule listed below for the preparation of Order No. R9-2010-0016:

A. In December 2008, the San Diego Water Board met with the Copermittees to discuss the Report of Waste Discharge (ROWD) required by Order No. R9-2004-001.
B. On January 15, 2009, the San Diego Water Board received the ROWD for the permit renewal.
C. On October 29, 2009, the San Diego Water Board received the 2008-09 annual reports from the Copermittees for the existing permit.
D. On February 8, 2010, the San Diego Water Board notified all known interested parties that an electronic email listserv had been established to provide information and notices on the reissuance of the municipal storm water NPDES permit for southern Riverside County.
E. On February 18, 2010 the San Diego Water Board provided written comments on the ROWD to the Copermittees.
F. On March 22, 2010, the San Diego Water Board met with the Copermittees to discuss the potential changes to the permit based on the ROWD and annual reports.
G. Between April 22 and July 23, 2010, the San Diego Water Board met with the Copermittees on a weekly basis to discuss the Copermittees' concerns with the provisions of the Tentative Order.
H. On July 23, 2010, the San Diego Water Board released the Tentative Order for public review and comment.
I. Written comments were accepted until September 7, 2010.
J. A public hearing of the Tentative Order was conducted on November 10, 2010.

IV. BACKGROUND

Order No. R9-R9-2010-0016 is the fourth iteration of the storm water permit for the municipal separate storm sewer systems (MS4s) in the Riverside County portion of the San Diego Region. The first permit was adopted in 1990. The San Diego Water Board adopted the second iteration of the permit in 1998. The U.S. Environmental Protection Agency (USEPA) objected to the 1998 permit and reissued the permit in 1999. In 2000, the San Diego Water Board issued an addendum to the 1998 permit and incorporated the USEPA's permit by reference. The San Diego Water Board reissued the third iteration of the permit in 2004.

Municipal Storm Water Permits are required by the Federal Clean Water Act 1987 Amendments. The federal Clean Water Act (CWA) was amended in 1987 to address storm water runoff from municipal and industrial dischargers. One requirement of the amendment was that many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of storm water runoff from their MS4s. In response to the CWA amendment (and the pending federal NPDES regulations which would implement the amendment), the San Diego Water Board issued a municipal storm water permit, Order No. 90-46, in July 1990 to the Copermittees for their municipal separate storm sewer system (MS4) discharges.[1]

The First and Second Term Permits, Order Nos. 90-46 and 98-02, provided maximum flexibility. San Diego Water Board Order No. 90-46 contained the "essentials" of the 1990 regulations, but the requirements were written in very broad, generic terms. This was done in order to provide the maximum amount of flexibility to the Copermittees in implementing the new requirements (flexibility was, in fact, the stated reason for issuing the permit in advance of the final regulations). From staff's perspective however, "flexibility" in the form of lack of specificity, combined with the Copermittees' lack of funding and political will, also provided the Copermittees with ample reasons to take few substantive steps towards achieving water quality standards. The situation was exacerbated by the San Diego Water Board's own lack of storm water resources for oversight.

The Third-Term Permit introduced specific requirements. The regulatory approach incorporated into Order No. R9-2004-001 was a significant departure from the regulatory approach of the First and Second-Term Permits. Where San Diego Water Board Order Nos. 90-46 and 98-02 included broad, nonspecific requirements in order to provide the Copermittees with the maximum amount of flexibility in developing their programs, Order No. R9-2004-001 used detailed, specific requirements which outlined the minimum level of implementation required for the Copermittees' programs. In order to provide the Copermittees with the minimum requirements to meet the

[1] The 1990 permit was issued to the County of Riverside, the Orange County Flood Control and Water Conservation District, and the City of Temecula. Additional municipalities have been added to the MS4 NPDES permit as they have incorporated.

maximum extent practicable (MEP) standard for storm water of the San Diego Water Board, Order No. R9-2004-001 included more detail to emphasize the strong jurisdictional level programs developed by the Copermittees during the First and Second-Term Permits, as well as including the watershed-level program. The shift in permitting approaches resulted from the San Diego Water Board's conclusion that the lack of specificity in earlier Orders resulted in frequently unenforceable permit requirements, which in turn allowed some Copermittees to only make limited progress in implementing their programs.

The Third-Term Permit followed the San Diego County and Orange County permit templates. The shift in regulatory approaches for MS4 permits was first manifested in the 2001 MS4 permit to the owners and operators of San Diego County MS4s (Order No. 2001-01) and subsequently incorporated into the 2002 MS4 permit to the owners and operators of the Orange County MS4s (Order No. R9-2002-0001). The Third-Term Riverside County Permit included similar requirements as the 2001 San Diego County Permit and the 2002 Orange County Permit. Both the San Diego and Orange County Permits were appealed to the State Water Resources Control Board (State Water Board).[2] Minor modifications of each were made by the State Water Board, but the vast majority of the requirements were upheld. The San Diego County permit was also challenged in the Superior Court of the State of California and the Court of Appeal, Fourth Appellate District. Further litigation on the Orange County permit was held pending the precedential decisions on the San Diego Permit. The San Diego Permit was largely upheld in the Superior and Appellate Courts. The State of California Supreme Court declined to hear a final appeal from the Building Industry Association in March 2005. Thus, the Third-Term Riverside County permit requirements remained as slightly modified by the State Water Board.

The Third-Term Permit was adopted following substantial public participation. Public participation was extensive during the adoption process of the Third-Term Permit. The draft permit was released for public review and comment on December 15, 2003. Because the proposed requirements for Riverside County were similar to those that had recently been adopted and contested in San Diego County, much of the public participation dialogue echoed the discussions held during the San Diego renewal. A public workshop was held at the Temecula City Hall on January 23, 2004 to answer questions about the Tentative Order for the Third-Term Riverside County permit. A public hearing was held on February 11, 2004 to receive testimony. The public comment period was closed on March 10, 2004. Approximately 165 written and verbal comments were received and responded to during the public workshop, the public hearing, and the written comment period on the Tentative Order for the Third-Term Riverside County permit. Following the extensive public participation process, the San Diego Water Board adopted Order No. R9-2004-001 on July 14, 2004.

[2] Seven petitions were filed with the State Water Board over the Third-Term Orange County Permit. Six were placed in abeyance. Three of the petitioners sought stays. One stay request was dismissed and one was withdrawn. The active petition and stays were addressed by the State Water Board in Order WQO 2002-0014. That Order stayed provision F.5.f regarding sewage spills and modified Finding No. 26 regarding chronic toxicity.

Storm water programs have improved under the Third-Term Permit. Since adoption of Order No. R9-2004-001, the Copermittees' storm water programs have expanded. Audits of the Copermittees' programs and reviews of annual reports exhibit that the Copermittees' jurisdictional programs are largely in compliance with the Order. Some of the efforts currently being conducted on a regular basis by the Copermittees that were not conducted on a widespread basis prior to adoption of Order No. R9-2004-001, include: construction site storm water inspections, industrial and commercial facility storm water inspections, municipal facility storm water inspections, management of storm water quality from new development, development of best management practice (BMP) requirements for existing development, interdepartmental coordination, comprehensive water quality monitoring, and assessment of storm water program effectiveness.

Significant challenges remain. When viewed relative to the magnitude of the storm water runoff problem, enormous challenges remain, particularly regarding the management of storm water runoff on a watershed scale. Today, storm and non-storm water discharges from the MS4 continue to be the leading cause of water quality impairment in the San Diego Region.[3] Since 1998, the number of impaired water bodies in the Riverside County portion of the San Diego Region on the CWA section 303(d) List of Water Quality Impaired Segments (303(d) List) has increased with each new list (i.e. new impaired water bodies listed on the 2002, 2006, and 2008 303(d) Lists). The Copermittees' monitoring data exhibits persistent exceedances of water quality objectives in the Santa Margarita watershed.[4] The Santa Margarita watershed also has conditions that are frequently toxic to aquatic life. Bioassessment data from the watersheds further reflects these conditions, finding that macroinvertebrate communities in creeks have widespread Poor to Very Poor Index of Biotic Integrity (IBI) ratings.

[3] The potential sources of impairments are identified on the CWA section 303(d) list of impaired water bodies for the San Diego Region.

[4] Data is provided in annual reports to the San Diego Water Board. A summary of data collected during the Third-Term Permit is provided in the Riverside County Copermittees' application for permit reissuance. That summary is available on-line at:
http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/rsd_stormwater.shtml

V. PERMITTING APPROACH (PROGRAM INTEGRATION, FLEXIBILITY, AND DETAIL)

The Order contains an increased emphasis on storm water discharge management on a watershed basis. This shift towards increased watershed management is consistent with planning efforts conducted by the San Diego Water Board regarding reissuance of the San Diego Permit (Order No. R9-2007-0001) and Orange County Permit (Order No. R9-2009-0002). This shift reflects recognition of the maturity of the storm water programs since they began implementing the Third-Term Permit. Addressing storm water discharge management on a watershed basis is only possible if effective jurisdictional programs have been established, and maintaining effective jurisdictional programs is crucial to the success of watershed-focused management.

There are several reasons for this shift in emphasis. An emphasis on watersheds is necessary to shift the focus of the Copermittees from program development and implementation to water quality results. After over 20 years of Copermittee program implementation, it is critical that the Copermittees link their efforts with positive impacts on water quality. Addressing storm water on a watershed scale focuses on water quality results by emphasizing the receiving waters within the watershed. The conditions of the receiving waters drive management actions, which in turn focus on the water quality problems in each watershed.

Focusing on watershed implementation does not mean that the Copermittees must expend funds outside of their jurisdictions. Rather, the Copermittees within each watershed are expected to collaborate to develop a watershed strategy to address the high priority water quality problems within each watershed. They have the option of implementing the strategy in the manner they find to be most effective. Each Copermittee can implement the strategy individually within its jurisdiction, or the Copermittees can group together to implement the strategy throughout the watershed.

While the Order includes a new emphasis on addressing storm water discharges on a watershed basis, the Order includes recognition of the importance of continued program implementation on jurisdictional and countywide levels. The Order also acknowledges that jurisdictional, watershed, and countywide efforts are not always mutually exclusive. For this reason, an attempt has been made to allow for the Copermittees' jurisdictional, watershed, and countywide programs to integrate.

In the Order, the watershed requirements serve as the mechanism for this program integration. Since jurisdictional and countywide activities can also serve watershed purposes, such activities can be integrated into the Copermittees' watershed programs, provided the activities meet certain criteria. In this manner, the Copermittees' activities do not always need to distinguish between jurisdictional, watershed, and countywide levels of implementation. Instead, they can be integrated on multiple levels.

Such opportunities for program integration inherently provide flexibility to the Copermittees in implementing their programs. Program integration can be expanded or minimized as the Copermittees see fit. For example, there is flexibility provided in determining the activities to be integrated and implemented in the watershed programs – watershed-based efforts, countywide efforts, enhanced jurisdictional efforts, or a mixture of the three. Significant flexibility is also provided throughout other portions of the Order.

Copermittees can choose the best management practices (BMPs) to be implemented, or required to be implemented, for development, construction, and existing development areas. Flexibility to determine which industrial or commercial sites are to be inspected is also provided to the Copermittees. Educational approaches are also to be determined by the Copermittees under the Order. Implementation of certain efforts on a countywide basis is largely optional for the Copermittees as well. Significant leeway is also provided to the Copermittees in using methods to assess the effectiveness of their various runoff management programs. This flexibility is further extended to the monitoring program requirements, which allow the Copermittees to develop monitoring approaches to several aspects of the monitoring program.

The challenge in drafting the Order is to provide the flexibility described above while ensuring that the Order is still enforceable. To achieve this, the Order frequently prescribes minimum measurable outcomes, while providing the Copermittees with flexibility in the approaches they use to meet those outcomes. Enforceability has been found to be a critical aspect of the Order. For example, the watershed requirements of Order No. R9-2004-001 were some of the Order's most flexible requirements. This lack of specificity in the watershed requirements resulted in inefficient watershed compliance efforts. This situation reflects a common outcome of flexible permit language. Such language can be unclear and unenforceable, and it can lead to implementation of inadequate programs.

To avoid these types of situations, a balance between flexibility and enforceability has been crafted into the Order. Minimum measurable outcomes are utilized to ensure the Order is enforceable, while the Copermittees are provided flexibility in deciding how they will implement their programs to meet the minimum measurable outcomes.

VI. ECONOMIC ISSUES

Economic discussions of storm and non-storm water management programs tend to focus on the significant costs incurred by municipalities in developing and implementing the programs. However, when considering the cost of implementing the programs, it is also important to consider the alternative costs incurred by not fully implementing the programs, as well as the benefits which result from program implementation.

The financial crisis and current economic environment has amplified the concerns about the costs incurred by the municipalities in implementing their programs. It is frequently cited by many of the Copermittees as a justification for reducing or modifying the requirements that must be met by their programs. While the current economic environment is a cause for concern in the short term, it also provides an opportunity for these programs to find and implement improvements and efficiencies before the next period of growth and development.

It is very difficult to ascertain the true cost of implementation of the Copermittees' management programs because of inconsistencies in reporting by the Copermittees. Reported costs of compliance for the same program element can vary widely from city to city, often by a very wide margin that is not easily explained.[5] Despite these problems, efforts have been made to identify management program costs, which can be helpful in understanding the costs of program implementation.

Estimates of Phase I Storm Water Program Costs

The USEPA, the California Regional Water Quality Control Boards (Regional Water Boards), and the State Water Board have attempted to evaluate the costs of implementing municipal storm water programs. The assessments demonstrate that true costs are difficult to ascertain and reported costs vary widely. Nonetheless, they provide a useful context for considering the costs of requirements within Order No. R9-2010-0016. In addition, reported fiscal analyses tend to neglect the costs incurred to municipalities when storm water runoff is not effectively managed. Such costs result from pollution, contamination, nuisance, and damage to ecosystems, property, and human health.

In 1999 USEPA reported on multiple studies it conducted to determine the cost of management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be $9.16 per household. USEPA also studied 35 Phase I municipalities, finding costs to be $9.08 per household annually, similar to those anticipated for Phase II municipalities.[6]

[5] LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.
[6] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791-68792.

A study on Phase I MS4 program cost was also conducted by the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board), where program costs reported in the municipalities' annual reports were assessed. The Los Angeles Water Board estimated that average per household cost to implement the MS4 program in Los Angeles County was $12.50.[7] Since the Los Angeles County permit is very similar to Order No. R9-2004-001, this estimate is also useful in assessing general program costs in Riverside County.

The State Water Board also commissioned a study by the California State University, Sacramento to assess costs of the Phase I MS4 program. This study includes an assessment of costs incurred by Phase I MS4s throughout the State to implement their programs. Annual cost per household in the study ranged from $18-46, with the Fresno-Clovis Metropolitan Area (FCMA) representing the lower end of the range, and the City of Encinitas (in San Diego County) representing the upper end of the range.[8] Included in the study is the City of Corona, which is in Riverside County under the jurisdiction of the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board).

The annual cost per household for the City of Corona's program was estimated to be $32, which should be similar to the costs to implement the MS4 programs in the Riverside County portion of the San Diego Region. In contrast, the cost of the City of Encinitas' program, with an annual cost per household estimated to be $46, may represent the upper range of Riverside County MS4 programs. However, the City of Encinitas's program cost can be considered as the high end of the spectrum for management program costs because the City has a consent decree with environmental groups regarding its program, and City of Encinitas has received recognition for implementing a superior program.

The annual costs for the City of Corona and City of Encinitas were estimated from data collected in 2003-2004. Between 2003 and 2008, the number of households in both cities has increased by approximately 3 percent and 7 percent, respectively.[9] In contrast, between 2003 and 2008 the number of households in the City of Temecula has increased from 23,199 to 31,135 (34 percent)[10] and the City of Murrieta has increased from 22,020 to 32,664 (48 percent).[11] This significant increase in number of households indicates a significant increase in the tax base (sales and property tax) available to fund the implementation of the MS4 programs for the City of Temecula and City of Murrieta, as well as for the County of Riverside and recently incorporated cities.

[7] Los Angeles Water Board, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.
[8] State Water Board, 2005. NPDES Stormwater Cost Survey. P. ii.
[9] Southern California Association of Governments, Profile of the City of Corona, dated May 2009; and City of Encinitas, Comprehensive Financial Annual Report, dated June 30, 2009.
[10] Southern California Association of Governments, Profile of the City of Temecula, dated May 2009.
[11] Southern California Association of Governments, Profile of the City of Murrieta, dated May 2009.

The average amount spent per household in the Cities of Temecula and Murrieta, however, does not correspond with the increase in the number of households or the amount spent in municipalities in other regions. The table below compares the reported expenditures for the MS4 programs from 2006-07 to 2008-09 compared to number of households in the Cities of Encinitas, Corona, Temecula, and Murrieta.[12]

	2006-07			2007-08			2008-09		
City	$ Spent	House-holds	$/House-hold	$ Spent	House-holds	$/House-hold	$ Spent	House-holds	$/House-hold
Encinitas	$1,192,174	23,798	$50.10	$2,052,671	23,871	$85.99	$1,729,962	24,100	$71.78
Corona	$988,547	43,000	$22.99	$1,151,779	43,482	$26.49	$1,162,928*	43,827	$26.53
Temecula	$566,952	28,890	$19.62	$748,267	30,222	$24.76	$534,492	31,135	$17.17
Murrieta	$186,377	30,237	$6.16	$258,247	31,758	$8.13	$541,180*	32,664	$16.56

It is important to note that the program costs reported above may not include costs incurred by other departments or programs that may support the MS4 permit programs. The costs only represent the funds spent by each municipality as reported in their jurisdictional program annual reports. In any case, the figures in the table above illustrate the disparity in the amounts reportedly budgeted and spent for the programs in the Riverside County portion of the San Diego Region in comparison to the amounts budgeted and spent in the Santa Ana Region and in the San Diego County portion of the San Diego Region.

It is also important to note that reported program costs are not all attributable to compliance with MS4 permits. Many program components, and their associated costs, existed before any MS4 permits were ever issued. For example, street sweeping and trash collection costs cannot be solely or even principally attributable to MS4 permit compliance, since these practices have long been expected from and implemented by municipalities.

Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. The California State University, Sacramento study found that only 38 percent of program costs are new costs fully attributable to MS4 permits. The remainder of the program costs was either pre-existing or resulted from enhancement of pre-existing programs.[13] In 2000, the County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement the County or Orange Drainage Area Management Plan (DAMP), was less than 20 percent of the total budget. The remaining 80 percent was attributable to pre-existing programs.[14]

[12] Amount ($) Spent figures are the actual expenditures reported in the 2006-07, 2007-08, and/or 2008/09 Annual Reports for the jurisdictional programs for each municipality (figures with * are estimated/budgeted expenditures). Number of households derived from SCAG 2009 profiles of Corona, Temecula, and Murrieta, and from City of Encinitas 2009 Financial Annual Report.
[13] State Water Board, 2005. NPDES Stormwater Cost Survey. P. 58.
[14] County of Orange, 2000. A NPDES Annual Progress Report. P. 60. More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.

Estimating Costs of Reissued Storm Water Permits

The vast majority of costs that will be incurred as a result of implementing Order No. R9-2010-0016 is not new. Storm water management programs have been in place in Riverside County for over 15 years. As shown in the discussion above, the amount spent for MS4 Permit compliance per household in the municipalities in the Riverside County portion of the San Diego Region is already low compared to other regions. Any increase in cost to the Copermittees, however, is still expected to be incremental in nature. Since Order No. R9-2010-0016 "fine tunes" the requirements of Order No. R9-2004-001, these cost increases are expected to be modest.

Where there may be additional elements that will incur new costs, the Riverside County Copermittees are given the time to develop the budgets and funding mechanisms to phase those elements into their programs. Additionally, development of these additional elements by the Riverside County Copermittees will have the benefit of the experiences and work already done by the San Diego County and Orange County Copermittees.

The anticipated costs of program changes are difficult to estimate because of the flexibility inherent within the Permit and the recognition that program modifications will vary among the municipalities in response to the specific needs of the local and watershed programs. In other words, the Permit is intended to allow each Copermittee to de-emphasize some program components and strengthen others based on the experience of the jurisdictional programs.

The changes in Order No. R9-2010-0016 reflect the iterative process of BMP implementation and the necessarily adaptive nature of storm water management that is expected by the USEPA. In 1996, USEPA recognized that changes to MS4 programs would occur during the reapplication period based on new information on the relative magnitude of a problem, new data on water quality impacts of the storm water discharges, and experience gained under the prior permit.[15] Some changes have been proposed by the Copermittees in the permit reapplication package, and others have been included because the San Diego Water Board considers those measures necessary and feasible to protect water quality from the effects of MS4 discharges.

[15] Federal Register / Vol. 61, No. 155 / Friday, August 9, 1996 / Rules and Regulations. Interpretive policy memorandum on reapplication requirements for MS4s.

Other Economic Considerations

Economic considerations of management programs cannot be limited only to program costs. Evaluation of programs requires information on the implementation costs and information on the benefits derived from environmental protection and improvement.[16] Attention is often focused on program costs, but the programs must also be viewed in terms of their value to the public.

For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by USEPA to be $158-210.[17] This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study reports that the annual household willingness to pay for statewide clean water is approximately $180.[18] When viewed in comparison to household costs for existing management programs, household willingness to pay estimates exhibit that per household costs incurred by the Riverside County Copermittees to implement their management programs are very low.

Placing a value on good water quality in receiving waters is very difficult. The Santa Margarita River is one of the few remaining natural gorge rivers in southern California, with approximately 70 species of special concern (rare, threatened, or endangered) regularly inhabiting the watershed, including 30 that are currently protected under the Federal Endangered Species Act.[19] The Upper Santa Margarita Watershed provides significant habitat and recreation opportunities. In addition, residents and businesses in the Upper Santa Margarita Watershed rely heavily of local water for drinking, agriculture, and industrial supply.

Often the value of receiving waters with good water quality manifests in other forms, such as tourism, recreational opportunities, and increased property values. When surface waters are degraded, thereby degrading the habitat, the public loses the aesthetic value and benefit of being able to use the area in and around the water. Surface waters that are able to support the beneficial uses designated in the Water Quality Control Plan for the San Diego Basin (Basin Plan) can sustain plants and wildlife that can attract visitors and residents, providing aesthetic, recreational, as well as monetary value to the public. At this time, however, there have been no studies for the Riverside County portion of the San Diego Region to quantify the added value that surface waters with healthy water quality can provide.

It is also important to consider the benefits of management programs in conjunction with their costs. A study conducted by the University of Southern California and University of California, Los Angeles assessed the costs and benefits of implementing

[16] Ribaudo M.O. and D. Heelerstein. 1992, *Estimating Water Quality Benefits: Theoretical and Methodological Issues.* U.S. Department of Agriculture. Technical Bulletin No. 1808.
[17] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.
[18] State Water Board, 2005. NPDES Stormwater Cost Survey. P. iv.
[19] Stein, E. and Ambrose, R. 1998. Cumulative Impacts of Section 404 Clean Water Act Permitting on the Riparian Habitat of the Santa Margarita, California Watershed. Wetlands, Vol. 18, No. 3.

various approaches for achieving compliance with the MS4 permits in the Los Angeles Region. The study found that non-structural systems would cost $2.8 billion but provide $5.6 billion in benefit. If structural systems were determined to be needed, the study found that total costs would be $5.7 to $7.4 billion, while benefits could reach $18 billion.[20] Costs are anticipated to be borne over many years – probably ten years at least. As can be seen, the benefits of the programs are expected to considerably exceed their costs. Such findings are corroborated by USEPA, which found that the benefits of implementation of its Phase II storm water rule would also outweigh the costs.[21]

[20] Los Angeles Water Board, 2004. Alternative Approaches to Stormwater Control.
[21] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

VII. LEGAL AUTHORITY

The following statutes, regulations, and Water Quality Control Plans provide the basis for the requirements of Order No. R9-2010-0016: Clean Water Act (CWA), California Water Code (CWC), Title 40 of the Code of Federal Regulations (40 CFR) Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), Water Quality Control Plan – Ocean Waters of California (California Ocean Plan), Water Quality Control Plan for the San Diego Basin (Basin Plan), 40 CFR 131 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule), and the California Toxics Rule Implementation Plan.

The legal authority citations below generally apply to directives in Order No. R9-2010-0016, and provide the San Diego Water Board with ample underlying authority to require each of the directives of Order No. R9-2010-0016. Legal authority citations are also provided with each permit section discussion in section IX of this Fact Sheet/Technical Report.

CWA 402(p)(3)(B)(ii) – The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers."

CWA 402(p)(3)(B)(iii) – The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermittee's permit application "shall consist of: (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: […] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; […] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer."

40 CFR 122.26(d)(2)(iv) – Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermittee shall develop and implement a proposed management program which "shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. […] Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. […] Proposed management programs shall describe priorities for implementing controls."

40 CFR 122.26(d)(2)(iv)(A - D) – Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in storm water runoff from new development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land uses or activities. Prevention of illicit discharges is also required.

CWC 13377 – CWC section 13377 provides that "Notwithstanding any other provision of this division, the State Water Board or the Regional Water Boards shall, as required or authorized by the CWA, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

Order No. R9-2010-0016 is an essential mechanism for achieving the water quality objectives that have been established for protecting the beneficial uses of the water resources in the San Diego Water Board's portion of Riverside County. Federal NPDES regulation 40 CFR 122.44(d)(1) requires MS4 permits to include any requirements necessary to "achieve water quality standards established under CWA section 303, including State narrative criteria for water quality." The term "water quality standards" in this context refers to a water body's beneficial uses and the water quality objectives necessary to protect those beneficial uses as established in the Basin Plan and antidegradation policies.

VIII. FINDINGS

The findings of the Order have been modified to reduce repetition in their discussions and address new requirements. Each finding of the Order is provided and discussed below. Additional discussion relative to the findings can be found in section IX of the Fact Sheet, which provides discussions of the Order's directives.

A. Basis For the Order

Finding A.1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable State and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (State Water Board), the Water Quality Control Plan for the San Diego Basin adopted by the San Diego Water Board (Basin Plan), the California Toxics Rule, and the California Toxics Rule Implementation Plan.

Discussion of Finding A.1. In 1987, Congress established CWA Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act, the State Water Board and the nine Regional Water Boards have primary responsibility for the coordination and control of water quality, including the authority to implement the CWA. Porter-Cologne (section 13240) directs the Regional Water Boards to set water quality objectives via adoption of Water Quality Control Plans (Basin Plans) that conform to all State policies for water quality control.

As a means for achieving those water quality objectives, Porter-Cologne (section 13243) further authorizes the Regional Water Boards to establish waste discharge requirements (WDRs) to prohibit waste discharges in certain conditions or areas. Since 1990, the San Diego Water Board has issued area-wide MS4 NPDES permits. The Order will renew Order No. R9-2004-001 to comply with the CWA and attain water quality objectives in the Basin Plan by including numeric storm water action levels to limit the contributions of pollutants conveyed by storm water, and by including numeric non-storm water action levels for dry weather non-storm water discharges designed to ensure that the Copermittees comply with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into their MS4. Further discussions of the legal authority associated with the prohibitions and directives of the Order are provided in section VII this document.

Finding A.2. This Order reissues National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, which was first adopted by the San Diego Water Board on July 16, 1990 (Order No. 90-38), and then reissued on May 13, 1998 (Order No. 98-02). On May 26, 1998, the United States Environmental Protection Agency

(USEPA), Region IX, objected to Order No. 98-02 due to concerns regarding Receiving Water Limitations (RWL) language. The USEPA concluded that the RWL language in the permit did not comply with the CWA and its implementing regulations. On April 27, 1999, the USEPA reissued the MS4 permit, which the San Diego Water Board adopted as Addendum No. 1 to Order No. 98-02 on November 8, 2000. On July 14, 2004, the San Diego Water Board adopted the third term MS4 permit, Order No. R9-2004-001. On January 15, 2009, the Riverside County Flood Control and Water Conservation District (RCFCD), as the Principal Copermittee, submitted a Report of Waste Discharge (ROWD) for reissuance of the municipal separate storm sewer system (MS4) Permit.

Discussion of Finding A.2. This Order renews National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, which was first issued on July 16, 1990 (Order No. 90-38), and then renewed on May 13, 1998 (Order No. 98-02). The USEPA determined that Order No. 98-02 the Receiving Water Limitations (RWL) language in the permit did not comply with the CWA and its implementing regulations. The USEPA assumed responsibility and reissued the Riverside County MS4 permit on April 27, 1999. Subsequently, the San Diego Water Board adopted Addendum No. 1 to Order No. 98-02 on November 8, 2000, which incorporated the USEPA's permit by reference. On July 14, 2004, the San Diego Water Board adopted the third term MS4 permit, Order No. R9-2004-001. On January 15, 2009, in accordance with Order No. R9-2004-001, the Riverside County Flood Control and Water Conservation District (District), as the Principal Copermittee, submitted a Report of Waste Discharge (ROWD) for reissuance of the municipal separate storm sewer system (MS4) Permit. Supporting information discussing the topic of this finding can be found in section V of this document.

Finding A.3. This Order is consistent with the following precedential Orders adopted by the State Water Board addressing MS4 NPDES Permits: Order WQ 99-05, Order WQ 2000-11, Order WQ 2001-15, Order WQO 2002-0014, and Order WQ 2009-0008 (*SWRCB/OCC FILE A-1780)*.

Discussion of Finding A.3. In recent years the State Water Board has considered several appeals of MS4 permits issued by the Regional Water Boards. In State Water Board Order WQ 99-05, the State Water Board established Receiving Water Limitation Language for MS4 permits. In State Water Board Order WQ 2000-11, the State Water Board addressed design standards for Standard Urban Storm Water Mitigation Plan (SUSMP) requirements. In State Water Board Order WQ 2001-15, the State Water Board addressed Petitions of the San Diego County MS4 Permit issued by the San Diego Water Board in 2001 (San Diego Water Board Order No. 2001-001). In State Water Board Order WQO 2002-0014, the State Water Board addresses Petitions of the Orange County MS4 Permit issued by the San Diego Water Board in 2002 (San Diego Water Board Order No. R9-2002-0001). In State Water Board Order WQ 2009-0008, the State Water Board addresses Petitions of the Los Angeles County MS4 Permit issued by the Los Angeles Water Board in 2006 (Los Angeles Water Board Order No. R4-2006-0074).

Finding A.4. The Fact Sheet / Technical Report for the Order No. R9-2010-0016, NPDES No. CAS0108766, Waste Discharge Requirements for Discharges from the MS4s Draining the County of Riverside, the Incorporated Cities of Riverside County, and the Riverside County Flood Control and Water Conservation District within the San Diego Region, includes cited regulatory and legal references and additional explanatory information and data in support of the requirements of this Order. This information, including any supplements thereto, is hereby incorporated by reference into these findings.

Discussion of Finding A.4. This Fact Sheet briefly sets forth the principle facts and the significant factual, legal, methodological, and policy questions that the San Diego Water Board considered in preparing Order No. R9-2010-0016, in accordance with the Code of Federal Regulations (CFR) title 40 parts 124.8 and 124.56 (40 CFR 124.8 and 124.56). This Fact Sheet includes general information regarding the watershed and the Copermittees' discharges from their MS4 systems. The discussions in the Fact Sheet include references to applicable statutes and regulations, as well as other supporting documents. The discussions in the Fact Sheet also can clarify the permit writer's intent for requirements that may appear vague or open to multiple interpretations.

B. Regulated Parties

Finding B.1. Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates an MS4, through which it discharges storm water and non-storm water into waters of the United States (U.S.) within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the U.S.

The Cities of Murietta, Menifee and Wildomar also discharge into waters of the U.S. in the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board), so are located partially within both the San Diego and Santa Ana Water Board boundaries. As allowed by California Water Code (CWC) §13228, these Cities submitted written requests to be regulated for MS4 purposes under a permit adopted by only one Water Board. As authorized by CWC § 13228 and pursuant to a written agreement between the San Diego Water Board and the Santa Ana Water Board, the Cities of Murrieta and Wildomar are wholly regulated by the San Diego Water Board under this Order, including those portions of the Cities jurisdiction not within the San Diego Water Board's region. Similarly, the City of Menifee is wholly regulated by the Santa Ana Water Board under Order No. R8-2010-0033, including those portions of the City of Menifee within the San Diego Water Board's region.

Discussion of Finding B.1. Section 402 of the CWA prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Though storm water and non-storm water may come from a diffuse source, it is discharged through MS4s, which are point sources under the CWA. Federal NPDES regulation 40 CFR 122.26(a) (iii) and (iv) provide that discharges from MS4s, which service medium or large populations greater than 100,000 or 250,000 respectively, shall be required to obtain a NPDES permit. Federal NPDES regulation 40 CFR 122.26(a)(v) also provides that a NPDES permit is required for "A [storm water] discharge which the Director, or in states with approved NPDES programs, either the Director or the USEPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." Such sources are then designated into the program.

Included in Table 1 of the Order are the Cities of Murrieta, Temecula, and Wildomar, the County of Riverside, and the Riverside County Flood Control and Water Conservation District. The Cities of Wildomar and Menifee are newly incorporated cities. Both Cities were previously a part of the County of Riverside's jurisdiction and have an MS4 interrelated to other Copermittee MS4s in the San Diego Region. The boundaries of the Cities of Menifee, Murrieta, and Wildomar fall within the jurisdiction of both the San Diego Water Board and the Santa Ana Water Board.

As requested by the Cities of Menifee, Murrieta, and Wildomar, and pursuant to an agreement between the San Diego and Santa Ana Water Boards as authorized by CWC section 13228, the MS4s of the Cities of Murrieta and Wildomar are to be wholly regulated by the San Diego Water Board under this Order, and the MS4 of the City of Menifee is to be wholly regulated by the Santa Ana Water Board under Order No. R8-2010-0033. The agreement between the San Diego and Santa Ana Water Board to regulate the Cities of Menifee, Murrieta, and Wildomar will be subject to change with sufficient notice, and for good cause.

Other small MS4s also exist within the portion of Riverside County in the San Diego Region. While these small MS4s are not subject to this Order, they are subject to the Phase II NPDES storm water regulations. Over time, these small MS4s will be designated for coverage under the State Water Board's statewide general storm water permit for small MS4s.

C. Discharge Characteristics

Finding C.1. Discharges from the MS4 contain waste, as defined in the CWC, and pollutants that adversely affect the quality of the waters of the State. The discharge from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA.

Discussion of Finding C.1. Section 13050(d) of the CWC defines "waste" as "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." 40 CFR 122.2 defines "point source" as "any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff." 40 CFR 122.2 defines "discharge of a pollutant" as "Any addition of any pollutant or combination of pollutants to waters of the U.S. from any point source." Also, the justification for control of pollution into waters of the state can be found at CWC section 13260(a)(1). State Water Board Order No. WQ 2001-15 verifies that discharges from the MS4 contain waste.[22]

The term "urban runoff" has been removed throughout Order No. R9-2010-0016 and replaced with storm water (wet weather) or non-storm water (dry weather) runoff. This clarification is necessary to prevent the misunderstanding that regulation under this permit is subject only to urbanized areas. The term "urban runoff" is not defined in the Code of Federal Regulations or Federal Register in the regulation of Phase I MS4 discharges.

In the Copermittees' ROWD, a distinction is made between urban land use areas and non-urban land use areas. Urban land use areas include commercial, industrial, *urban residential (less than 1 acre)*, parks and recreation facilities, and streets and roads land use categories. Non-urban land use areas include preserves and open space, agriculture, federal/state/tribal lands/non-County jurisdiction, and *rural residential (greater than 1 acre)*. The ROWD implies that only discharges from the urban land use areas are subject to the requirements of the MS4 Permit, thus rural residential (greater than 1 acre) land use areas would not be subject to the requirements of the MS4 Permit. Rural residential land use areas, however, are subject to the requirements of the MS4 Permit. The removal of the term urban runoff will further clarify the application of the requirements of the MS4 Permit.

[22] State Water Board, 2001. Order WQ 2001-15. In the Matter of Petitions of Building Industry Association of San Diego County and Western States Petroleum Association: For Review of Waster Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the Regional Board.

The discharge of runoff from an MS4 is a “discharge of pollutants from a point source” into waters of the U.S. as defined in the CWA. The Permit defines runoff as all flows in a storm water conveyance system (MS4 defined below) and consists of the following components:

(1) storm water (wet weather flows) and
(2) non-storm water discharges (dry weather flows).

The Permit defines an MS4 as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designated or used for collecting or conveying storm water;

(iii) Which is not a combined sewer;

(iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

Permit finding D.3.c. includes natural streams that convey runoff as part of the MS4. The presence of an MS4 system is not limited to areas considered to be “urban” in nature. Though the term urban is often referred to specifically as pertaining to cities, runoff means all flows in a storm water conveyance system, regardless of the location of the conveyance system. A conveyance system owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law), may be located in a setting (e.g. unincorporated area, low density residential) that is not considered by the public to be “urban” in nature. These areas are contributing pollutants to the MS4 system that must be addressed. The term runoff applies to all flows in an MS4 system, no matter where the MS4 may be located in regards to incorporated or unincorporated property. Storm water and non-storm water discharges from the rural residential (greater than 1 acre) land use category, characterized as non-urban, that enter into any part of the MS4 system (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), are also subject to the requirements of the MS4 Permit.

The Code of Federal Regulations (CFR) at 40 CFR 122.26 requires that large and medium MS4s obtain a permit for all discharges from their systems. Appendix I to 40 CFR 122 designates Riverside County as having a large and medium MS4 requiring a permit. The regulations do not differentiate discharges from urban or rural MS4 systems. Rather, the regulations require the permit for all discharges from their systems. In the Final Rule establishing the Phase 1 storm water regulations, the USEPA clarified that all discharges are subject to a permit. On page 48041 of the Final Rule, the USEPA states:

> "EPA recognizes that some of the counties addressed by today's rule have, in addition to areas with high unincorporated urbanized populations, areas that are essentially rural or uninhabited and may not be the subject of planned development. While permits issued for these municipal systems ***will cover*** *(emphasis added) municipal systems discharges in unincorporated portions of the county* (emphasis added), it is the intent of EPA that management plans and other components of the programs focus on the urbanized and developing areas of the county."

So, while the Permit covers all MS4 discharges regardless if that discharge is in an urban or unincorporated area; the Copermittees management program should focus on urbanized areas. Due to the Permit's requirements, the Copermittees management programs will naturally focus on urbanized areas. Urbanized areas have more industry, construction, pollution and MS4s that require more inspection, maintenance, monitoring, enforcement and complaint follow-up.

USEPA further clarified on page 48041 that all MS4 discharges require permit coverage when addressing highway MS4 systems:

> "[The regulations] will result in discharges from separate storm sewer systems serving State highways and other highways through storm sewers … in unincorporated portions of specified counties being included as part of the large or medium municipal separate storm sewer systems, since all municipal separate storm sewers within the boundaries of these political entities are included."

In their summary on page 48043, the USEPA states:

> "The definition [of MS4] provides that all systems within a geographical area including highways and flood controls will be covered, thereby avoiding fragmented and ill-coordinated programs;"

Neither the State Water Board's storm water permit for Caltrans (State Water Board Order No. 99-06-DWQ) nor the Los Angeles Water Board's MS4 permit for Ventura County include the term "urban runoff" in a significant regulatory capacity. The Caltrans permit has one reference to "urban runoff" where the term is used interchangeably with "storm water." The draft Ventura permit uses the term "urban

runoff" when referring to titles of reference documents, previously adopted management plans and municipal ordinances that may contain the phrase.

The Copermittees have expressed concern regarding the regulation of pollutants from natural, undeveloped areas that enter the MS4 in an unincorporated area. Runoff and pollutants from any source entering the MS4, however, become the responsibility of the Copermittees upon entering the MS4. The assimilation of pollutants from natural, undeveloped areas is different under natural conditions compared to when they are transported through the MS4. The MS4 collection could change a natural sheet flow discharge to a concentrated point discharge. The MS4 does not provide natural infiltration or other pollutant remediation that these flows would receive in an otherwise natural drainage system. The MS4 may concentrate these natural pollutants and flows. In some cases, the MS4 may ultimately discharge the elevated concentrations of natural pollutants and flow rates to waters of the US far from the natural pollutant and flow source, causing a condition of pollution or a violation of water quality standards.

Finding C.2. MS4 storm water and non-storm water discharges are likely to contain pollutants that cause or threaten to cause a violation of surface water quality standards, as outlined in the Basin Plan. Storm water and non-storm water discharges from the MS4 are subject to the conditions and requirements established in the Basin Plan for point source discharges.

Discussion of Finding C.2. This finding is a clarification regarding the potential for discharges of storm water and non-storm water to impact the Beneficial Uses as described in the Basin Plan. As such these point source discharges require Waste Discharge Requirements (WDRs) to ensure that water quality standards are met. Furthermore, since point source discharges require WDRs, the discharges are subject to the prohibitions, conditions and requirements of the Basin Plan.

In addition, municipal discharges have been split into storm water and non-storm water discharges to represent the differing regulations applicable to storm water and non-storm water, though both types of discharges are likely to contain pollutants.

Finding C.3. The most common categories of pollutants in runoff include total suspended solids, sediment, pathogens (e.g., bacteria, viruses, protozoa), heavy metals (e.g., copper, lead, zinc and cadmium), petroleum products and polynuclear aromatic hydrocarbons, synthetic organics (e.g., pesticides, herbicides, and PCBs), nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), detergents, and trash.

Discussion of Finding C.3. The National Urban Runoff Program (NURP) study showed that heavy metals, organics, coliform bacteria, nutrients, oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are found at

relatively high levels in storm water and non-storm water discharges.[23] It also found that MS4 discharges draining residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. The Basin Plan goes on to identify runoff pollutants to include lawn and garden chemicals, household and automotive care products dumped or drained on streets, and sediment that erodes from construction sites.[24] In addition, the State Water Board Urban Runoff Technical Advisory Committee (TAC) finds that urban runoff pollutants include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides.[25] Runoff that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through storm drain networks directly to the receiving waters of the San Diego Region.

Finding C.4. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e. unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

Discussion of Finding C.4. The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the nation's waters from contaminated storm and non-storm water runoff.[26] The 1998 National Water Quality Inventory Report showed that runoff discharges affect 11 percent of rivers, 12 percent of lakes, and 28 percent of estuaries. Primary sources of impairment to rivers and streams included sediment, bacteria, nutrients, oxygen-depleting substances, metals, and pesticides. The report notes that runoff discharges are the leading source of pollution and the main factor in the degradation of surface water quality in California's coastal waters, rivers, and streams. Furthermore, the NURP study found that pollutant levels from illicit non-storm water discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.[27]

In addition, the Region's CWA section 303(d) list, which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of storm water and non-storm water runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents that have been found at high levels within storm water and non-storm water runoff by the Riverside County storm water monitoring program.[28] Examples of constituents frequently

[23] Ibid.
[24] San Diego Water Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9. San Diego.
[25] State Water Board, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.
[26] USEPA, 2000. Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress – USEPA 841-S-00-001; Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress – USEPA 841-F-00-006.
[27] USEPA, 1993. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.
[28] County of Riverside, 2009. Riverside County Municipal Copermittees 2008-09 Annual Storm Water Program Report, Section 11.

responsible for beneficial use impairment include indicator fecal bacteria, heavy metals, toxicity, pesticides, dissolved solids, turbidity, and nutrients. These constituents have been found at high levels in runoff both regionally and nationwide.[29,30] In addition, impairments may be caused by synergistic effects of multiple contaminants or by pollutants not currently monitored by storm water programs.

Finding C.5. Pollutants in runoff can threaten and adversely affect human health. Human illnesses have been clearly linked to recreating near storm drains flowing to receiving waters. Also, runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

Discussion of Finding C.5. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. A landmark study, conducted by the Santa Monica Bay Restoration Project, found that there was an increased occurrence of illness in people that swam in proximity to a flowing storm drain.[31] A study of south Huntington Beach and north Newport Beach (both located in northern Orange County) found that an illness rate of about 0.8 percent among bathers at those beaches resulted in about $3 million annually in health-related expenses.[32] Although the Upper Santa Margarita Watershed is inland, the watershed drains to the Pacific Ocean, and pollutants generated in the area may impact coastal waters. For example, the Santa Margarita River system provides the main source of beach sand for the beaches in northern San Diego County.[33] In addition, residents from the Upper Santa Margarita Watershed, who recreate at southern California beaches, benefit from clean water.

Residents and businesses in the Upper Santa Margarita Watershed also rely heavily on local water for drinking, agriculture and industrial supply. Over 40 percent of the water used in the watershed is locally produced.[34] In addition, surface and ground water from the Upper Santa Margarita Watershed flow to Fallbrook in San Diego County and the U.S. Marine Corps Base Camp Pendleton where it is used as part of the municipal and domestic water supply.

According to the USEPA, spilled fuel, solvents, waste oil, paints, and other maintenance fluids pose a risk to the environment, but may be especially harmful if they enter someone's drinking water supply.[35] Discharges of runoff from urban areas were identified by the California Department of Health Services as one of the most

[29] Ibid.
[30] USEPA, 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.
[31] Haile, R.W., et al., 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.
[32] Dwight, R.H., et al., 2005. Estimating the Economic Burden From Illnesses Associated With Recreational Coastal Water Pollution – A Case Study in Orange County, California. Journal of Enviro. Management Vol.76. No.2 p.95-103. Also reported in: Los Angeles Times, May 2, 2005. Here's What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.
[33] Shapiro. 1991. Refuge in an urbanized land, the Santa Margarita River: cultural and natural resource value. Santa Margarita Research Foundation, Fallbrook, CA.
[34] Jenks, .J. 2002. Santa Margarita River Watershed Annual Watermaster Report: Water Year 2000-2001.
[35] USEPA. 2004. Municipal Storm Water and Ground Water Discharge Regulations in California. F-909-04-004.

prevalent possible contaminating activities for drinking water sources.[36] This issue of potential source water contamination is of fundamental importance, because of the dependence on local water for domestic use in the Santa Margarita Watershed.

Furthermore, runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may eventually be consumed by humans. Pollutants such as heavy metals and pesticides, which are commonly found in MS4 runoff, have been found to bioaccumulate and biomagnify in long-lived organisms at the higher trophic levels.[37] Since many aquatic species are utilized for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health. USEPA supports this finding when it states, "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such and lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans."[38]

Finding C.6. Runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e. adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

Discussion of Finding C.6. The Copermittees' monitoring data exhibits frequent toxic conditions in runoff during storm events and dry weather. Toxicity varies significantly within and among sites and over time. The cause of toxicity may vary between locations, dates, and indicator organisms. The actual cause may be influenced by various factors such as development, land uses, runoff management, habitat modification, hydromodification, and native aquatic environment. Some toxicity identification evaluations (TIEs) have identified pyrethroids as a cause of toxicity in the receiving waters.[39]

Finding C.7. The Copermittees discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within one of the eleven hydrologic units (Santa Margarita Hydrologic Unit) comprising the San Diego Region as shown in Table 2. Some of the receiving water bodies have been designated as impaired by the San Diego Water Board in 2009 pursuant to CWA section 303(d).

[36] Ibid.
[37] Abel, P.D, 1996. Water Pollution Biology.
[38] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. Washington D.C. EPA 833-R-00-002.
[39] County of Riverside, 2009. Riverside County Municipal Copermittees 2008-09 Annual Storm Water Program Report, Section 11.

Discussion of Finding C.7. This finding identifies the major receiving water bodies in the Riverside County portion of the Santa Margarita Hydrologic Unit that are listed as impaired on the CWA section 303(d) List of Impaired Waters (303(d) List). The 2006 303(d) List has been approved by the San Diego Water Board, State Water Board, and USEPA.[40] The 2008 303(d) List was approved by the San Diego Water Board on December 18, 2009 and by the State Water Board on August 4, 2010, and is awaiting USEPA approval.[41] The 303(d) list identifies waters that do not meet water quality standards after applying certain required technology-based effluent limits ("impaired" water bodies). As part of this listing process, states are required to prioritize waters/watersheds for future development of Total Maximum Daily Loads (TMDLs). The listed 303(d) pollutant(s) of concern do not necessarily reflect impairment of the entire corresponding major surface water bodies. The specific impaired portions of each water body are listed in the 2006 and 2008 303(d) Lists.

Since 2002, the number of water bodies and water body – pollutant combinations included on the 303(d) List, located in the Riverside County portion of the San Diego Region, has increased. A comparison of the 2002, 2006, and 2008 303(d) listings are summarized in the following table.

[40] The approved 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments is on-line at: http://www.waterboards.ca.gov/tmdl/303d_lists2006.html

[41] The 2008 Clean Water Act Section 303(d) List of Water Quality Limited Segments, approved by the San Diego Water Board and State Water Board, is available on-line at http://www.swrcb.ca.gov/rwqcb9/water_issues/programs/303d_list/index.shtml

Comparison of Riverside County 303(d) Listings

Watershed[1]	2002 303(d) List		2006 303(d) List		2008 303(d) List[2]	
	Listed Water Body	Impairing Pollutants	Listed Water Body	Impairing Pollutants	Listed Water Body	Impairing Pollutants
De Luz Creek HSA (902.21)	NO LISTINGS	NOT APPLICABLE	De Luz Creek	Iron Manganese	De Luz Creek	Iron Manganese Nitrogen Sulfates
Gavilan HSA (902.22)	Sandia Creek	TDS	Sandia Creek	Iron Manganese Nitrogen Sulfates TDS	Sandia Creek	Iron Sulfates TDS
	Santa Margarita River (Upper)	Phosphorus	Santa Margarita River (Upper)	Phosphorus	Santa Margarita River (Upper)	Phosphorus Toxicity
Murrieta HSA (902.32)	NO LISTINGS	NOT APPLICABLE	Long Canyon Creek	TDS	Long Canyon Creek	Chlorpyrifos E. Coli Fecal Coliform Iron Manganese
French HSA (902.33)	NO LISTINGS	NOT APPLICABLE	NO LISTINGS	NOT APPLICABLE	Warm Springs Creek	Chlorpyrifos E. Coli Fecal Coliform Iron Manganese Phosphorus Total Nitrogen as N

Comparison of Riverside County 303(d) Listings (Cont'd)

Watershed[1]	2002 303(d) List		2006 303(d) List		2008 303(d) List[2]	
	Listed Water Body	Impairing Pollutants	Listed Water Body	Impairing Pollutants	Listed Water Body	Impairing Pollutants
Gertrudis HSA (902.42)	NO LISTINGS	NOT APPLICABLE	NO LISTINGS	NOT APPLICABLE	Santa Gertrudis Creek	Chlorpyrifos Copper E. Coli Fecal Coliform Iron Phosphorus
Pauba HSA (902.51)	NO LISTINGS	NOT APPLICABLE	Temecula Creek	TDS Phosphorus Nitrogen	Temecula Creek	Chlorpyrifos Copper Phosphorus TDS Toxicity
	NO LISTINGS	NOT APPLICABLE	NO LISTINGS	NOT APPLICABLE	Redhawk Channel	Chlorpyrifos Copper Diazinon E. Coli Fecal Coliform Iron Manganese Nitrogen Phosphorus TDS
Wolf HSA (902.52)	Murrieta Creek	Phosphorus	Murrieta Creek	Phosphorus	Murrieta Creek	Chlorpyrifos Copper Iron Manganese Nitrogen Phosphorus Toxicity

Notes:
1. Hydrologic subarea (HSA) within the Santa Margarita Hydrologic Unit (HU), located in the Riverside County portion of the San Diego Basin.
2. Water bodies and pollutants on the 2008 303(d) List were approved by the San Diego Water Board on December 18, 2009 and by the State Water Board on August 4, 2010, and are awaiting final approval by the USEPA.

Finding C.8. Trash is a persistent pollutant which can enter receiving waters from the MS4, accumulate and be transported downstream into receiving waters over time. Trash poses a serious threat to the beneficial uses of the receiving waters, including, but not limited to, human health, rare and endangered species, navigation and human recreation.

Discussion of Finding C.8. The Copermittees to date have documented high volumes of trash coming from the MS4 system and in receiving waters.[42]

The Basin Plan specifies the following narrative Water Quality Objective (WQO) for Floating Material:

> *"Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses.*"

The Basin Plan specifies the following narrative WQO for Suspended and Settleable Solids: Material:

> *"Waters shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.*"

Additionally, high density urban areas in Southern California have been shown to be responsible for up to 60 percent of the trash that enters receiving waters from the MS4.[43] The retrofitting of existing MS4 systems, such as catch basins, in targeted high trash areas can result in significant reductions in the amount of trash entering receiving waters from the MS4.

Trash, as litter in both solid and liquid form, is consistently found on and adjacent to roadways. A California Department of Transportation Litter Management Pilot Study found that of roadway trash, plastics and Styrofoam accounted for 33 percent of trash by weight, and 43 percent by volume. Further, the study found that approximately 80 percent of the litter associated with roadways was floatable, indicating that, without capture, this litter would enter Waters of the State after a storm event, resulting in the impairment of Beneficial Uses.[44] The study, however, relied upon a mesh capture size of 0.25 inches (6.35 millimeters). This size is too large to effectively capture plastic pre-production pellets (a.k.a. "nurdles"), which are roughly 3 mm in size, and likely underestimated the total contribution of plastics. Furthermore, pre-production plastic pellets, which are small enough to be easily digested, have been found to carry persistent organic pollutants, including PCBs and DDT.[45]

[42] Fiscal Year 2008-2009 Santa Margarita Watershed Annual Report
[43] The City of Los Angeles Meets Trash TMDLs Compliance with CB Inserts and Opening Covers. August 06, 2008.
[44] California Department of Transportation District 7 Litter Management Pilot Study. June 26, 2000.
[45] Rios, L.M., Moore, C. and Patrick R. Jones. 2007. Persistent organic pollutants carried by synthetic polymers in the ocean environment. *Marine Pollution Bulletin.* Vol. 54.

Finding C.9. The Copermittees' water quality monitoring data submitted to date documents persistent violations of Basin Plan water quality objectives for various runoff-related pollutants (indicator bacteria, dissolved solids, turbidity, metals, pesticides, etc.) at various watershed monitoring stations. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicate that the majority of the monitored receiving waters have Poor to Very Poor IBI ratings. In sum, the above findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Riverside County.

Discussion of Finding C.9. The Copermittees have produced data that demonstrates water quality objectives are frequently not met during dry and wet weather. The 2009 Report of Waste Discharge and the 2008-2009 Annual Reports document that receiving water monitoring stations often fail to meet water quality objectives established in the Basin Plan.

Water quality in receiving waters downstream of MS4 discharges fail to meet California Toxics Rule standards[46] and Basin Plan objectives. Data submitted in the MS4 Annual Reports indicate that at various times chemical, bacteria, pesticide, and metal concentrations may exceed water quality objectives in receiving waters in both wet and dry weather conditions.

There are no other significant NPDES permitted discharges to the creeks. For instance, there are no live-stream discharges of treated waste water in the Riverside County area of the Santa Margarita watershed. The few NPDES permits in the watershed are mainly for recycled water which only discharges occasionally during the rainy season. Because the water quality monitoring indicates exceedances of water quality standards and MS4 discharges are the main source of pollutants in the watersheds, it can be inferred that the MS4 discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in Riverside County.

Finding C.10. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area is significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 3-5 percent conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect

[46] The California Toxics Rule criteria promulgated by the USEPA are directly applicable water quality standards for certain priority toxic pollutants in inland surface waters and enclosed bays and estuaries in California.

against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

Finding C.11. Development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

Discussion of Findings C.10 and C.11. The Natural Resources Defense Council (NRDC) 1999 Report, "*Stormwater Strategies, Community Responses to Runoff Pollution*" identifies two main causes of the storm water pollution problem in developed areas. Both causes are directly related to development:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in storm water runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

As a result of these two causes, runoff leaving developed areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

By accommodating the traditional approach to storm water management, development has also altered the flow regime (rate, magnitude, frequency, timing, and flashiness of runoff) that supports aquatic and riparian habitats. These hydrologic changes are driven by the loss of water storage capacity in the watersheds,[47] and exacerbated by physical alterations of the stream channel network.[48] This relationship between development and stream channel integrity has been documented nationally and in southern California. The Copermittees support these findings in their 1993 DAMP,[49] which states:

[47] Konrad, Christopher P. and Derek K. Booth, 2005. *Hydrologic Changes in Urban Streams and Their Ecological Significance.* American Fisheries Society Symposium Vol.47 pp.157-177.
[48] Poff. N.L. et al. 1997. The Natural Flow Regime: A paradigm for river conservation and restoration. Bioscience Vol. 47, No. 11, pp.769-784.
[49] Riverside County Copermittees. 1993. Santa Margarita Regional Drainage Area Management Plan.

> "Many storm water runoff problems are primarily a consequence of urbanization. Water that previously soaked into the ground, removing pollutants by filtering through soil, and eventually replenishing groundwater supplies, now must flow overland and therefore enters local streams more rapidly. The rapid transport of water increases the erosion of stream banks and hillsides and does not permit filtering pollutants. Sediment carried by storm water runoff can build up in streambeds, harming fish and aquatic habitat. The sediment acts as a transport mechanism for pollutants which adhere to soil particles. Typical urban runoff pollutants found in surface waters include heavy metals, nutrients, petroleum products, sediment, bacteria, chemicals, and litter."

Hydrologic changes from development also directly and indirectly adversely affect wetlands. Natural wetlands support many beneficial uses and provide important water-quality related ecological services, including pollutant removal, flood attenuation, and groundwater recharge.[50] The Center for Watershed Protection recently provided USEPA with a synthesis of more than 100 scientific studies on the direct and indirect impacts of development, particularly urbanization, on wetlands and the role wetlands play in watershed quality. The report found that the three changes from land development with the most potential to impact wetlands include: Increased storm water runoff; decreased groundwater recharge; and flow constriction.[51] Each of these changes can often be avoided or minimized by implementing low impact development (LID) and hydromodification BMPs.

When Order No. R9-2004-001 was adopted, studies had shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters.[52] One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness as low as 10 – 20 percent.[53] Stream degradation is a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness greater than or equal to 25 percent.[54] To provide some perspective, a medium density, single-family home area can be from 25 percent to 60 percent impervious (variation due to street and parking design).[55]

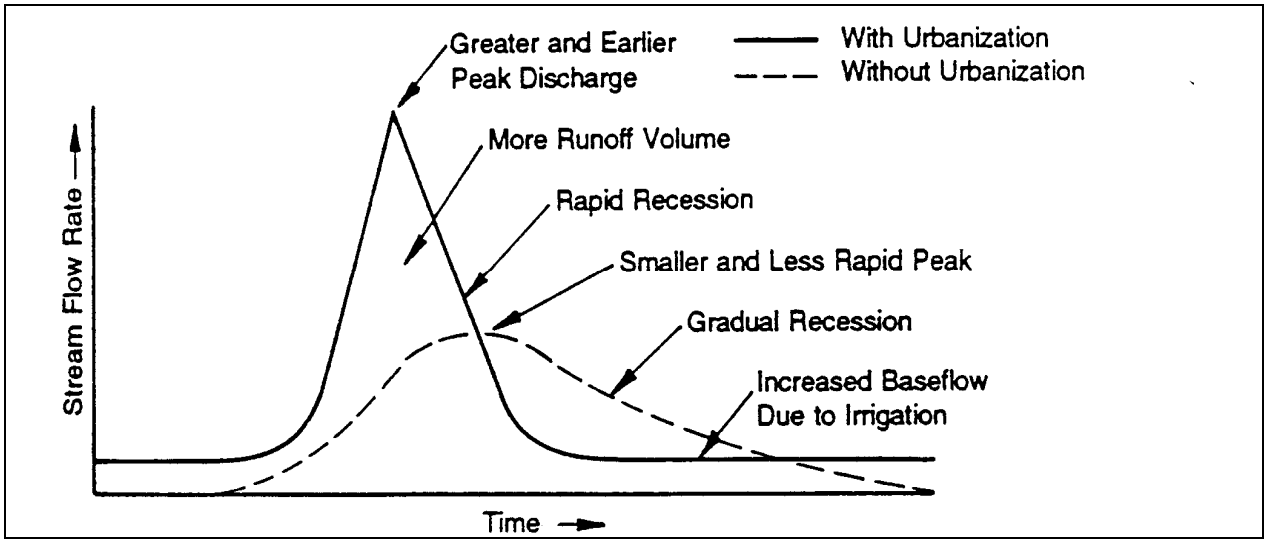
More recently, a report on the effects of impervious in southern California streams found that local ephemeral and intermittent streams are more sensitive to such effects than streams in other parts of the country. This study, by the Southern California

[50] Wright, Tiffany, et al. 2006. "Direct and Indirect Impacts of Urbanization on Wetland Quality." Prepared by the Center for Watershed Protection. Available at: http://www.cwp.org. 81p.
[51] Ibid p.26
[52] USEPA, 1999. Part II. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. Federal Register.
[53] Ibid.
[54] Ibid.
[55] Schueler, T.R., 1994. The Importance of Imperviousness. Watershed Protection Techniques. As cited in 64 FR 68725.

Coastal Water Research Program, estimated a threshold of response at a two to three percent change in percent of impervious cover in a watershed. [56] This threshold is lower than the previously reported estimates by the USEPA that were cited in the Fact Sheet for Order No. R9-2004-001.

To demonstrate the principle of increased volume and velocity of runoff from urbanization, the figure below shows the flow rate of an urban vs. a natural stream. What the figure demonstrates is that urban stream flows have greater peaks and volumes, as well as shorter retention times than natural stream flows. The greater peak flows and volumes result in stream degradation through increased erosion of stream banks and damage to aquatic habitat. The shorter retention times result in less time for sediments and other pollutants to settle before being carried out to the ocean. This sediment, and the associated pollutants it carries, can be a significant cause of water quality degradation.

Flow Rate of Urban and Natural Streams[57]



Increased volume and velocity of runoff adversely impacts receiving waters and their beneficial uses in many ways. According to the Urban Runoff TAC report,[58] increases in population density and imperviousness result in changes to stream hydrology including:

1. Increased peak discharges compared to pre-development levels;
2. Increased volume of storm water runoff with each storm compared to pre-development levels;

[56] Coleman, Derrick, et al. 2005. *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams.* Technical Report No. 450 of the Southern California Coastal Water Research Project.
[57] Adapted from Schueler, T.R., 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Metropolitan Washington Council of Governments.
[58] State Water Board, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

3. Decreased travel time to reach receiving water; increased frequency and severity of floods;
4. Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;
5. Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and
6. Decreased infiltration and diminished ground water recharge.

Even though the rainfall depths in arid watersheds are lower, watershed development can greatly increase peak discharge rates during rare flood events.[59] A study conducted in arid watersheds around Riverside, CA showed that, over two decades, impervious cover increased from 9 percent to 22 percent, which resulted in an increase of more than 100 percent in the peak flow rate for the two-year storm event. The study also showed that the average annual storm water runoff volume had increased by 115 percent to 130 percent over the same time span.[60]

Flooding caused by the increased volume and velocity of runoff from urbanization in the upper Santa Margarita watershed are clear examples of the effects described above. Disastrous flooding has occurred more frequently in recent years. In the last century, flood events occurred in 1938, 1969, 1980, 1993, 1995, and 1998.[61] In the 1993 flood event, the Cities of Murrieta and Temecula sustained $12 million dollars in damage, and Camp Pendleton sustained $88 million in damage. Future flooding is expected to occur more frequently because of continued urban development within the watershed, and flood damages are expected to continue accruing at an estimated annual rate of $1,780,300.

Prior hydromodification studies in California have shown that the increase in impervious cover, and thus change in runoff volume, velocity, rate, and duration, results in a shift in the range of storms that produce geomorphically significant flows within receiving waters (see above discussion). Additionally, studies in California have determined that ninety percent of the geomorphic “work” done within channels receiving flows from developed areas now occurs from flows below the 10 year peak flow event.[62]

This increased volume, velocity, rate, and duration of runoff greatly accelerates the erosion of the beds and banks within downstream receiving waters. Additionally, storm water flows which runoff directly from impervious surfaces into the MS4 and thus receiving waters prevent the associated runoff of natural sediments which would occur in pre-project conditions. This combined alteration of the physical condition of storm water runoff results in accelerated downstream erosion of receiving water bed and

[59] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.
[60] Ibid.
[61] U.S. Army Corps of Engineers, 2000. Final EIS/EIR, Murrieta Creek Flood Control Project.
[62] Santa Clara Valley Hydromodification Management Plan. April 21, 2005.

banks. The excessive erosion of stream beds and banks releases pollutants found in soils into receiving waters, degrades macroinvertebrate habitat (see D.2.c), eliminates spawning habitat, reduces associated wetland and riparian habitat, and threatens existing infrastructure adjacent to receiving waters. Bank sloughing within creeks and streams increases the pollutant loading to those receiving waters, particularly for turbidity and phosphorous.[63] In arid environments, accelerated channel erosion has been shown to have synergistic impacts within watersheds. Increased channel erosion within Las Vegas wash has resulted in the loss of over 1,000 acres of wetland and riparian habitat, released additional pollutants into downstream receiving waters, and eliminated in-stream habitat and water quality conditions required for existing threatened and endangered species.[64]

Regarding the impact of development on storm water runoff pollutant loads, the San Diego Water Board's Basin Plan states:

> *Nonpoint source pollution is primarily the result of man's uses of land such as urbanization, roads and highways, vehicles, agriculture, construction, industry, mineral extraction, physical habitat alteration (dredging/filling), hydromodification (diversion, impoundment, channelization), silviculture (logging), and other activities which disturb land.[65] As a result, when rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a vast network of concrete channels and underground pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans.[66]*

According to the Center for Watershed Protection, urbanization strongly shapes the quality of both surface and ground water in arid and semi-arid regions of the southwest. Since rain events are so rare, pollutants have more time to build up on impervious surfaces compared to humid regions. Therefore, the pollutant concentrations of storm water runoff from arid watersheds tend to be higher than that of humid watersheds.[67] The effect of antecedent rainfall events is demonstrated in a report from the California Department of Transportation (Caltrans) that found the concept of a seasonal first flush is applicable to the southern California climate.[68]

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[63] Sekely, A.C., Mulla, D.J. and D.W. Bauer. 2002. Streambank slumping and its contribution to the phosphorus and suspended sediment loads of the Blue Earth River, Minnesota. *Journal of Soil and Water Conservation.* September 2002 vol. 57 no. 5 243-250.

[64] Tuttle, P.L.. and E..L.. Orsak. 2002. Las Vegas Wash Water Quality and Implications to Fish and Wildlife. U.S. Fish and Wildlife Service.

[65] San Diego Water Board, 1994. Water Quality Control Plan for the San Diego Basin. P. 4-66.

[66] Ibid. P. 4-69 - 4-70.

[67] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.

[68] Stenstrom, Michael and Masoud Kayhanian, 2005. *First Flush Phenomenon Characterization.* Prepared for Caltrans. Report No. CTSW-RT-05-73-02.6 Study jointly performed by UCLA and UCD. Most of the data presented was collected from three highly urbanized highway sites in west Los Angeles. Much effort went into developing a quantitative way of defining the mass first flush. Other aspects include: variability of water quality during storm events, litter characteristics, correlation among constituents, first flush of organics and particle size

Finding C.12. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d)-impaired water bodies. Such areas have a much lower capacity to withstand pollutant loads than other, more sensitive areas. In essence, development that is ordinarily insignificant in its impact on the environment may become significant in a particularly sensitive environment. Therefore, additional controls to reduce storm water pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

Discussion of Finding C.12. ESAs are defined in the Order as "Areas that include but are not limited to all CWA section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the Basin Plan; water bodies designated with the RARE beneficial use by the Basin Plan; areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Riverside; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees."

Areas that meet this definition are inherently sensitive habitats containing unique, rare, threatened, or endangered species, or are not achieving their designated beneficial uses. As discussed above, runoff is known to contain a wide range of pollutants and has demonstrated toxicity to plants and animals. Therefore, it is necessary to apply additional storm water controls for developments within, adjacent to, or directly discharging to ESAs. This need for additional storm water controls is addressed within each component of the Order. USEPA supports the requirement for additional storm water controls, stating "For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered."[69] Further support for requiring additional controls to reduce pollutants in storm water discharges to ESAs can be found in *Mitigation of Storm Water Impacts From New Developments in Environmentally Sensitive Areas*, a technical report written by the Los Angeles Water Board.[70]

Finding C.13. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; (4)

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distribution, new methods for measuring oil and grease, and grab and composite sampling strategies. The report is available on-line at: http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/

[69] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.

[70] Los Angeles Water Board, 2001. Mitigation of Storm Water Impacts From New Developments In Environmentally Sensitive Areas.

ensuring that each drainage feature is adequately maintained in perpetuity; and (5) pretreatment.

Discussion of Finding C.13. Infiltration is an effective means for managing runoff. However, measures must be taken to protect groundwater quality when infiltration of runoff is implemented. USEPA supports runoff infiltration and provides guidance for protection of groundwater: "With a reasonable degree of site-specific design considerations to compensate for soil characteristics, infiltration may be very effective in controlling both urban runoff quality and quantity problems. This strategy encourages infiltration of urban runoff to replace the natural infiltration capacity lost through urbanization and to use the natural filtering and sorption capacity of soils to remove pollutants; however, the potential for some types of urban runoff to contaminate groundwater through infiltration requires some restrictions."[71] The restrictions placed on runoff infiltration in this Order are based on recommendations provided by the USEPA Risk Reduction Engineering Laboratory. The State Water Board found in Order WQ 2000-11 on the appeal of the Los Angeles Water Board's Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that the guidance provided in the above referenced document by the USEPA Risk Reduction Engineering Laboratory is sufficient for the protection of groundwater quality from runoff infiltration. To further protect groundwater quality, the Order also includes guidance from the Los Angeles Water Board,[72] the State of Washington,[73] and the State of Maryland.[74] Subsequently, the California Storm Water Quality Association (CASQA) has produced technical guidance for post-construction treatment BMPs to protect ground water quality[75].

Finding C.14. Non-storm water (dry weather) discharge from the MS4 is not considered a storm water (wet weather) discharge and therefore is not subject to regulation under the Maximum Extent Practicable (MEP) standard from CWA 402(p)(3)(B)(iii), which is explicitly for "Municipal … *Stormwater Discharges* (emphasis added)" from the MS4. Rather, non-storm water discharges into the storm sewers, per CWA 402(p)(3)(B)(ii), are to be effectively prohibited. Such dry weather non-storm water discharges have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds and are to be effectively prohibited under the CWA.

[71] USEPA, 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR-94 051.
[72] Los Angeles Water Board, 2000. Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County.
[73] Washington State Department of Ecology, 1999. Draft Stormwater Management in Washington State. Volume V – Runoff Treatment BMPs. Pub. No. 99-15.
[74] Maryland Department of the Environment, 1999. 2000 Maryland Stormwater Design Manual. Volume I.
[75] CASQA. The New Development and Redevelopment Handbook, 2003. Available on-line at http://www.cabmphandbooks.org/Development.asp

Discussion of Finding C.14.

Permitting Framework

The CWA prohibits the discharge of any pollutant from a point source into waters of the United States unless the discharger of the pollutant(s) obtains a NPDES permit pursuant to CWA section 402. The discharge of storm water and/or non-storm water from an MS4 system is considered a discharge from a point source. As discussed below, however, the CWA regulates storm water and non-storm water discharges under different standards.

In 1987 the CWA was amended to include provisions that specifically concerned NPDES permitting requirements for storm water discharges from MS4 systems. Section 402(p) of the CWA regulates the discharge of storm water from a point source, the municipal separate storm sewers. Such discharges of storm water are subject to the maximum extent practicable (MEP) storm water standard and the related iterative process. The MEP standard for storm water discharges reflects Congress' recognition that the variability of flow and intensity of storm events render difficult strict compliance with water quality standards by MS4s. However, this standard was not considered applicable to non-storm water discharges, which under 402(p) are required to be effectively prohibited from entering the MS4. Clearly, if non-storm water discharges must be effectively prohibited from entering the MS4, the very next requirement (402(p)(3)(B)(iii)) requiring discharges from the MS4 be reduced to the MEP intends that the discharge of pollutants be limited to storm water. Unless exempt or authorized under a separate NPDES permit, non-storm water discharges are not authorized to enter the MS4 in the first instance and are considered to be illicit discharges.

The Federal Register further clarifies that such discharges through an MS4 are not authorized under the CWA (55 Federal Register (FR) 47995):

> "Today's rule defines the term "illicit discharge" to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the Clean Water Act. Section 402(p(3)(B) requires that permits for discharges from municipal separate storm sewers require the municipality to "effectively prohibit" non-storm water discharges from the municipal separate storm sewer…Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit."

The federal regulations (40 CFR 122.26(d)(vi)(2)(B)) require that the municipal separate storm sewer discharger prohibit "through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer." As owners and operators of the MS4, Copermittees cannot passively receive discharges from third parties (Federal Register 68766) and thus are responsible for the discharge of any non-storm water from their MS4.

The State Water Board recently recognized in order (Order WQ 2009-0008) that "[n]either the Clean Water Act nor the federal storm water regulations define 'non-storm water.' 'Illicit discharge' is defined as any discharge to an MS4 'not composed entirely of storm water.' Thus, 'illicit discharge' is the most nearly applicable definition of 'non-storm water' found in federal law and is often used interchangeably with that term."[76] In July 2010, the court in Los Angeles County v. State Water Resources Control Board remanded the Los Angeles Water Board's MS4 permit underlying Order WQ 2009-0008 for procedural reasons occurring during the permit adoption process. The court did not evaluate or rule upon the substantive findings and reasoning set forth in Order WQ 2009-0008. The State Water Board rescinded and voided Order WQ 2009-0008 to comply with the court's order. While the San Diego Water Board may no longer cite Order WQ 2009-0008, the San Diego Water Board has independently considered whether the requirement to eliminate non-stormwater discharges is subject to the MEP standard. The San Diego Water Board concludes that the MEP standard does not apply to non-stormwater discharges for the same reasons expressed by the State Water Board.

Storm Water and Non-storm Water Definitions

By definition non-storm water is not precipitation related. 40 CFR 122.26(b)(13) states that: "Storm water means storm water runoff, snowmelt runoff, and surface runoff and drainage." While "surface runoff and drainage" is not defined in federal law, it is related to precipitation events such as rain and/or snowmelt (see 55 FR 47995-96). The term "surface runoff and drainage" does not include all incidental flows in the MS4 system, but consists of flows relating to precipitation events as clarified by the Federal Register, USEPA's documents and permitting, and other Regional Water Board Orders.

The Federal Register (55 FR 47995-47996) provides clarification on the distinction between storm water and non-storm water discharges, including their regulation:

> "In response to the comments which requested EPA to define the term storm water broadly to include a number of classes of discharges **which are not in any way related to precipitation events, EPA believes that this rulemaking is not an appropriate forum for addressing the appropriate regulation of such non-storm water discharges**, even though some classes of non-storm water discharges may typically contain only minimal amounts of pollutants. Congress did not intend that the term storm water be used to describe any discharge that has a de minimis amount of pollutants, not did it intend for section 402(p) to be used to provide a moratorium from permitting other non-storm water discharges."

As recently recognized by the State Water Board in a precedential decision upholding an MS4 permit modification adopted by the Los Angeles Water Board, "U.S. EPA has previously rejected the notion that 'storm water,' as defined at 40 Code of Federal

[76] State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 4.

Regulations section 122.26(b)(13), includes dry weather flows. In U.S. EPA's preamble to the storm water regulations, U.S. EPA rejected an attempt to define storm water to include categories of discharges 'not in any way related to precipitation events.'[77] Thus, USEPA has made it clear that it deems discharges unrelated to precipitation events to be non-storm water discharges. 40 CFR 122.26(d)(iv)(B) itself provides specific examples of non-storm water discharges:

> "…the following category of non-storm water discharges or flows shall only be addressed where such discharges are identified by the municipality as sources of pollutants to the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20) to separate storm sewers, uncontaminated pumped groundwater,…"

USEPA also removed street wash waters from the definition of storm water, as USEPA specifically identified this discharge as being non-storm water (55 FR page 47996). Additionally, section 1.2.2.2 of USEPA's Multi-Sector General Permit for Industrial Activities (MSGP-2000) considers fire hydrant flushings, irrigation drainage, landscape watering, and foundation or footing drains to be non-storm water discharges. USEPA's September 1999 Storm Water Management Fact Sheet for Non-Storm Water Discharges to Storm Sewers states that non-storm water discharges can include discharges of process water, air conditioning condensate, non-contact cooling water, vehicle wash water, or sanitary wastes.

While these types of non-storm water discharges (or illicit discharges) may be regulated under storm water permits because as a practical matter they can enter and be discharged from the MS4 systems, they are not regulated as storm water discharges under the CWA because they are unrelated to precipitation events. As indicated above, the State Water Board's recent discussion of this issue supports the conclusion that non-storm water discharges are unrelated to precipitation events. In its Order affirming amendments to the Los Angeles County MS4 permit to implement a TMDL to control bacteria in dry weather flows, the State Water Board rejected petitioners County of Los Angeles and the Los Angeles County Flood Control District implied assertion that the definition of "storm water" contained in the federal regulations (defined as "surface run-off and drainage") includes the run-off and drainage from non-storm events. The State Water Board notes that the challenged permit provisions do not apply to storm water flows in that they apply only during dry weather conditions as defined in the permit. In upholding the challenged order, the State Water Board notes that the Los Angeles Water Board's permit language followed USEPA's approach, referring to USEPA's rejection of attempts to define storm water to include categories of discharges "not in any way related to precipitation events."[78]

[77] State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 7.
[78] State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 7 (quoting 55 FR 47990. 47995).

Lastly, the San Diego Water Board and State Water Board have issued multiple, separate NPDES permits for non-storm water discharges, including, but not limited to, San Diego Water Board Order No. R9-2008-0002 (extracted groundwater), San Diego Water Board Order No. R9-2002-0020 (hydrostatic discharge), and State Water Board Order No. 2006-0008-DWQ (utility vaults), pursuant to section 402 of the CWA.

Permitting Non-storm Water Discharges

Non-storm water discharges may contain pollutants which result from various activities that occur within areas draining into the MS4. This includes, but is not limited to, illicit discharges and connections, exempted categories of discharge not a source of pollutants (40 CFR 122.26(d)), and discharges into the MS4 covered under a separate NPDES permit. As such, existing and proposed discharges of non-storm water from MS4s:

a) Result from similar activities through the MS4 system;
b) Are the same type of water;
c) Require similar action levels for the protection of the Beneficial Uses of the receiving waters;
d) Require similar monitoring;
e) Are under the passive control of the owner and operator of the MS4 system; and
f) Are more appropriately regulated under a general permit than individual permits.

The U.S. EPA's approach (and the San Diego Water Board's under its approved program) for non-storm water discharges from MS4s is to regulate these discharges under the existing 402 NPDES framework (FR 47995 and 48037 see below) for discharges to surface waters. The NPDES program (40 CFR 122.44(d)) utilizes discharge prohibitions and effluent limitations as regulatory mechanisms to regulate non-storm water discharges, including the use of technology and water quality-based effluent limitations. Non-numerical effluent limitations, such as BMPs for non-storm water discharges may only be authorized where numerical effluent limits are infeasible or where the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA (40 CFR 122.44(k) see below).

The Federal Register (55, page 48037) provides clarification that non-storm water discharges from the MS4 are to be regulated under section 402, not 402(p):

> "Conveyances which continue to accept other "non-storm water" discharges (e.g. discharges without an NPDES permit) with the exceptions noted above (*exempted discharges that are not a source of pollutants*) do not meet the definition of municipal separate storm sewer and are not subject to 402(p)(3)(B) of the CWA unless such discharges are issued separate NPDES permits. Instead, conveyances which continue to accept non-storm water discharges

> which have not been issued separate NPDES permits are subject to sections 301 and 402 of the CWA."

This regulatory approach is consistent with the approach recently upheld by the State Water Board in a precedential order adopted on August 4, 2009. In this Order, the State Water Board rejected a challenge to amendments to the Los Angeles County MS4 permit that require compliance with receiving water limitations and discharge prohibitions for dry weather, non-storm water discharges. Petitioners there argued that the receiving water limits and discharge prohibitions for dry weather dischargers were inappropriate and that the Los Angeles Water Board should instead have regulated the discharges with the maximum extent practicable standard, through an iterative process. The State Water Board concludes that dry weather discharges, as defined in the permit and in the underlying TMDL, "are more appropriately regarded as non-storm water discharges, which the Clean Water Act requires to be effectively prohibited."[79]

As stated above, for NPDES permits under 402 of the CWA, the Code of Federal Regulations (122.44(k)) clarify that a discharger may utilize BMPs to control or abate the discharge of pollutants when:

> "(1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
> (2) Authorized under section 402(p) of the CWA for the control of storm water discharges;
> (3) Numeric limits are infeasible; or
> (4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA."

For the last 20 years, Riverside County NPDES permits for discharges of storm water have regulated non-storm water discharges from the MS4. These permits required Copermittees (dischargers) to prohibit non-storm water discharges into (thus through and from) their MS4 systems, implement a program to prevent illicit discharges, and monitor to identify illicit discharges and exempted discharges that are a source of pollution. These measures are considered Best Management Practices (BMPs), are required to be included in NPDES permits issued under section 402(p) of the CWA, and are considered by USEPA to be an interim approach to permitting non-storm water discharges from the MS4 in accordance with section 402 of the CWA and CFR 122.44(k).

As explained in the discussion of Finding C.15., below, the Copermittees' reliance on BMPs for the past 20 years has not resulted in compliance with applicable water quality standards. The San Diego Water Board has evaluated (in accordance with 40 CFR 122.44(d)(1)) past and existing controls (BMPs), non-storm water monitoring results, the sensitivity of the species in receiving waters (e.g. endangered species),

[79] State Water Board Order WQ-2009-0008 (*In the Matter of the Petition of County of Los Angeles and Los Angeles County Flood Control District*, adopted August 4, 2009), p. 8

and the potential for effluent dilution, and has determined that existing BMPs to control pollutants in storm water discharges are not sufficient to protect water quality standards in receiving waters and the existing requirement that Copermittees effectively prohibit all types of unauthorized non-storm water discharges into the MS4 historically results in the discharge of pollutants to the receiving waters. Thus, numeric action levels for non-storm water, dry weather, discharges from the MS4 and required actions following observed exceedances of numeric action levels have been established. For further discussion regarding the development of action levels please see Finding E.10 and discussion.

Dry weather action levels are applicable to non-storm water discharges of effluent from the MS4 system. Non-storm water effluent discharges from the MS4 are those which occur during dry weather conditions. These action levels are not applied to storm water discharges, as defined within the Order. Storm water discharges regulated by the Order are required to meet the MEP standard and related iterative process and have separate action levels.

Dry weather action levels are applicable to non-storm water discharges from the MS4 system into receiving waters. Non-storm water discharges are already required to be prohibited unless specifically exempted or covered under a separate NPDES permit. Dry weather action levels apply to non-storm water discharges of effluent from a point source into receiving waters. The MS4 is not a receiving water. Should a discharger wish to discharge a non-exempt category to the MS4 system, such discharges require a separate NPDES permit pursuant to sections 402 and 301 of the CWA. It is also infeasible to monitor and sample every discharge into the MS4, as such discharges are diffuse by nature and may vary spatially and temporally.

Finding C.15. Non-storm water discharges to the MS4 granted an influent exception [i.e. which are exempt from the effective prohibition requirement set forth in CWA section 402(p)(3)(B)(ii)] under 40 CFR 122. 26 are included within this Order. Any exempted discharges identified by Copermittees as a source of pollutants are subsequently required to be *addressed* (emphasis added) as illicit discharges through prohibition and incorporation into existing IC/ID programs. Furthermore, the USEPA contemplates that permitting agencies such as the San Diego Water Board may also identify exempted discharges as a source of pollutants required to be addressed as illicit discharges (See Vol. 55 FR 48037). The San Diego Water Board and the Copermittees have identified landscape irrigation, irrigation water and lawn water, previously exempted discharges, as a source of pollutants and conveyance of pollutants to waters of the U.S.

Discussion of Finding C.15. The FR (Vol. 55, page 48037) and 40 CFR 122.26(d)(iv)(B) clarify that certain components and categories of non-storm water discharges into the MS4 are not required to be prohibited. The Code of Federal Regulations requires the discharger have:

> "…a program, including inspections, to implement through ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program shall address all types of illicit discharges, however, the following category of non-storm water discharges or flows shall only be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(20) to separate storm sewers, uncontaminated pumped groundwater,…"

The categories of non-storm water discharges into the MS4, as listed under 40 CFR 122.26(d)(iv)(B), are not required to be prohibited unless identified by the Copermittees as sources of pollutants to waters of the United States. The FR (Vol. 55, page 48037), however, goes on to clarify that:

> "However, the Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharge where appropriate."

Thus, the Copermittees or the San Diego Water Board may identify any of these categories of non-storm water discharges as a source of pollutants. As such, the identification of any of these categories as a source of pollutants requires them to be addressed as illicit discharges, which are not authorized under the CWA, and are required to be "effectively prohibited" as illicit discharges via ordinance, order or similar means. The prohibition of previously exempted discharges of non-storm water to waters of the United States from entering, and necessarily being discharged from an MS4, conforms with CWA requirements for standards and enforcement for effluent limitations necessary to meet water quality standards (33 U.S.C. 1311(b)(1)(C)).

To date the San Diego Water Board and the Copermittees have identified overspray and drainage from potable and reclaimed water landscape irrigation as a substantial source and conveyance mechanism for pollutants into waters of the United States. Several municipalities throughout the San Diego Region (e.g., cities and counties of Orange County and San Diego County) have reported and/or identified runoff originating from landscape irrigation as potential sources of dry weather flows conveying pollutants into their MS4s. This is also supported by legislation (Assembly Bill 1881) recently enacted by the State of California, which has identified runoff resulting from over irrigation not only as a waste of water resources, but also as a source of pollutants to the state's waterways.

Irrigation runoff into the MS4, as identified by the San Diego Water Board and the Copermittees, is a source of pollutants to waters of the United States, and is required to be *addressed* (emphasis added) as an illicit discharge per 40 CFR 122.26(d)(2)(iv)(B)(1) by prohibition through implementing and enforcing an ordinance, order or similar means. The San Diego Water Board and the Copermittees have identified irrigation water as a source of pollutants and conveyance of pollutants to waters of the United States, when

applied improperly in excess and thereafter entering the MS4, in the following documents:

- The Cities and County of Riverside "Only Rain in the Storm Drain" Pollution Prevention Program identifies runoff from irrigation as a source of pollutants to waters of the United States in the following documents:

    1) The Landscape and Garden public education brochure states:

        "Soil, yard wastes, over-watering [emphasis added] *and garden chemicals become part of the urban runoff mix that winds it way through streets, gutters and storm drains before entering lakes, rivers, streams, etc."*

    2) In a survey distributed at public outreach events,[80] the answer to the question about where lawn irrigation water goes states:

        "Water that leaves your lawn from irrigation…can pick up motor oil and grease from vehicles, excess fertilizer from your lawn, bacteria from pet waste, and excess pesticides from your yard. These pollutants can be carried down streets and storm drains directly to our streams, lakes and rivers without treatment!"

- In 2006, the State Water Board allocated Grant funding to the **SmartTimer/Edgescape Evaluation Program (SEEP)**. The project targets irrigation runoff by retrofitting existing development and documenting the conservation and runoff improvements. The Grant Application states that:

    "*Irrigation runoff contributes flow & pollutant loads to creeks and beaches that are 303(d) listed for bacteria indicators.*"

    Furthermore, the grant application states:

    "*Regional program managers agree that the reduction and/or elimination of irrigation-related urban flows and associated pollutant loads may be key to successful attainment of water quality and beneficial use goals as outlined in the San Diego Basin Plan and Bacteria TMDL over the long term.*"

    This is reinforced in the project descriptions and objectives:

    "*Elevated dry-weather storm drain flows, composed primarily … of landscape irrigation water wasted as runoff, carry pollutants that impair recreational use and aquatic habitats all along Southern California's*

[80] A copy of the survey was provided in the Riverside County Copermittees' Report of Waste Discharge, dated January 15, 2009, page 39.

urbanized coastline. Storm drain systems carry the wasted water, along with landscape derived pollutants such as bacteria, nutrients and pesticides, to local creeks and the ocean. Given the local Mediterranean climate, excessive perennial dry season stream flows are an unnatural hydrologic pattern, causing species shifts in local riparian communities and warm, unseasonal contaminated freshwater plumes in the near-shore marine environment".

The basis of this grant project is that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. In addition, they indicate that this alteration of natural flows is impacting the Beneficial Uses of Waters of the State and U.S. The results of this study can be applied broadly to any area where over-irrigation takes place, including Riverside County. Preliminary results from the study indicate that that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 *is* a source and conveyance of pollutants.

- Several municipalities in the San Diego Region have identified runoff from irrigation as a source of pollutants to waters of the United States in the following documents:

  1) The **Watershed Action Plan Annual Report**(s) for the 2006-2007 reporting period was submitted by the County of Orange, Orange County Flood Control District and Copermittees within the San Juan Creek, Laguna Coastal Streams, Aliso Creek, and Dana Point Coastal Streams Watersheds. San Juan Creek, Laguna Coastal Streams, Aliso Creek and Dana Point Coastal Streams are all currently 303(d) listed as impaired for Indicator Bacteria within their watersheds and/or in the Pacific Ocean at the discharge points of their watersheds. The Orange County Copermittees, within their Watershed Action Strategy Table for Fecal Indicator Bacteria:

     "*Support programs to reduce or eliminate the discharge of anthropogenic dry weather nuisance flow throughout the […] watershed. Dry weather flow is the transport medium for bacteria and other 303(d) constituents of concern*". Additionally, they state that "*conditions in the MS4 contribute to high seasonal bacteria propagation in-pipe during warm weather. Landscape irrigation is a major contributor to dry weather flow, both as surface runoff due to over-irrigation and overspray onto pavements; and as subsurface seepage that finds its way into the MS4*."

  2) The **Carlsbad Watershed Urban Runoff Management Program (WURMP) Fiscal Year 2008 Annual Report** was submitted by the Carlsbad Watershed Copermittees (Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, and the County of San Diego). In the WUMRP Annual Report, the Carlsbad

Watershed Copermittees stated the following:

"The Carlsbad Watershed Management Area (WMA) collective watershed strategy identifies bacteria, sediment, and nutrients as high priority water quality pollutants in the Agua Hedionda (904.3 – bacteria and sediment), Buena Vista (904.2 – bacteria), and San Marcos Creek (904.5 – nutrients) Hydrologic Areas. Bacteria, sediment, and nutrients have been identified as potential discharges from over-irrigation."

3) The **San Diego Bay Watershed Urban Runoff Management Program (WURMP) 2007-2008 Annual Report** was submitted by the San Diego Bay Watershed Copermittees (Cities of Chula Vista, Coronado, Imperial Beach, La Mesa, Lemon Grove, National City, and San Diego, the County of San Diego, the Port of San Diego, and the San Diego County Airport Authority). In Appendix D of the WUMRP Annual Report, titled Likely Sources of Pollutants, the San Diego Bay Watershed Copermittees identified over-irrigation of lawns as a pollutant generating activity from business and/or residential land uses for bacteria, pesticides, and sediment.

Within the reports above, municipalities throughout San Diego and Orange counties have acknowledged that runoff from over-irrigation is a potential or likely source of several types of pollutants to waters of the United States. Because there are landscaped areas in Riverside County that receive irrigation similar to San Diego and Orange counties, runoff from over-irrigation is also a likely source of pollutants to waters of the United States in Riverside County.

- There is statewide recognition of the pollution caused by over-irrigation, and current legislation already requires cities and counties to prohibit over-irrigation. On September 28, 2006 Governor Arnold Schwarzenegger approved Assembly Bill 1881, The Water Conservation in Landscaping Act (AB 1881, Laird). The act requires cities, counties, and charter cities and charter counties, to adopt landscape water conservation ordinances by January 1, 2010. Additionally, the law required the Department of Water Resources (DWR) to prepare a Model Water Efficient Landscape Ordinance for use by local agencies. The Water Efficient Landscape Ordinance was approved by the Office of Administrative Law on September 10, 2009. All local agencies were required to adopt a water efficient landscape ordinance by January 1, 2010. Local agencies could adopt the Water Efficient Landscape Ordinance developed by DWR, or an ordinance considered at least as effective as the Model Ordinance. The Water Efficient Landscape Ordinance includes a requirement that local agencies prohibit runoff from irrigation (§ 493.2):

  "(a) Local agencies shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff *[emphasis added] from leaving the target landscape due to low head drainage, overspray, or other*

similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. Penalties for violation of these prohibitions shall be established locally."

- On October 08, 2009, the State of California Department of Water Resources issued a letter to all cities and counties within the State of California giving reminder of required adoption of the Water Efficient Landscape Ordinance. The letter states that:

  "Other benefits include reduced irrigation runoff, reduced pollution of waterways, drought resistance, and less green waste."

- On December 18, 2009, the San Diego Water Board adopted Order No. R9-2009-0002, the fourth-term Orange County permit, which found that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. Landscape irrigation, irrigation water, and lawn watering were categories removed from the list of non-storm water discharges not prohibited to be discharged into the MS4.

D. Runoff Management Programs

Finding D.1.a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in storm water to the MEP. However, since MEP is a dynamic performance standard, which evolves over time as runoff management knowledge increases, the Copermittees' runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of runoff management program implementation is expected to ultimately achieve compliance with water quality standards in the Region.

Discussion of Finding D.1.a. Under CWA section 402(p), municipalities are required to reduce the discharge of storm water pollutants from their MS4s to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard that municipalities must attain. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling storm water runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of storm water pollutants to the MEP requires Copermittees to assess each program component and revise activities, control measures, best management practices (BMPs), and measurable goals, as necessary to meet MEP.

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e. are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing storm water pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

1. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
2. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
3. Public Acceptance: Does the BMP have public support?
4. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
5. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it

would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP based solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be easily dismissed. In any case, the burden is on the municipal discharger to comply with its permit. After selecting BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.[81]

A definition of MEP is not provided in either the federal statute or in the federal regulations. The final determination regarding whether a municipality has reduced storm water pollutants to the MEP can only be made by the San Diego Water Board or the State Water Board, and not by the municipal discharger. While the San Diego Water Board or the State Water Board ultimately define MEP, it is the responsibility of the Copermittees to initially propose actions that implement BMPs to reduce storm water pollution to the MEP. In other words, the Copermittees' runoff management programs to be developed under the Order are the Copermittees' proposals of MEP. Their total collective and individual activities conducted pursuant to their runoff management programs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities. The Order provides a minimum framework to guide the Copermittees in meeting the MEP standard for storm water.

It is the San Diego Water Board's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's 1994 decision in NRDC v. California Department of Transportation, Federal District Court, Central District of California. The federal court stated that a Copermittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the San Diego Water Board, the San Diego Water Board will define MEP by requiring implementation of additional measures by the Copermittees.

The Copermittees' continual evolution in meeting the MEP standard is expected to achieve compliance with water quality standards. USEPA has consistently supported this expectation. In its Interim Permitting Approach for Water Quality-Based Effluent Limitations (WQBELs) in Storm Water Permits, USEPA states "the interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for attainment of water quality standards."[82] USEPA reiterated its position in 1999, when it stated regarding the Phase II municipal storm water regulations that "successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards" and "EPA anticipates

[81] State Water Board, 1993. Memo Entitled Definition of Maximum Extent Practicable.
[82] Federal Register / Vol. 61, No. 166 / August 26, 1996 / P. 43761.

that a permit for a regulated small MS4 operator implementing BMPs to satisfy the six minimum control measures will be sufficiently stringent to protect water quality, including water quality standards […]."[83]

The requirements of the Order are expected to achieve compliance with receiving water quality standards. The approach to be used is the continual assessment, revision, and improvement of Copermittee best management practice implementation. This approach is consistent with the CWA and State Water Board guidance. In Defenders of Wildlife v. Browner (1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit states: "Under 33 U.S.C. section 1342 (p)(3)(B)(iii), the EPA's choice to include either management practices or numeric limitations in the permits was within its discretion." In addition, the approach is consistent with State Water Board Order WQ 99-05, which outlines an iterative approach for achieving compliance with water quality standards.

Finding D.1.b. The Copermittees have generally been implementing the Jurisdictional Runoff Management Programs (JRMPs) required pursuant to Order No. R9-2004-001 since July 14, 2005. Prior to that, the Copermittees were regulated by Order No. 98-02 since May 13, 1998. MS4 discharges, however, continue to cause or contribute to violations of water quality standards as evidenced by the Copermittees' monitoring results.[84]

Discussion of Finding D.1.b. In response to Order No. R9-2004-001, the Copermittees have developed their runoff management programs. In order to implement the plans, the Copermittees have, among other things, developed BMP requirements, improved inter- and intra-governmental coordination, improved training programs, improved illicit discharge detection procedures, and improved their monitoring efforts. Although the programmatic improvements have led to better implementation of BMPs, the Copermittees' monitoring data demonstrate that additional or revised BMPs are necessary to prevent discharges from MS4s from causing and contributing to violations of water quality standards. A discussion of data collected by the Copermittees is included in the discussion for Finding C.9.

Finding D.1.c. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in storm water runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the revised Watershed Water Quality Workplan (Watershed Workplan) section, are designed to specifically address these high priority water quality problems. Other requirements, such as for unpaved roads, are a result of San Diego Water Board's identification of water quality problems through investigations and complaints during the previous permit period. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other San Diego Water Board compliance assessment activities.

[83] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68753-68754.
[84] County of Riverside, 2009. Riverside County Municipal Copermittees 2008-09 Annual Storm Water Program Report, Section 11..

Additional changes in the monitoring program provide consistency with the Code of Federal Regulations, USEPA guidance, State Water Board guidance, and the Southern California Monitoring Coalition recommendations.

Discussion of Finding D.1.c. The Copermittees are required to update and expand their runoff management programs on jurisdictional and watershed levels in order to improve their efforts to reduce the contribution of storm water pollutants in runoff to the MEP and meet water quality standards. Changes to Order No. R9-2004-001's requirements have been made to help ensure these two standards are achieved by the Copermittees.

The Orders' jurisdictional requirements have changed based on findings by the San Diego Water Board during typical compliance assurance activities, audits, or receipt of complaints.[85] Where the audits found common implementation problems, requirements have been altered to better ensure compliance. In addition, the San Diego Water Board conducted reviews of the jurisdictional annual reports submitted by the Copermittees. Updates to the requirements for the Copermittees' programs are also based in part on information found in the Copermittees' ROWD,[86] requirements that were included in the San Diego and Orange County MS4 permits, and discussions with the Riverside County Copermittees.

To better focus on attainment of water quality standards, the Order's jurisdictional and watershed requirements have been improved. The conditions of the receiving waters now drive management actions, which in turn focus diminishing resources on the highest priority water quality problems within the receiving waters in the watershed. Improvements to jurisdictional and watershed requirements were also made to facilitate a mutually clear understanding of the requirements between the San Diego Water Board and Copermittees.

During the previous permit period, the San Diego Water Board identified, through investigations and complaints, sediment discharges from unpaved roads as a significant source of water quality problems in the Riverside County portion of the San Diego Region. Enforcement and inspection activities conducted by the San Diego Water Board during the previous permit term have found a lack of source control for many unpaved roads within the jurisdiction of the Copermittees. Unpaved roads are a source of sediment that can be discharged in runoff to receiving waters, especially during storm events. Erosion of unpaved roadways occurs when soil particles are loosened and carried away from the roadway base, ditch, or road bank by water, wind, traffic, or other transport means. Exposed soils, high runoff velocities and volumes, sandy or silty soil types, and poor compaction increase the potential for erosion.

Road construction, culvert installation, and other maintenance activities can disturb the soil and drainage patterns to streams in undeveloped areas, causing excess runoff

[85] Audit reports, report reviews, and inspection reports are available for review at the San Diego Water Board office.
[86] All significant changes made to the Order's requirements are described and explained in detail in Fact Sheet section IX.

and thereby erosion and the release of sediment. Poorly designed roads can act as preferential drainage pathways that carry runoff and sediment into natural streams, impacting water quality. In addition, other public works activities along unpaved roads have the potential to significantly affect sediment discharge and transport within streams and other waterways, which can degrade the beneficial uses of those waterways.

USEPA also recognizes that discharges from unpaved roads are a threat to water quality. USEPA guidance[87] emphasizes the threat of unpaved roads to water quality:

> "*Dirt and gravel roads are a major potential source of these pollutants [sediment] and pollutants that bind to sediment such as oils, nutrients, pesticides, herbicides, and other toxic substances]. Many roads have unstable surfaces and bases. Roads act like dams, concentrating flows that accelerate erosion of road materials and roadsides. Both unstable surfaces and accelerated erosion then lead to sediment and dust.*"

There are several guidance documents, developed by the USEPA,[88] the US Forest Service,[89] the University of California,[90] and others, that include design and construction specifications and BMPs that are readily available for implementation by private and public entities. Implementing design and other source control BMPs for unpaved roads in the region is necessary to reduce and minimize the impacts of sediment discharged during storm events from unpaved roads to the MS4s and receiving waters.

Finding D.1.d. Updated individual Storm Water Management Plans (individual SWMPs or JRMPs) and Watershed Stormwater Management Plans (watershed SWMPs or Watershed Workplans), which, together with references in the DAMP, describe the Copermittees' runoff management programs in their entirety, are needed to guide the Copermittees' runoff management efforts and aid the Copermittees in tracking runoff management program implementation. Hereinafter, the individual SWMP is referred to as the JRMPs and the Watershed SWMP is referred to as the Watershed Workplan. It is practicable for the Copermittees to update the JRMPs and Watershed Workplans within the timeframe specified in this Order, since significant efforts to develop these programs have already occurred.

Discussion of Finding D.1.d. Development of runoff management plans is a crucial runoff management measure and should be considered a BMP. The plans help organize and focus the Copermittees' programs and guide their implementation. In its statewide assessment report to USEPA Region IX and the State Water Board, Tetra

[87] USEPA 2006 "Environmentally Sensitive Maintenance for Dirt and Gravel Roads." Gesford and Anderson, USEPA-PA-2005.
[88] Ibid.
[89] US Forest Service, 1996. Forest Service Specifications for Construction of Roads & Bridges. EM-7720-100. Revised August 1996.
[90] University of California Division of Agriculture and Natural Resources, 2007. Rural Roads: A Construction and Maintenance Guide of California Landowners. Publication 8262.

Tech, Inc. concluded that the lack of a master storm water planning document must be considered a serious program deficiency[91]. When submitted to the San Diego Water Board, the plans provide useful correspondence between the Copermittees and the San Diego Water Board. The Plans also become available for review by the public, and thus facilitate public participation in runoff management decisions. Finally, while development and submittal of runoff management plans are not necessary to ensure compliance of the Copermittees' runoff management programs with the Order, the San Diego Water Board is provided with a means to track Copermittee implementation.

The focus of the Order is on development and implementation of storm water programs which meet MEP, rather than creation of Copermittee plans which exhibit MEP. While the Order does not rely upon the plans to ensure MEP and other standards are achieved, the plans still serve a useful purpose. As stated above, the plans serve to organize the Copermittees' efforts to address runoff. As a practical matter, any program of the size required by the Order should be documented in writing. This serves to guide implementation of the program by the numerous individuals responsible for program implementation.

Runoff management plans are not necessary for ensuring compliance with the Order because the Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limitations, and the narrative standard of MEP for storm water are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limitations is the pertinent compliance standard to be used under the Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone. The San Diego Water Board ensures compliance with the Order by reviewing annual reports, conducting inspections, performing audits, and through other general program oversight.

Runoff management plans are particularly important and useful for municipalities when program implementation is spread across several departments and/or when municipalities experience staff turnover.[92] Each Copermittee relies on multiple employees or contractors for program implementation, but the spread of responsibility varies among Copermittees.[93] Written jurisdictional plans ensure appropriate coordination within each municipality.

Copermittees' runoff management plans are simply descriptions of their runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and San Diego Water Board in tracking implementation of the programs. In this manner,

[91] Tetra Tech, Inc. 2006. *Assessment Report on Tetra Tech's Support of California's MS4 Stormwater Program.* Produced for USEPA Region IX and the California State and Regional Water Quality Control Boards.
[92] Tetra Tech, Inc. 2005. Program Evaluation Report. Orange County Storm Water Program: Cities of Laguna Beach, Laguna Hills, Lake Forest, and Rancho Santa Margarita.
[93] Responsible departments and employees are described in the 2005-06 Annual Reports for the MS4 programs.

the plans are not functional equivalents of the Order. For these reasons, the Copermittees' runoff management plans need not be an enforceable part of the Order.

The Copermittees' plans and programs can be updated on or before June 30, 2012 because much of their plans and programs are already in existence. In fact, many parts of their plans and programs have been in place for 15 years. Moreover, the adoption of Order No. R9-2004-001 required a larger scale reorganization of the Copermittees' programs than Order No. R9-2010-0016, but also only allowed one year for program updates. The Copermittees were generally able to meet the time schedule required under Order No. R9-2004-001. After discussions with the Copermittees, based on the timing of the adoption of the Order and the Copermittee's fiscal planning cycles, in conjunction with consideration for the current economic conditions, the San Diego Water Board agreed that additional time to update the Copermittees' plans and programs may be warranted. Thus, the Copermittees must update their plans and programs on or before June 30, 2012, which provides the Copermittees over 18 months, instead of 1 year, to update their plans and programs.

Finding D.1.e. Pollutants can be effectively reduced in storm water runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants that have been mobilized by wet-weather or dry-weather flows.

Discussion of Finding D.1.e. The State Water Board finds in its Order WQ 98-01 that BMPs are effective in reducing pollutants in storm water runoff, stating that "implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable." A State Water Board TAC further supports this finding by recommending "that nonpoint source pollution control can be accomplished most effectively by giving priority to [BMPs] in the following order:

1. Pollution Prevention – implementation of practices that use or promote pollution free alternatives;
2. Source Control – implementation of control measures that focus on preventing or minimizing urban runoff from contacting pollution sources;
3. Treatment Control – implementation of practices that require treatment of polluted runoff either onsite or offsite."[94]

Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMP implementation. Fewer pollutants are available to be washed from developed areas when the generation of pollutants by activities is limited.

[94] State Water Board, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

Thus, pollutant loads in storm water discharges are reduced from these areas. In addition, there is no need to control or treat pollutants that are never generated. Furthermore, pollution prevention BMPs are generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.[95,96]

In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. CWC section 13263.3(a) also supports pollution prevention, stating "The Legislature finds and declares that pollution prevention should be the first step in a hierarchy for reducing pollution and managing wastes, and to achieve environmental stewardship for society. The Legislature also finds and declares that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters." Finally, the Basin Plan also supports this finding by stating "To eliminate pollutants in storm water, one can either clean it up by removing pollutants or prevent it from becoming polluted in the first place. Because of the overwhelming volume of storm water and the enormous costs associated with pollutant removal, pollution prevention is the only approach that makes sense."[97]

USEPA also supports the utilization of a combination of BMPs to address pollutants in runoff. For example, USEPA has found there has been success in addressing illicit discharge related problems through BMP initiatives like storm drain stenciling and recycling programs, including household hazardous waste special collection days.[98] Structural BMP performance data has also been compiled and summarized by USEPA.[99]

The summary provides the performance ranges of various types of structural BMPs for removing suspended solids, nutrients, pathogens, and metals from storm water flows. These pollutants are generally a concern in storm water in the San Diego Region and Riverside County. For suspended solids, the least effective structural BMP type was found to remove 30-65 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load. For nutrients, the least effective structural BMP type was found to remove 15-45 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load. For pathogens, the least effective structural BMP type was found to remove <30 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load. For metals, the least effective structural BMP type was found to

[95] Devinny, J.S. et al. 2004. *Alternative Approaches to Stormwater Quality Control.* Prepared for the Los Angeles Regional Water Quality Control Board. Found as Appendix H to *NPDES Stormwater Cost Survey.* Prepared for the California State Water Resources Control Board by the Office of Water Programs California State University, Sacramento. Available on-line at: http://www.owp.csus.edu/research/npdes/
[96] Schueler, T.R.., 2000. Center for Watershed Protection. Assessing the Potential for Urban Watershed Restoration, Article 142.
[97] San Diego Water Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9.
[98] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68728.
[99] USEPA, 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA 821-R-99-012.

remove 15-45 percent of the pollutant load, while the most effective was found to remove 65-100 percent of the pollutant load.

It is important to note that the CWA and NPDES federal regulations clearly require control of discharges into the MS4. CWA section 402(p)(3)(B)(ii) states that MS4 permits must "prohibit non-storm water discharges into the storm sewers." 40 CFR 122.26(d)(2)(iv)(B) requires Copermittees to "detect and remove […] illicit discharges and improper disposal into the storm sewer." See Finding C.14 and Discussion.

The Order's approach to regulating discharges into and from the MS4 is in accordance with State Water Board Order WQ 2001-15. In that order, the State Water Board reviewed the San Diego County permit (Order No. 2001-01) requirements and made one change to one prohibition.[100] The Order upheld all other requirements of the current permit. Order No. R9-2010-0016 incorporates the one change made by the State Water Board, and continues the approach of Order No. 2001-01 (the basis for the current permit), as it was upheld by the State Water Board in Order WQ 2001-15. State Water Board Order WQ 2001-15 supports such requirements, stating: "It is important to emphasize that dischargers into MS4s continue to be required to implement a full range of BMPs, including source control."

The Court of Appeals, Fourth Appellate District, found that the current permit's approach to regulation of discharges into the MS4 was appropriate. Since the Order utilizes the same approach, the court decision supports the Order's requirements.

Finding D.1.f. Runoff needs to be addressed during the three major phases of urban development (planning, construction, and use) in order to reduce the discharge of storm water pollutants to the MEP, effectively prohibit non-storm water discharges and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can negatively impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in runoff to receiving waters.

Discussion of Finding D.1.f. MS4 permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term water quality degradation that results from development lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the development (i.e. conversion of natural pervious ground cover to impervious surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and

[100] The State Water Board removed the prohibition of discharges *into* the MS4 that cause or contribute to exceedances of water quality objectives. The revision allows for treatment of storm water flows once the pollutants have entered the MS4. It does not affect the effective prohibition on certain dry-weather flows into the MS4 that is required by the Clean Water Act.

increased flows are conveyed, and ultimately discharged into natural receiving waters, are owned and operated by the same local governments. In summary, the Copermittees under the Order are responsible for discharges into and out of their MS4s because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses with generate the pollutants and increased flows in the first place.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate their ordinances or cause the Copermittee to be in violation of its MS4 permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the San Diego Water Board, the Copermittee will want to use its own permitting authority to ensure that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

The Order holds the local government accountable for this direct link between its land use decisions and water quality degradation. The Order recognizes that each of the three major stages in the development process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce storm water pollutant discharges and increased flow during each of the three stages of development.

Including plans for BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce storm water runoff pollutant loads to surface waters.[101] The Phase II regulations for small municipalities reflect the necessity of addressing runoff during the early planning phase. Due to the greater water quality concerns generally experienced by larger municipalities, Phase II requirements for small municipalities are also applicable to larger municipalities such as the Copermittees. The Phase II regulations direct municipalities to develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale. The program must ensure that controls are in place that would prevent or minimize water quality impacts. This includes developing and implementing strategies which include a combination of structural and/or non-structural BMPs appropriate to the locality. The program must also ensure the adequate long-term operation and maintenance of BMPs.[102] USEPA expands on the Phase II regulations for urban development when it recommends that Copermittees:

[101] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.
[102] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

> "Adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality."

Management of storm water runoff during the construction phase is also essential. USEPA explains in the preamble to the Phase II regulations that storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical and physical integrity of the waters may become severely compromised due to runoff from construction sites. Fine sediment from construction sites can adversely affect aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within the streambed, and reducing intergravel dissolved oxygen by reducing the permeability of the bed material. Water quality impairment also results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients, metals, and organic compounds into aquatic systems.[103]

Finally, storm water and non-storm water runoff from existing development must be addressed. The Copermittees' monitoring data exhibits that significant water quality problems exist in receiving waters which receive runoff from areas with extensive existing development, such as Aliso Creek. Source identification, BMP requirements, inspections, and enforcement are all important measures which can be implemented to address runoff from existing development. USEPA supports inspections and enforcement by municipalities when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described."[104]

Finding D.1.g. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.

[103] Ibid., 64 FR 68728.
[104] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

Discussion of Finding D.1.g. The annual reporting requirements are consistent with federal NPDES regulation 40 CFR 122.41, which states:

> "The operator of a large or medium municipal separate storm sewer system of a municipal separate storm sewer system that has been designated by the Director under section 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such a system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition, Such proposed changes shall be consistent with § 122.26(d)(2)iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and (7) Identification of water quality improvements or degradation."

CWC section 13267 provides that "the regional board may require that any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

The San Diego Water Board must assess the reports to ensure that the Copermittees' programs are adequate to assess and address water quality. The reporting requirements can also be useful tools for the Copermittees to review, update, or revise their programs. Areas or issues which have received insufficient efforts can also be identified and improved.

Finding D.1.h. This Order establishes Storm Water Action Levels (SALs) for selected pollutants based on USEPA Rain Zone 6 (arid southwest) Phase I MS4 monitoring data for pollutants in storm water. The SALs were computed as the 90^{th} percentile of the data set, utilizing the statistical based population approach, one of three approaches recommended by the State Water Board's Storm Water Panel in its report, 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006). SALs are identified in section D of this Order. Copermittees must implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas so as not to exceed the SALs. Exceedance of SALs may indicate inadequacy of programmatic measures and BMPs required in this Order.

Discussion of Finding D.1.h. Section 402(p) of the CWA states MS4 permits for storm water shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. This includes requiring numeric effluent limitations for storm water.

SALs are not numeric effluent limitations, which is reflected in language which clarifies an excursion above a SAL does not create a presumption that MEP is not being met. Instead, a SAL exceedance is to be used by the Copermittee as an indication that the MS4 storm water discharge point is a definitive "bad actor," and the result from the monitoring needs to be considered as part of the iterative process for reducing pollutants in storm water to the MEP.

The CWA defines effluent limitations as:

> “Any restriction imposed by the Director on quantities, discharge rates, and concentrations of pollutants which are “discharged” from “point sources” into “waters of the United States”…” A SAL is not a restriction on a quantity, rate or concentration, but is a level at which actions that further reduce pollutants from that discharge point need to be evaluated in order to reduce storm water pollutants to the MEP. Thus, SALs are not effluent limitations as defined by the CWC or CWA.

The approach of using "action levels" is consistent with recommendations made by USEPA in their Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, dated August 26, 1996:

> "Under the Clean Water Act (CWA) and NPDES regulations, permitting authorities may employ a variety of conditions and limitations in storm water permits, including best management practices, performance objectives, narrative conditions, monitoring triggers, action levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary water-quality based limitations, where numeric water quality based effluent limitations are determined to be unnecessary or infeasible". As such, these action levels are not considered numeric water quality-based effluent limitations.

It should be noted that a purpose of monitoring, required under this and previous Orders, is to aid in the evaluation of implemented programs and BMPs in reducing pollutants in storm water discharges to the MEP. The Monitoring and Reporting Program states:

This Receiving Waters Monitoring and Reporting Program is intended to meet the following goals:

2. Measure and improve the effectiveness of the Copermittees' runoff management programs;
3. Assess the chemical, physical, and biological impacts to receiving waters resulting from MS4 discharges;
4. Characterize storm water discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions; and
9. Provide information to implement required BMP improvements.

Since the first permit (adopted 20 years ago), Copermittees have utilized non-numerical limitations (BMPs) to control and abate the discharge of any pollutants in storm water discharges to the MEP. Copermittees have been accorded 20 years to research, develop, and deploy BMPs that are capable of reducing storm water discharges from the MS4 to levels represented in SALs. Storm Water Action Levels are set at such a level that any exceedance of a SAL will clearly indicate BMPs being implemented are insufficient to protect the Beneficial Uses of waters of the State. Copermittee shall utilize the exceedance information as a high priority consideration when adjusting and executing annual work plans, as required by this Permit. Failure to appropriately consider and react to SAL exceedances in an iterative manner creates a presumption that the Copermittee(s) have not complied to the MEP.

SALs have been developed utilizing Phase I storm water effluent data (updated February 2008, http://rpitt.eng.ua.edu/Research/ms4/mainms4.shtml) from the arid west region (USEPA Rain Zone 6). USEPA Rainfall Zone 6, which includes MS4 effluent data from Orange, San Diego, Los Angeles, Ventura and San Bernadino County. The approach taken to derive SALs is a straightforward percentile approach, with the SAL being set as the 90th percentile of the dataset for each constituent. This approach is consistent with the 2006 State Water Board Panel Report:

> "The statistically based population approach would once again rely on the average distribution of measured water quality values developed from many water quality samples taken for many events at many locations. In this case, however, the Action Level would be defined by the central tendency and variance estimates from the population data. For example, the Action Level could be set as two standard deviations above the mean, i.e. if measured concentrations are consistently higher than two standard deviations above the mean, an Action Level would be triggered. Other population based measures of central tendency could be used (i.e. geometric mean, median, etc.) or estimates of variance (i.e. prediction intervals, etc.). Regardless of which population based estimators are used (or percentile from above), the idea would be to identify the [statistically derived] point at which managers feel concentrations are significantly beyond the norm."

SALs are measurable criteria which quantify the performance of BMPs for a particular watershed or subwatershed that discharges storm water MS4 effluent from that particular discharge point. Thus, Copermittees can utilize SAL results to determine the effectiveness BMPs on the effluent from a particular area of the MS4.

SALs represent the lowest 10 percent of pollutant reduction for USEPA Rain Zone 6 MS4 Phase I programs discharging to waters of the United States. For the past 20 years, Copermittees have utilized non-numerical limitations (BMPs) to control and abate the discharge of any pollutants in storm water discharges to the MEP. Copermittees have been accorded 20 years to research, develop, and deploy BMPs that are capable of reducing storm water discharges from the MS4 to levels represented in SALs. Storm Water Action Levels are set at such a level that any exceedance of a SAL will indicate to the Copermittee(s) that the discharge is within the lowest 10% of monitored outfalls. Therefore, an exceedance of a SAL warrants priority consideration within the Copermittee iterative process.

Finding D.2.a. The Standard Storm Water Mitigation Plan (SSMP) requirements contained in this Order are consistent with Order WQ 2000-11 adopted by the State Water Board on October 5, 2000. In the precedential order, the State Water Board found that the design standards, which essentially require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SSMP requirements are appropriately applied to the majority of the Priority Development Project categories that are also contained in section F.1 of this Order. The State Water Board also gave California Regional Water Quality Control Boards (Regional Water Boards) the needed discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in SSMPs.

Discussion of Finding D.2.a. The post-construction requirements and design standards contained in the SSMP section of Order No. R9-2010-0016 constitute MEP consistent with State Water Board guidance, court decisions, and San Diego Water Board requirements. The State Water Board and San Diego Water Board have made several recent decisions in regards to inclusion of SSMP requirements in MS4 permits. In a precedential decision, State Water Board Order WQ 2000-11, the State Water Board found that the SSMP provisions constitute MEP for addressing storm water pollutant discharges resulting from Priority Development Projects. The provisions of the SSMP section of the Order are also consistent with those previously issued by the San Diego Water Board for Riverside County (Order No. R9-2004-001), Southern Orange County (Order Nos. R9-2002-0001 and R9-2009-0002) and San Diego County (Order Nos. R9-2001-01 and R9-2007-0001), as well as requirements in the Los Angeles County MS4 permit (Order No. R4-2001-182). In State Water Board Order WQ 2001-15, the State Water Board reaffirmed that SSMP requirements constitute MEP. Moreover, the SSMP requirements of the San Diego County MS4 permit (Order No. R9-2001-01) were upheld when the California State Supreme Court declined to hear the matter on appeal.

Finding D.2.b. Controlling runoff pollution by using a combination of onsite source control and site design BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events; (2) Whereas, onsite source control BMPs can be applied during all runoff conditions end-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the pollutant source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

Discussion of Finding D.2.b. Many end-of-pipe BMPs are designed for low flow conditions because their end-of-pipe location prevents them from being designed for large storm events. This results in the end-of-pipe BMPs being overwhelmed, bypassed, or ineffective during larger storm events more frequently than onsite BMPs designed for larger storms. BMPs are also frequently most effective for a particular type of pollutant (such as sediment). Such BMPs may be appropriate for small sites with a limited suite of pollutants generated; however, end-of-pipe BMPs must typically be able to address a wide range of pollutants generated by a sub-watershed, limiting their effectiveness and/or increasing costs. Moreover, the location of some end-of-pipe BMPs allow for untreated pollutants to be discharged to and degrade receiving waters prior to their reaching the BMPs. This fails to protect receiving waters, which is the purpose of BMP implementation. In addition, opportunities to educate the public regarding runoff pollution can be lost when end-of-pipe BMPs are located away from pollutant sources and out of sight. Onsite BMPs can lead to a better public understanding of runoff issues since their presence can provide a visible and/or tangible lesson in pollution prevention.

Finding D.2.c. Use of Low-Impact Development (LID) site design BMPs at new development, redevelopment and retrofit projects can be an effective means for minimizing the impact of storm water runoff discharges from the development projects on receiving waters. LID is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff. Current runoff management, knowledge, practices and technology have resulted in the use of LID BMPs as an acceptable means of meeting the storm water MEP standard.

Discussion of Finding D.2.c. The CWA is the cornerstone of surface water quality protection in the United States. (The Act does not deal directly with ground water or with water quantity issues.) The statute employs a variety of regulatory and nonregulatory tools to sharply reduce direct pollutant discharges into waterways, and manage polluted runoff. These tools are employed to achieve the broader goal of

restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support the protection and propagation of fish, shellfish, wildlife and recreation in and on the water.

Increasing the volume, velocity, frequency and discharge duration of storm water runoff from developed areas will eventually greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads and volume while simultaneously increasing impervious area. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by naturally vegetated soil. Furthermore, impervious surfaces tend to concentrate pollutants on the top of the surface that are then washed off into the MS4 and waters of the State in a concentrated manner. The use of LID site design BMPs can be an effective means of minimizing the impact of runoff discharges on receiving waters. By reducing water pollution, reducing runoff and increasing groundwater recharge, LID helps to improve the quality of receiving surface waters, stabilize the flow rates of receiving waters (preventing downstream hydromodification), reduce downstream flooding and protect and enhance water supply sources. Current runoff management, knowledge, practice and technology has resulted in the use of LID BMPs as an acceptable means of meeting the MEP standard for storm water treatment.

Current municipal codes may oppose or hinder the design, use and implementation of specific elements of LID. These codes include, but are not limited to, emergency services access requirements, building landscape ordinances, building height limits and parking space requirements. It is essential for Copermittees to work with other responsible agencies and/or update codes that have the potential to impact the use of LID.

The Local Government Commission, a non-profit organization working to build livable communities, developed a set of principles known as the *Ahwahnee Water Principles for Resource-Efficient Land Use*[105] that provide the opportunity to reduce costs and improve the reliability and quality of our water resources. Implementation of LID incorporates several of the Ahwahnee principles such as:

1. “Community Design should be compact, mixed use, walkable and transit-oriented so that urban runoff pollutants are minimized and the open lands that absorb water are preserved to the maximum extent possible.”
3. “Water holding areas such as creek beds, recessed athletic fields, ponds, cisterns, and other features that serve to recharge groundwater, reduce runoff, improve water quality and decrease flooding should be incorporated into the urban landscape.”
4. “All aspects of landscaping from the selection of plants to soil preparation and the installation of irrigation systems should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater.”

[105] Local Government Commission, “The Ahwahnee Water Principles – A Blueprint for Regional Sustainability”, http://water.lgc.org/Members/tony/docs/lgc_water_guide.pdf

5. "Permeable surfaces should be used for hardscape. Impervious surfaces such as driveways, streets, and parking lots should be minimized so that land is available to absorb storm water, reduce polluted urban runoff, recharge groundwater and reduce flooding."

The use of LID site design BMPs helps reduce the amount of impervious area associated with development and allows storm water to infiltrate into the soil. Natural vegetation and soil filters storm water runoff and reduces the volume and pollutant loads of storm water. Studies have revealed that the level of imperviousness resulting from development and urbanization is strongly correlated with the water quality impairment of nearby receiving waters.[106] In many cases, the impacts on receiving waters due to changes in hydrology can be more significant than those attributable to the contaminants found in storm water discharges.[107] These impacts include stream bank erosion (increased sediment load and subsequent deposition), benthic habitat degradation, and decreased diversity of macroinvertebrates. Although conventional BMPs do reduce storm water pollutant loads, they may not effectively control adverse effects from changes in the discharge hydrologic conditions.[108]

The Order includes requirements for developments to include site design BMPs that mimic or replicate the natural hydrologic cycle. Open space designs which maximize pervious surfaces and retention of "natural" drainages have been found to reduce both the costs of development and pollutant export.[109] Moreover, USEPA finds including plans for a "natural" site design and BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce storm water pollutant loads to surface waters.[110] In addition, a recent U.S. Department of Housing and Urban Development guidance document on low-impact development notes that the use of LID-based storm water management design allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts.[111]

Finding D.2.d. RGOs are significant sources of pollutants in storm water runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas.

[106] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.
[107] Ibid.
[108] USEPA, 2000. Low-Impact Development: A literature review. EPA-841-B-00-005. 35p.
[109] Center for Watershed Protection, 2000. "The Benefits of Better Site Design in Residential Subdivisions." Watershed Protection Techniques. Vol. 3. No. 2.
[110] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.
[111] U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 2003. "The Practice of Low Impact Development." Prepared by: NAHB Research Center, Inc. Upper Marlboro, Maryland. Contract No. H-21314CA. 131p.

Discussion of Finding D.2.d. RGOs are included in the Order as a Priority Development Project category because RGOs produce significantly greater loadings of hydrocarbons and trace metals (including copper and zinc) than other developed areas. To meet the storm water MEP standard, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) an average daily traffic (ADT) of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of storm water runoff from RGOs on receiving waters.

This finding has been added to satisfy State Water Board Order WQ 2000-11's requirements for including RGOs as a Priority Development Category. State Water Board Order WQ 2000-11 acknowledged that a threshold (size, average daily traffic, etc.) appropriate to trigger SSMP requirements should be developed for RGOs and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement.[112]

Finding D.2.e. Industrial sites are significant sources of pollutants in runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID site design, source control, and treatment control BMPs are needed at industrial sites in order to meet the MEP standard. These BMPs are necessary where the industrial site is larger than 10,000 square feet. The 10,000 square feet threshold is appropriate, since it is consistent with requirements in other Phase I NPDES storm water regulations throughout California.

Discussion of Finding D.2.e. Industrial sites can be a significant source of pollutants in storm water runoff. In an extensive review of storm water literature, the Los Angeles Water Board found widespread support for the finding that "industrial and commercial activities can also be considered hot spots as sources of pollutants." It also found that "industrial and commercial areas were likely to be the most significant pollutant source areas" of heavy metals.[113] Likewise, storm water runoff from heavy industry in the Santa Clara Valley has been found to be extremely toxic.[114] These findings are corroborated by USEPA, which states in the preamble to the 1990 Phase I NPDES storm water regulations that "Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated

[112] State Water Board, 2000. Order WQ 2000-11. In the Matter of the Petitions of The Cities Of Bellflower, Et Al., The City Of Arcadia, And Western States Petroleum Association Review of January 26, 2000 Action of the Regional Board And Actions and Failures to Act by both the California Regional Water Quality Control Board, Los Angeles Region and Its Executive Officer Pursuant to Order No. 96-054, Permit for Municipal Storm Water and Urban Run-Off Discharges Within Los Angeles County [NPDES NO. CAS614001] SWRCB/OCC FILES A-1280, A-1280(a) and A-1280(b)

[113] Los Angeles Water Board. 2001.

[114] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.

with industrial activity through their system in their storm water management program." Since heavy industrial sites can be a significant source of pollutants in runoff in a manner similar to other SSMP project categories such as commercial development or automotive repair shops, it is appropriate to include heavy industrial sites as a SSMP category in the Order.

The Phase I NPDES storm water regulations require the Copermittees to "control through ordinance, permit, contract, order, or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity" (40 CFR 122.26(d)(2)(i)). In addition, it has been established that the MEP standard for the control of storm water runoff from new development projects includes incorporation of the SSMP requirements. Since the Copermittees must both control storm water pollutants from industrial sites and meet the storm water MEP standard for new development, it is appropriate to apply the SSMP requirements to heavy industrial sites.

The State Water Board's Order WQ 2000-11 indicates that it is appropriate to apply SSMP requirements to categories of development where evidence shows the category of development can be a significant source of pollutants. As evidenced above, heavy industrial sites can be a significant source of pollutants. Therefore, the Order includes heavy industrial sites as a SSMP Priority Development Project category.

Finding D.2.f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). Proper BMP design and maintenance to avoid standing water, however, can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities, local vector control agencies, and the California Department of Public Health during the development and implementation of runoff management programs.

Discussion of Finding D.2.f. The implementation of certain structural BMPs or other runoff treatment systems can result in significant vector problems in the form of increased breeding or harborage habitat for mosquitoes, rodents or other potentially disease transmitting organisms. The implementation of BMPs that retain water may provide breeding habitat for a variety of mosquito species, some of which have the potential to transmit diseases such as Western Equine Encephalitis, St. Louis Encephalomyelitis, and malaria. Recent BMP implementation studies by Caltrans[115] in District 7 and District 11 have demonstrated mosquito breeding associated with some types of BMPs. The Caltrans BMP Retrofit Pilot study cited lack of maintenance and improper design as factors contributing to mosquito production. However, a Watershed Protection Techniques article describes management techniques for selecting, designing, and maintaining structural treatment BMPs to minimize mosquito

[115] Caltrans, 2000. BMP Retrofit Pilot Studies: A Preliminary Assessment of Vector Production.

production.[116] State and local runoff management programs that include structural BMPs with the potential to retain water have been implemented in Florida and the Chesapeake Bay region without resulting in significant public health threats from mosquitoes or other vectors.[117]

Finding D.2.g. The increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads in storm water runoff and the volume of storm water runoff. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by natural vegetated soil. Hydromodification measures for discharges to hardened channels allow for the future restoration of the hardened channels to their natural state, thereby restoring the chemical, physical, and biological integrity and beneficial uses of local receiving waters.

Discussion of Finding D.2.g. Increasing the volume, velocity, frequency and discharge duration of storm water runoff from developed areas will eventually greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses. Development and urbanization increase pollutant loads and volume while simultaneously increasing impervious area. Impervious surfaces can neither absorb water nor remove pollutants and thus lose the purification and infiltration provided by naturally vegetated soil.

Historic hydromodification impacts, such as concrete lining and channelization, have impacted the natural physical habitat of urban streams resulting in low IBI scores. The Copermittee's monitoring to date indicates decreased IBI scores in the developed watersheds when compared to reference sites, with developed sites consistently having poor or very poor IBI scores. While habitat scores remained stable over the last reporting period, with scores of marginal to sub-optimal, the Copermittees have consistently monitored high levels of fine sediment in habitat assessments and often changing vegetative cover. However, the impact of persistent toxicity at the bioassessment stations in conjunction with physical habitat scores is unknown.[118]

Hydromodification impacts result in poor physical habitat conditions through streambed scour, erosion, vegetation displacement, sediment deposition, channelization, and channel modifications. Increased sediment loads from hydromodification causes other impacts to physical habitats including increased turbidity which then may cause increased temperatures. In addition, an increased sediment load may have an increased biological content thereby increasing the

[116] Watershed Protection Techniques, 1995. Mosquitoes in Constructed Wetlands: A Management Bugaboo? 1(4):203-207.
[117] Shaver, E. and R. Baldwin , 1995. Sand Filter Design for Water Quality Treatment in Herricks, E., Ed. Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment, CRC Lewis Publishers, New York, NY.
[118] Riverside County Copermittees, 2008-2009 Santa Margarita Watershed Annual Report.

sediment oxygen demand and lowering the dissolved oxygen available for aquatic life.[119]

The objective of the CWA is "to restore and maintain the chemical, *physical,* and biological integrity of the Nation's waters (emphasis added)." Stream restoration by removing concrete and other unnatural materials is a major step toward achieving that objective. The success of future stream restoration and stabilization is, however, dependent on preventing and reducing physical impacts from activities upstream. Therefore, hydromodification management measures are necessary upstream of modified (e.g. concrete, rip rap, etc.) channels in addition to non-modified channels.

Please see discussion of Findings C.10 and C.11 for additional information about impacts due to increasing volume, velocity, frequency and discharge duration of storm water runoff from developed areas.

Finding D.3.a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (State and local) storm water regulation. Under this dual system, each Copermittee is responsible for enforcing its local permits, plans, and ordinances, and the San Diego Water Board is responsible for enforcing the General Construction Activities Storm Water Permit, State Water Board Order 2009-0009-DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, State Water Board Order97-03-DWQ, NPDES No. CAS000001 (General Industrial Permit). NPDES municipal regulations require that municipalities develop and implement measures to address runoff from industrial and construction activities. Those measures may include the implementation of other BMPs in addition to those BMPs that are required under the statewide general permits for activities subject to both State and local regulation.

Discussion of Finding D.3.a. USEPA finds the control of pollutant discharges from industry and construction so important to receiving water quality that it has established a double system of regulation over industrial and construction sites. This double system of regulation consists of two parallel regulatory systems with the same common objective: to keep pollutants from industrial and construction sites out of the MS4. In this double system of regulation for runoff from industrial and construction sites, local governments must enforce their legal authorities (i.e. local ordinances and permits) while the San Diego Water Board must enforce its legal authority (i.e. statewide general industrial and construction storm water permits). These two regulatory systems are designed to complement and support each other. Municipalities are not required to enforce San Diego Water Board and State Water Board permits. They are required, however, to enforce their ordinances and permits. The Federal regulations are clear that municipalities have responsibility to prevent

[119] USEPA, National Management Measures to Control Nonpoint Source Pollution from Hydromodification, EPA 841-B-07-002, July 2007.

non-storm water and address storm water runoff from industrial and construction sites which enters their MS4s.

Municipalities have this responsibility because they have the authority to issue land use and development permits. Since municipalities are the lead permitting authority for industrial land use and construction activities, they are also the lead for enforcement regarding runoff discharges from these sites. For sites where the municipality is the lead permitting authority, the San Diego Water Board will work with the municipality and provide support where needed. The San Diego Water Board will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

According to USEPA, the storm water regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop programs to monitor and control pollutants in storm water discharges from industrial facilities.[120] USEPA discusses the "dual regulation" of construction sites in its Storm Water Phase II Compliance Assistance Guide, which states "Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure […] is needed to induce more localized site regulation and enforcement efforts, and to enable operators […] to more effectively control construction site discharges into their MS4s."[121] While the Storm Water Phase II Compliance Assistance Guide applies to small municipalities, it is applicable to the Copermittees, because they are similar in size and have the potential to discharge similar pollutant types as Phase II municipalities.

Finding D.3.b. Identification of sources of pollutants in runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants from its MS4 in storm water are reduced to the MEP and that non-storm water discharges are not occurring. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at areas that are at high risk for pollutant discharges.

Discussion of Finding D.3.b. Source identification is necessary to characterize the nature and extent of pollutants in discharges and to develop appropriate BMPs. It is the first step in a targeted approach to runoff management. Source identification helps identify the location of potential sources of pollutants in runoff. Pollutants found to be present in receiving waters can then be traced to the sites which frequently generate such pollutants. In this manner source inventories can help to target inspections, monitoring, and potential enforcement. This allows for limited inspection, monitoring, and enforcement time to be most effective. USEPA supports source identification as a

[120] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[121] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

concept when it recommends construction, municipal, and industrial source identification in guidance and the federal regulations.[122,123]

The development of BMPs for identified sources will help ensure that appropriate, consistent controls are implemented at all types of development and areas. Copermittees must reduce the discharge of pollutants in storm water runoff to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented. Designation of minimum BMPs helps ensure that appropriate BMPs are implemented for various sources. These minimum BMPs also serve as guidance as to the level of water quality protection required. USEPA requires development and implementation of BMPs for construction, municipal, commercial, industrial, and residential sources at 40 CFR 122.26(d)(2)(iv)(A-D).

Updating ordinances and approval processes is necessary in order for the Copermittees to control discharges to their MS4s. USEPA supports updating ordinances and approval processes when it states "A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. […] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. […] 'Control,' in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4."[124]

Inspections provide a necessary means for the Copermittees to evaluate compliance of pollutant sources with their municipal ordinances and minimum BMP requirements. USEPA supports inspections when it recommends inspections of construction, municipal, and industrial sources.[125] Inspection of high risk sources are especially important because of the ability of frequent inspections to help ensure compliance, thereby reducing the risk associated with such sources. USEPA suggests that inspections can improve compliance when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations."[126]

Finding D.3.c. Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Urban streams used in this manner are part of the municipalities MS4s regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the urban stream is both an MS4 and receiving water.

[122] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[123] 40 CFR 122.26(d)(2)(ii)
[124] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[125] Ibid.
[126] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

Discussion of Finding D.3.c. An MS4 is defined in the federal regulations as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), owned or operated by a Copermittee, and designed or used for collecting or conveying runoff.[127] Natural drainage patterns and urban streams are frequently used by municipalities to collect and convey runoff away from development within their jurisdiction. Therefore, the San Diego Water Board considers natural drainages that are used for conveyances of runoff, regardless of whether or not they've been altered by the municipality, as both part of the MS4s and as receiving waters. To clarify, an unaltered natural drainage, which receives runoff from a point source (channeled by a Copermittee to drain an area within their jurisdiction), which then conveys the runoff to an altered natural drainage or a man-made MS4, is both an MS4 and a receiving water.[128]

Finding D.3.d. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or otherwise control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

Discussion of Finding D.3.d. CWA section 402(p) requires operators of MS4s to prohibit non-storm water discharges into their MS4s. This is necessary because pollutants which enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters. If a municipality does not prohibit non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service. Furthermore, third party discharges can cause a municipality to be out of compliance with its permit. Since pollutants from third parties which enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Copermittee must prohibit and/or control discharges from third parties to its MS4. USEPA supports this concept when it states "the operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties" and "the operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges

[127] USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.
[128] San Diego Water Board, 2001. Response in Opposition to Petitions for Review of California Regional Water Quality Control Board San Diego Region Order No. 2001-01 – NPDES Permit No. CAS0108758 (San Diego Municipal Storm Water Permit).

to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."[129]

In a recent decision issued for *United States v. Washington State Department of Transportation (WSDOT)*,[130] the court found that WSDOT, by allowing runoff from its MS4 to a receiving water that is part of a Superfund site, is an "arranger" of "disposal or treatment of hazardous substances" as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) by "designing, constructing, and operating drainage systems whose sole function was to collect highway runoff and dispose of it into nearby water-bodies." The court went on to state that "WSDOT did design the drainage system and…has the ability to redirect, contain or treat its contaminated runoff."

Finding D.3.e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges from storm water into MS4s must be reduced using a combination of management measures, including source control and an effective MS4 maintenance program implemented by each Copermittee.

Discussion of Finding D.3.e. When rain falls and drains freeways, industries, construction sites, and neighborhoods, it picks up a multitude of pollutants. Gravity flow transports the pollutants to the MS4. Illicit discharges and connections also can contribute a significant amount of pollutants to MS4s. MS4s are commonly designed to convey their contents as quickly as possible. Due to the resulting typically high flow rates within the concrete conveyance systems of MS4s, pollutants which enter or are deposited in the MS4 and not removed are generally flushed unimpeded through the MS4 to waters of the United States. Since treatment generally does not occur within the MS4, in such cases reduction of storm water pollutants to the MEP must occur prior to discharges entering the MS4.

The importance of this concept is supported by the tons of wastes/pollutants that have been removed from the Copermittees' MS4s as reported in their ROWD.[131] Moreover, these pollutants will be discharged into receiving waters unless an effective MS4 and structural treatment BMP maintenance program is implemented by the Copermittees. The requirement for Copermittees to conduct a MS4 maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. Regarding MS4 cleaning, USEPA states "The removal of sediment, decaying debris, and highly polluted water from catch basins has aesthetic and water quality benefits, including reducing foul odors, reducing suspended solids, and reducing the load of

[129] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68765-68766.
[130] United State District Court, Western District of Washington at Tacoma, Case No. C08-5722RJB, Order on Motions for Partial Summary Judgment, dated June 7, 2010.
[131] Riverside County Copermittees. 2009. Report of Waste Discharge (San Diego Region).

oxygen-demanding substances that reach receiving waters."[132] It goes on to say, "Catch basin cleaning is an efficient and cost-effective method for preventing the transport of sediment and pollutants to receiving water bodies." USEPA also finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. […] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year."[133]

Finding D.3.f. Enforcement of local runoff related ordinances, permits, and plans is an essential component of every runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction. Education is an important aspect of every effective runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and understand their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions affect receiving water quality and how adverse effects can be minimized.

Discussion of Finding D.3.f. The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of runoff from third party activities and land uses to their MS4.[134] In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. When the Copermittees determine a violation of its storm water ordinance, it must pursue correction of the violation. Without enforcement, third parties do not have incentive to correct violations. USEPA supports enforcement by municipalities when it states "Effective inspection and enforcement requires […] penalties to deter

[132] USEPA, 1999. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.
[133] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[134] USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described."[135]

Education is a critical BMP and an important aspect of runoff management programs. USEPA finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[136]

Regarding target audiences, USEPA also states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children."

Finding D.3.g. Public participation during the development of runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

Discussion of Finding D.3.g. This finding is supported by the Phase II Storm Water Regulations, which state "early and frequent public involvement can shorten implementation schedules and broaden public support for a program." USEPA goes on to explain, "Public participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments."[137]

Finding D.3.h. Retrofitting existing development with storm water treatment controls, including LID, is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards. Although SSMP BMPs are required for redevelopment, the current rate of redevelopment will not address water quality problems in a timely manner. Cooperation with private landowners is necessary to effectively identify, implement, and maintain retrofit projects for the preservation, restoration, and enhancement of water quality.

Discussion of Finding D.3.h. Existing BMPs are not sufficient to protect the Beneficial Uses of receiving waters from storm water MS4 discharges, as evidenced by 303(d) listings and exceedances of Water Quality Objectives from the Copermittees' monitoring reports. As recognized in USEPA guidance, waters in the region cannot be protected without also addressing degradation caused by storm

[135] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA/833-B-92-002.
[136] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.
[137] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68755.

water discharges from existing development. This requires more than just a new development and redeveloped sites program, which at best can only hold the line. For this reason USEPA recommends that storm water programs include a retrofit plan or program for retrofitting existing development.[138]

Implementing more advanced BMPs, including the retrofitting of existing development with LID BMPs, is part of the iterative process. Based on the current rate of redevelopment compared to existing BMPs, the use of LID only on new and redevelopment will not adequately address current water quality problems, including downstream hydromodification. Retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners.

To actually improve the quality of receiving waters, discharges from existing developed sites need to be mitigated, which generally means implementation of measures to retrofit existing development sites with storm water control measures that can retain and/or treat storm water on site. Retrofitting existing development is possible and reasonable to significantly improve water quality in receiving waters.

Successful retrofitting programs have been implemented in such diverse locations as Seattle, Washington[139]; Portland, Oregon[140], Santa Monica, California[141]; Kansas City, Kansas[142]; and Montgomery County, MD[143]. When appropriately applied as in this Order, retrofitting existing development meets MEP.

Finding D.4.a. Since runoff within a watershed can flow from and through multiple land uses and political jurisdictions, watershed-based runoff management can greatly enhance the protection of receiving waters. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Effective watershed-based runoff management actively reduces pollutant discharges and abates pollutant sources causing or contributing to watershed water quality problems. Watershed-based runoff management that does not actively reduce pollutant discharges and abate pollutant sources causing or contributing to watershed water quality problems can necessitate implementation of the iterative process outlined in section A.3 of the this Order. Watershed management of runoff does not require Copermittees to expend resources outside of their jurisdictions. In some cases, however, this added flexibility provides more, and possibly more effective, alternatives for minimizing waste discharges.

[138] USEPA, 2010. MS4 Permit Improvement Guide. EPA 833-R-10-001.
[139] SEA Street, http://www.seattle.gov/dpd/Planning/CityDesign/What_We_Do/Outreach/Folio/DPDS_008014.asp
[140] Clean River Rewards, http://www.portlandonline.com/BES/index.cfm?c=edeef
[141] City of Santa Monica, Urban Runoff program, http://www.smgov.net/Departments/OSE/categories/content.aspx?id=4007
[142] 10,000 Rain Gardens, http://www.rainkc.com/
[143] Rainscapes, http://www.montgomerycountymd.gov/Content/DEP/Rainscapes/home.html

Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

Discussion of Finding D.4.a. In recent years, addressing water quality issues from a watershed perspective has increasingly gained attention. Regarding watershed-based permitting, the USEPA *Watershed-Based NPDES Permitting Policy Statement* issued on Jan. 7, 2004 states the following:

> USEPA continues to support a holistic watershed approach to water quality management. The process for developing and issuing NPDES permits on a watershed basis is an important tool in water quality management. USEPA believes that developing and issuing NPDES permits on a watershed basis can benefit all watershed stakeholders, from the NPDES permitting authority to local community members. A watershed-based approach to point source permitting under the NPDES program may serve as one innovative tool for achieving new efficiencies and environmental results. USEPA believes that watershed-based permitting can:
>
> - Lead to more environmentally effective results;
> - Emphasize measuring the effectiveness of targeted actions on improvements in water quality;
> - Provide greater opportunities for trading and other market based approaches;
> - Reduce the cost of improving the quality of the nation's waters;
> - Foster more effective implementation of watershed plans, including total maximum daily loads (TMDLs); and
> - Realize other ancillary benefits beyond those that have been achieved under the CWA (e.g., facilitate program integration including integration of Clean Water Act and Safe Drinking Water Act programs).
>
> Watershed-based permitting is a process that ultimately produces NPDES permits that are issued to point sources on a geographic or watershed basis. In establishing point source controls in a watershed-based permit, the permitting authority may focus on watershed goals, and consider multiple pollutant sources and stressors, including the level of nonpoint source control that is practicable. In general, there are numerous permitting mechanisms that may be used to develop and issue permits within a watershed approach.

This USEPA guidance is in line with State Water Board and San Diego Water Board watershed management goals. For example, the State Water Board's TAC recommends watershed-based water quality protection, stating "Municipal permits should have watershed specific components." The TAC further recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis."

In addition, the Basin Plan states that "public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach."

In light of USEPA's policy statement and the State Water Board's and San Diego Water Board's watershed management goals, the San Diego Water Board seeks to expand watershed management in the regulation of runoff from the MS4. Watershed-based MS4 permits can provide for more effective receiving water quality protection by focusing on specific water quality problems. The entire watershed for the receiving water can be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.[144]

Finding D.4.b. Some runoff issues, such as general education and training, can be effectively addressed on a regional basis. Regional approaches to runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

Discussion of Finding D.4.b. Copermittees in Riverside County participate in several runoff-related activities whose scope extends beyond the area subject to this Order. These include countywide activities (e.g., portions of Riverside County fall under the jurisdictions of the Santa Ana Water Board and California Regional Water Quality Control Board, Colorado River Region (Colorado River Water Board)), southern California, and statewide activities. Copermittees' participation in these regional activities is generally directed at improving management capability, preventing redundancy and taking advantage of economies of scale. For instance, Copermittees seek to develop consistency between watershed and/or jurisdictional programs (e.g., through standards development), and to collaborate on certain program activities such as education, training, and monitoring.

Finding D.4.c. It is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially the State of California Department of Transportation, the U.S. federal government, sovereign American Indian tribes, and water and sewer districts, is also important.

[144] San Diego Water Board, 2004. San Diego County Municipal Storm Water Permit Reissuance Analysis Summary. P. 1.

Discussion of Finding D.4.c. Conventional planning and zoning can be limited in their ability to protect the environmental quality of creeks, rivers, and other water bodies. Watershed-based planning is often ignored, despite the fact that receiving waters unite land by collecting runoff from throughout the watershed. Since watersheds unite land, they can be used as an effective basis for planning. Watershed-based planning enables local and regional areas to realize economic, social, and other benefits associated with growth, while conserving the resources needed to sustain such growth, including water quality.

This type of planning can involve four steps: (1) Identify the watersheds shared by the participating jurisdictions; (2) Identify, assess, and prioritize the natural, social, and other resources in the watersheds; (3) Prioritize areas for growth, protection, and conservation, based on prioritized resources; and (4) Develop plans and regulations to guide growth and protect resources. Local governments have started with simple, yet effective, steps toward watershed planning, such as adopting a watershed-based planning approach, articulating the basic strategy in their General Plans, and beginning to pursue the basic strategy in collaboration with neighboring local governments who share the watersheds. Examples of new mechanisms created to facilitate watershed-based planning and zoning include the San Francisquito Creek Watershed Coordinated Resource Management Process and the Santa Clara Basin Watershed Management Initiative.[145]

[145] Bay Area Stormwater Management Agencies Association., 1999. Start at the Source. Forbes Custom Publishing. Available on-line at: http://www.scvurppp-w2k.com/basmaa_satsm.htm

E. Statute and Regulatory Considerations

Finding E.1. The RWL language specified in this Order is consistent with language recommended by the USEPA and established in State Water Board Order WQ-99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Water Board on June 17, 1999. The RWL language in this Order requires compliance with water quality standards, which for storm water discharges is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limitations based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution, contamination, or nuisance.

Discussion of Finding E.1. The RWL language in the Order requires storm water compliance with water quality standards through an iterative approach for implementing improved and better-tailored BMPs over time. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water quality standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality standards. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP that is anticipated to result in compliance with receiving water quality objectives.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated in past years. The argument arises because CWA section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of “best available technology economically achievable (BAT)” and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of MEP” and (2) “such other provisions that the Administrator or the State determines appropriate for the control of such pollutants.” The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet MEP for storm water. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, USEPA, the State Water Board, and the San Diego Water

Board have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limitations, USEPA, the State Water Board (in Orders WQ 91-03 and WQ 91-04), and the San Diego Water Board have maintained that MS4 permits can contain narrative requirements for the implementation of BMPs in place of numeric effluent limitations for storm water discharges.[146]

In addition to relying on USEPA's legal opinion concluding that MS4s must meet MEP for storm water and water quality standards, the State Water Board also relied on the CWA's explicit authority for States to require "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants" in addition to the technology-based standard of MEP for storm water discharges. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the State Water Board relied on provisions of the CWC that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The State Water Board first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the State Water Board also concluded that it was appropriate for Regional Water Boards to achieve this result by requiring best management practices, rather than by inserting numeric effluent limitations into MS4 permits. Later, in Order WQ 98-01, the State Water Board prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met for storm water discharges.

In Order WQ 99-05, the State Water Board modified its receiving water limitations language in Order WQ 98-01 to meet specific objections by USEPA (the modifications resulted in stricter compliance with water quality standards). State Water Board Order WQ 99-05 states:

> "In Order WQ 98-01, the State Board ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Water Boards for Vallejo and Riverside respectively, the USEPA objected to the permits. The USEPA objection was based on the receiving water limitation language. The USEPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

[146] For the most recent assessment, see Storm Water Panel Recommendations to the California State Water Resources Control Board, 2006. *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial, and Construction Activities.*

> In light of USEPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the USEPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language shall be included in future municipal storm water permits."

In the 1999 case involving MS4 permits issued by USEPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld USEPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of USEPA's discretion rather than on the basis of strict compliance with the CWA. In other words, while holding that the CWA does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that USEPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld USEPA's use of iterative BMPs in place of numeric effluent limitations for storm water discharges.

On October 14, 1999, the State Water Board issued a legal opinion on the federal appellate decision and provided advice to the Regional Water Boards on how to proceed in the future. In the memorandum, the State Water Board concludes that the recent Ninth Circuit opinion upholds the discretion of USEPA and the State to (continue to) issue storm water permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[…] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As TMDLs are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions." In summary, the State Water Board found that the Regional Water Boards should continue to include the RWL established in State Water Board Order WQ 99-05 in all future permits.

The issue of the RWLs language was also central to the Building Industry Association's (BIA's) (and others') appeal of San Diego Water Board Order No. 2001-01 (San Diego MS4 permit), which was used as a template for San Diego Water Board Order No. R9-2002-0001 (Orange County MS4 permit). BIA contended that the storm water MEP standard was a ceiling on what could be required of the Copermittees in implementing their runoff management programs, and that Order No. 2001-01's receiving water limitations requirements exceeded that ceiling. In other words, BIA argued that the Copermittees could not be required to comply with receiving water limitations if they necessitated efforts which went beyond the MEP standard. Again, the courts upheld the San Diego Water Board's discretion to require compliance with water quality standards in municipal storm water permits, without limitation. The Court

of Appeal, Fourth Appellate District found that the San Diego Water Board has "the authority to include a permit provision requiring compliance with water quality standards."[147] On further appeal by BIA, the California State Supreme Court declined to hear the matter.

While implementation of the iterative BMP process is a means to achieve compliance with water quality objectives for storm water MS4 discharges, it does not shield the discharger from enforcement actions for continued non-compliance with water quality standards. Consistent with USEPA guidance,[148] regardless of whether or not an iterative process is being implemented, discharges that cause or contribute to a violation of water quality standards are in violation of Order No. R9-2010-0016.

Finding E.2. The Basin Plan, identifies the following existing and potential beneficial uses for surface waters in Riverside County: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Hydropower Generation (POW), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Spawning, Reproduction and/or Early Development (SPWN) and Preservation of Biological Habitats of Special Significance (BIOL).

Discussion of Finding E.2. The southwestern portion of Riverside County is within the San Diego Region. The Riverside County portion of the San Diego Region falls within Santa Margarita Hydrologic Unit. The major streams within the Riverside County portion of the Santa Margarita Hydrologic Unit are the Santa Margarita River, Temecula Creek, and Murrieta Creek. Other surface water bodies include De Luz Creek, Sandia Canyon Creek, Warm Springs Creek, San Gertrudis Creek, and Wilson Creek. Major inland water bodies include Lake Skinner and Vail Lake.

The Riverside County portion of the Santa Margarita Hydrologic Unit includes unincorporated portions of Riverside County, the Cities of Menifee, Murrieta, Temecula, and Wildomar..

Based on the 2000 census, approximately 150,000 people resided within the permitted area. Since the 2000 census, however, several new developments, especially in the Cities of Temecula and Murrieta have increased the housing stock of the area, and the population is now significantly higher. As of January 1, 2009, approximately 250,000 people reside in the permitted area, with approximately 30,000 people living in the unincorporated area of Riverside County (31,163) and approximately 220,000 living in the Cities of Menifee (613), Murrieta (99,574), Temecula (102,604), and Wildomar (22,240).[149]

[147] Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.
[148] USEPA, 1998. Jan. 21, 1998 correspondence, "State Board/OCC File A-1041 for Orange County," from Alexis Strauss to Walt Petit, and March 17, 1998 correspondence from Alexis Strauss to Walt Petit.
[149] Fiscal Year 2008-2009 Santa Margarita Watershed Annual Progress Report

Finding E.3. This Order is in conformance with State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*, and the federal Antidegradation Policy described in 40 CFR 131.12.

Discussion of Finding E.3. Runoff management programs are required to be designed to reduce pollutants in storm water MS4 discharges to the maximum extent practicable and achieve compliance with water quality standards. Therefore, implementation of runoff management programs, which satisfy the requirements of Order No. R9-2010-0016, will prevent violations of receiving water quality standards. The Basin Plan states that "Water quality objectives must […] conform to US EPA regulations covering antidegradation (40 CFR 131.12) and State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California." As a result, when water quality standards are met, USEPA and State Water Board antidegradation policy requirements are also met.

Finding E.4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Copermittee from developing a non-point source plan, for the urban category, under CZARA. The San Diego Water Board addresses septic systems through the administration of other programs.

Discussion of Finding E.4. Coastal states are required to develop programs to protect coastal waters from nonpoint source pollution, as mandated by the federal CZARA. CZARA section 6217 identifies polluted runoff as a significant factor in coastal water degradation, and requires implementation of management measures and enforceable policies to restore and protect coastal waters. In lieu of developing a separate NPS program for the coastal zone, California's NPS Pollution Control Program was updated in 2000 to address the requirements of both the CWA section 319 and the CZARA section 6217 on a statewide basis. The California Coastal Commission (CCC), the State Water Board, and the nine Regional Water Boards are the lead State agencies for upgrading the program, although 20 other State agencies also participate. Pursuant to the CZARA (section 6217(g)) Guidance Document the development of runoff management programs pursuant to this NPDES permit fulfills the need for cities within watersheds that discharge to the coastal zone to develop an runoff non-point source plan identified in the State's Non-point Source Program Strategy and Implementation Plan.[150]

[150] State Water Board/CCC, 2000. Nonpoint Source Program Strategy and Implementation Plan, 1998-2013 (PROSIP).

Finding E.5. Section 303(d)(1)(A) of the CWA requires that "Each state shall identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The 2006 303(d) List was approved by the State Water Board on October 25, 2006. On June 28, 2007 the 2006 303(d) List for California was given final approval by the USEPA. The 303(d) List was recently updated, and on December 16, 2009 the 2008 303(d) List was approved by the San Diego Water Board. The 2008 303(d) List for the San Diego Region was approved by the State Water Board on August 4, 2010. The 2008 303(d) List is awaiting USEPA approval.

Discussion of Finding E.5. Section 303(d) of the federal CWA (CWA, 33 USC 1250, et seq., at 1313(d)), requires States to identify waters that do not meet water quality standards after applying certain required technology-based effluent limits ("impaired" water bodies). States are required to compile this information in a list and submit the list to USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters, or 303(d) List. As part of this listing process, States are required to prioritize waters/watersheds for future development of TMDLs. The State Water Board and Regional Water Boards have ongoing efforts to monitor and assess water quality, to prepare the 303(d) List, to prioritize waters/watersheds for TMDL development, and to subsequently develop TMDLs. TMDLs developed and adopted by the San Diego Water Board are incorporated into the Basin Plan via a Basin Plan Amendment as authorized under CWC section 13240.

The 2006 California 303(d) List identifies impaired receiving water bodies and their watersheds within the State of California.[151] The San Diego Water Board recently updated the 303(d) List for the San Diego Region and adopted the 2008 303(d) List on December 16, 2009.[152] The number of water bodies listed as impaired in the Riverside County portion of the Santa Margarita Hydrologic Unit increased from 6 water bodies (13 water body / impairing pollutant combinations) on the 2006 303(d) List to 9 water bodies (49 water body / impairing pollutant combinations) on the 2008 303(d) List, indicating the receiving water quality has been degraded further (see Table 2). Storm water and non-storm water runoff that is discharged from the Copermittees' MS4s is a leading cause of receiving water quality impairment in the San Diego Region.

Finding E.6. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under CWA § 402. (33 U.S.C. §

[151] The approved 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments is on-line at: http://www.waterboards.ca.gov/tmdl/303d_lists2006.html.
[152] The 2008 Clean Water Act Section 303(d) List of Water Quality Limited Segments, approved by the San Diego Water Board and State Water Board, is available on-line at http://www.swrcb.ca.gov/rwqcb9/water_issues/programs/303d_list/index.shtml

1342(p)(3)(B).) Second, the local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges. Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA § 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their MS4 discharges (i.e. effluent limitations). Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIIIB, Section (6) of the California Constitution. Likewise, the provisions of this Order to implement TMDLs are federal mandates. The CWA requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. sec. 1313(d).) Once the UUSEPA or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation. (40 C.F.R. sec. 122.44(d)(1)(vii)(B).)

Discussion of Finding E.6. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under CWA section 402, subdivision (p)(3)(B). (33 U.S.C. § 1342(p)(3)(B).) This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants in storm water to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (Natural Resources Defense Council, Inc. v. U.S. E.P.A. (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.)

The authority exercised under this Order is not reserved state authority under the CWA's savings clause (cf. Burbank v. State Water Resources Control Bd. (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region (2006) 135 Cal.App.4th 1377, 1389; Building Industry Ass'n of San Diego County v. State Water Resources Control Bd. (2004) 124 Cal.App.4th 866, 882-883.)

Second, the local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few

inapplicable exceptions, the CWA regulates the discharge of pollutants from point sources (33 U.S.C. § 1342) and the Porter-Cologne regulates the discharge of waste (CWC § 13263), both without regard to the source of the pollutant or waste. As a result, the "costs incurred by local agencies" to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and nongovernmental dischargers. (See County of Los Angeles v. State of California (1987) 43 Cal.3d 46, 57-58 [finding comprehensive workers compensation scheme did not create a cost for local agencies that was subject to state subvention].)

The CWA and the Porter-Cologne Water Quality Control Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Except for municipal separate storm sewer systems, the CWA requires point source dischargers, including discharges of storm water associated with industrial or construction activity, to comply strictly with water quality standards. (33 U.S.C. § 1311(b)(1)(C), Defenders of Wildlife v. Browner (1999) 191 F.3d 1159, 1164-1165 [noting that industrial storm water discharges must strictly comply with water quality standards].) As discussed in prior State Water Board decisions, this Order does not require strict compliance with water quality standards. (State Water Board Order WQ 2001-15, p. 7.) The Order, therefore, regulates the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.

Third, the local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. The fact sheet demonstrates that numerous activities contribute to the pollutant loading in the municipal separate storm sewer system. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (County of Fresno v. State of California (1991) 53 Cal.3d 482, 487-488.)

Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric effluent limitations on their storm water discharges. To the extent, the local agencies have voluntarily availed themselves of the permit, the program is not a state mandate. (Accord County of San Diego v. State of California (1997) 15 Cal.4th 68, 107-108.) Likewise, the Copermittees have voluntarily sought a program-based municipal storm water permit in lieu of a numeric limitations approach on their storm water discharge. (See City of Abilene v. U.S. E.P.A. (5th Cir. 2003) 325 F.3d 657, 662-663 [noting that municipalities can choose between a management permit or a permit with numeric limitations].) The local agencies' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See Environmental Defense Center v. USEPA (9th Cir. 2003) 344 F.3d 832, 845-848.)

Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIIIB, Section (6) of the California Constitution.

The San Diego Water Board recognizes that the Commission on State Mandates recently found that certain provisions within two municipal storm water permits constituted reimbursable state mandates within the meaning of the California Constitution. The Commission did not determine the validity of those provisions; it only determined that the State must reimburse the claimants for the costs of implementing those provisions. The decisions directly affect only the municipal storm water permits identified in the two test claims. That is, the effect of the decisions is limited to the provisions of Los Angeles Water Board Order 01-182 and San Diego Order R9-2007-0001 identified by the Commission as reimbursable state mandates. No other municipal storm water permits or provisions therein are directly affected by the decisions and the San Diego Water Board is not precluded from adopting similar or identical provisions in the Tentative Order. Subsequent proceedings before the Commission to determine the local governments entitled to reimbursement and the amount of reimbursement are underway before the Commission. Separately, the State Water Board and San Diego and Los Angeles Water Boards have challenged these decisions in court.

Finding E.7. Runoff treatment and/or mitigation must occur prior to the discharge of runoff into receiving waters. Treatment BMPs must not be constructed in waters of the U.S. or State unless the runoff flows are sufficiently pretreated to protect the values and functions of the water body. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of a runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. Without federal authorization (e.g., pursuant to CWA § 404), waters of the U.S. may not be converted into, or used as, waste treatment or conveyance facilities. Similarly, waste discharge requirements pursuant to CWC §13260 are required for the conversion or use of waters of the State as waste treatment or conveyance facilities. Diversion from waters of the U.S./State to treatment facilities and subsequent return to waters of the U.S. is allowable, provided that the effluent complies with applicable NPDES requirements.

Discussion of Finding E.7. Runoff treatment and/or mitigation in accordance with any of the requirements in the Order must occur prior to the discharge of storm water into receiving waters. Allowing storm water polluted runoff to enter receiving waters prior to treatment to the MEP will result in degradation of the water body and potential

exceedances of water quality standards, from the discharge point to the point of dissipation, infiltration, or treatment. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This requirement is supported by federal regulation 40 CFR 131.10(a) and USEPA guidance. According to USEPA,[153] "To the extent possible, municipalities should avoid locating structural controls in natural wetlands. Before considering siting of controls in a natural wetland, the municipality should demonstrate that it is not possible or practicable to construct them in sites that do not contain natural wetlands. Practices should be used that settle solids, regulate flow, and remove contaminants prior to discharging storm water into a wetland."

Additional Federal guidance discusses the implementation of wetlands to treat municipal storm water discharges (USEPA, 2000. *Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat*). It states:

> *"..treatment wetlands should not be constructed in a waters of the U.S. unless you can sufficiently pretreat the stormwater flows to protect the values and functions of the waters of the U.S. Because storm water is an unpredictable effluent source and can contain high levels of toxic substances, nutrients, and pathogens, we strongly encourage that you construct the treatment wetland in uplands and use best management practices in these projects."*[154]

Consistent with USEPA guidance, the conversion or use of waters of the U.S./State into runoff treatment facilities or conveyance facilities for untreated storm water discharges must be appropriately reviewed by both Federal and State resource agencies. Such projects may be subject to federal permitting pursuant to CWA section 404 if discharges of dredged or fill material is involved.

The placement of hydromodification controls within waters of the U.S./State may also be subject to federal and/or state permitting, but would not necessarily be considered a pollutant treatment BMP. Provided that grade control structures are designed to re-establish a natural channel gradient and correct excessive changes to the sediment transport regime caused by urbanization, rather than to create a series of artificial hydrological impoundments for the purpose of treating pollution, this type of project is not considered an in-stream treatment BMP.

Finding E.8. The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

[153] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[154] USEPA, 2000. Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat, (EPA 843-B-00-003).

Discussion of Finding E.8. CWC section 13389 exempts the adoption of waste discharge requirements (such as NPDES permits) from CEQA requirements: "Neither the State Water Board nor the Regional Water Boards shall be required to comply with the provisions of Chapter 3 (commencing with section 21100) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirement, except requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto."

This CEQA exemption was challenged during BIA's (and others') appeal of Order No. 2001-01. BIA contended that the CEQA exemption did not apply to permit requirements where the San Diego Water Board utilized its discretion to craft permit requirements which were more prescriptive than required by federal law. The Court of Appeal, Fourth Appellate District disagreed with this argument, stating "we also reject Building Industry's argument to the extent it contends the statutory CEQA exemption in CWC section 13389 is inapplicable to a particular NPDES permit provision that is discretionary, rather than mandatory, under the CWA."[155] On further appeal by BIA, the California State Supreme Court declined to hear the matter.

In a recent decision, the Court of Appeal of the State of California, Second Appellate District, upheld the CEQA exemption for municipal storm water NPDES permits (County of Los Angeles, et al. v. California State Water Resources Control Board, et al.).[156]

Finding E.9. Storm water discharges from developed and developing areas in Riverside County are significant sources of certain pollutants that cause, may be causing, threatening to cause or contributing to water quality impairment in the waters of Riverside County. Furthermore, as delineated in the CWA section 303(d) list in Table 2, the San Diego Water Board has found that there is a reasonable potential that municipal storm water and non-storm water discharges from MS4s cause or may cause or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria (including Fecal Coliform and E. Coli), Copper, Manganese, Iron, Chlorpyrifos, Diazinon, Sulfates, Phosphorous, Nitrogen, Total Dissolved Solids (TDS), and Toxicity. In accordance with CWA section 303(d), the San Diego Water Board is required to establish TMDLs for these pollutants to these waters to eliminate impairment and attain water quality standards. Therefore, certain early pollutant control actions and further pollutant impact assessments by the Copermittees are warranted and required pursuant to this Order.

Discussion of Finding E.9. CWA section 303(d)(1)(A) requires that:

> "*Each state must identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard (WQS) applicable to such waters.*"

[155] Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.
[156] Los Angeles County Super. Ct. No. BS080792. Partial publication dated November 6, 2006.

The CWA also requires states to establish a priority ranking of impaired water bodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired water bodies is called the 303(d) List. The current 303(d) List was approved by the State Water Board on October 25, 2006. On June 28, 2007 the 2006 303(d) List for California was given final approval by USEPA. Every two years the State of California is required by CWA section 303(d) and 40 CFR(130.7) to develop and submit to the USEPA for approval an updated 303(d) list of impaired water bodies. The San Diego Water Board recently updated the 303(d) List and adopted the 2008 303(d) List on December 16, 2009.[157] The 2008 303(d) List for the San Diego Region was approved by the State Water Board on August 4, 2010. The 2008 303(d) List is awaiting approval by the USEPA. The number of water bodies listed as impaired in the Riverside County portion of the Santa Margarita Hydrologic Unit increased from 6 water bodies (13 water body / pollutant combinations) on the 2006 303(d) List to 9 water bodies (49 water body / pollutant combinations) on the 2008 303(d) List, indicating the receiving water quality has been degraded further (see Table 2).

Multiple water bodies in Riverside County have been identified as impaired and placed on the 303(d) List. The 303(d) listing of a water body and subsequent TMDL development is required when regulations under current permits, such as Technology Based Effluent Limitations (TBELs), are not stringent enough to meet Water Quality Standards and protect the Beneficial Uses of Waters of the State.

Storm water discharges from developed and developing areas in Riverside County are a significant source of certain pollutants that cause, may be causing, threatening to cause, or contributing to water quality impairment in the waters of Riverside County. Furthermore, the CWA section 303(d) list indicates that there is a reasonable potential that municipal storm water and dry weather discharges from MS4s cause, or may cause, or contribute to an excursion above water quality standards for the following pollutants: Indicator Bacteria, Copper, Manganese, Iron, Chlorpyrifos, Sulfates, Phosphorous, Nitrogen, Total Dissolved Solids, Toxicity and Turbidity (see Table 2). In accordance with CWA section 303(d), the San Diego Water Board is required to establish TMDLs for these pollutants in these waters to eliminate impairment and attain water quality standards. Per 40 CFR(130.7), WLAs are required for all point sources, including storm water and non-storm water discharges from MS4s. Therefore, focused pollutant control actions and further pollutant impact assessments by the Copermittees are warranted and required pursuant to this Order.

MS4 Permits address only those TMDL WLAs that have been adopted by the San Diego Water Board and have been approved by the State Water Board, Office of Administrative Law (OAL) and USEPA. WLAs are portions of a receiving water's loading capacity that is allocated to one of its existing or future point sources of

[157] The 2008 Clean Water Act Section 303(d) List of Water Quality Limited Segments, approved by the San Diego Water Board and State Water Board, is available on-line at http://www.swrcb.ca.gov/rwqcb9/water_issues/programs/303d_list/index.shtml

pollution. To date, no TMDLs and WLAs have been adopted to address impaired water bodies in the Riverside County portion of the Santa Margarita Hydrologic Unit. When TMDLs and WLAs are adopted and approved, they will be incorporated into the MS4 permit. The TMDL WLAs in MS4 Permits can be addressed using water quality-based numeric effluent limitations (WQBELs) calculated at end-of-pipe. WQBELs must be consistent with the assumptions and requirements of the WLAs.[158]

Finding E.10. This Order requires each Copermittee to effectively prohibit all types of unauthorized discharges of non-storm water into its MS4. However, historically pollutants have been identified as present in dry weather non-storm water discharges from the MS4s through 303(d) listings, monitoring conducted by the Copermittees under Order No. R9-2004-001, and there are others expected to be present in dry weather non-storm water discharges because of the nature of these discharges. This Order includes action levels for pollutants in non-storm water, dry weather discharges from the MS4. The non-storm water action levels are designed to ensure that the Order's requirement to effectively prohibit all types of unauthorized discharges of non-storm water into the MS4 is being complied with. Non-storm water action levels in the Order are based upon numeric or narrative water quality objectives and criteria as outlined in the Basin Plan, the State Water Board's Water Quality Control Plan for Ocean Waters of California (Ocean Plan), and State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). An exceedance of an action level requires specified responsive action by the Copermittees. This Order describes what actions the Copermittees must take when an exceedance of an action level is observed. Exceedances of non-storm water action levels do not alone constitute a violation of this Order but could indicate non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4 or other prohibitions established in this Order. Failure to undertake required source investigation and elimination action following an exceedance of a non-storm water action level (NAL or action level) is a violation of this Order. The San Diego Water Board recognizes that use of action levels will not necessarily result in detection of all unauthorized sources of non-storm water discharges because there may be some discharges in which pollutants do not exceed established action levels. However, establishing NALs at levels appropriate to protect water quality standards is expected to lead to the identification of significant sources of pollutants in dry weather non-storm water discharges.

Discussion of Finding E.10. This Order includes the existing requirement that Copermittees effectively prohibit all types of unauthorized non-storm water discharges in the MS4s. It also includes the following prohibition set forth in the Basin Plan: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in CWC section 13050 is prohibited." (Prohibition A.1.) As discussed in the Order's Findings on discharge characteristics, e.g., C.2., C.4., C.6., C.7., C.9., C.14., and C.15., the Copermittees'

[158] Per 40 CFR 122.44(d)(1)(vii)(B)

reliance on BMPs for the past 20 years has not resulted in compliance with applicable water quality standards or compliance with the requirement to effectively prohibit all types of unauthorized discharges of non-storm water in the MS4. The San Diego Water Board has evaluated (in accordance with 40 CFR 122.44(d)(1)) past and existing control BMPs, non-storm water effluent monitoring results, the sensitivity of the species in receiving waters (e.g. endangered species), and the potential for effluent dilution, and has determined that existing BMPs to control pollutants in storm water discharges are not sufficient to protect water quality standards in receiving waters, and the existing requirement that Copermittees effectively prohibit all types of unauthorized non-storm water discharges into the MS4, historically results in the discharge of pollutants to the receiving waters.

Therefore it is appropriate to establish dry weather non-storm water action levels based upon established water quality standards to measure pollutants levels in the discharge of dry weather non-storm water that could indicate non-compliance with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4 and/or that these discharges are causing, or threatening to cause, a condition of pollution, contamination or nuisance in the receiving waters. NALs are not numeric effluent limitations. While not alone a violation of this Order, an exceedance of an NAL requires the Copermittees to initiate a series of source investigation and elimination actions to address the exceedance. Results from the NAL monitoring are to be used in developing the Copermittees annual work plans. Failure to undertake required source investigation and elimination action following an exceedance of an NAL is a violation of this Order. Also refer to further discussion in the Directives section C of the Fact Sheet.

A purpose of monitoring, required under this and previous Orders, as stated in the Monitoring and Reporting Program is to “detect and eliminate illicit discharges and illicit connections to the MS4” and to answer the following core management questions:

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
2. What is the extent and magnitude of the current or potential receiving water problems?
3. What is the relative MS4 discharge contribution to the receiving water problem(s)?
4. What are the sources of MS4 discharge that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

For the past 20 years, Copermittees have utilized their illicit connection / illicit discharge (IC/ID) program to identify and eliminate non-storm water discharges that are sources of pollutants to the MS4. The Copermittees are also subject to the requirement to effectively prohibit all types of unauthorized discharges of non-storm water into the MS4s. Historically, discharges of unauthorized non-storm water do

occur, resulting in the discharge of pollutants to the receiving water. NALs have been included in this Order to ensure that the Copermittees comply with the requirement to effectively prohibit all types of unauthorized non-storm water discharges that are a source of pollutants in the receiving waters.

Finding E.12. With this Order, the San Diego Water Board has completed the re-issuance of the fourth iteration of the Phase I MS4 NPDES Permits for the Copermittees in the portions of San Diego County, Orange County, and Riverside County within the San Diego Region. The NPDES Permit requirements issued to the Copermittees in each county have substantially the same core requirements such as discharge prohibitions, receiving water limitations, jurisdictional components, and monitoring. In addition, the Copermittees cooperate regionally to develop monitoring with the Southern California Stormwater Monitoring Coalition and to develop program effectiveness with the California Stormwater Quality Association. Regional programs could improve the Copermittees' compliance with other permit components such as development of the Hydromodification Management Plans and Retrofitting Existing Development with more consistent implementation and cost sharing. Re-issuing the NPDES Permit requirements within five years for three counties under three different permits requires the San Diego Water Board to expend significant time and resources for issuance of the permits through three separate public proceedings, thereby greatly reducing the time and resources available to oversee compliance. Multiple permits also create confusion for determining compliance among regulated entities, especially the land development community. The San Diego Water Board recognizes that issuing a single MS4 permit for all Phase I entities in the San Diego Region will provide consistent implementation, improve communication among agencies within watersheds crossing multiple jurisdictions, and minimize staff resources spent with each permit renewal. The San Diego Water Board plans to develop a single regional MS4 permit prior to the expiration of this Order that will transfer the Copermittees' enrollment to the regional permit upon expiration of this Order.

Discussion of Finding E.12. With the advances in storm water science and regulation in the last decade, the additional complexity has resulted in a more significant amount of San Diego Water Board staff time and resources required to complete each Phase I MS4 Permit renewal. On average, the renewal of the fourth iteration of the Phase I MS4 Permits for each county has taken approximately 2 years and multiple staff to complete. The time and resources required to complete each renewal has diverted staff time and resources away from the San Diego Water Board's ability to oversee and ensure compliance with the permit provisions and requirements.

With the adoption of this Order, all the Phase I MS4s in the San Diego Region (i.e. Copermittees of Orange County, Riverside County and San Diego County) will essentially be subject to the same set of core requirements. Because there are now more similarities than differences among the permit provisions and requirements, developing and issuing a single regionwide permit to the Phase I MS4 entities may be appropriate with the next (i.e. fifth) iteration of the Phase I MS4 Permits.

This approach would provide a consistent set of regulatory requirements throughout the San Diego Region, thereby reducing the confusion that is created with different sets of requirements between areas in close proximity to each other. A regional set of requirements for the discharge prohibitions, receiving water limitations, jurisdictional program components (i.e., new development, construction, existing development, retrofitting), hydromodification management plans, low impact development design requirements, and monitoring would also make it easier for the programs in the three counties to share and transfer information and program efficiencies, and cooperate on a regionwide basis. Regionwide consistency would be especially beneficial where there are multiple counties involved in implementing permit requirements, such as the Santa Margarita watershed with parts of San Diego County and Riverside County, regional TMDLs (e.g., beaches and creeks bacteria TMDLs), or regional monitoring efforts or studies (e.g., Southern California Stormwater Monitoring Coalition, Bight '08).

An additional benefit would be the reduction of staff time and resources that will be required to renew future Phase I MS4 Permits, which would only be required once every 5 years for a single regionwide permit instead of once every 1 to 3 years for three separate permits. Because of these benefits, the San Diego Water Board plans to develop a single regional Phase I MS4 Permit with the next iteration of the San Diego County MS4 Permit, which will incorporate the Orange County and Riverside County Phase I MS4 entities upon the expiration of their respective permits, or sooner.

F. Public Process

Finding F.1. The San Diego Water Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing MS4 discharges of pollutants to waters of the U.S.

Discussion of Finding F.1. Public notification of development of a draft permit is required under Federal regulation 40 CFR 124.10(a)(1)(ii). This regulation states "(a) Scope. (1) The Director shall give public notice that the following actions have occurred: (ii) A draft permit has been prepared under Sec. 124.6(d)." Public notifications "shall allow at least 30 days for public comment," as required under Federal regulation 40 CFR 124.10(b)(1).

Finding F.2. The San Diego Water Board has held a public hearing on November 10, 2010 and heard and considered all comments pertaining to the terms and conditions of this Order.

Discussion of Finding F.2. Public hearings are required under CWC section 13378, which states "Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing." Federal regulation 40 CFR 124.12(a)(1) also requires public hearings for draft permits, stating "The Director shall hold a public hearing whenever he or she finds, on the basis or requests, a significant degree of public interest in a draft permit(s)." Regarding public notice of a public hearing, Federal regulation 40 CFR 124.10(b)(2) states that "Public notice of a public hearing shall be given at least 30 days before the hearing."

IX. DIRECTIVES

This section discusses significant changes which have been made to the requirements of the Order from the requirements which were previously included in Order No. R9-2004-001. For each section of the Order than has been changed there is a discussion which describes the change that was made and provides the rationale for the change. In addition, comments on the Copermittees' ROWD recommendations, as they pertain to each changed requirement of the Order, are provided.

Requirements of the Order that are not discussed in this section have not been significantly changed from those requirements previously included in Order No. R9-2004-001. For such requirements, discussions and rationale for the requirements can be found in section VIII of the Fact Sheet/Technical Report for San Diego Water Board Order No. R9-2004-001, dated July 14, 2004. Section VIII also provides additional background information for those requirements that have undergone significant change which are described in detail in this report. The Fact Sheet/Technical Report is available for download at:

http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/rsd_stormwater.shtml

Legal authority citations are provided for each major section of the Order. These citations apply to all applicable requirements within the section for which they are provided.

A. Prohibitions and Receiving Water Limitations

The following legal authority applies to section A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: The Water Quality Control Plan for the San Diego Basin (Basin Plan) contains the following waste discharge prohibition: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in CWC section 13050, is prohibited."

CWC section 13050(l) states "(1) 'Pollution' means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) 'Pollution' may include "contamination."

CWC section 13050(k) states “Contamination’ means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. ‘Contamination’ includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.”

CWC section 13050(m) states “Nuisance’ means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes.”

CWC section 13241 requires each Regional Water Board to “establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance […].”

CWC section 13243 provides that “A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted.”

CWC section 13263(a) provides that waste discharge requirements prescribed by the San Diego Water Board implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in storm water runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges to their MS4.

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to “[a]cheive water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section A of the Order combines two previously distinct requirement sections – Prohibitions and Receiving Water Limitations. These sections have been combined into one section for organization purposes and to reduce redundancy, since both sections address the same issue. These changes have no net effect on the implementation and enforcement of the Order.

Section A.3 describes the “iterative process.” The Copermittees must reduce the discharge of storm water pollutants to the MEP and ensure that their MS4 discharges do not cause or contribute to violations of water quality standards. If the Copermittees have reduced storm water pollutant discharges to the MEP, but their discharges are still causing or contributing to violations of water quality standards, the Order provides a clear and detailed process for the Copermittees to follow. This process is often referred to as the "iterative process" and can be found at section A.3. The language of section A.3 is prescribed by the State Water Board and is included in MS4 permits statewide. Section A.3 essentially requires additional BMPs to be implemented until MS4 storm water discharges no longer cause or contribute to a violation of water quality standards.

The State Policy with respect to maintaining high quality waters has been added to clarify that discharges from the MS4 that cause or contribute to a violation of the Policy for high quality waters is prohibited.

The Copermittee must notify the San Diego Water Board of storm water discharges that are causing or contributing to an exceedance of applicable water quality standards. This notification can be in the form of an email or letter, with a summary of the pollutants in the storm water discharge that are exceeding the applicable water quality standards, and where and when the exceedances occurred. After notification is provided to the San Diego Water Board, the Copermittee must submit a report that describes the BMPs that are currently being implemented and the additional BMPs that will be implemented by the Copermittee to prevent or reduce the pollutants in the storm water discharge from causing or contributing to the exceedances of the applicable water quality standards. The report is separate from the notification and may be submitted with the Annual Report, unless the San Diego Water Board requests an earlier submittal of the report.

B. Non-Storm Water Discharges

The following legal authority applies to section B:

Broad Legal Authority: CWA sections 402, 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F), 40 CFR 122.26(d)(2)(iv) and 40 CFR 122.44.

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for certain non-storm water discharges.

Section B of the Order has been reworded to simplify and clarify the requirements for addressing non-storm water discharges that are not prohibited. This rewording has no net effect on the implementation and enforcement of the Order.

Section B.2 identifies categories of non-storm water discharges that do not have to be addressed as illicit discharges unless identified by a Copermittee or the San Diego Water Board as a category that is a source of pollutants to waters of the U.S. If a Copermittee or the San Diego Water Board identifies a category of non-storm water discharges as a source of pollutants to waters of the U.S., the category must be addressed through a program, including inspections, to implement and enforce an ordinance, orders, or other similar means to prevent illicit discharges to the MS4.[159]

The program includes enforcement of an ordinance, orders, or other legal authority that prohibits the category of non-storm water discharges from entering the MS4. Implementation of the program is through the IC/ID program, described in Directive F.4, which includes requirements for investigating/inspecting illicit discharges and enforcing the ordinance, orders, or other legal authority that prohibits the category of non-storm water discharges from entering the MS4.

The federal regulations list several categories of non-storm water discharges or flows that do not have to be addressed by the program unless a Copermittee or the San Diego Water Board identifies a category as a source of pollutants to waters of the U.S. These categories are often referred to as "exempt" discharges that are "allowed" to be discharged into the MS4. There are two types of categories of non-storm water discharges or flows that are considered "exempt": 1) anthropogenic (e.g., water line

[159] Code of Federal Regulations Title 40 section 122.26(d)(2)(iv)(B)(1)

flushing, air conditioner condensate), and 2) non-anthropogenic (e.g., springs, rising ground water).

For "exempt" anthropogenic categories of non-storm water discharges or flows that are identified as sources of pollutants to waters of the U.S., those categories become illicit discharges and are no longer "allowed" to be discharged to the MS4. The IC/ID program addresses those discharges (i.e. investigation of illicit discharges and enforcement of ordinances prohibiting illicit discharges to the MS4).

For "exempt" non-anthropogenic discharges or flows that are identified as sources of pollutants to waters of the U.S., the IC/ID program cannot be fully implemented with enforcement. Categories of non-storm water discharges or flows that originate due to a natural source (e.g., springs or rising ground water) can be investigated and identified, but it would be difficult to enforce ordinances prohibiting these discharges to the MS4. In these cases, the Copermittee may need to implement other control measures to prevent the illicit discharges from non-anthropogenic sources from entering the MS4 (e.g., sealing the storm drains to prevent infiltration).

The IC/ID program also identifies categories of "exempt" non-storm water discharges that are sources of pollutants to waters of the U.S. If an individual discharge within a category of "exempt" non-storm water discharges is found to be an isolated incidence or source of pollutants and not representative of the category as a whole, the entire category does not need to be removed from the list of "exempt" categories of non-storm water discharges. If, however, the Copermittees or the San Diego Water Board find that a pattern of isolated incidents or sources are consistently discharging pollutants to waters of the U.S. over a period of time, or throughout the region, the category must be identified as a source of pollutants to waters of the U.S. warranting removal from the list of "exempt" categories of non-storm water discharges.

The San Diego Water Board and several municipalities throughout the San Diego Region (e.g., cities and counties of Orange County and San Diego County) have reported and/or identified runoff originating from landscape irrigation as likely sources of dry weather flows conveying pollutants into their MS4s. This is also supported by legislation (Assembly Bill 1881) recently enacted by the State of California, which has identified runoff resulting from over irrigation not only as a waste of water resources, but also as a source of pollutants to the state's waterways. Discharges from landscape irrigation have been identified by the San Diego Water Board and the Copermittees as a source of pollutants and conveyance of pollutants to waters of the United States in the following:

- In educational materials developed by The Cities and County of Riverside "Only Rain in the Storm Drain" Pollution Prevention Program, the Landscape and Garden brochure states: "Soil, yard wastes, *over-watering* [emphasis added] and garden chemicals become part of the urban runoff mix that winds it way through streets, gutters and storm drains before entering lakes, rivers, streams, etc."

- In an educational survey developed by The Cities and County of Riverside "Only Rain in the Storm Drain" Pollution Prevention Program distributed at Public Outreach events, the answer to the question about where lawn irrigation water goes states: *"Water that leaves your lawn from irrigation…can pick up motor oil and grease from vehicles, excess fertilizer from your lawn, bacteria from pet waste, and excess pesticides from your yard. These pollutants can be carried down streets and storm drains directly to our streams, lakes and rivers without treatment!"*

- In 2006, the State Water Board allocated Grant funding to the Smarttimer/Edgescape Evaluation Program (SEEP). The project targets irrigation runoff by retrofitting existing development and documenting the conservation and runoff improvements. The Grant Application states that "Irrigation runoff contributes flow & pollutant loads to creeks and beaches that are 303(d) listed for bacteria indicators". Furthermore, the grant application states that "Regional program managers agree that the reduction and/or elimination of irrigation-related urban flows and associated pollutant loads may be key to successful attainment of water quality and beneficial use goals as outlined in the Basin Plan and Bacteria TMDL over the long term". This is reinforced in the project descriptions and objectives: "Elevated dry-weather storm drain flows, composed primarily … of landscape irrigation water wasted as runoff, carry pollutants that impair recreational use and aquatic habitats all along Southern California's urbanized coastline. Storm drain systems carry the wasted water, along with landscape derived pollutants such as bacteria, nutrients and pesticides, to local creeks and the ocean. Given the local Mediterranean climate, excessive perennial dry season stream flows are an unnatural hydrologic pattern, causing species shifts in local riparian communities and warm, unseasonal contaminated freshwater plumes in the near-shore marine environment". The basis of this grant project is that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. In addition, they indicate that the alteration of natural flows is impacting the Beneficial Uses of waters of the State. The results of this study can be applied broadly to any area where over-irrigation takes place, including Riverside County. Preliminary results from the study indicate that that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 *is* a source and conveyance of pollutants.

- In the Watershed Action Plan Annual Report(s) for the 2006-2007 reporting period, submitted by the County of Orange, Orange County Flood Control District and Copermittees within the San Juan Creek, Laguna Coastal Streams, Aliso Creek, and Dana Point Coastal Streams Watersheds, the Orange County Copermittees, within their Watershed Action Strategy Table for Fecal Indicator Bacteria state that "*Support programs to reduce or eliminate the discharge of anthropogenic dry weather nuisance flow throughout the […] watershed. Dry weather flow is the transport medium for bacteria and other 303(d) constituents of concern*". Additionally, they state that "*conditions in the MS4 contribute to high seasonal bacteria propagation in-pipe during warm weather. Landscape irrigation is a major*

contributor to dry weather flow, both as surface runoff due to over-irrigation and overspray onto pavements; and as subsurface seepage that finds its way into the MS4."

- In the Carlsbad Watershed Urban Runoff Management Program (WURMP) Fiscal Year 2008 Annual Report, submitted by the Carlsbad Watershed Copermittees (Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, and the County of San Diego), the Carlsbad Watershed Copermittees state *"The Carlsbad Watershed Management Area (WMA) collective watershed strategy identifies bacteria, sediment, and nutrients as high priority water quality pollutants in the Agua Hedionda (904.3 – bacteria and sediment), Buena Vista (904.2 – bacteria), and San Marcos Creek (904.5 – nutrients) Hydrologic Areas. Bacteria, sediment, and nutrients have been identified as potential discharges from over-irrigation."*

- In Appendix D of the San Diego Bay WURMP 2007-2008 Annual Report, submitted by the San Diego Bay Watershed Copermittees (Cities of Chula Vista, Coronado, Imperial Beach, La Mesa, Lemon Grove, National City, and San Diego, the County of San Diego, the Port of San Diego, and the San Diego County Airport Authority), the San Diego Bay Watershed Copermittees identified *over-irrigation of lawns* from business and/or residential land uses as a likely pollutant source for bacteria, pesticides, and sediment.

- On September 28, 2006 Governor Arnold Schwarzenegger approved Assembly Bill 1881, The Water Conservation in Landscaping Act (AB 1881, Laird). The act requires cities, counties, and charter cities and charter counties, to adopt landscape water conservation ordinances by January 1, 2010. Additionally, the law required the Department of Water Resources (DWR) to prepare a Model Water Efficient Landscape Ordinance for use by local agencies. The Water Efficient Landscape Ordinance was approved by the Office of Administrative Law on September 10, 2009. All local agencies were required to adopt a water efficient landscape ordinance by January 1, 2010. Local agencies could adopt the Water Efficient Landscape Ordinance developed by DWR, or an ordinance considered at least as effective as the Model Ordinance. The Water Efficient Landscape Ordinance includes a requirement that local agencies prohibit runoff from irrigation (§ 493.2): "*Local agencies shall prevent water waste resulting from inefficient landscape irrigation by* prohibiting runoff from leaving the target landscape *[emphasis added] due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. Penalties for violation of these prohibitions shall be established locally.*"

- On October 08, 2009, the State of California Department of Water Resources issued a letter to all cities and counties within the State of California giving reminder of required adoption of the Water Efficient Landscape Ordinance. The letter states that: "*Other benefits include reduced irrigation runoff,* reduced

pollution of waterways *[emphasis added], drought resistance, and less green waste*."

- On December 18, 2009, the San Diego Water Board adopted Order. No. R9-2009-0002, the fourth-term Orange County permit, which found that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. Landscape irrigation, irrigation water, and lawn watering were categories removed from the list of non-storm water discharges not prohibited to be discharged into the MS4.

- The San Diego Water Board has responded to complaints about and observed runoff from over-irrigation entering the MS4s in the Riverside County portion of the San Diego Region.

Several significant changes have been made to the list of categories of non-storm water discharges that do not have to be addressed as illicit discharges. A footnote has been added to dechlorinated swimming pool discharges on the list to specify that this category does not include saline swimming pool discharges. The list has been modified to remove the landscape irrigation, irrigation water and lawn watering "exempt" discharge categories (i.e. no longer "allowed" to enter the MS4). Language has been also added to the section to clarify differences in the federal regulations under 40 CFR 122.26(d)(iv)(B) and for the authority of the Director (i.e. San Diego Water Board) in regards to identifying exempted discharges.

Because the landscape irrigation, irrigation water and lawn watering "exempt" discharge categories have been removed from section B, per identification as a source and conveyance of pollutants to waters of the United States when discharged from the MS4, these illicit discharges must be addressed per 40 CFR 122.26(d)(iv)(B). The San Diego Water Board is requiring these discharges be addressed as illicit discharges by the Copermittees. This is consistent with the Federal Regulations (55 FR 48037). Thus, the discharges are to be prohibited via ordinance, order, or similar means and incorporated as part of the Copermittees IC/ID program.

Section B.3 has been clarified by the recognition of building fire suppression system maintenance (e.g. fire sprinklers) as an illicit discharge. The San Diego Water Board has found that such discharges contain waste, and as such the San Diego Water Board is requiring these discharges be addressed as illicit discharges by the Copermittees. This is consistent with the Federal Regulations (55 FR 48037). Thus, the discharges are to be prohibited via ordinance, order or similar means and incorporated as part of the Copermittees IC/ID program.

C. Non Storm Water Dry Weather Action Levels

The following legal authority applies to section C:

Broad Legal Authority: CWA section 402, 402(p)(3)(B)(ii), CWC §13377. 40 CFR 122.26(d)(2)(i)(B, C, E, and F), and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority:
CWA section 402(p)(3)(B)(ii) provides that MS4 permits "shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program "shall be based on a description of a program including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system; this program description shall address all types of illicit discharges, however the [listed exempt] category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program "procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."

Section C establishes non-storm water dry weather action levels (see also Finding C.14, Finding E.10, and the Discussion for those sections).

Non-exempted, non-storm water discharges are to be effectively prohibited from entering the MS4 or become subject to another NPDES permit (see Federal Register, Vol. 55, No. 222, pg. 47995). Conveyances which continue to accept non-exempt, non-storm water discharges do not meet the definition of MS4 and are not subject to section 402(p)(3)(B) of the CWA unless the discharges are issued separate NPDES permits. Instead, conveyances that continue to accept non-exempt, non-storm water

discharges that do not have a separate NPDES permit are subject to sections 301 and 402 of the CWA (see Federal Register, Vol. 55, No. 222, pg. 48037).

The Order requires the sampling of a representative percentage of major outfalls and other identified stations within each hydrologic subarea. While it is important to assess all major outfall discharges from the MS4 into receiving waters, to date the Copermittees have implemented a dry-weather monitoring program that has consisted of 4 water quality parameters collected in receiving waters, not major outfalls. In the ROWD the Copermittees have proposed relocating IC/ID (non-storm water) monitoring sites to major outfalls and increasing the level of monitoring. It is expected that the Copermittees will need to utilize current 303(d) listings, land use, the history of IC/ID complaints and the sensitivity of receiving waters in the selection and annual sampling of a representative percentage of major outfalls in accordance with the requirements under section C.4. It is expected the selection of major outfalls will be done in conjunction with the Copermittees' required updates to the MS4 map in section F.4.b of the Order.

The Order requires an increase in the number and type of pollutants sampled in non-storm water from major outfalls. To date, Copermittees have not sampled major outfalls, only receiving waters, and sampling was limited to total dissolved solids, dissolved oxygen, pH, turbidity and specific conductance. Additional sampling was generally, though not always, conducted by Copermittees if initial sampling exceeded a Copermittee threshold. With the exception of dissolved oxygen, the current thresholds do not represent water quality objectives, as sampling may not trigger a threshold, but may still be exceeding a water quality objective. This Order requires non-storm water discharges to be sampled for additional pollutants including indicator bacteria, nutrients (nitrate and phosphorous), Methylene Blue Active Substances (MBAS), pesticides and metals. These pollutants are expected to be present in non-storm water discharges, are pollutants for which receiving waters are 303(d) listed as impaired or have been identified as present through receiving water monitoring.

<u>Background and Rationale for Requirements</u>
The San Diego Water Board developed the requirements for dry weather, non-storm water action levels based upon an evaluation of existing controls, monitoring and reporting programs (effluent and receiving water), special studies, and based upon Findings C.1 C.3, C.4, C.6, C.7 and C.14. In addition, the Copermittees' ROWD supports the establishment of action levels which can be used in the effectiveness assessment program to ensure a minimum level of program implementation and identify shortcomings in their MS4 programs.[160]

[160] Riverside County Copermittees. 2009. Report of Waste Discharge (San Diego Region).

Water Quality Control Plan

CWA section 303(c) requires the state to establish Water Quality Standards (WQS). WQS define the water quality goals of a water body, or part thereof, by designating their use or uses to be made of the water and by setting criteria necessary to protect those uses.

The San Diego Water Board's Water Quality Control Plan for the San Diego Basin (Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The Basin Plan was adopted by the San Diego Water Board on September 8, 1994, and was subsequently approved by the State Water Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and State Water Board.

National Toxics Rule (NTR) and California Toxics Rule (CTR)

The USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995, and November 9, 1999. The CTR was adopted by USEPA on May 18, 2000,[161] and amended on February 13, 2001.[162] These rules include water quality criteria for priority pollutants and are applicable to non-storm water discharges from the MS4. Criteria for 126 priority pollutants are established by the CTR. USEPA promulgated this rule to fill a gap in California water quality standards that was created in 1994 when a California court overturned the State's water quality control plans containing criteria for priority toxic pollutants. The federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.

Antidegradation Policy

Section 131.12 of 40 CFR requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Boards' Basin Plans implement, and incorporate by reference, both the State and federal antidegradation policies. Permitted non-storm water discharges from the MS4 are consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16.

[161] Federal Register / Vol. 65, No. 97 / May 18, 2000 / Rules and Regulation P. 31861-31719; Code of Federal Regulations Title 40 Part 131

[162] Federal Register / Vol. 66, No. 30 / February 13, 2001 / Rules and Regulation P. 9960-9962; Code of Federal Regulations Title 40 Part 131

Sources of Drinking Water Policy

State Water Board Resolution No. 88-63 establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal and domestic supplies. Requirements of this Order include action levels, where appropriate, reflecting municipal and domestic supply use as all waters within the County of Riverside under this Order are specifically assigned municipal and domestic supply as a Beneficial Use.

Monitoring and Reporting

40 CFR section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement state and federal regulations. The Monitoring and Reporting Program can be found as Attachment E of the Order.

Dilution or Mixing Zones

In order to protect the Beneficial Uses of receiving waters from pollutants as a result of non-storm water MS4 discharges, this Order does not provide for a mixing zone or a zone of initial dilution except when the discharge is to the surf zone.

The San Diego Region has predominantly intermittent and ephemeral rivers and streams (Inland Surface Waters) which vary in flow volume and duration at spatial and temporal scales. Therefore, it is assumed that any non-storm water discharge from the MS4 into the receiving water is likely to be of a quantity and duration that does not allow for dilution or mixing. For ephemeral systems, non-storm water discharges from the MS4 are likely to be the only surface flows present within the receiving water during the dry season. Additionally, all surface waters within the jurisdiction of this Order have been designated in the Basin Plan with municipal supply (MUN) as a beneficial use.

It is appropriate to base numeric action levels for dry weather non-storm water discharges on these considerations.

Establishment of Action Levels

Action levels in the Order are based upon numeric or narrative water quality objectives and criteria as defined in the Basin Plan and the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The San Diego Water Board recognizes that use of action levels will not necessarily result in detection of all unauthorized sources of non-storm water discharges because there may be some discharges in which pollutants do not exceed established action levels.

In June of 2006, the State Water Board's Blue Ribbon Storm Water Panel released its report titled 'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.' The

report only examined numerical limits as applied to storm water and not non-storm water. In the recommendations, the Blue Ribbon panel proposed storm water action levels which are computed using statistical based population approaches. For example, section D of the Permit uses a recommended statistical approach to develop storm water action levels. The Blue Ribbon panel did not examine the efficacy of action levels or recommendations for development of action levels for non-storm water discharges.

For discharges to inland surface waters, action levels are based on the USEPA water quality criteria for the protection of aquatic species, the USEPA water quality criteria for the protection of human health, water quality criteria and objectives in the applicable State plans, effluent concentration available using best available technology, and 40 CFR 131.38. Since the assumed initial dilution factor for the discharge is zero and a mixing zone is not allowed, a non-storm water discharge from the MS4 could not cause an excursion from numeric receiving water quality objectives if the discharge is in compliance with the action levels contained in the Order.

Dry weather monitoring of non-storm water conducted in receiving waters under the previous Order (Order No. R9-2004-001), which relies on BMPs as controls to protect water quality standards, has identified the presence of pollutants commonly found in non-storm water discharges. Monitoring of Indicator Bacteria, pH, Dissolved Oxygen, Phosphorus, Nitrate, Turbidity, Methylene Blue Active Substances (MBAS), and metals in receiving waters has shown concentrations that exceed state water quality criteria. It is appropriate to establish numeric action levels for these pollutants to ensure that the Copermittees are complying with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4s.

Water Quality Limited Segments on the current 303(d) list (2008) within the jurisdiction of this Order have been identified due to exceedances of Sulfate and Total Dissolved Solids criteria from a source which is currently unknown (see Table 2). These pollutants are not monitored for in non-storm water effluent under the current non-storm water MS4 monitoring program. While this Order does not establish a numeric action level for these constituents at this time, this Order now requires non-storm water MS4 discharge monitoring to include monitoring for Sulfates, Total Dissolved Solids, and Chlorides.

Priority pollutants analyzed included Cadmium, Copper, Chromium, Lead, Nickel, Silver and Zinc. These priority pollutants are likely to be present in non-storm water MS4 discharges (see Finding C.3) though dissolved metal effluent monitoring was not conducted under the previous Order. The most stringent applicable water quality criteria have been identified for these seven metals and, excluding Chromium (VI), and all are dependent on receiving water hardness. The conversion factors for Cadmium and Lead are also water hardness dependent (40 CFR 131.38(b)(2)). These levels are established as the action levels for these constituents.

While effluent monitoring is not available from the previous Order, the monitoring that was done for metal concentrations in receiving waters often lacked a measurement of receiving water hardness. Due to the multiple point source discharges of non-storm water from the MS4, a discharge may enter a receiving water whose hardness will vary temporally. In addition, hardness may vary spatially within and among receiving waters.

However, other information is available to determine the appropriateness of an action level. Existing monitoring concentrations absent of receiving water data, no dilution credit or mixing zone allowance, current 303(d) listings of receiving waters for other pollutants, receiving water monitoring data, and the classification of waters as critical habitat for endangered and species of concern, provide evidence that NALs are appropriate for these priority pollutants at this time in order to ensure that the Copermittees comply with the requirement to effectively prohibit all types of unauthorized non-storm water discharges into the MS4s.

Existing receiving water pollutant concentration data (see attachment F) provides evidence that it is appropriate to include NAL based comparisons to water quality criteria given observed hardness levels, assumption of a conservative hardness level when data is absent, or designation of receiving waters as having MUN as a beneficial use. Although dry weather receiving water data is limited (see attachment F), data has been collected that documents exceedances of CTR criteria for Lead, Nickel, and Copper given the measured hardness for the receiving water. Absent receiving water hardness, Zinc has been detected in receiving waters at concentrations which may be in exceedance of CTR criteria depending on receiving water hardness. Additionally, Cadmium and Chromium were detected at elevated levels, though the concentrations were within CTR criteria given the observed receiving water hardness. However, these detections typically coincided with detections of other exceedances of water quality standards for other pollutants, including metals. Chromium and Nickel were also detected at levels that did not exceed CTR, but did exceed Maximum Contaminant Levels (MCLs) for receiving waters.

As discussed, inland surface waters have conservatively been allotted a mixing zone and dilution credit of zero. As such, any discharge of these priority pollutants is likely to impact the receiving water, regardless of the quantity or rate of discharge.

As discussed in Finding C.7 and discussion, multiple receiving waters within the County of Riverside are 303(d) listed for a number of pollutants, including toxicity. The 303(d) listing of a water body as impaired provides evidence that the receiving water(s) are already experiencing negative impacts. These water quality limited segments are more susceptible to degradation from the synergistic addition of more pollutants, even from upstream discharges. It is therefore appropriate to include NALs designed to ensure that the Copermittees are complying with the requirement to effectively prohibit all types of unauthorized discharges of non-storm water into the MS4s.

Copermittees have monitored the receiving waters for MS4 discharges pursuant to requirements under Order No. R9-2004-001. Dry weather receiving water data indicates poor conditions within waters receiving non-storm water MS4 discharges. Bioassessment conducted under the Order (2004-present) has documented all non-reference sites as consistently having poor or very poor IBI scores, likely due in part to receiving water chemistry and toxicity[163].

Receiving waters and downstream receiving waters within the jurisdiction of this Order contain species and/or are classified as critical habitat (or are exempted pursuant to Integrated National Resource Management Plans) for endangered, threatened, and state species of special concern including, but not limited to, *E. newberryi, A. marmorata pallida*, and *G. orcutti.*

Furthermore, the Santa Margarita River has been designated with the RARE beneficial use.

Dry Weather Non-Storm Water Action Levels Calculations for Discharges to Inland Surface Waters

On the basis of the foregoing discussion, the NALs were calculated with the following considerations and assumptions:

No dilution credit is considered for the discharge. Therefore, the discharge must comply with the Water Quality Objective at the point of discharge.

For NALs based on CTR, implementation was done using the procedure list as outlined in the State Implementation Plan (SIP) (see below example).

NAL CTR/SIP Calculation – Chromium VI Example:

Criteria for Priority Toxic Pollutants in the State of California is described in the CTR table listed in 40 CFR 131.38.

[163] Riverside County Copermittees 2007-08 and 2008-09 Annual Progress Reports.

A		B Freshwater		C Saltwater		D Human Health (10^{-6} risk for carcinogens) For consumption of:	
# Compound	CAS Number	Criterion Maximum Conc. [d] B1	Criterion Continuous Conc. [d] B2	Criterion Maximum Conc. [d] C1	Criterion Continuous Conc. [d] C2	Water & Organisms (µg/L) D1	Organisms Only (µg/L) D2
1. Antimony	7440360					14 a,s	4300 a,t
2. Arsenic [b]	7440382	340 i,m,w	150 i,m,w	69 i,m	36 i,m		
3. Beryllium	7440417					n	n
4. Cadmium [b]	7440439	4.3 e,i,m,w,x	2.2 e,i,m,w	42 i,m	9.3 i,m	n	n
5a. Chromium (III)	16065831	550 e,i,m,o	180 e,i,m,o			n	n
5b. Chromium (VI) [b]	18540299	16 i,m,w	11 i,m,w	1100 i,m	50 i,m	n	n
6. Copper [b]	7440508	13 e,i,m,w,x	9.0 e,i,m,w	4.8 i,m	3.1 i,m	1300	
7. Lead [b]	7439921	65 e,i,m	2.5 e,i,m	210 i,m	8.1 i,m	n	n
8. Mercury [b]	7439976	[Reserved]	[Reserved]	[Reserved]	[Reserved]	0.050 a	0.051 a
9. Nickel [b]	7440020	470 e,i,m,w	52 e,i,m,w	74 i,m	8.2 i,m	610 a	4600 a
10. Selenium [b]	7782492	[Reserved] p	5.0 q	290 i,m	71 i,m	n	n
11. Silver [b]	7440224	3.4 e,i,m		1.9 i,m			
12. Thallium	7440280					1.7 a,s	6.3 a,t
13. Zinc [b]	7440666	120 e,i,m,w,x	120 e,i,m,w	90 i,m	81 i,m		

Freshwater criterion maximum concentration (CMC) = 16 ug/L
Freshwater criterion continuous concentration (CCC) = 11 ug/L

These criteria are expressed in terms of the dissolved fraction of the metal in the water column. [See footnote “m” to Table in paragraph (b)(1) of 40 CFR 131.38].

40 CFR 122.45(c) requires that this Order include effluent limitations as total recoverable concentration; therefore it is appropriate to include action levels also as total recoverable concentration.

The SIP requires that if it is necessary to express a dissolved metal value as a total recoverable and a site-specific translator has not yet been developed, the San Diego Water Board shall use the applicable conversion factor from 40 CFR 131.38.

The term “Conversion Factor” (CF) represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column.

Total recoverable concentration * CF = Dissolved concentration criterion

or

Total recoverable concentration = Dissolved concentration criterion/ CF

§ 131.38 40 CFR Ch. I (7–1–08 Edition)

Metal	Conversion factor (CF) for freshwater acute criteria	CF for freshwater chronic criteria	CF for saltwater acute criteria	CF[a] for saltwater chronic criteria
Antimony	[d]	[d]	[d]	[d]
Arsenic	1.000	1.000	1.000	1.000
Beryllium	[d]	[d]	[d]	[d]
Cadmium	[b]0.944	[b]0.909	0.994	0.994
Chromium (III)	0.316	0.860	[d]	[d]
Chromium (VI)	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83
Lead	[b]0.791	[b]0.791	0.951	0.951
Mercury				
Nickel	0.998	0.997	0.990	0.990
Selenium		[c]	0.998	0.998

CF for Chromium VI = .982 and .962, so the total recoverable concentrations for chromium VI:
16 ug/L dissolved (CMC)/ 0.982 (CF) = 16.3 ug/L total recoverable CMC
11 ug/L dissolved (CCC) / 0.962 (CF) = 11.4 ug/L total recoverable CCC

Effluent Variability multiplier and Coefficient of Variation (CV)
For each concentration based on an aquatic life criterion, the long-term average (LTA) is calculated by multiplying the concentration with a factor that adjusts for effluent variability. The multiplier can be found in Table 1 of the SIP. Since this Order does not have existing data to properly conduct a variability analysis in accordance with the SIP, the CV has been set equal to 0.6 per SIP requirements. The current effluent data is limited due to the small number of representative outfalls sampled, the lack of outfalls discharging to representative water bodies within the Region, and the targeted nature of the sampling design.

Based upon a CV of 0.6, Table 1 of the SIP requires an effluent variability as follows:
Acute Multiplier = 0.321
Chronic Multiplier = 0.527

The long-term average (LTA) is calculated by multiplying the total recoverable concentrations for zinc with the acute and chronic multipliers:
LTA Acute = 16.3 ug/L * 0.321 = 5.23
LTA Chronic = 86 11.4 ug/L * 0.527 = 6.01

The maximum daily action level (MDAL) and average monthly action level (AMAL) will be based on the most limiting of the acute and chronic LTA, in the case for chromium VI the most limiting LTA is the acute of 5.23 ug/L

NALs are calculated by multiplying the most limiting LTA with a multiplier that adjusts for the averaging periods and exceedance frequencies of the criteria and the effluent limitations. The multiplier can be found in Table 2 of the SIP. Since this Order has insufficient data, the CV has been set to 0.6 and since sampling frequency is four times a month or less, n has been set equal to 4 per the SIP.

Table 2. Long-Term Average (LTA) Multipliers for Calculating Effluent Limitations

Coefficient of Variation	MDEL Multiplier	AMEL Multiplier			MDEL/AMEL Multiplier		
	99th Percentile Occurrence Probability	95th Percentile Occurrence Probability			MDEL = 99th Percentile AMEL = 95th Percentile Occurrence Probability		
(CV)		n = 4	n = 8	n = 30	n = 4	n = 8	n = 30
0.1	1.25	1.08	1.06	1.03	1.16	1.18	1.22
0.2	1.55	1.17	1.12	1.06	1.33	1.39	1.46
0.3	1.90	1.26	1.18	1.09	1.50	1.60	1.74
0.4	2.27	1.36	1.25	1.12	1.67	1.82	2.02
0.5	2.68	1.45	1.31	1.16	1.84	2.04	2.32
0.6	3.11	1.55	1.38	1.19	2.01	2.25	2.62

Therefore, from Table 2 of the SIP, the LTA multipliers will be as follows:
MDAL Multiplier = 3.11
AMAL Multiplier = 1.55

The MDAL and AMAL limits are calculated by multiplying the LTA with an LTA multiplier for each limit:
MDAL = 5.23 ug/L * 3.11 = 16 ug/L
AMAL = 5.23 ug/L * 1.55 = 8.1 ug/L

Whole Effluent Toxicity (WET) Testing Requirements

A WET limit is required if a discharge causes, has a reasonable potential to cause, or contributes to an exceedance of applicable water quality standards, including numeric and narrative. Since these types of discharges are prohibited under this Order, WET limits are not applicable.

Discussion of AMALs, MDALs and Instantaneous Maximums

Where practical, action levels in this Order have been expressed as both AMALs and MDALs. Certain action levels may not practicably be expressed as AMALs and MDALs due to specific Basin Plan water quality objective language, sampling requirements and/or a lack of Criteria. Based upon the likely sampling frequency of the Copermittees, the frequency of sampling will occur such that grab samples are taken once per sampling day. This single sample would then be subject to MDALs and Instantaneous Maximum levels. In this case, the more conservative action level would apply. In addition, it is expected that some effluent monitoring will occur less than or equal to once per month. In this scenario, the MDAL, AMAL and Instantaneous Maximum levels would need to be met based upon one sample (unless sampling did

not occur). For some Basin Plan water quality objectives, AMALs have been excluded and only MDALs/Instantaneous Maximums set to prevent redundancy in action levels.

Compliance with Action Levels (Priority Pollutants)
Compliance with action levels shall be determined as follows:

Dischargers shall be deemed out of compliance with this Order if the Copermittee failed to take the prescribed action in response to a concentration of the priority pollutant in the monitoring sample that is greater than the action level and greater than or equal to the reported Minimum Level (exceedance of an action level). Regardless of the Copermittee's actions in response to an exceedance, they are still subject to the prohibitions found in sections A and B of the Order.

When determining to take an action in response to the AMALs and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "did not quantify" (DNQ) or "not detected" (ND). In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

(1) The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

(2) The median value of the data set shall be determined. If the data set has an odd number of data points then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of those points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

D. Storm Water Action Levels

The following legal authority applies to section D:

Broad Legal Authority: CWA §402, §402(p)(3)(B)(iii), CWC §13377, 40 CFR §122.44, 40 CFR §122.26(d)(1)(iv), 40 CFR §122.26(d)(2)(i)(E and F), and 40 CFR §122.26(d)(2)(iii and iv).

Specific Legal Authority:
CWA section 402(p)(3)(B)(iii) provides that MS4 permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(E and F) provides that the Copermittee "Require compliance with conditions in ordinances, permits, contracts or orders;" and "Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions …"

Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii), including the collection of quantitative MS4 storm water effluent data from outfalls.

Federal NPDES regulations 40 CFR 122.44 (d) provide that NPDES permits include any requirements necessary to "Achieve water quality standards,… including State narrative criteria for water quality."

Section D has been added to establish storm water action levels (see also Finding D.1.h and Discussion).

Introduction
The Copermittees' ROWD supports the establishment of action levels which can be used in the effectiveness assessment program to ensure a minimum level of program implementation and identify shortcomings in their MS4 programs.[164] Storm Water Action Level (SAL) concentrations, standards and constituents have been developed and incorporated into the monitoring requirements for wet weather.

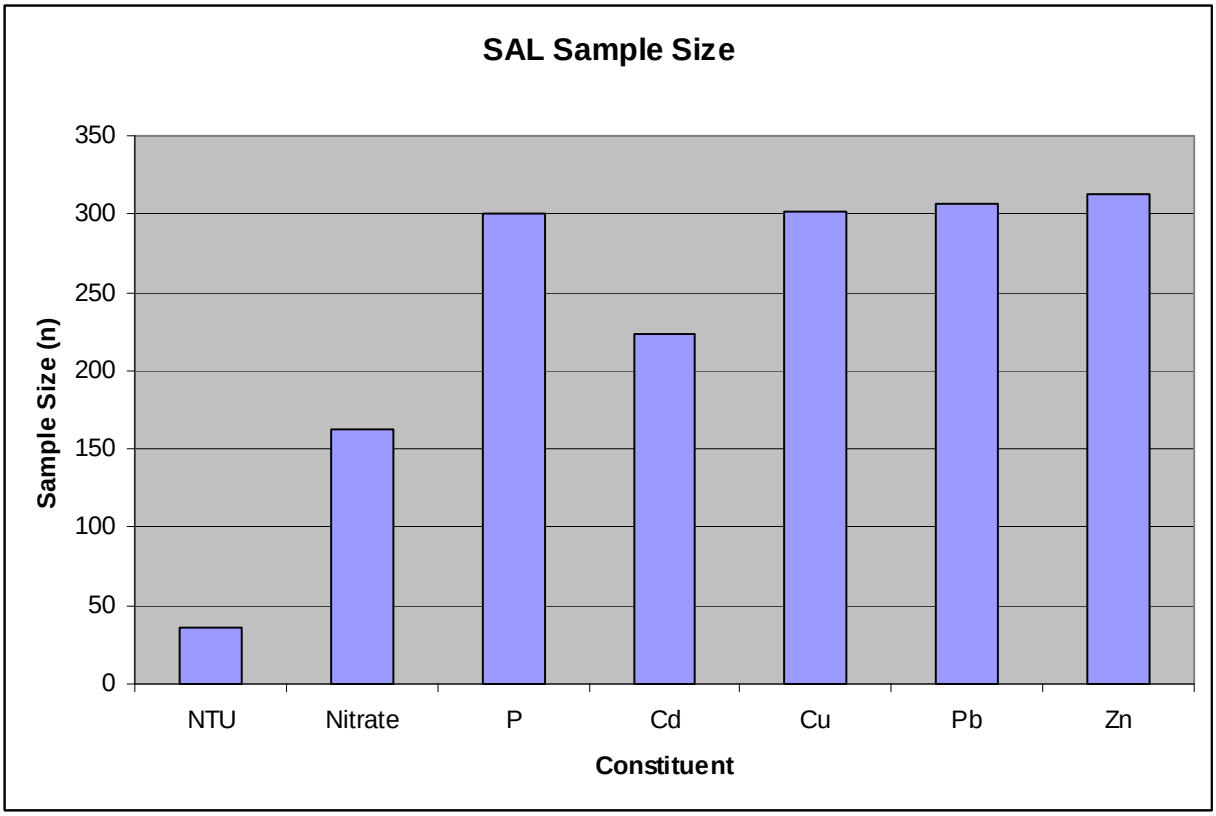
[164] Riverside County Copermittees. 2009. Report of Waste Discharge (San Diego Region).

SAL Concentration/Standards

SAL pollutant levels were developed from a regional subset of nationwide Phase I MS4 data by using USEPA Climate Zone 6 (arid west) data.[165] Utilizing data from USEPA Climate Zone 6 resulted in SALs which closely reflect the environmental conditions experienced in Riverside County. The localized subset of data includes sampling events from multiple Southern California locations including Orange, San Diego, Riverside, Los Angeles, and San Bernardino Counties. The dataset includes samples taken from highly built-out impervious areas and from storm events representative of Southern California conditions.

Additionally, utilization of regional data is appropriate due to the addition of data into the nationwide Phase I MS4 monitoring dataset in February 2008. This additional data increased the number of USEPA Climate Zone 6 samples to more than 400, and included additional monitoring events within Southern California (see figure below).

Sample Sizes Used to Calculate Storm Water Action Levels



In addition, the SALs reflect the water quality standards in the Basin Plan for the San Diego Region, the California Toxic Rule and USEPA Water Quality Criteria. Since it is the goal of the SALs, through the iterative and MEP process, to have outfall storm water discharges meet all applicable water quality objectives, the list of constituents to

[165] Data used to develop SAL are provided in Attachment F to Order No. R9-2010-0016, and obtained from http://rpitt.eng.ua.edu/Research/ms4/mainms4.shtml

be tested and protocol for testing has been developed to provide a reference point to evaluate the iterative MEP process.

SALs were developed based upon receiving water monitoring results and CWA section 303(d) impaired waters listings. Nitrogen, Copper and Phosphorous are all pollutants for which receiving waters are 303(d) listed as impaired and for which sufficient data was available to develop SALs. Additionally, receiving water monitoring, including from storm events monitored by the Copermittees, has demonstrated excursions and/or potential excursions, often absent receiving water hardness, above water quality criteria for turbidity (NTU), Cadmium, Lead, and Zinc. SALs were not developed for some pollutants for which receiving waters are 303(d) listed as impaired due to a lack of representative data available. These pollutants are required to be monitored but are not subject to a SAL under the Order.

Monitoring

The SALs require the measurement of hardness and to provide more specificity in the assessment of samples with SALs for total metal concentrations. While USEPA Climate Region 6 data includes a large sample size for concentrations of total metals, the impact the concentration will have on receiving waters will vary with receiving water hardness. Since it is the goal of the SALs, through the iterative and MEP process, to have MS4 storm water discharges meet all applicable water quality objectives, the hardness of the receiving water should be used when assessing the total metal concentration of a sample. Thus, when an exceedance of a SAL concentration is detected for a metal, the Copermittee must determine if that exceedance is above the existing applicable water quality limitation based upon the hardness of the receiving water. The water quality limitations Copermittees must use to assess total metal SAL exceedances are the California Toxic Rule (CTR) and USEPA National Recommended Water Quality Criteria for Freshwater Aquatic Life 1 hour maximum concentrations. The 1 hour maximum concentration is to be used for comparison since it is expected to most replicate the impacts to waters of the State from the first flush following a precipitation event.

E. Legal Authority

The following legal authority applies to section E:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to "Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittees shall develop and implement legal authority to "Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Illicit discharge is defined under Federal NPDES regulation 40 CFR 122.26(b)(2) as "any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in storm water runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulation 40 CFR 122.26(d)(1)(ii) requires from the Copermittee "A description of existing legal authority to control discharges to the municipal separate storm sewer system."

Section E.1.b requires the Copermittees to prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2 including but not limited to:

(1) Sewage;
(2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
(3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
(4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;

(5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
(6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
(7) Discharges of pool or fountain water containing chlorine, biocides, toxic amounts of salt, or other chemicals; discharges of pool or fountain filter backwash water;
(8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
(9) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

Section E.1.j has been added to the Order to ensure that BMPs implemented by third parties are effective. Since the Copermittees cannot passively receive and discharge pollutants from third parties, the Copermittees must ensure discharges of storm water pollutants to the MS4 are reduced to the MEP. In order to achieve this, the Copermittees must be able to ensure that effective BMPs are being implemented by requiring the third parties to document BMP effectiveness. Regarding the Copermittees' ability to require documentation and reporting from third parties, USEPA states "municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports."[166]

[166] USEPA, 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

F. Jurisdictional Runoff Management Program

F.1. Development Planning Component

The following legal authority applies to section F.1:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWA section 402(a), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F), 40 CFR 131.12, and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a management program which is to include "A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plans shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed."

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]cheive water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

Sections F.1.a and F.1.b (General Plan and Environmental Review Process) require the Copermittees to update and revise their General Plan (or equivalent plan) and environmental review processes to ensure water quality and watershed protection principles are included. The Copermittees are required to detail any changes to the General Plan or environmental review process in their Jurisdictional Runoff Management Program Annual Reports. The General Plan must be updated to include water quality and watershed protection principles for all new development and redevelopment projects.

The change made to these sections requires updating the General Plan and Environmental Review Process on an as-needed basis. Each Copermittee has either updated, is in the process of updating, or has assessed its General Plan to ensure the General Plans include the required principles and are in compliance with Order No. R9-2004-001.

Section F.1.c (Approval Process Criteria and Requirements) requires that all development projects (regardless of size) implement BMPs to reduce storm water pollutant discharges to the MEP. Source control and site design BMP requirements were not clearly described in this section of Order No. R9-2004-001. Additional detail has been added to this section to better describe the source control and site design BMPs needed for implementation. This additional detail is consistent with the

requirements of the SSMP, also known in Riverside County as the Water Quality Management Plan (WQMP). However, only source control and site design BMPs that apply to all types of development projects are required (e.g., properly designed trash storage areas).

The requirements are consistent with Order No. R9-2004-001. However, some elements are not contained in the current DAMP[167] (e.g., buffer zones). One exception is that Order No. R9-2004-001's requirement that applicants must provide evidence of coverage under the General Industrial Permit has been removed, since industrial tenants for a development project are usually not known during the planning stage.

The section has also been modified to reflect the prohibition of over-irrigation runoff to the MS4, as well as LID requirements. Additionally, this section requires the use of native and/or low water use plants for landscaping, and rainwater harvesting, where feasible.

Sections F.1.d and F.1.d.(1) (Standard Storm Water Mitigation Plans and Definition of Priority Development Project) require the Copermittees to review and update their SSMPs (also known in Riverside County as Water Quality Management Plans – WQMPs) for compliance with the Order. The sections also require all Priority Development Projects falling under certain categories to meet SSMP requirements. The update is necessary to ensure that the Copermittees' SSMPs are consistent with the changes that have been made to the Order's SSMP requirements. The requirement for the development/adoption of a Model SSMP has been removed since a model was completed and adopted in 2005.

The SSMP section of the Order has been reformatted for clarity. There are also some significant changes. Changes have been made in response to USEPA program evaluations, recent BMP development and effectiveness studies, recent reports on the magnitude of problems caused by hydromodification, and reviews of annual reports and the ROWD submitted by the Copermittees.

In addition, the Order requires that a one-acre threshold be phased in over two years for the priority development category. This one-acre threshold was selected to be consistent with the State Water Board's Phase II NPDES requirements for small municipalities (Order No. 2003-0005-DWQ). The one-acre threshold is also included to be consistent with the State Water Board's Construction General Permit (Order No. 2009-0009-WQO), to ensure all Development Projects subject to the post-construction BMP requirements of the Construction General Permit will implement SSMP post-construction BMP requirements. The one-acre determination applies to the amount of ground area disturbed, not the total size of the parcel or project. Each Copermittee may also lower this threshold if desired.

[167] Riverside County Copermittees. *Drainage Area Management Plan (DAMP)2006.* July 21, 2006.

Section F.1.d.(2) (Priority Development Project Categories) includes several changes to improve, simplify, and clarify the Priority Development Project categories.

One of the most significant changes is that where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SSMP requirements. This criterion was not included in Order No. R9-2004-001. It is included, however, in the Model San Diego SSMP that was approved by the San Diego Water Board in 2002. It is included in this Order because existing development inspections by Riverside County municipalities show that facilities included in the Priority Development Project Categories routinely pose threats to water quality. This permit requirement will improve water quality and program efficiency by preventing future problems associated with partly treated storm water runoff from redevelopment sites. This approach to improving storm water runoff from existing developments is practicable because municipalities have a better ability to regulate new developments than existing developments.

Another significant change is a new category for any new development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This category applies to commercial, industrial, residential, mixed use, and public projects on private or public land.

Section F.1.d.(2)(g) was modified to allow the Copermittees to develop a standard roadway design and post-construction BMP guidance document that could be used by the Copermittees in lieu of a project specific SSMP for each public works road construction project. The guidance document must comply with the SSMP requirements, including the LID and hydromodification BMP requirements. The roadway design and post-construction BMP guidance must be included in the updated SSMP, and may be utilized after the San Diego Water Board has determined that the updated SSMP is acceptable.

Development of new industrial sites was not included as a category in the Priority Development Projects in Order No. R9-2004-001 because industrial NPDES requirements already establish storm water criteria. Industrial sites are now included in the new development category of the Order to be consistent with Phase II rules and to close loopholes.

Section F.1.d.(3) (Pollutants of Concern) requires Copermittees to update their procedures for identifying pollutants of concern for each Priority Development Project. This is important to do periodically because of changing water quality conditions and designations of impairments or areas of concern. Furthermore Copermittees continually learn more about pollutant-generating activities as they conduct inspections and investigations, and that information must be incorporated into the SSMP process.

Section F.1.d.(4) (Low Impact Development BMP Requirements) requires the Copermittees to require each Priority Development Project to implement low impact development (LID) BMPs to reduce the amount of polluted storm water runoff from

those sites. The Copermittees' ROWD proposes to revise the Riverside County Storm Water Quality BMP Design Handbook to incorporate LID design concepts.[168] The primary approach in LID site design BMPs is to limit the permanent loss of existing infiltration capacity because loss of infiltration is a major contributor to wet weather pollution discharges. General means to accomplish that goal include retaining natural infiltration areas of a site and limiting the amount of impervious surfaces. The Order does not require a specific or relative amount of pervious surfaces be added to a project. The Order seeks to retain on-site capture of the 85th percentile storm.

The Copermittees must require LID BMPs to be implemented for each Priority Development Project, unless found to be technically infeasible. LID BMPs must be formally considered during the plan review process for Priority Development Projects. The LID review process for each Priority Development Project is expected to include an assessment of LID BMP techniques to infiltrate, filter, store, evaporate, and/or retain runoff close to the source of the runoff. The review process is also expected to include an assessment of the potential collection of storm water for on site and off site reuse opportunities. In cases where LID BMPs are found to be technically infeasible, the Copermittees may grant a waiver to the Priority Development Project for all or a portion of the LID BMP requirements.

The Order directs the Copermittees to require new development projects to employ certain classes of LID site design BMPs. The required LID site design BMPs take advantage of features that are incorporated into the Priority Development Project, such as landscaping or walkways. It also requires that projects seek to maintain natural water drainage features rather than instinctively convey water in buried pipes and engineered ditches that eliminate natural water quality treatment functions. These types of site design BMPs are both effective and achievable.

LID BMPs must be sized and designed to ensure onsite retention without runoff, of the volume of runoff produced from a 24-hour 85th percentile storm event ("design capture volume"). This is consistent with other municipal storm water NPDES permits recently adopted by the Los Angeles and Santa Ana Water Boards, as well as the permit recently adopted by the San Diego Water Board for Orange County. The requirement for a numerical BMP design standard is well established for treatment control BMPs and is required in permits throughout the nation such as in Pennsylvania, West Virginia, Georgia, and Washington D.C. Since the 85th percentile storm event has previously been used as the numeric design standard for treatment control BMPs; the same size storm event can be applied as the numeric design standard for LID BMPs. The average 24-hour, 85th percentile rainfall for the Riverside County portion of the San Diego Region was calculated to be approximately 0.6 inches of rain.[169]

The retention and restoration of natural drainage features, such as ephemeral streams, wetlands, and depressions, can be particularly important because small tributaries are essential to the maintenance of the chemical, biological, and physical

[168] Riverside County Copermittees. 2009. Report of Waste Discharge (San Diego Region).
[169] San Diego Water Board, 2004. Fact Sheet/Technical report for Order No. R9-2004-001, dated July 14, 2004.

integrity of larger water bodies.[170] The loss and modification of such natural water resources to accommodate post-development storm water management leads to direct and indirect adverse effects on water quality that are felt both on the project site and off the site within the watershed.[171,172,173] Effects to aquatic beneficial uses from altered drainage features can occur downstream and upstream. The length of upstream or downstream effect of channel modifications is dependant on the specific structure type and channel slope.[174] For instance, road culverts can act as partial barriers to upstream distribution of native aquatic macroinvertebrates in urban streams, while bridges can provide adequate passage.[175] As a result of the adverse effects to water quality and beneficial uses, the State of California nonpoint source pollution program management measures for urban areas includes limiting the destruction of natural drainage features and natural conveyance areas.[176] Additionally, any project proposing to discharge dredge and/or fill material to waters of the United States and/or State is required to obtain a CWA section 401 Water Quality Certification and/or Waste Discharge Requirements from the San Diego Water Board or State Water Board.

LID site design BMP options do not need to be costly.[177] Some design options, such as concave vegetated surfaces or routing rooftop or walkway runoff to landscaped areas, are cost neutral.[178] Other LID site design BMPs, such as minimizing parking stall widths or use of efficient irrigation devices, are oftentimes already required. In addition, use of LID site design BMPs reduces storm water runoff quantity, allowing for treatment control BMPs and other storm water infrastructure on site to be smaller, therefore savings costs for both developers and municipalities.[179,180]

Because of the potential economic and environmental benefits of using LID site design, the U.S. Department of Housing and Urban Development, Office of Policy

[170] Aquatic scientists comment letter (April 10, 2003) on the Advanced Notice of Proposed Rulemaking (ANPRM) on the Clean Water Act Regulatory Definition of "Waters of the United States." (Docket ID No. OW-2002-0050). This letter is a synthesis of scientific information regarding ephemeral, intermittent, and headwater streams. It was written to USEPA by 85 leading aquatic scientists.
[171] Wright, Tiffany, et al. 2006. *Direct and Indirect Impacts of Urbanization on Wetland Quality.* Prepared by the Center for Watershed Protection for the USEPA Office of Wetlands, Oceans, an Watersheds. 81p. Available on-line at http://www.cwp.org
[172] Konrad, Christopher P. and Derek K. Booth, 2005. *Hydrologic Changes in Urban Streams and Their Ecological Significance.* American Fisheries Society Symposium. Vol. 45 pp.157-177.
[173] Coleman, Derrick, et al. 2005. *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*. Technical Report No. 450 of the Southern California Coastal Water Research Project.
[174] Fischenich, J.C. 2001. "*Impacts of stabilization measures*," EMRRP Technical Notes Collection (ERDC TNEMRRP- SR-32), U.S. Army Engineer Research and Development Center, Vicksburg, MS. http://www.wes.army.mil/el/emrrp
[175] Blakely, Tanya J., et al. 2006. *Barriers To The Recovery Of Aquatic Insect Communities In Urban Streams* Freshwater Biology Vol. 51(9), 1634–1645.
[176] California Nonpoint Source Encyclopedia, Management Measure 3.1.b. Runoff from Developing Areas, Site Development and Management Measure 3.3.a. Runoff from Existing Development, Existing Development.
[177] USEPA, 2000. Low-Impact Development: A literature review. EPA-841-B-00-005. 35p.
[178] Bay Area Stormwater Management Agencies Association., 1999. Start at the Source. Forbes Custom Publishing. Available on-line at: http://www.scvurppp-w2k.com/basmaa_satsm.htm. pp. 149.
[179] National Association of Home Builders Research Center. *Builders Guide to Low Impact Development.* Available on-line at http://www.toolbase.org
[180] National Association of Home Builders Research Center. *Municipal Guide to Low Impact Development.* Available on-line at http://www.toolbase.org

Development and Research, developed "*The Practice of Low Impact Development (LID)*" to assist the housing industry during the land development process. [181] This document focuses specifically on technologies that affect both the cost impacts and environmental issues associated with land development. Much of the report focuses on storm water management because LID storm water management systems can save capital costs for developers and maintenance costs for municipalities.[182] The executive summary of the HUD report notes:

> *This approach to land development, called Low Impact Development (LID), uses various land planning and design practices and technologies to simultaneously conserve and protect natural resource systems and reduce infrastructure costs. LID still allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts. LID is best suited for new, suburban development.*

Developers can use site and structure designs that reduce building footprints, decrease the amount of paved infrastructure, and provide for dispersed drainage and infiltration of runoff from impervious surfaces to reduce the effective impervious surface.[183] The concept of effective impervious surface is important, because when runoff from these surfaces is directed to pervious areas rather to an impervious drainage system (i.e. curbs, gutters, street surfaces, storm drain pipes), it can infiltrate, evaporate, or be taken up by vegetation, thereby reducing the total volume of storm water runoff leaving a site.

In addition to all the benefits discussed above, LID BMPs have several other advantages over conventional treatment control BMPs. As previously discussed, implementing LID BMPs can save on maintenance costs for municipalities and property owners. LID BMPs are typically easier to operate and maintain compared to conventional mechanical treatment control BMP technologies. Because LID BMPs are easier to operate and maintain, they are also more reliable compared to conventional mechanical treatment control BMP technologies, thus more sustainable over the long term.

Through its process of conditioning development projects under the CWA section 401 Water Quality Certification program, the San Diego Water Board finds that the level of LID site design BMP implementation in the Order is feasible for all projects. The LID BMP requirements will help ensure that LID site design BMPs are implemented for new development projects. LID site design BMPs are a critical component of storm water runoff management at new development projects, since the LID BMPs provide multiple benefits including preservation of hydrologic conditions, reduction of pollutant discharges, cost effectiveness, and green space.

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[181] U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 2003. *The Practice of Low Impact Development."* Prepared by: NAHB Research Center, Inc. Upper Marlboro, Maryland. Contract No. H-21314CA.
[182] Ibid. Executive Summary, p.x.
[183] Bay Area Stormwater Management Agencies Association. 2003. *Using Site Design Techniques to Meet Development Standards for Stormwater Quality*. Available on-line at: http://www.basmaa.org/

The Order provides the Copermittees with flexibility in implementing the LID site design BMP requirements by providing a LID BMP waiver program. The Riverside County Copermittees plan on allowing the implementation of the LID BMPs contained in the Riverside County LID Design Manual if retention LID BMPs are found to be technically infeasible to retain all of the design capture volume. Other LID BMP design and guidance manuals that are acceptable to the Copermittees and/or San Diego Water Board may also be considered.

If retention LID BMPs and/or other LID BMPs are technically infeasible to retain and/or treat all or part of the design capture volume for a Priority Development Project, a waiver may be granted for the remaining portion of the design capture volume. The waiver would allow the remaining portion of the design capture volume to be treated with conventional treatment control BMPs and some form of mitigation.

The use of conventional treatment control BMPs for Priority Development Projects is expected to be allowed by the Copermittees on a very limited basis, and only when a Copermittee finds that LID BMPs are technically infeasible for retaining and/or treating the full design capture volume. In such cases, the Copermittee may issue a waiver for the Priority Development Project from all or a portion of the LID BMP requirements. The LID BMP waiver program that must be developed and implemented by the Copermittee(s) is discussed below under section F.1.d.(7). The criteria that the Copermittee(s) may use to make a finding of technical infeasibility for implementing LID BMPs are also discussed under section F.1.d.(7).

Section F.1.d.(5) (Source Control BMP Requirements) requires that Priority Development Projects implement a minimum set of source control BMPs to protect the water quality of receiving waters from discharges of runoff from these projects. This section has been added to provide more detail and clarify the Order's requirements for source control BMPs. The minimum source control BMPs listed as required by this section must be implemented by each Priority Development Project. In cases where one or more of the minimum source control BMPs are not warranted as part of the site design for the Priority Development Project (e.g., no outdoor material storage and/or work areas), those source control BMPs are not expected to be implemented.

Section F.1.d.(6) (Treatment Control BMP Requirements) includes several design requirements for any treatment control BMPs that are allowed to be implemented (i.e. granted a waiver for all or part of the LID BMP requirements) on Priority Development Projects. These requirements are generally consistent with Order No. R9-2004-001, with two exceptions. First, the Order limits the selections of methods used to determine the appropriate volume of storm water runoff to be treated. The modification ensures that priority development project proponents utilize the most accurate information to determine the volume or flow of runoff which must be treated.

Second, the Order requires that treatment control BMPs selected for implementation at Priority Development Projects have a removal efficiency rating that is ranked with high

or medium pollutant removal frequency for the project's most significant pollutants of concern. The requirement allows exceptions for those projects that, with a feasibility analysis, can justify the use of a treatment control BMP with a low removal efficiency for a Priority Development Project. This requirement is needed because to date, the Copermittees have generally approved low removal efficiency treatment control BMPs without justification or evidence that use of higher efficiency treatment BMPs was considered and found to be infeasible. Specifically, it has been found during audits of the Copermittees' SSMP programs that many SSMP reports do not adequately describe the selection of treatment control BMPs.[184] Moreover, USEPA's contractor Tetra Tech, Inc. recommends that "project proponents should begin with the treatment control that is most effective at removing the pollutants of concern […] and provide justification if that treatment control BMP is not selected."[185]

In addition, treatment control BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors, such as mosquitoes, rodents, and flies. Related guidelines are identified in guidance from CASQA.[186] Additional considerations are outlined in publications from the California Department of Health Services and University of California Division of Agriculture and Natural Resources.[187]

Section F.1.d.(7) (Low-Impact Development BMP Waiver Program) requires the Copermittees to develop, collectively or individually, a LID BMP waiver program. For some Priority Development Project sites, it may be technically infeasible to implement the required LID BMPs to retain and/or treat the design capture volume due to the site constraints. For this reason, the San Diego Water Board has added to the Order a requirement for the Copermittees to develop such a program. The LID BMP waiver program would provide the opportunity for development projects to avoid partial or full LID BMP implementation in exchange for implementation of conventional treatment control BMPs and mitigation. The program would maintain equal water quality benefits as properly implemented LID BMPs when partial LID BMPs are coupled with some form of mitigation.

LID BMPs are not limited to infiltration BMPs, and may also include storage, evaporation, evapotranspiration, filtration, and/or on site reuse BMPs. Thus, the San Diego Water Board expects that every site will be able to implement some form of LID BMPs to some extent. The LID BMP waiver program is expected to be used by the Copermittees on a limited basis, and only when a Copermittee finds that LID BMPs are technically infeasible for retaining and/or treating the full design capture volume. The Order provides several conditions under which a Copermittee may find that the

[184] PG Environmental, 2008. Riverside County Flood Control and Water Conservation District and County of Riverside MS4 Inspection Report.
[185] Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 5.
[186] For example, see the California Stormwater BMP Handbook guidelines for Extended Detention Basins (TC-22) at http://www.cabmphandbooks.org.
[187] Marco Metzger. "Managing Mosquitoes in Stormwater Treatment Devices." University of California Division of Agriculture and Natural Resources Publication No. 8125. Available at http://anrcatalog.ucdavis.edu.

implementation of LID BMPs to retain and/or treat the design capture volume is technically infeasible [see section F.1.d.(7)(b)(i)-(iii)]. The Copermittees are not limited to the conditions listed in the Order, and may identify other conditions in the SSMP that would allow a finding of technical infeasibility.

Making a finding of technical infeasibility for the implementation of the LID BMP requirements on any Priority Development Project is at the discretion of each Copermittee through their SSMP plan review process. For any project proponent that would like to receive a waiver for all or part of the LID BMP requirements, the Copermittees may require and/or use any information to make a finding of technical infeasibility.

A separate technical report developed by the project proponent or the Copermittee to support a finding of technical infeasibility may not always be necessary to meet the requirements of this Order. In most cases, it is expected that the information that is provided in the project proponent's SSMP plan review documents (e.g., geotechnical reports, site design plans) will allow the Copermittees to determine whether or not it is technically feasible for LID BMPs to be implemented to retain and/or treat all or part of the design capture volume. The reason(s) for a Copermittee making a finding a technical infeasibility and granting a LID BMP waiver for any project must be provided in the Annual Report.

For Priority Development Projects that are granted a waiver for all or a portion of the LID BMP requirements, mitigation will be required to achieve water quality benefits that will be lost without the LID BMP retention and/or treatment. Any LID BMP waiver program which allows development projects to forgo all or part of the LID BMP implementation requirements must include mitigation provisions which will achieve similar water quality benefits. To ensure that this is the case for the LID BMP waiver program, minimum mitigation provisions for the program have been added to the Order.

Mitigation can be achieved on site or off site. On site mitigation may include additional sizing multipliers for conventional treatment control BMPs implemented on the site to treat a larger range of storm events to achieve the same or greater pollutant load removal expected from retention of the design capture volume. Off site mitigation may include other pollutant treatment projects that are not located on the site that will achieve the same or greater pollutant removal expected from on site LID BMPs for the design capture volume. For example, off site mitigation projects may include green streets projects, existing development retrofit projects, retrofit incentive programs, regional BMPs and/or riparian restoration projects. Off site mitigation projects may also satisfy the Order's retrofitting requirements in section F.3.d.

In addition to these mitigation options, the Order allows the Copermittees to develop and propose additional forms of mitigation (e.g., pollutant credit system, mitigation fund) that could be implemented as part of the LID BMP waiver program by the Copermittee(s). Any additional forms of mitigation proposed by the Copermittees

would be subject to approval by the San Diego Water Board Executive Officer prior to implementation.

Section F.1.d.(8) (LID and Treatment Control BMP Standards) addresses a need for the Copermittees to develop and apply consistent criteria for the design and maintenance of structural treatment BMPs. Correct BMP design is critical to ensure that BMPs are effective and perform as intended. Without design criteria, there is no assurance that this will occur, since there is no standard for design or review. As an example, Ventura County has developed a BMP manual that includes standard design procedure forms for BMPs. Ventura County's *Technical Guidance Manual for Storm Water Quality Control Measures* is available at http://www.vcstormwater.org/publications.htm."[188] CASQA also confirms the necessity of design criteria when it includes such criteria in its New Development and Redevelopment BMP Handbook.[189] This issue is noted in the ROWD, and the Copermittees propose to develop standard design checklist/plans/details for selected source control and treatment BMPs.[190]

Section F.1.d.(9) (Implementation Process) requires the Copermittee to implement a process to verify compliance with SSMP requirements. The process must identify at what point in the planning process that projects must meet SSMP requirements and what are roles/responsibilities of municipal departments. The intent of this requirement is to provide consistency in the application of the SSMP between the Copermittees. This requirement was included in previous Order No. R9-2004-001.

Section F.1.d.(10) (Post-construction BMP Review) requires the Copermittees to keep their SSMP up to date with BMP effectiveness studies for low-impact design and treatment control BMPs. This requirement will ensure that two important types of information be included in those efforts: Site design BMPs and treatment BMPs that are assessed as part of contracts with the State Water Board and San Diego Water Board. Projects funded with such state grants must include effectiveness assessments using a quality assurance plan. As a result, such studies generally provide reliable sources of local data and should be included in the SSMP.

Sections F.1.e (BMP Construction Verification)requires the Copermittees to verify that the BMPs are being constructed for each Priority Development Project subject to SSMP requirements (SSMP project). SSMP projects that improperly construct or fail to construct site design, source control, and treatment control BMPs can pose a significant threat to water quality. Section F.1.e is included in response to recommendations from USEPA.[191]

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[188] Ibid.
[189] California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment.
[190] Riverside County Copermittees. 2009. Report of Waste Discharge (San Diego Region).
[191] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845. USEPA recommends such practices in the Phase II storm water regulations, promoting "inspections during construction to verify BMPs are built as designed."

In some cases SSMP projects may wish to allow occupancy and/or use of a portion of the site prior to full completion of the project. Section F.1.e is not intended to require a project to be fully (i.e. all phases and areas) completed before the occupancy and/or intended use of a portion of the site is allowed. A Copermittee, however, must verify that the BMPs designed to treat and control pollutants from the completed portion of the project are properly constructed before the occupancy and/or intended use of the completed portion is allowed. The BMPs must be specifically designed to control pollutants from the completed portion of the site that will be occupied and/or used prior to the full completion of the SSMP project.

Section F.1.f (BMP Maintenance Tracking) is included in the Order to ensure the continued effectiveness of the post-construction BMP requirements. BMPs need to be properly constructed and adequately maintained to ensure that they are operating correctly and remain effective in removing pollutants from a project site's runoff prior to discharging to receiving waters.

To facilitate the tracking of BMP maintenance, each Copermittee must develop and maintain a database of Priority Development Projects subject to SSMP requirements (SSMP projects) and the post-construction BMPs implemented for each SSMP project. The inventory is not expected or required to include LID BMPs that are implemented on a lot by lot basis at single family residential houses. The inventory, however, must include the post-construction BMPs for all other development or redevelopment SSMP project sites.

The Order requires BMPs at all high priority SSMP project sites as well as all Copermittee project sites with BMPs to be inspected by the Copermittees annually. Other measures, verification methods, and inspection frequencies may be used for BMPs at lower priority SSMP project sites. SSMP project sites with the highest potential for causing or contributing to a threat to water quality or an existing impairment of water quality are required to be inspected by the Copermittees on an annual basis.

The prioritization of the SSMP project sites requiring inspections by the Copermittees will be developed by the Copermittees and reported in the updated JRMP. The prioritization of SSMP project sites may be revised on an annual basis based on inspection findings, and the Copermittees must report changes in prioritization, and justification for each change, in the Annual Report.

The Order includes several criteria that must be considered by the Copermittees in determining the priority of a SSMP project site's threat to water quality. Receiving waters that are listed as impaired by pollutants and/or with discharges exceeding action levels are water bodies most at risk for impairment of beneficial uses. Thus, at a minimum, high priority SSMP projects must include sites that are known or suspected to generate pollutants in an area that is tributary (i.e. upstream within the same Hydrologic Subarea) to a receiving water body listed as impaired for those pollutants; and/or, a receiving water body where exceedances of action levels for

those pollutants are observed; and/or, a receiving water body where exceedances of NALs for those pollutants are observed and the Copermittee has not been able to identify the source.

Section F.1.h (Hydromodification) expands and clarifies current requirements for control of MS4 discharges to limit hydromodification effects caused by changes in runoff resulting from development and urbanization. The requirements are based on findings and recommendations of the Riverside County Storm Water Program,[192] the Stormwater Monitoring Coalition (SMC),[193,194] and the Storm Water Panel on Numeric Effluent Limits (Numeric Effluent Panel).[195] Added specificity is needed due to the current lack of a clear standard for controlling hydromodification resulting from development. More specific requirements are also warranted because hydromodification is increasingly recognized as a major factor affecting water quality and beneficial uses.

Hydromodification is the change in a watershed's runoff characteristics resulting from development, together with associated morphological changes to channels receiving the runoff. As the total area of impervious surfaces increases, infiltration of rainfall decreases, causing more water to run off the surface and at a higher velocity than natural conditions. While erosion in channels is a naturally occurring process, increased runoff rates, volumes, and velocities from developed areas can produce erosive flows in channels under rainfall conditions which are unnatural and were not previously problematic. Moreover, runoff from developed areas increases the duration of time that channels are exposed to erosive flows. The increase in the volume of runoff and the length of time that erosive flows occur ultimately intensify the amount and potential of channel erosion, subsequently causing changes in sediment transport characteristics and the hydraulic geometry (width, depth, and slope) of channels.[196]

These types of changes have been documented in southern California. It has been reported that researchers studying flood frequencies in Riverside County have found that increases in watershed imperviousness of only 9-22 percent can result in increases in peak flow rates for the two-year storm event of up to 100 percent.[197] Such changes in runoff have significant impacts on channel morphology. It has recently been found that ephemeral/intermittent channels in southern California appear to be

[192] Riverside County Copermittees. 2009. Report of Waste Discharge (San Diego Region).
[193] Coleman, Derrick, et al. 2005. *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams.* Technical Report No. 450 of the Southern California Coastal Water Research Project.
[194] Stein, Eric and Susan Zaleski. 2005. Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California. Proceedings of a special technical workshop co-sponsored by California Stormwater Quality Association (CASQA), Stormwater Monitoring Coalition (SMC), and University of Southern California Sea Grant (USC Sea Grant). Technical Report No. 475 of the Southern California Coastal Water Research Project.
[195] Storm Water Panel Recommendations to the California State Water Resources Control Board. 2006. The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial, and Construction Activities.
[196] Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 1-1.
[197] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.

more sensitive to changes in imperviousness than channels in other areas. Morphology of small channels in southern California was found to change with only 2-3 percent watershed imperviousness, as opposed to 7-10 percent watershed imperviousness in other parts of the nation.[198]

Sediment that would normally be eroded from the developed areas (i.e. naturally eroded if the area remained undeveloped) is typically coarser grained and deposited closer to the source. Coarser grained sediments that are deposited also provide or contribute to habitat that is more hospitable to aquatic flora and fauna.

Developed areas and increased impervious surface change the types and quality of sediment that are discharged in runoff to the channels under rainfall conditions, which can have an adverse impact on downstream habitats. Sediment in runoff from developed areas and impervious surfaces are typically finer grained, which remains suspended for longer periods of time and can affect aquatic flora (e.g., reduce photosynthesis by limiting transmittance of light) and fauna (e.g., interfere with respiration). Several types of pollutants generated on developed areas (e.g., pesticides, nutrients, bacteria, metals, hydrocarbons) also tend to adsorb on to finer grained sediments. In addition, finer grained sediments get deposited further away from the source or point of discharge. These changes in the characteristics and quality of the sediment in the runoff from developed areas also contribute to the hydromodification effects on downstream channels.

Effects of hydromodification are evident in Riverside County and recognized by the Copermittees. Analyses of bioassessment data within the San Diego Region has indicated that physical changes to stream channels caused by hydromodification are likely responsible, in part, for the low bioassessment scores in urbanized settings.[199] This pattern is consistent under Order No. R9-2004-001, although non-reference bioassessment monitoring was limited to two sites located at mass loading stations. These sites consistently exhibited poor or very poor IBI scores and sub-optimal or marginal habitat. In addition to poor habitat, water chemistry and toxicity impacts were documented at mass and tributary loading stations, likely exacerbating the observed low IBI scores.[200] It is important to recognize that the physical changes in stream channels are a direct result of MS4 discharges, but that two separate mechanisms are involved in bringing about those changes. First, is a change in the flow regime caused by the increase in impervious surfaces and loss of natural conveyance systems. Discharges to receiving waters from the MS4 outfalls do not mimic the natural discharges from former tributaries to that receiving water, and the change results in erosion. Second, the physical stream habitat in many places has been severely modified in order to efficiently convey those increased storm water discharges to the ocean. Where streams are hardened and/or buried to convey storm water, they

[198] Coleman, et. al., 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. P. iv.
[199] See San Diego Water Board Order No. R9-2009-002 Fact Sheet.
[200] Riverside County Copermittees Fiscal Year 2008-2009 Santa Margarita Watershed Annual Progress Report.

cannot provide adequate water quality and other necessary conditions to support beneficial uses. Both of these issues are addressed in the Order.

The Copermittees' recognize the need to improve management of hydromodification. The ROWD proposes to revise the SSMP to incorporate additional information from ongoing hydromodification studies conducted by the SMC. The Order allows the Copermittees to adopt criteria consistent with future SMC findings in the development of their Hydromodification Management Plan.

Section F.1.h. requires the Copermittees to submit a draft Hydromodification Management Plan (HMP) on or before June 30, 2013. This will provide the Copermittees over 2 years to develop the draft HMP.

Section F.1.h (1) describes several elements that must be included in the HMP. For example, the HMP must identify a method for assessing susceptibility of channel segments which receive runoff discharges from Priority Development Projects, and include a channel standard to ensure that the stability of the channel is not compromised as a result of discharges from the Priority Development Projects. The HMP must also identify a range of flows where Priority Development Projects could cause hydromodification effects and subsequent stream instability.

Maintaining the pre-development flows and durations from a Priority Development Project will significantly reduce the potential for increased erosion caused by development. Loss of natural sediment that will be removed because of otherwise pervious areas covered by the impervious development and removal of pollutants in runoff from Priority Development Projects, however, can still increase the potential for increased erosion. Runoff that is discharged from a project that lacks sediment becomes "sediment hungry" and can result in increased erosion upstream and downstream from the point of discharge. Thus, the HMP must also identify a method and compensate for the loss of sediment supply that is expected due to development and include a performance and/or design standard that will be able to mitigate for that expected loss of sediment supply.

The HMP must require Priority Development Projects to implement control measures (such as LID or detention basins) to prevent hydromodification and resultant degradation of stream conditions upstream and/or downstream of project sites. To compare post-project flow rates and durations to pre-project flow rates and durations, the HMP must specify that the pre-development (naturally occurring) flow rates and durations shall be used when assessing pre-project conditions, so that the naturally occurring hydrology throughout the watershed is eventually restored.

In cases where a stream has been armored with concrete, rip rap, or other man-made materials, the HMP shall require the assessment of a comparable soft-bottom channel as the channel standard, as opposed to using the characteristics of the hardened channel as the channel standard. This is to ensure that hydromodification management measures are already in place should any portion of the hardened

channel be returned to its natural state, thereby restoring the physical integrity of the creek and its Beneficial Uses. The only exceptions are for projects that discharge storm water runoff into underground storm drains or conveyance channels with bed and banks that have been concrete lined all the way to water storage reservoirs or lakes, where effects from hydromodification are not expected. Other exceptions that are acceptable to the San Diego Water Board may be identified in the final HMP.

The HMP must also include metrics for assessing impacts to downstream watercourses from Priority Development Projects, as well as assessing improvements to these watercourses. The metrics must be able to assess changes to the channels as Priority Development Projects are developed and constructed in the watershed. Monitoring and evaluating changes to the physical conditions of the channels receiving runoff discharges from Priority Development Projects will provide the Copermittees data that can be used to determine whether or not the HMP is effective at reducing the increased erosive forces caused by development and impervious surfaces over time.

In addition to metrics to assess changes to the physical conditions of the channels, the Copermittees must monitor and evaluate the biological conditions (e.g., habitat quality, benthic flora and fauna, IBI scores) of the channels. This is because historic hydromodification impacts, such as concrete lining and channelization, are suspected to have impacted the natural physical habitat of urban streams resulting in low IBI scores. The Copermittee's 2008-2009 monitoring report indicated decreased IBI scores at mass loading stations below urbanized watersheds, in part due to marginal or suboptimal habitat. The Monitoring and Reporting Program in the Order includes new requirements for monitoring of habitat for bioassessment, with the "Full" suite of physical/habitat characterization measurements found in the SWAMP Bioassessment Standard Operating Procedures being required with each bioassessment sample. Additional bioassessment sites are also required at locations higher in the watershed, which is expected to more closely reflect localized impacts. Therefore, the IBI scores required by the Monitoring and Reporting Program will be a useful metric in terms of assessing both impacts to streams from Priority Development Projects and improvements due to implementation of the HMP management measures. The Copermittees may also develop or utilize other metrics and identify other monitoring locations that can be used to assess the effectiveness of the HMP on the physical and biological conditions of the channels.

In addition to the control measures that must be included in the HMP to prevent or minimize hydromodification effects from Priority Development Projects, section F.1.h.(2) requires the HMP to include additional management measures that can be used on Priority Development Projects based on a prioritized consideration of the following elements in this order: 1) site-design control measures, 2) on-site management measures, 3) the use of regional control measures upstream of receiving waters, and lastly, 4) in-stream management and control measures (not to include reinforcement with non-naturally occurring materials). The suite of management measures must also include stream restoration as a viable option to achieve the channel standard and subsequently restore Beneficial Uses. In-stream controls are

expected to be in the form of stream restoration or rehabilitation. The use of stream restoration is expected to be an option that is used in conjunction with other on site management measures and not by itself as the only management measure. Stream restoration or rehabilitation projects that are considered in-stream controls for the purpose of preventing or minimizing hydromodification effects do not include projects that use non-naturally occurring materials (e.g., concrete, rip-rap, or gabions, etc.), but may include projects that use natural materials and/or create stable and sustainable channel configurations.

The San Diego Water Board recognizes that fully achieving post-project runoff flow rates and durations that do not exceed pre-development (naturally occurring) runoff flow rates and durations on redevelopment projects with existing impervious surfaces may be challenging. Thus, section F.1.h.(3) has been included to allow the Copermittees to propose, as part of the HMP, a waiver program specifically for Priority Development Projects that are redevelopment projects, as defined by section F.1.d.(1)(b). Because redevelopment projects may not be able to achieve post-project runoff flow rates and durations that do not exceed pre-development (naturally occurring) runoff flow rates and durations through onsite management and control measures, offsite mitigation measures may be required. Redevelopment projects must achieve post-project runoff flow rates and durations that are less than or equal to pre-project and down to pre-development runoff flow rates and durations to be eligible to receive a waiver under the program. For a redevelopment project, the pre-project runoff flow rates and durations are those currently being discharged by the existing development prior to the redevelopment project being built. Meeting pre-project runoff flow rates and durations is usually a less stringent performance criteria than meeting the pre-development runoff flow rates and durations. Implementing BMPs to meet the pre-project flow rates and durations is significantly easier and cheaper for a redevelopment project compared to meeting pre-development flow rates and durations. If a project is granted a waiver, the estimated incremental hydromodification impacts from not achieving the pre-development (naturally occurring) runoff flow rates and durations for the project site must be fully mitigated with offsite mitigation. Offsite mitigation measures may include utilizing regional hydrologic control measures (e.g., regional detention or infiltration basins) or rehabilitation of stream channels to achieve sustainable channel configurations.

Section F.1.h (6) describes interim hydromodification criteria that must be implemented by the Copermittees until the final HMP is found to be adequate by the San Diego Water Board Executive Officer. The Copermittees currently have hydromodification requirements in the SSMP (section 4.4 of the Riverside County WQMP). Until the final HMP is required to be implemented, the Copermittees must continue implementing their existing hydromodification requirements. The existing hydromodification requirements[201] allow exemptions for Priority Development Projects if they meet one of three conditions. One of those conditions is if a project discharges directly to a publicly-owned, operated and maintained MS4. This condition has been

[201] Riverside County Copermittees, 2006 (updated in 2009). Riverside County Water Quality Management Plan (WQMP), Section 4.4.

too broadly applied and has resulted in many projects being exempt from the hydromodification requirements in the past.

Therefore, the Order modifies the conditions that may exempt Priority Development Projects from implementing the interim hydromodification criteria. The modifications to the conditions are minor and can be implemented in the interim until the final HMP is approved. This allows the Copermittees to focus their resources on development of the final HMP.

Finally, the requirements included in section F.1.h do not supersede the LID BMP requirements in section F.1.d. (4). In certain situations, the requirements to incorporate LID BMPs will satisfy the requirements for hydromodification management. Using LID is a viable option for both accomplishing hydromodification management and pollutant load reductions.

Section F.1.i (Unpaved Roads Development) specifically requires the Copermittees to implement or require implementation of BMPs for erosion and sediment control after construction of all new unpaved roads. As discussed for Finding D.1c, design and source control BMPs for unpaved roads are needed to minimize the discharge of sediment to the MS4s and receiving waters, especially during storm events. There are several guidance documents available (see Discussion for Finding D.1.c) that include design and source control BMPs that can be readily implemented by the Copermittees for the development of new unpaved roads.

F.2. Construction Component

The following legal authority applies to section F.2:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include “A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for the purposes of this subsection: […] (x) Construction activity including cleaning, grading and excavation activities […]."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Section F.2 has additions to ensure the protection of threatened and endangered species and requires the consideration of potential impacts from the use of Active/Passive Sediment Treatment (AST) at sites determined by the Copermittees to be exceptional threats to water quality. These requirements were added to ensure additional protection of the Beneficial Uses of waters of the State.

Section F.2.a (Ordinance Update) requires each Copermittee to review and update its grading and storm water ordinances as necessary to comply with the MS4 permit. By updating the grading and storm water ordinances, the Copermittees will have the necessary legal authority to require construction sites to implement effective BMPs that will reduce pollutant discharges to the maximum extent practicable. The Order allows the Copermittees 365 days to review and update their ordinances. The 365 days should be adequate to allow for the relatively minor changes that might be needed since their ordinances were last updated under Order No. R9-2004-001.

Section F.2.b (Source Identification) requires the Copermittees to develop and update a watershed based inventory of all construction sites regardless of size or ownership. This section has been modified to require the inventory be updated regularly, rather than annually because constructions sites tend to change often within the course of a year. More frequent updates will ensure the Copermittees have a more accurate inventory of construction sites within their jurisdiction. A regularly updated inventory of active construction sites will assist the Copermittees in ensuring that all sites are inspected per Order requirements. The Order does not specify the frequency of updates, and instead relies on each Copermittee to develop updates appropriate to local construction activity. Failure to maintain a useful inventory would be a violation of the Order.

Section F.2.c (Site Planning and Project Approval Process) requires Copermittees to incorporate consideration of potential water quality impacts prior to approval and issuance of construction and grading permits.

This section now requires the Copermittees to review project proponents' runoff management plans for compliance with local regulations, policies, and procedures. USEPA recommends that it is often easier and more effective to incorporate storm water quality controls during the site plan review process or earlier.[202] In the Phase I storm water regulations, USEPA states that a primary control technique is good site planning.[203] USEPA goes on to say that the most efficient controls result when a comprehensive storm water management system is in place.[204] To determine if a construction site is in compliance with construction and grading ordinances and permits, USEPA states that the "MS4 operator should review the site plans submitted by the construction site operator before ground is broken."[205] Site plan review aids in compliance and enforcement efforts since it alerts the "MS4 operator early in the process to the planned use or non-use of proper BMPs and provides a way to track new construction activities."[206]

The Copermittees have the discretion to determine the depth and detail of the review, as well as the method by which the review will be conducted. The Copermittees review must at least verify that the project proponent's runoff management plan complies with the Copermittee's construction, storm water, and grading ordinances and permits prior to issuing the permit.

Section F.2.d (BMP Implementation) includes modifications to the requirements for each Copermittee to designate and ensure implementation of a set of minimum BMPs at construction sites. These modifications are based on San Diego Water Board findings and experience during implementation of Order No. R9-2004-001.

[202] USEPA, 1992. Guidance 833-8-92-002. Section 6.3.2.1.
[203] Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48034.
[204] Ibid.
[205] USEPA, 2000. Guidance 833-R-00-002. Section 4.6.2.4, P. 4-30.
[206] Ibid., P. 4-31.

As a result, the Order requires a minimum set of BMPs to be designated for all sites. In addition to the minimum set of BMPs, enhanced BMPs must be designated and implemented for sites tributary to (i.e. upstream within the same Hydrologic Subarea of) a 303(d) listed water body, or within, directly adjacent to, or discharging directly to ESAs. Enhanced BMPs are control actions and measures specifically targeted to the pollutant or condition of concern and of higher quality and effectiveness than the minimum control measures otherwise required. Enhanced BMPs are expected to be better and more effective for pollutant removal than the minimum set of BMPs.

For sites that are identified as exceptional threat to water quality, active/passive sediment treatment (AST) is required to be implemented in addition to the minimum set and/or enhanced sediment control BMPs. AST is required at construction sites that are identified by the Copermittee as an exceptional threat to water quality due to high turbidity or suspended sediment levels in the site's effluent even when other sediment control BMPs have been implemented. In cases where the Copermittee's designated minimum set of BMPs and/or enhanced BMPs are not able or expected to be able to reduce turbidity or suspended sediment levels to a level that will be protective of water quality, AST is necessary and is considered MEP for the discharges from these sites.

AST has been effectively implemented extensively in the other states and in the Central Valley Region of California.[207] In addition, the San Diego Water Board's inspectors have observed AST being effectively implemented at large sites greater than 100 acres and at small, less than 5 acre, in-fill sites. AST is often necessary for Copermittees to ensure that discharges from construction sites are not causing or contributing to a violation of water quality standards. For example, the Basin Plan lists the water quality objective for turbidity as 20 NTU for all hydrologic areas and subareas except for the Coronado HA (10.10) and the Tijuana Valley (11.10). For certain construction sites with high clay content soils, large slopes and exposed areas, the only technology that is likely to meet 20 NTU is AST combined with erosion and sediment controls. To ensure the MEP standard and water quality standards are met, the requirement for implementation of AST at exceptional threat construction sites has been added to the Order, while still providing sufficient flexibility for each Copermittee's unique program.

The Copermittees may define types of construction sites, and/or at any time identify any construction sites after inspections, that are considered exceptional threats to water quality warranting AST. AST may include any sediment control technologies that are capable of reducing turbidity or suspended sediment levels in a construction site's discharge to meet water quality standards in receiving waters.

The Order does not include seasonal restrictions on grading. Seasonal restrictions on grading for storm water are difficult to implement due to the conflict between seasonal grading restrictions, avian breeding and nesting seasons and the seasonal passage of

[207] State Water Board, 2004. Conference on Advanced Treatment at Construction Sites.

endangered salmonids; therefore the seasonal grading restrictions have not been included with the other BMPs in the Order. For example, the Least Bell's Vireo and the Coastal California Gnatcatcher, found in southern California, are listed as federally endangered and threatened, respectively.[208] Permits issued by the California Department of Fish and Game (CDFG) restrict grading during these birds' breeding seasons, which is from April 10 to August 31 for the Least Bell's Vireo[209] and from February 15 to August 31 for the Coastal California Gnatcatcher.[210] Ideally storm water restrictions on grading would be during the rainy season from October 1 through April 30.[211] Combined, these restrictions would limit construction grading to be during the month of September, which is infeasible. Section D.2.d of the Order still requires project proponents to minimize grading during the rainy season and coincide grading with seasonal dry weather periods to the extent feasible.

Section F.2.e (Inspections) establishes criteria for inspections based on risk factors including size, season, and location of the construction site. Modifications have been made to requirements of Order No. R9-2004-001 based on the experience of the Copermittees and San Diego Water Board construction programs.

The types of construction sites that must be inspected every two weeks during the rainy season have been changed from Order No. R9-2004-001. In general, because large construction sites (i.e. greater than 50 acres) have been closely scrutinized during the last permit period, they tend to be adequately implementing BMPs. Smaller construction sites (i.e. site with less than 50 acres), however, were not inspected as frequently and can pose a significant threat to water quality. The final rule recently promulgated by USEPA for construction sites[212] identified construction sites with 20 or more acres of land disturbed at one time as posing a significant threat to water quality during the rainy season. Thus, the San Diego Water Board recognized that smaller construction sites needed to be inspected more frequently. As with the construction inspection requirements that were recently adopted for the Orange County Phase I MS4s, this Order requires sites in active grading during the rainy season that are over 30 acres, rather than sites over 50 acres, be inspected every two weeks.

The Order also lowers the size of construction sites adjacent to or discharging directly to ESAs that receive scrutiny. Order No. R9-2004-001 requires such sites five acres and more to be inspected every two weeks during the rainy season. This Order requires such sites one acre and above and tributary to (i.e. with the same Hydrologic Subarea of) a CWA section 303(d) water body segment impaired for sediment; or within, directly adjacent to, or discharging directly to a receiving water within an ESA to be inspected every two weeks during the rainy season and once during August or

[208] State of California, Department of Fish and Game, 2010. State and Federally Listed Endangered and Threatened Animals of California.
[209] United States Department of the Interior, Fish and Wildlife Service, 2001. Least Bell's Vireo Survey Guidelines.
[210] United States Department of the Interior, Fish and Wildlife Service, 1997. Coastal California Gnatcatcher (*Polioptila californica californica)* Presence/Absence Survey Guidelines.
[211] San Diego Water Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. Directive F.2.g.(2).

September. The lower size threshold is consistent with Phase II storm water permits and the Construction General Permit, State Water Board Order No. 2009-0009-DWQ.

The Copermittees also have the discretion to define or identify other construction sites that are significant threats to water quality that must be inspected every two weeks. Several factors are provided that must be considered by each Copermittee in evaluating threat to water quality.

Finally, types of construction sites that must be inspected at least monthly during the rainy season have been changed from Order No. R9-2004-001. All construction sites with one acre or more of soil disturbance must be inspected monthly during the rainy season instead of just 3 times during the rainy season. This level of inspection is necessary by the Copermittees to ensure adequate compliance with their grading, building, storm water or other water quality related orders and provisions.

This section also requires the Copermittees to track the number of inspections for each inventoried construction site. This requirement has been added to ensure that the Copermittees can demonstrate that construction sites are inspected at the minimum frequencies.

Section F.2.g requires the Copermittees to notify the San Diego Water Board when high level enforcement has been issued to a construction site as a result of storm water violations. The Copermittees will define the types of high level enforcement that will warrant a notification of the San Diego Water Board in their JRMPs. Copermittees are also required to annually notify the San Diego Water Board of construction sites that have alleged violations. This section was added to enhance San Diego Water Board and Copermittee communication and coordination in regulating construction sites.

F.3 Existing Development Component

F.3.a. Municipal
The following legal authority applies to section D.3.a:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include “A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include “A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving

waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of de-icing activities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include "A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include "A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Section F.3.a.(2) (General BMP Implementation) requires the Copermittees to designate minimum BMPs for general municipal areas and activities, regardless of their threat to water quality. BMPs must also be designated for special events. The designated minimum BMPs required to be implemented at a site can be based on the sources or activities present at the site. Threat to water quality is used to determine inspection frequencies in section F.3.a.(8).

Section F.3.a.(3), F.3.a.(4), and F.3.a.(5) (BMP Implementation for Specific Categories) establishes requirements for specific categories of activities and areas. These are selected based on the CWA and findings of the Copermittees in annual reports and ROWD that identify these activities as warranting special attention.

<u>Pesticides, Herbicides, and Fertilizers</u>. 40 CFR 122.26(d)(2)(iv)(A)(6) requires a description of a storm water program for pesticides, herbicides, and fertilizers. In addition, water quality data demonstrates widespread presence of such pollutants in

receiving waters and MS4 discharges. In response to similar requirements of Order No. R9-2004-001, the Copermittees have developed a specific Integrated Pest Management, Pesticides, and Fertilizer guidelines.

Flood Control Structures. In order to more closely meet the intent of the federal regulations and guidance, the requirement has been modified. 40 CFR 122.26(d)(2)(iv)(A)(4) requires "A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible." Retrofitting flood control devices can reduce storm water pollutants and improve water quality.

USEPA expands on the federal provision with the following information: "Storm water management devices and structures that focus solely on water quantity are usually not designed to remove pollutants, and may sometimes harm aquatic habitat and aesthetic values".[213] As flood control structures and other elements of the MS4 age and retrofitting becomes necessary, opportunities for water quality improvements arise.

Conveyance systems which take water quality consideration into account (such as grassed swales, vegetated detention ponds, etc.) can often cost less to construct than traditional concrete systems. Evaluation of the applicability of such systems during retrofitting must occur to ensure that pollutants in storm water runoff are reduced to the maximum extent practicable. USEPA supports utilizing BMPs for pollution reduction in flood management projects, stating that "The proposed management program must demonstrate that flood management projects take into account the effects on the water quality of receiving water bodies. […] Opportunities for pollutant reduction should be considered".[214]

There are generally two types of retrofits for flood control structures. The first type involves adding an engineered device to an existing structure in order to treat or divert runoff. Examples include catch basin inlet filters/screens, ultraviolet disinfection facilities, hydrodynamic separators, and diversions to the sanitary sewer. The second type involves re-installing pervious or natural treatment features to facilities. Examples include removing concrete portions of conveyances to create pervious conveyances; and creating treatment wetlands within flood detention facilities. The later type of retrofit is preferred by the San Diego Water Board. They are likely more sustainable over the long-term because they may require less rigorous operation and maintenance than the former. They may also provide the additional benefit of providing significant

[213] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.
[214] Ibid.

or incidental opportunities for beneficial uses (e.g., recreation, wildlife, water supply).[215,216]

Sweeping of Municipal Areas. Sweeping municipal areas would likely be done in the absence of the Order. However, in certain cases it is an important component of a jurisdictional runoff management program. The Order contains requirements to ensure that the use of street sweeping is optimized for runoff applications if it is to be used and reported as a BMP.

Section F.3.a.(6) (Operation and Maintenance of MS4 and Treatment Controls) requires the Copermittees to inspect and remove waste from their MS4s prior to the rainy season.

Maintenance is critical to the successful implementation of every storm water runoff management program. USEPA finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. […] The proposed program should provide for maintenance logs of, and identify specific maintenance activities for, each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year.

If maintenance activities are scheduled infrequently, inspections must be scheduled to ensure that the control is operating adequately. In cases where scheduled maintenance is not appropriate, maintenance should be based on inspections of the control structure or frequency of storm events. If maintenance depends on the results of inspections or if it occurs infrequently, the applicant must provide an inspection schedule. The applicant should also identify the municipal department(s) responsible for the maintenance program".[217] The MS4 maintenance requirements are based on the above USEPA recommendations. This maintenance will help ensure that structural controls are in adequate condition to be effective year round, but especially at the beginning of and throughout the rainy season.

Two requirements have been added to the Order that were not within Order No. R9-2004-001. Subsection (iii) allows a decreased inspection frequency for facilities that are routinely clean, and subsection (iv) requires trash to be removed from open channels and detention basins in a timely manner. Typically, Copermittees have reported annual or semi-annual creek cleanups as significant BMPs. The large volumes of trash reported to be removed during these events demonstrates the significant amount of trash that accumulates in the channels. In order to reduce the effect of the trash, the Order requires that trash be removed more frequently.

[215] Burton, Carmen et al. 2005. Assessing Water Source and Channel Type as Factors Affecting Benthic Macroinvertebrate and Periphyton Assemblages in the Highly Urbanized Santa Ana River Basin, California. American Fisheries Society Symposium. Vol.47 pp.239-262.
[216] Stromberg, Juliet C. 2001. Restoration of Riparian Vegetation in the South-Western United States: the importance of flow regimes and fluvial dynamism. Journal of Arid Environments. Vol49, pp.17-34.
[217] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.

Section F.3.a.(7) (Infiltration from Sanitary Sewer to MS4) requires the Copermittees to implement controls and measures to prevent and eliminate sewage infiltration or seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4.

Sections F.3.a.(8) and F.3.a.(9) (Inspections and Enforcement) establishes a minimum set of municipal areas and activities for oversight and inspection by the Copermittees and requires that Copermittees properly enforce runoff requirements at municipal areas and activities.

Section F.3.a.(10) (Copermittee Maintained Unpaved Roads Maintenance) requires the Copermittees to implement or require implementation of BMPs for erosion and sediment control during and after maintenance activities on the unpaved roads that the Copermittees are responsible for maintaining, particularly in or adjacent to stream channels or wetlands. As discussed for Finding D.1c, source control BMPs for unpaved roads are needed to minimize the discharge of sediment to the MS4s and receiving waters. There are several guidance documents available (see Discussion for Finding D.1.c) that include BMPs that can be readily implemented by the Copermittees for the development of new unpaved roads. This requirement is necessary to ensure the Copermittees minimize the discharge of sediment from their unpaved roads used for their maintenance activities.

F.3.b. Commercial / Industrial
The following legal authority applies to section F.3.b:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) provides that the proposed management program include “A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the Copermittee must “identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(2) provides that the proposed management program shall “Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C)

of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD_5 , TSS, total phosphorus, total Kjeldhal nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv)."

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee "Provide an inventory, organized by watershed of the name and address, and a description (such as Standard Industrial Classification [SIC] codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."

Section F.3.b.(1) (Source Identification) requires that botanical and zoological gardens and exhibits, building material retailers and storage, animal boarding facilities and kennels, mobile pet services, plumbing services, and power washing services be included in the Copermittees' inventory of commercial sites/sources. These commercial or industrial sites and sources have been identified by the Copermittees and/or the San Diego Water Board as facilities that may contribute a significant pollutant load to the MS4. In cases where a particular type of facility is not present or known to operate within a Copermittee's jurisdiction, there is no expectation that there would be any such facilities included in the inventory. If, however, that type of facility does become established or begins operating within a Copermittee's jurisdiction during the period of this Order, the Copermittees are expected to identify those sites or sources and include them in their inventory of commercial or industrial facilities. This

is not a significant change because Order No. R9-2004-001 requires that any commercial or industrial site or source determined by a Copermittee to contribute a significant pollutant load to the MS4 be added to its inventory of commercial or industrial sites.

The inventory of commercial and industrial facilities is expected to be reviewed and, if necessary, updated at least annually and included in the Annual Report. The inventory is expected to include the prioritization of each facility to ensure the facility is inspected at the correct frequency. If changes are made to the prioritization for any facilities, justification for the changes is expected to be reported in the Annual Report. The inventory is the foundation for the tracking of BMP implementation, number and date(s) of inspections performed, inspection findings, violations, and enforcement actions for each commercial or industrial facility, all of which are expected to be included in the Annual Report.

Section F.3.b.(3) (Mobile Businesses Program) requires each Copermittee to develop and implement a program to reduce the discharge of storm water pollutants from mobile businesses to the MEP and to prevent the discharge of non-storm water. Mobile businesses are service industries that travel to the customer to perform the service rather than the customer traveling to the business to receive the service. Examples of mobile businesses are power washing, mobile vehicle washers, carpet cleaners, port-a-potty servicing, pool and fountain cleaning, mobile pet groomers, plumbers, and landscapers. These mobile services produce waste streams that could potentially impact water quality if appropriate BMPs are not implemented.

Order No. R9-2004-001 also requires BMP implementation for certain mobile businesses (e.g., mobile vehicle washing and mobile carpet cleaning). These storm water requirements of Order No. R9-2004-001 are not significantly different from the existing requirements. The Order specifies the Copermittees must prevent non storm water dry weather flows from entering the MS4 (see section C.2.b). Special attention is required for mobile businesses because of the difficultly of controlling discharges from mobile businesses with existing programs.

Mobile businesses present a unique difficulty in storm water regulation. Due to the transient nature of the business, the regular, effective practice of unannounced inspections is difficult to implement. Also, tracking these mobile businesses is difficult because they are often not permitted or licensed and their services cross Copermittee jurisdictions. Mobile businesses that operate within a municipality may be based in another municipality or even outside the Region.

The Order takes into account the difficulties in regulating mobile businesses. The Copermittees may choose to cooperate in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, enforcement action information, and education. Sharing information will allow the Copermittees to better identify and track mobile businesses operating in their jurisdictions.

Because BMPs have been developed already, but communication with mobile businesses may be difficult, the Order provides broad flexibility to the Copermittees for developing a targeted program within the Commercial portion of each JRMP.

Section F.3.b.(4) (Inspection of Industrial and Commercial Sites/Sources) includes requirements for inspections of industrial and commercial sites/sources. The Order is similar to the Order No. R9-2004-001 in requiring that inspections check for coverage under the General Industrial Permit; assessment of compliance with Copermittee ordinances and permits related to storm water and non-storm water runoff; assessment of BMP implementation, maintenance, and effectiveness; visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and education and outreach on storm water pollution prevention.

The Order also requires that inspections include review of BMP implementation plans if the site uses or is required to use such a plan, and the review of facility monitoring data if the site monitors its runoff. BMP implementation plans do not include SSMPs required pursuant to section F.1.d. If a facility is not required to have a BMP implementation plan or required to collect monitoring data, the inspection does not need to include a review of this information. BMP implementation plans and monitoring data are expected to be available for any facility that is covered under the General Industrial Permit. The BMP implementation plans and monitoring data can provide the inspector pertinent information that can be used during the visual inspection of the facility (e.g., BMPs implemented, maintenance records for BMPs, pollutants in storm water runoff). The Copermittees' inspectors have the discretion to determine the depth and detail of the review and use of the information in conducting the inspection.

Changes in the Order's requirements for inspection procedures mimic USEPA's guidance: "Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an onsite visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan."[218] In 1999, USEPA "recognized visual inspection as a baseline BMP for over 10 years," and "visual inspections are an effective way to identify a variety of problems. Correcting these problems can improve the water quality of the receiving water."[219]

Inspection frequencies in the Order have been modified from Order No. R9-2004-001. Order No. R9-2004-001 specifies frequencies for inspecting commercial/industrial sites based on threat to water quality and requires high priority sites to be inspected annually. For sites not identified as high priority, each site must be inspected at least once within a 5 year period.

[218] USEPA, 1992. Guidance 833-8-92-002, section 6.3.3.4 "Inspection and Monitoring".
[219] USEPA, 1999. 832-F-99-046, "Storm Water Management Fact Sheet – Visual Inspection".

Also, the option for implementing a third party certification program is included. To the extent that third party certifications are conducted to fulfill the inspection requirements for this section of this Order, the Copermittee will be responsible for conducting and documenting quality assurance and quality control of the third-party certifications. The Copermittees may propose a third party certification program that must receive approval from the San Diego Water Board Executive Officer prior to implementation. The Order includes several requirements that must be included in the third party certification program in order for it to be considered for approval by the San Diego Water Board.

Section F.3.b.(6) (Reporting of Non-Compliant Sites) has been added as additional notification to the San Diego Water Board regarding commercial and industrial sites. Copermittees are required to annually notify, prior to the rainy season, the San Diego Water Board of commercial and industrial sites that have any unresolved high level enforcement actions. This was added to enhance San Diego Water Board and Copermittee communication. Information may be provided as part of the JRMP annual report if submitted prior to the rainy season.

F.3.c. Residential
The following legal authority applies to section F.3.c:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes “A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

Section F.3.c.(4) (Common Interest Areas / Home Owner Association Areas / Mobile Home Parks) includes requirements for common interest areas / homeowners’ associations and mobile home parks. Many residential neighborhoods and some commercial areas within the jurisdiction of the Copermittees are within common interest developments and are, therefore, subject to management of common areas by associations. The Declaration of the Covenants, Conditions and Restrictions (CC&Rs)

contains the ground rules for the operation of such an association. CC&Rs are an appropriate method for protecting the common plan of developments and to provide for a mechanism for financial support for the upkeep of common areas including roads, storm drains, and other components of storm water conveyance systems.

This Order interprets common interest areas as property subject to the codes and ordinance and enforcement mechanisms of the city or county in which it resides and, therefore, holds the local government responsible for the discharge of wastes from storm water conveyance systems located within these areas.

Section F.3.d. Retrofitting Existing Development
The following legal authority applies to section F.3.d:

Legal Authority: The legal authority for retrofitting existing development is the same legal authority as that identified for municipal, industrial, commercial and residential development sections (See fact sheet discussion on those sections, F.3.a – c). In particular, CWA sections 402(p)(3)(B)(ii-iii), and CWC section 13377 give the Regional Water Board the legal authority to require retrofitting of existing development.

Section F.3.d has been added to require a plan for the retrofit of existing development (see Finding D.3.h and Discussion). This section contains specific requirements for a program to retrofit existing development. When appropriately applied as in this Order, retrofitting existing development meets MEP standards.

Existing BMPs are not sufficient, as evidenced by 303(d) listings and exceedances of Water Quality Objectives from the Copermittees monitoring reports. More advanced BMPs, including the retrofitting of existing development with LID, are part of the iterative process. Previous permits limited the requirement of treatment control BMPs to new development and redevelopment. Based on the current rate of redevelopment compared to existing BMPs, the use of LID only on new and redevelopment will not adequately address current water quality pollution and problems, including downstream hydromodification. Retrofitting existing development is practicable for a municipality through a systematic evaluation, prioritization and implementation plan focused on impaired water bodies, pollutants of concern, areas of downstream hydromodification, feasibility and effective communication and cooperation with private property owners. The retrofitting requirements are based largely on guidance from the USEPA[220] and the Center for Watershed Protection.[221]

Section F.3.d.(1) requires the Copermittees to identify and inventory areas of existing development within their jurisdiction as candidates for retrofitting projects. The Copermittees are expected to examine the inventories that they are maintaining as required under sections F.3.a-c, inspection findings, and any other forms of data and information to identify the candidates for retrofitting projects. Several areas of existing

[220] USEPA , MS4 Permit Improvement Guide, EPA 833-R-10-001, April, 2010.
[221] Center for Watershed Protection, Urban Subwatershed Restoration Manual No. 3, Urban Stormwater Retrofit Practices Manual, Version 1.0, July/August 2007.

development that must be identified as candidates for retrofitting projects are listed. Based in part on guidance developed by the Center for Watershed Protection, these areas of existing development are expected to provide the most immediate improvements for water quality through retrofitting. This list of areas that must be considered does not limit the Copermittees from identifying other areas within their jurisdiction that may be evaluated for retrofitting projects.

Section F.3.d.(2) requires each Copermittee to evaluate the candidates identified under section F.3.d.(1) and rank them based on several criteria. One or more types of retrofit source control or treatment control BMPs may be evaluated for each candidate. Landowner cooperation is among the criteria to evaluate and prioritize retrofitting. For example, retrofitting projects on publicly owned properties are likely and expected to be feasible with sufficient funding secured.

Section F.3.d.(4) requires each Copermittee to cooperate with private property owners to encourage the implementation of site specific retrofitting projects. Because the Copermittees have limited authority to directly require retrofitting projects on private property, the Copermittees must encourage private property owners to implement retrofitting projects through indirect programs and incentives. Several programs and incentives that have been successful in other areas are provided in the Order for the Copermittees consideration in developing their practices to encourage private property owners to retrofit their sites. This list, however, does not limit the Copermittees from identifying and considering other practices that may be effective in encouraging private property owners to implement retrofitting projects on their sites.

Section F.3.d.(5) requires retrofit BMPs that are implemented to be tracked in accordance with section F.1.f. The retrofit BMPs must also be inspected. Retrofit BMPs on publicly owned properties must be inspected per section F.1.f. Privately owned retrofit BMPs must be inspected as needed to ensure proper operation and maintenance. Tracking and inspecting retrofit BMPs is necessary for the Copermittee to ensure that the retrofit BMPs are not removed and are maintained to remain effective. Inspections can also provide the Copermittee useful information on the effectiveness of individual retrofit BMPs. For retrofit BMPs on publicly owned properties, tracking and inspection will correct any problems with the BMPs as soon as a problem arises and will ensure proper maintenance.

For retrofit BMPs on privately owned properties, retrofit BMPs are expected to be implemented and maintained by the property owner on a voluntary basis. The retrofit BMPs must be tracked by the Copermittees, but their inspections are required less frequently due to access issues (i.e. on an as-needed basis). Voluntary retrofitting projects do not warrant frequent Copermittee inspections due to the property owner's willingness to retrofit. Periodic inspections may be performed to ensure the site owner has not removed the retrofit BMPs. Periodic inspections would also ensure that the retrofit BMPs remain effective by providing an opportunity for the inspector to educate the original and subsequent site owner(s) if the retrofit BMP is not operating effectively and requires some maintenance.

F.4. Illicit Discharge Detection and Elimination

The following legal authority applies to section F.4:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program "procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program "a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(5) provides that the Copermittee include in its proposed management program "a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the Copermittee include in its proposed management program "a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(7) provides that the Copermittee include in its proposed management program "a description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary."

Section F.4.a (Prevent and Detect Illicit Discharges and Connections) requires the Copermittees to implement a program to actively seek and eliminate IC/IDs. Additional wording has been added to this section to clarify and ensure that all appropriate municipal personnel (i.e. field personnel) are utilized in the program to observe and report these illicit discharges and connections.

Section F.4.b (Maintain MS4 Map) requires each Copermittee to maintain an updated map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The Order specifies that the map must include the segments of the storm sewer system owned, operated, and maintained by the Copermittee, and include locations of all known inlets, connections with other MS4s, and outfalls to the Copermittee's MS4. Knowing where their inlets, access points, connections with other MS4s, and outfalls are located will allow the Copermittees to better track, identify, and eliminate IC/IDs. The use of a geographic information system (GIS) by the Copermittees is strongly encouraged for the MS4 map. The Riverside County Flood Control and Water Conservation District (RCFCD) currently maintains a GIS layer that is a compilation of all the Copermittee MS4 maps. Although an individual Copermittee may not have GIS capabilities, each Copermittee has agreements with RCFCD for providing updated MS4 maps to the RCFCD to update this GIS layer and subsequent submittal to the San Diego Water Board.

Section F.4.e (Investigation / Inspection and Follow-Up) requires the Copermittees to conduct follow up investigations and inspect portions of the MS4 for illicit discharges and connections, based on dry weather effluent analytical monitoring results. The section also requires the Copermittees to establish criteria for triggering follow up investigations. Additional language has been added to this section to clarify the minimum level of effort and timeframes for follow up investigations when dry weather limitations are exceeded. This section requires the Copermittees to include and evaluate the specified action levels in their response criteria and to develop response criteria for pollutants without action levels.

Timely investigation and follow up of exceedances is necessary to identify sources of illicit discharges, especially since many of the discharges are transitory. The requirements for immediate response to obvious illicit discharges and a 2 business day minimum response time when field screening action levels are exceeded is necessary to ensure timely response by the Copermittees. When analytical data indicate an exceedance of action levels, the Copermittee(s) have 5 business days to confirm the need to initiate an investigation to identify the source of the exceedance. The Copermittees are expected to investigate for potential sources of the pollutant(s) that may have caused the exceedance of action levels upstream of the collection point and collect additional analytical and field data as necessary. If the quality of the data

is confirmed to be unreliable or inaccurate and the investigation indicates there were no sources of the pollutant that could have caused an exceedance of the applicable action level, then further investigation is no longer warranted and should be documented in the Annual Report.

Section F.4.f (Elimination of Illicit Discharges and Connections) requires the Copermittee(s) to take immediate action to initiate steps necessary to eliminate illicit discharges, illicit discharge sources, and illicit connections that have been detected as a result of the investigations required under section F.4.e. The steps necessary to eliminate the illicit discharge or connection are typically initiated with identifying and contacting the person responsible for the illicit discharge or connection. The Copermittee(s) are expected to eliminate the detected illicit discharges and connections as soon as possible after they are able to contact the person responsible for the illicit discharge or connection. The steps expected and/or necessary to eliminate illicit discharges and connections under different scenarios and for different sources should be developed and implemented by the Copermittee(s). These steps may be outlined by the Copermittee(s) in their JRMPs.

In some cases, the Copermittee(s) may determine that one of the necessary steps is to contact the San Diego Water Board to assist in resolving and eliminating illicit discharges and connections. The Copermittee(s), however, are expected to exhaust all of their available administrative and enforcement authorities and mechanisms for addressing and eliminating illicit discharges and connections before contacting the San Diego Water Board for assistance.

Section F.4.h (Prevent and Response to Sewage Spills and Other Spills) requires each Copermittee to implement measures to prevent and respond to spills into its MS4. These requirements are consistent with Order No. R9-2004-001 and based on federal regulations at 40 CFR 122.26(d)(2)(iv)(B)(4). Those federal NPDES regulations clearly require that owners and operators of MS4s have procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.

The Order includes sewage and non-sewage spills in the requirement for spill prevention and response. Federal regulations clearly define sewage as an illicit discharge that must be addressed by municipalities (see Phase II Final Rule, p.68758). Sewage is an illicit discharge to the MS4 that threatens public health. As such, the Copermittees must implement measures to prevent sewage from entering the MS4 system and must respond to illicit discharges that have entered the system. This section has been revised to clarify that management measures and procedures must be implemented to prevent, respond to, and cleanup spills. In addition to the management measures and procedures, a mechanism for the Copermittees to be notified of spills is necessary in order for those management measures and procedures to be implemented as soon as possible after a spill has occurred. The facilitation of public reporting of illicit discharges required by section F.4.c, in addition to regular and open communication with other agencies (e.g., sanitary sewer districts),

may also serve as a mechanism for notifying the Copermittees of spills within their jurisdiction.

Section F.3.a.(7) of the Order includes requirements for measures that must be taken to prevent sewage spills. Examples of measures being implemented by Copermittees include inspections of fats, oils, and grease management at restaurants. Other preventative measures can be implemented during routine planning efforts for new development and redevelopment projects. Similarly, building permit inspections should be used to verify the integrity of the sanitary and storm sewer infrastructure and ensure that cross-connections between the two are avoided.

F.5. Public Participation Component

The following legal authority applies to section F.5:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

No significant changes from Order No. R9-2004-001 have been made to this section of the Order.

F.6. Education Component

The following legal authority applies to section F.6:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include “A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as *educational activities*, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include “A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include “A description of appropriate educational and training measures for construction site operators.”

Section F.6 (Education Component) includes an introductory paragraph that is the same as in Order No. R9-2004-001, except for the addition of New Development / Redevelopment Project Applicants, Developers, Contractors, Property Owners, and other Responsible Parties to the list of target communities.

Section F.6.a (General Requirements) includes education topics that are required for the education programs developed and implemented for the target communities. The Copermittees can choose how and to what degree to address these topics. Some topics may be more important for certain target communities.

The requirement for educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials has been moved to this section from the Illicit Discharge Detection and Elimination section.

Section F.6.b (Specific Requirements) includes requirements for specific target communities, which are in addition to the general requirements. The education and training requirements previously included in other sections of Order No. R9-2004-001 (i.e. Development Planning, Construction, Existing Development) have been removed and consolidated under this section. Specific education requirements are included for: 1) the Copermittees' departments and personnel (i.e. staff and contractors, and Planning Boards and Elected Officials, if applicable), 2) new development / redevelopment and construction sites, 3) commercial and industrial sites/sources, and 4) residential and general public communities.

Section F.6.b.(1) (Copermittee Departments and Personnel) requires the Copermittees to implement an education program for their staff and contractors. Education is required at all levels of municipal staff and contractors. Education is especially important for the staff responsible for planning and development review, oversight, inspection and enforcement of construction activities, selecting and implementing BMPs for Copermittee areas, inspection and enforcement of industrial and commercial facilities, and other Copermittee activities which might result in discharges of pollutants if proper BMPs are not used.

Education of Copermittee departments and personnel may be conducted with joint and/or individual training programs (i.e. on a regional and/or jurisdictional scale), and may include both formal and informal training. The Copermittees may choose the scale and methods for educating their departments and personnel.

The annual training required for construction, building, code enforcement, grading review staffs, inspectors, and other responsible construction staff requires the training to occur annually, prior to the rainy season.

Section F.6.b.(2) (New Development / Redevelopment and Construction Sites) requires the Copermittees to educate parties responsible for a project (i.e. project applicants, developers, contractors, property owners, community planning groups, and other responsible parties) about storm water issues and BMPs. Different levels of training will be needed for planning groups, owners, developers, contractors, and construction workers, but all should get a general education of storm water requirements. Education of all construction workers can prevent unintentional discharges, such as discharges by workers who are not aware that they are not allowed to wash things down the storm drains. Training for BMP installation workers is imperative because the BMPs will fail if not properly installed and maintained. Training for field level workers can be formal or informal tail-gate format.

Section F.6.b.(3) (Commercial and Industrial Sites / Sources) requires the Copermittees to notify the owner/operator of each of their inventoried commercial and industrial sites/sources of the BMP requirements applicable to the site/source at least twice during the five-year period of the Order. Notification of BMP requirements may be fulfilled during the business license application/renewal process and/or during site inspections. Notifying commercial and industrial sites/sources of the BMP requirements will ensure the business owners are aware of the appropriate BMPs to implement that prevent discharges of pollutants from these sites/sources.

Section F.6.b.(4) (Residential and General Public) requires the target audiences for residential and general public communities to include underserved target audiences (e.g., disadvantaged communities), residents and managers of Common Interest Areas / Homeowner Associations, and owners and residents of mobile home parks. These communities are frequently neglected or underserved by most water quality education programs, but can be significant sources of pollutants. Thus, it is important for the residential and general public education programs to reach out to and educate these communities on their potential impacts to water quality.

G. Watershed Water Quality Workplan

The following legal authority applies to section G:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(ii) states: "The Director may […] issue distinct permits for appropriate categories of discharges […] including, but not limited to […] all discharges within a system that discharge to the same watershed […]"

Federal NPDES regulations 40 CFR 122.26(a)(3)(v) states: "Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed, or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas [watersheds] which contribute storm water to the system."

Federal NPDES regulation 40 CFR 122.26(a)(5) states: "The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)91)(v) of this section on a system-wide basis, a jurisdiction-wide basis, watershed basis, or other appropriate basis."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) states: "Proposed programs may impose controls on a system-wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls."

Section G requires Copermittees to continue implementation of their watershed runoff management program (WRMP), however the implementation approach has changed. Order No. R9-2004-001 required a Watershed SWMP that included a collaborative strategy to abate the sources and reduce the discharges causing high priority water quality problems. This strategy was to guide each watershed Copermittee's selection and implementation of Watershed Activities, so that the activities selected and implemented would remove that pollutant contribution responsible for the identified high priority water quality problem. Outcomes of these requirements were not able to demonstrate improvements to water quality.

Revised language in Order No. R9-2010-0016 attempts to focus each watershed Copermittee's efforts and resources on addressing the highest water quality problems in the watershed by focusing attention on the health of the receiving water body and the most efficient use of the watershed Copermittee's time and resources. Order No. R9-2010-0016 requires the watershed Copermittees to develop and follow a workplan approach towards assessing receiving water body conditions, prioritizing the highest

priority water quality problems, implementing effective BMPs, and measuring water quality improvement in the receiving water.

Section G.1. (Watershed Workplan Components) requires the watershed Copermittees to develop a workplan that will implement a collective watershed strategy to assess and prioritize the water quality problems, and identify, address, and mitigate the highest priority water quality issues/pollutants within the Upper Santa Margarita watershed's receiving waters. This section specifies the minimum components that must be included in the Watershed Workplan. Development of a workplan rather than watershed activities will allow the Copermittees flexibility to iteratively modify their watershed strategy over the course of future planning years as priorities change.

Section G.2 (Watershed Workplan Implementation) requires the Copermittee's to begin implementing the Watershed Workplan within 90 days of submittal unless otherwise directed by the San Diego Water Board. The Watershed Workplan must meet the requirements of the Order. The San Diego Water Board expects that implementing the Watershed Workplan, which will coordinate the Copermittees' efforts in the watershed, will result in water quality improvements sooner than later. If there are deficiencies in the Watershed Workplan, the San Diego Water Board will provide guidance to remedy those deficiencies as appropriate.

Section G.3 (Copermittee Collaboration) requires the Copermittees to collaborate to develop and implement the Watershed Workplan. Watershed Copermittee collaboration must include frequent regularly scheduled meetings. Because there are several other agencies with MS4s in the Upper Santa Margarita watershed that the Copermittees have indicated in the ROWD are a source of pollutants that may discharge into the MS4 systems of the Copermittees, the Copermittees are also required to pursue interagency agreements, or similar cooperative efforts, with non-Copermittee owners of the MS4 (such as Caltrans, Native American tribes, and school districts) to control the contribution of pollutants from one portion of the shared MS4 to another portion of the shared MS4. In addition, the Copermittees are required, as appropriate, to participate in watershed management efforts to address water quality issues within the entire Santa Margarita Watershed (such as the County of San Diego and United States Marine Corps Camp Pendleton).

Section G.4 (Public Participation) requires the Copermittees to implement a watershed-specific public participation mechanism within each watershed. A required component of the watershed-specific public participation mechanism must be a minimum 30-day public review of the Watershed Workplan. Opportunity for the public to review and comment on the Watershed Workplan must occur before the workplan is implemented.

Section G.5 (Watershed Workplan Review and Updates) requires the Copermittees to review and update the Watershed Workplan annually to identify needed changes to the prioritized water quality problem(s) listed in the workplan. This section requires the Copermittees to review and update their workplan each year to incorporate changing priorities and evolving watershed strategies.

Section G.6 (Pyrethroid Toxicity Reduction Evaluation) requires the Copermittees to incorporate the pyrethroid pollutant reduction program into the Watershed Workplan, as described in the ROWD.

H. Fiscal Analysis

The following legal authority applies to section H:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(vi) provides that "[The Copermittee must submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds."

Section H has been expanded in order to develop more useful and meaningful fiscal reporting. A revamped fiscal reporting strategy will provide the San Diego Water Board and the Copermittees with better capability to manage performance of the programs.

The Copermittees' effort is expected to provide standardization of reporting so that figures between Copermittees are comparable, which is one of many types of information which can be used by the San Diego Water Board to better understand Copermittee program implementation. Standardization and comparison of fiscal analysis reporting is supported by the State Water Board funded NPDES Stormwater Cost Survey, which finds that "standards for reporting costs and storm water activities are needed to allow accurate cost comparisons to be made between storm water activities."[222] This document also provides guidance regarding categorization of expenditures for tracking and reporting.

The Order establishes a criterion for when Copermittees must add narrative evaluations to the tables. This will address some of the variability in reporting and will provide the public and San Diego Water Board with improved understanding of how resources are shifted in response to annual assessments. This will also help ensure that projected annual costs adequately reflect planned program modifications described in the annual reports.

The San Diego Water Board has chosen not to require a description of fiscal benefits realized from implementation of the storm water protection program. This is a recommendation from the National Association of Flood and Stormwater Management

[222] Currier, et al., 2005. *NPDES Storm Water Cost Survey Final Report*. Prepared for California State Water Resources Control Board by Office of Water Programs, California State University, Sacramento. P. 63.

Agencies.[223] For instance, the current fiscal assessment does not address city-wide fiscal benefits of protection (e.g., public health, tourism, property values, economic activity, beneficial uses, etc.), even though many costs currently reported to the San Diego Water Board are for related activities. This type of assessment may help Copermittees improve the allocation of resources and it may help the Copermittees secure adequate funding for the program. Finally, it will provide a clearer picture of the storm water and non-storm water runoff program to the public and San Diego Water Board. However, qualitative assessments could be overly subjective and most Copermittees likely lack the ability to provide accurate quantitative assessments. The San Diego Water Board encourages Copermittees to consider means for conducting assessments of fiscal benefits derived from the programs. Such assessments could be conducted on a regional scale similar to studies of program costs conducted by the State Water Board.[224]

Currently, each Riverside County municipality's annual report includes a table based on a template developed by the principal Copermittee. The template was meant to facilitate reporting consistency among the Copermittees. The annual report table contains estimates of spending during the reported period and estimates of the next year's spending.

Review of the fiscal analysis tables included in the annual reports has not been as straightforward as expected, and the value of the information is moderate. The reviews indicate that cities do not use consistent methods to fill in the tables because they use different accounting and budgeting processes, and certain storm water program expenditures are not easily categorized into the table formats. Furthermore, storm water permit-related activities involve several departments, which makes it difficult for the storm water manager to gather and decipher actual costs.

These issues also make it difficult for the Copermittees to accurately compartmentalize expenditures within the format. As a result, the current financial reporting provides estimates at best and cannot be reliably used to compare program implementation among most municipalities.

[223] National Association of Flood and Stormwater Management Agencies. 2006. *Guidance for Municipal Stormwater Funding.* Prepared under a grant provided by the USEPA.
[224] State Water Board, 2005. NPDES Stormwater Cost Survey.

I. Total Maximum Daily Loads

The following legal authority applies to section I:

Broad Legal Authority: CWA section 303(d)(1)(A) and (C), and Federal regulations 40 CFR 130.2(i), 40 CFR 130.7(b)(1) and 40 CFR 122.44(d)(1)(vii)(B).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.44(d)(1)(vii)(B) requires that NPDES permit requirements incorporate water quality based effluent limitations that must be consistent with the requirements and assumptions of wasteload allocations (WLAs) assigned to the MS4 as part of the calculated TMDLs.

Section I.1. is a placeholder for the requirements and WLAs assigned to the Copermittees' MS4 discharges of any future TMDLs that are adopted by the San Diego Water Board.

Section I.2 includes, by reference to Santa Ana Water Board Order No. R8-2010-0033, including the relevant sections of the fact sheet and findings (and subsequent revisions), the requirements and WLAs assigned to the MS4s for the Lake Elsinore/Canyon Lake (San Jacinto Watershed) Nutrient TMDLs that are being implemented for the Santa Ana Water Board. Because the San Jacinto Watershed is within the boundaries of the Santa Ana Water Board's region, the Lake Elsinore/Canyon Lake Nutrient TMDLs and its requirements must be implemented by the Cities of Murrieta and Wildomar for the areas within their jurisdictions located in the Santa Ana Region (Region 8).

J. Program Effectiveness Component

The following legal authority applies to section J:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(v) provides that the Copermittees must include "Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water." Under Federal NPDES regulation 40 CFR 122.42(c) applicants must provide annual reports on the progress of their storm water management programs.

Section J.1 (Program Effectiveness Assessments) of the Order requires the Copermittees to assess the effectiveness of the implementation of their jurisdictional, watershed, and monitoring programs and activities. The Riverside County Storm Water Program is supportive of the CASQA effort, and use of CASQA assessment techniques is consistent with the methodology proposed in the ROWD.[225,226]

This section requires the Copermittees to establish assessment measures or methods for each of the six outcome levels described by CASQA that will be used to assess the effectiveness of the Jurisdictional Runoff Management Program (JRMP) and Watershed Workplan implementation at (1) reducing the discharge of storm water pollutants from its MS4 to the MEP; (2) prohibit non-storm water discharges; and (3) preventing runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.

The effectiveness assessment measures or methods must be established and included as part of the updated JRMPs and Watershed Workplan that are due on or before June 30, 2012. Beginning with the Annual Report due in 2013, the Copermittees are required to annually perform the assessments using the established assessment measures or methods.

Section J.2 (Respond to Assessments) of the Order requires the Copermittees to improve jurisdictional and watershed activities or BMPs when they are found to be ineffective or when water quality impairments are continuing. This requirement fulfills the purpose of conducting effectiveness assessments – to improve and refine the Copermittees' programs. The requirement is consistent with USEPA's Phase II

[225] The Riverside County Copermittees proposed an assessment strategy based on the CASQA Municipal Stormwater Program Effectiveness Assessment Guidance in section 6.1.2.1 of the ROWD.
[226] CASQA 2007. Municipal Stormwater Program Effectiveness Assessment Guidance.

regulations, which state: "If the permittee determines that its original combination of BMPs are not adequate to achieve the objectives of the municipal program, the MS4 should revise its program to implement BMPs that are adequate […]."[227]

Each Copermittee must update the effectiveness assessment work plan and schedule to address any program modifications and improvements in response to the findings of their assessment. The updates to the work plan and schedule must be incorporated into the applicable Annual Report.

Section J.3 (Assessment and Response Reporting) of the Order describes the information required to be submitted in the Annual Report pertaining to program effectiveness assessments, review, and response. A summary of the effectiveness assessments, responses to the effectiveness assessments, and any steps implemented to improve the Copermittee's ability to assess program effectiveness must be included with the Annual Report. The reporting will demonstrate whether Copermittees have appropriately responded to the effectiveness assessments.

[227] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68762.

K. Reporting

The following legal authority applies to section K:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation."

CWC section 13267 provides that "the Regional Board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Section K.1 (Runoff Management Plans) outlines the process and due dates for submitting JRMPs and Watershed Workplan. The information to be included in the Jurisdictional and Watershed plans must be sufficient to demonstrate the capacity to implement the requirements of section F and G, respectively, of the Order.

In many cases, the requirements of the Order should not necessitate a complete rewrite of the plans, as was basically done in 2005. Only sections of the Order which are new or have been significantly changed should warrant rewriting of plans' sections. The San Diego Water Board plans to work with the Copermittees and provide guidance regarding where JRMPs and Watershed Workplan must be updated in accordance with the Order. This will help ensure that rewriting, reporting, and review efforts are minimized.

Section K.2 (Other Required Reports and Plans) include requirements for information to be included in the SSMP update, the HMP, and the Report of Waste Discharge (ROWD) for the next permit reissuance. The Order requires submittal of an updated SSMP on or before June 30, 2012; a draft HMP on or before June 30, 2013; and a

ROWD 180 days in advance of the expiration of this Order. The section also identifies the minimum information to be included in the ROWD, based on USEPA's May 17, 1996 guidance "Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems."

Section K.3 (Annual Reports) outlines the process and roles of the Copermittees for developing and submitting the JRMP Annual Report. Information to be included in the Annual Reports is described in section K.3.a.(3).

Each Copermittee is required to maintain records demonstrating that Permit activity requirements have been met, which allows the San Diego Water Board to confirm compliance as needed, such as via inspections, program audits, or requests for information per CWC sections 13225 and 13267.

Reporting requirements in the Order focus on results and responses to the effectiveness assessments conducted by the Copermittees. This will allow the San Diego Water Board to determine how appropriately municipalities adapt and tailor their programs to findings from activities and monitoring results. Assessment of progress toward meeting the objectives is possible because the data collected by the Copermittees under Order No. R9-2004-001 can be used to establish baseline conditions. Compared to activity-based reporting, this will greatly enhance the ability of the San Diego Water Board, Copermittees, and the public to determine whether the programs are successful.

The Order reduces the amount of program activity-based reporting from Order No. R9-2004-001. Under the CASQA assessment model, activity-based reporting includes primarily outcomes that document compliance with permit requirements (Level 1 outcomes), rather than being indicators of the impact of activity implementation.[228] This approach is consistent with guidance from the USEPA, which notes that annual reports should highlight program effectiveness as well as describing activities.[229] This emphasis is also consistent with recommendations from the National Academy of Public Administration in its report to USEPA on Evaluating Environmental Progress, which suggest that reviewing activities data provides limited value when evaluating the effectiveness of programs and resulting environmental conditions.[230]

The Order maintains some reporting requirements for certain activity-based outcomes. These are mostly focused on activities that establish or revise municipal processes related to storm water runoff and management. The processes required by the Order are especially important in situations where sustaining water quality improvements may require activities that extend beyond the five-year period of the NPDES permit.

[228] Level 1 outcomes under the CASQA guidance include documentation that required activities have been implemented.
[229] USEPA 2007. *MS4 Program Evaluation Guidance.* USEPA Office of Wastewater Management EPA-833-R-07-003. January 2007 field test version.
[230] National Academy of Public Adminstration 2001. Evaluating Environmental Progress: How EPA and the States Can Improve the Quality of Enforcement and Compliance Information (June 2001). http://www.napawash.org

In addition, the Order maintains many activity-based reporting requirements related to enforcement of local requirements, with an emphasis on the results from such activities. This is intended to facilitate review of the contributions that inspection and enforcement activities have made toward meeting the goals of the Order. Reporting of these types of activities is supported by recommendations from the National Academy of Public Administration in its report to the USEPA: *Evaluating Environmental Progress: How EPA and the States Can Improve the Quality of Enforcement and Compliance Information* (June 2001).[231] Other activity-based reporting has been reduced to selected items based on consideration of program priorities.

Another source of prioritization for activity-based reporting is the *Storm Water Panel Recommendations to the California State Water Resources Control Board The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 19, 2006). In particular, the panel highlighted needs to improve the design, maintenance, and inspections of best management practices.

Section K.4 (Interim Reporting Requirements) specifies that the JRMP Annual Reports must be submitted in accordance with the requirements of Order No. R9-2004-001 prior to submittal of the JRMPs required under section K.1a.

[231] The National Academy of Public Administration report is available on-line at http://www.napawash.org

L. Modification of Programs

The following legal authority applies to section L:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Section L of the Order provides a process for the Copermittees to modify their runoff management programs. This process will be useful so that the Copermittees can continue to refine and improve their programs based on the findings of their annual program effectiveness assessments. The process allows for minor modifications to the Copermittees' programs where the Copermittees can exhibit that the modifications meet or exceed existing legal requirements under the Order. Such a process avoids lengthy and time consuming formal approvals of proposed modifications before the San Diego Water Board, while still ensuring compliance with applicable legal standards and the Order. The process included in the Order is based on a process utilized by the California Regional Water Quality Control Board, San Francisco Bay Region (San Francisco Bay Water Board) in their MS4 permit for Alameda County.[232]

[232] San Francisco Bay Water Board, 2003. Order No. R2-2003-0021. P. 45.

M. Principal Permittee Responsibilities

The following legal authority applies to section M:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(iii)(C) provides that “A regional authority may be responsible for submitting a permit application.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that “[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

No significant changes were made to this section.

N. Receiving Waters and MS4 Discharge Monitoring and Reporting Program

The following legal authority applies to section N:

Broad Legal Authority: CWA sections 402, 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iii) and 122.44 require the Copermittees to conduct a comprehensive monitoring program.

See section T of this Fact Sheet/Technical Report for a discussion of changes to the Receiving Waters Monitoring and Reporting Program.

O. Standard Provisions, Reporting Requirements, And Notifications

The following legal authority applies to section O:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Section O.2 of the Order has been changed to remove the statement that all plans and reports submitted in compliance with the Order are an enforceable part of the Order. This statement has been removed because it is unnecessary. The Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limitations, non-storm water action levels and the narrative standard of MEP for storm water are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limitations is the pertinent compliance standard to be used under the Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone.

Rather than being substantive components of the Order itself, the Copermittees' management plans are simply descriptions of their runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and San Diego Water Board in tracking implementation of the programs. In this manner, the plans are not functional equivalents of the Order. For these reasons, the Copermittees' runoff management plans need not be an enforceable part of the Order.

P. Attachment A – Basin Plan Prohibitions

The following legal authority applies to Attachment A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: CWC section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

CWC section 13263(a) provides that waste discharge requirements prescribed by the San Diego Water Board implement the Basin Plan.

No significant changes were made to this attachment.

Q. Attachment B – Standard Provisions

The following legal authority applies to Attachment B:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Attachment B includes Standard Provisions which have been developed by the State Water Board. These Standard Provisions ensure that NPDES permits are consistent and compatible with USEPA's federal regulations. Some Standard Provisions sections specific to publicly owned sewage treatment works are not included in Attachment B.

R. Attachment C – Definitions

The following legal authority applies to Attachment C:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Attachment C contains definitions for terms found in the Order. In addition, definitions for terms previously defined in Order No. R9-2004-001 Attachment C, but which are not found in the current Order, have been deleted.

An additional section which includes acronyms and abbreviations has been added. This is to ensure clarity and prevent confusion of terms. Definitions have been added for new terms used in the permit to provide a clear understanding of their meaning and use.

S. Attachment D – Summary of Submittals

The following legal authority applies to Attachment D:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, 13383, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv) and 122.44(i).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation."

CWC section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Attachment D to the Order provides a table summary of scheduled submittals required by the Order. Unscheduled submittals are no longer added to the table, since there is no proper due date for such submittals. A task summary has not been created for the Order, since the previous task summary was found to be redundant, repeating information found in the submittal summary and elsewhere in the Order.

A Jurisdictional Runoff Management Program (JRMP) Annual Report Checklist has been added to the reporting requirements. This addition is to determine and ensure that all requirements of the permit are being met. A Jurisdictional Runoff Management Program (JRMP) Annual Report Checklist has been added to the reporting requirements. This addition is to determine and ensure that all requirements of the permit are being met.

T. Attachment E - Receiving Waters and MS4 Discharge Monitoring and Reporting Program

The following legal authority applies to the Receiving Waters and MS4 Discharge Monitoring and Reporting Program:

Broad Legal Authority: CWA sections 402, 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv), 122.44 and 122.45.

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iii) requires the Copermittees to conduct a comprehensive monitoring program.

Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include: (1) The status of implementing the components of the storm water management program that are established as permit conditions; (2) Proposed changes to the storm water management program that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part; (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; (5) Annual expenditures and budget for year following each annual report; (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; (7) Identification of water quality improvements or degradation."

CWC section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

I. Purpose

According to USEPA, the benefits of sampling data include, but are not limited to:

1. Providing a means for evaluating the environmental risk of storm water discharges by identifying types and amounts of pollutants present;
2. Determining the relative potential for storm water discharges to contribute to water quality impacts or water quality standard violations;
3. Identifying potential sources of pollutants; and

4. Eliminating or controlling identified sources more specifically through permit conditions.[233]

Equally important, monitoring programs are an essential link in the improvement of storm water management efforts. Data collected from monitoring programs can be assessed to determine the effectiveness of management programs and practices, which is vital for the success of the iterative approach used to meet the MEP standard for storm water. When water quality data indicate that water quality standards or objectives are being exceeded, particular pollutants, sources, and drainage areas can be identified and targeted for specific management efforts. When data indicate that a particular BMP or program component is not effective, improved efforts can be selected and implemented.

Considering the benefits described above, the Receiving Waters Monitoring and Reporting Program (MRP) has been designed to determine impacts to receiving water quality and beneficial uses from storm water runoff and to use the results to refine the Copermittees' storm water runoff management programs for the reduction of storm water pollutant loadings to the MEP. For non-storm water discharges, monitoring has been designed to identify and eliminate prohibited illicit discharges and to determine appropriate actions to take in response to dry weather non-storm water action levels. Additionally, the results from dry weather non-storm water monitoring can be used to evaluate exempted non-storm water discharges as a source or conveyance of pollutants. The primary goals of the MRP include:

1. Assess compliance with Order No. R9-2010-0016;
2. Measure and improve the effectiveness of the Copermittees' runoff management programs;
3. Assess the chemical, physical, and biological impacts of receiving waters from MS4 discharges;
4. Characterize storm water runoff discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4;
8. Assess the overall health of receiving waters; and
9. Provide information to implement required BMP improvements

Each of the components of the MRP is necessary to meet the objectives listed above. In addition, the MRP has been designed in accordance with the guidance provided by the Southern California Stormwater Monitoring Coalition's Model Monitoring Technical Committee in its August 2004 "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California." This guidance document was developed in response to Senate Bill 72 (Kuehl), which addressed the standardization of sampling and analysis protocols in municipal storm water monitoring programs. The technical committee which developed the guidance included representatives from

[233] USEPA, 1992. NPDES Storm Water Sampling Guidance Document. EPA/833-B-92-001.

Southern California Regional Water Boards (including the San Diego Water Board), municipal storm water Copermittees (including Riverside County Flood Control District), Heal the Bay, and the Southern California Coastal Water Research Project.

As its title suggests, the guidance essentially developed a model municipal storm water monitoring program for use in Southern California. The model program is structured around five fundamental management questions, outlined below. The MRP is designed as an iterative step towards ensuring that the Copermittees' monitoring program can fully answer each of the five management questions.

1. Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
2. What is the extent and magnitude of the current or potential receiving water problems?
3. What is the relative storm water runoff contribution to the receiving water problem(s)?
4. What are the sources of storm water runoff that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

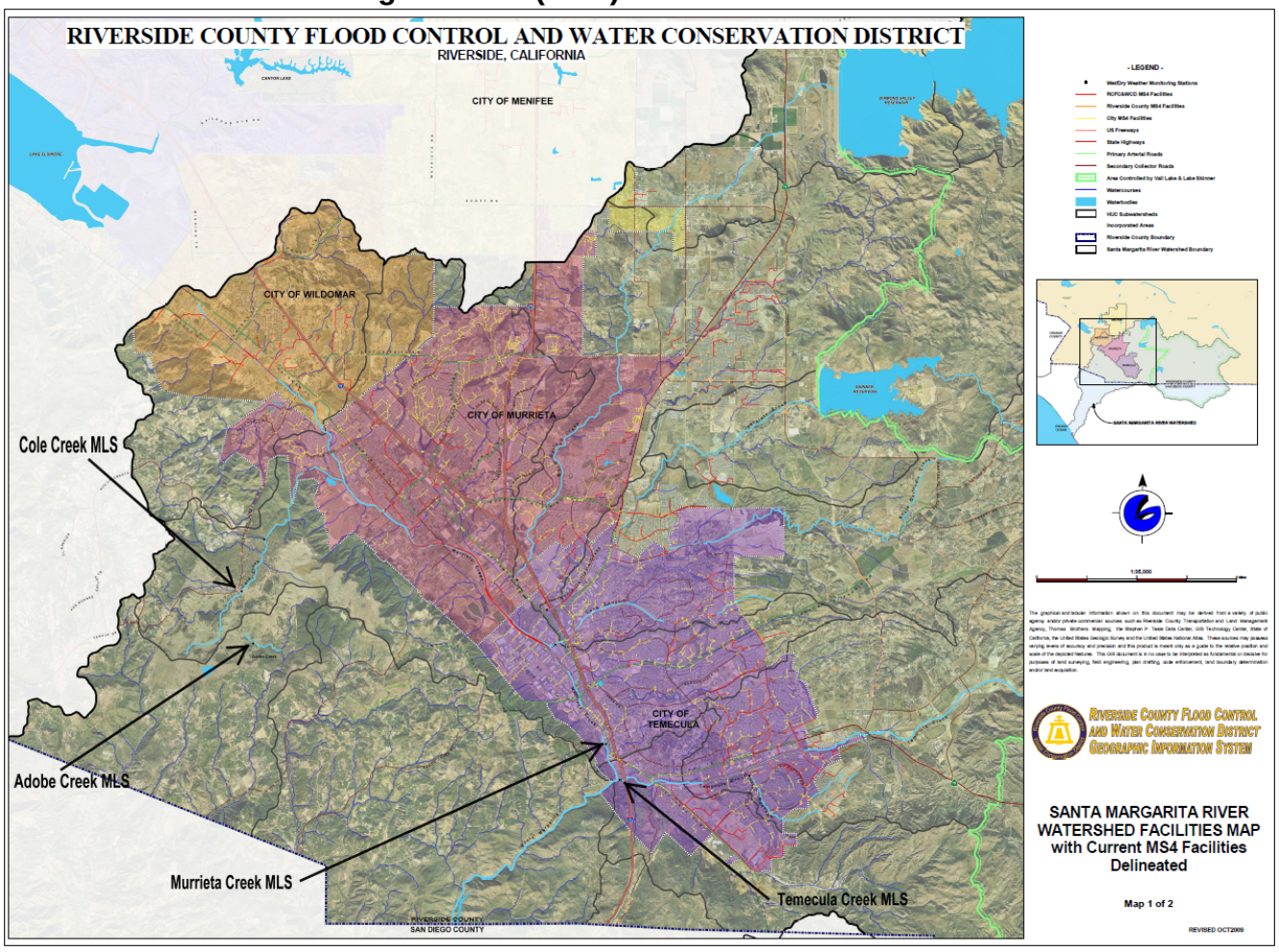
The three MS4 NPDES permits within San Diego Water Board jurisdiction each have very similar core monitoring requirements that include receiving water monitoring, effluent monitoring, and special studies (see Finding E.12 and Discussion). The justifications for each component of the monitoring program are discussed below.

II. Monitoring Program

The Monitoring Program has been organized into distinct sections and includes receiving water monitoring, MS4 effluent monitoring, a monitoring program in high priority inland aquatic habitat, and special studies. Each monitoring program is expected to answer specific questions and achieve goals outlined in section I. Some of these questions require the linkage of both receiving water monitoring and MS4 discharge monitoring that is required in the Order. As such, the Monitoring Program has been written to allow the Copermittees to utilize the same data and/or sampling effort where monitoring requirements overlap. For example, the Copermittees may elect to develop a Trash Special Study where the sampling is done at the same location and time as stream assessment monitoring. The Copermittees may evaluate the goals and questions of the Monitoring Program when evaluating how required monitoring programs may overlap.

Section II.A.1 (Mass Loading Station Monitoring) of the MRP requires mass loading and toxicity monitoring at monitoring stations located at the bottom of the Riverside County portion of the Santa Margarita watershed (see figure below).

Locations of Mass Loading Stations (MLS) under Order No. R9-2004-0001



The intent of current mass loading monitoring as conducted by the Copermittees under Order No. R9-2004-001 is to use water chemistry data from storm events and dry weather flows to calculate pollutant loads and to assess water quality with respect to applicable acute and chronic toxicity criteria from the California Toxics Rule (CTR) and bioassessment as part of the triad monitoring approach.[234] The mass loading monitoring that is required by the Order will provide data representing event mean concentrations of pollutants, total pollutant loadings, and toxicity conditions from specific drainage areas. Mass loading monitoring stations are recommended by the Model Monitoring Technical Committee in order to answer management questions 1, 2, and 5.[235] The stations are also expected to contribute towards meeting MRP goals

[234] Riverside County Copermittees. 2009. Report of Waste Discharge, section 6.4 .
[235] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Chapter 5.

1, 2, 3, 4, 6, and 8. The locations of the mass loading monitoring stations are not changed from Order No. R9-2004-001. The MRP, however, retains flexibility to allow the Copermittees to propose changing the location of a mass loading station. The Copermittees may also propose additional mass loading stations should they determine more are needed. The Copermittees will identify a permanent mass loading reference station for the permit term.

Some revisions to the required list of constituents to be monitored at mass loading stations have been made. The changes are made to be compatible with the federal NPDES regulations and in response to data collected during the current permit term. Audits of the Copermittees' monitoring program and reviews of annual reports during the last permit term have found consistent shortcomings in the Copermittees' monitoring programs. As a result, some changes have been made to the monitoring requirements. The changes include:

1. All events must now include: Biological Oxygen Demand, 5-day Chemical Oxygen Demand, Total Organic Carbon, Dissolved Organic Carbon. These are specifically required by 40 CFR 122.26(d)(2)(iii)(A) and (B), but were omitted from collection and reporting required by Order No. R9-2004-001.

2. Carbamate and Pyrethroid pesticides must be monitored. Pyrethroid pesticides were identified from TIEs conducted in response to toxicity observed during sampling as part of the triad approach at Temecula and Murrieta Creek. Long term monitoring of pesticide presence is critical to evaluate Copermittees BMP efforts and program effectiveness. Carbamate pesticides are utilized in residential, agricultural and commercial applications, and have been shown to have negative direct and indirect impacts on aquatic invertebrates and vertebrates, as well as associated riparian species.[236] In addition, the National Marine Fisheries Service (NMFS) issued a Biological Opinion in 2009 that concluded pesticide products containing carbaryl and carbofuran are likely to jeopardize 22 listed salmonids, including Southern California Steelhead.[237]

3. Impaired water body pollutants. Specific pollutants have been added in response to the U.S. Environmental Protection Agency approval of California's 2004-2006 and the San Diego Water Board approval of the 2008 303(d) List.

[236] See:
Boone and James. 2003. Interactions of an insecticide, herbicide, and natural stressors in amphibian community mesocosms. *Ecological Applications*: 13(3) pp. 829-841.
Hanazato. 2001. Pesticide effects on freshwater zooplankton: an ecological perspective. *Environmental Pollution*: 112 pp. 1-10.
USGS. 1999. Field Manual of Wildlife Diseases: General Field Procedures and Diseases of Birds. Chapter 39.
California Department of Pesticide Regulation. 2010. Urban Pesticide Monitoring in Northern and Southern California. http://www.cdpr.ca.gov/docs/emon/surfwtr/presentations.htm
[237] NMFS. 2009. Endangered Species Act Section 7 Consultation Biological Opinion: Environmental Protection Agency Registration of Pesticides Containing Carbaryl, Carbofuran, and Methomyl.

4. A requirement to collect a grab sample for total petroleum hydrocarbons whenever a sheen is observed has been added based upon results from IC/ID programs in existing southern California NPDES MS4 permits.

5. The required organisms for toxicity testing have changed from the previous order to be consistent with USEPA guidance.[238] *Ceriodaphnia dubia* (water flea) has been replaced with *Pimephales promelas* (fathead minnow) to provide at least three test species from different phyla. *Hyalella azteca* has been retained as a test organism due to sensitivity to pyrethroid pesticides.

6. A constituent-specific table has been added to provide clarity to the list of pollutants that are required to be monitored as part of the triad approach.

7. More prescriptive reporting requirements have been added in the event the Copermittees fail to monitor the required number of mass loading events.

Section II.A.2 (Stream Assessment Monitoring) of the MRP requires the Copermittees to conduct bioassessment monitoring using a multiple lines of evidence approach which includes collection of benthic macroinvertebrates and algae, a full physical habitat assessment, water chemistry sampling, and toxicity testing. Bioassessment monitoring is a cost-effective tool that measures the effects of water quality over time.[239] It is an important indicator of stream health and impacts from storm water and non-storm water runoff. It can detect impacts that chemical and toxicity monitoring alone cannot. USEPA encourages permitting authorities to consider requiring biological monitoring methods in conjunction with chemical and toxicity testing to fully characterize the nature and extent of impacts from runoff.[240] Therefore, the San Diego Water Board commonly requires bioassessment monitoring in MS4 and other types of discharge permits.

Bioassessment is the direct measurement of the biological, chemical, and physical condition, and attainment of beneficial uses of receiving waters (typically using benthic macroinvertebrates, periphyton, and fish). Bioassessment monitoring integrates the effects of both water chemistry (including toxicity) and physical habitat impacts (e.g., sedimentation or erosion) of various discharges on the biological community native to the receiving waters. Moreover, bioassessment is a direct measurement of the impact of cumulative, sub-lethal doses of pollutants that may be below reasonable water chemistry detection limits, but that still have biological affects.

Because bioassessment focuses on communities of living organisms as integrators of cumulative impacts resulting from water quality or habitat degradation, it defines the ecological risks resulting from storm water and non-storm water MS4 runoff.

[238] USEPA, 1991. Technical Support Document for Water Quality Based Toxics Control. EPA 505-2-90-001.
[239] California Department of Fish and Game, 2002. California Regional Water Quality Control Board, San Diego Region 2002 Biological Assessment Report: Results of May 2001 Reference Site Study and Preliminary Index of Biotic Integrity.
[240] USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 2-5.

Bioassessment not only identifies that an impact has occurred, but also measures the effect of the impact and tracks recovery when control or restoration measures have been taken. These features make bioassessment a powerful tool to assess compliance, evaluate the effectiveness of BMPs, and to track both short and long-term trends (MRP goals 1, 2, 3, and 8). Bioassessment can also help answer management questions 1, 2, and 5.

The Order also identifies the most current established protocol to be used in identifying bioassessment reference stations. The protocol referenced in the Order is specified because it provides a qualitative and repeatable method for identifying reference sites. Moreover, the protocol is well established, since it has been peer reviewed and published.

The Order includes four significant modifications to the bioassessment monitoring required under Order No. R9-2004-001. These changes include:

1. Bioassessment monitoring must be consistent with the State Water Board's Surface Water Ambient Monitoring Program (SWAMP) Standard Operating Procedures (SOP) as amended.[241]

2. Bioassessment monitoring is to include an assessment of periphyton (algae).[242] Advantages of bioassessment using periphyton include: (1) they have rapid reproduction rates and very short life cycles, making them valuable indicators of short-term impacts; (2) as primary producers, they are most directly affected by physical and chemical factors; (3) sampling is easy and inexpensive; and (4) algal assemblages are sensitive to some pollutants which may not visibly affect other aquatic assemblages.[243] Future bioassessment must use algal IBI scores, when developed.

3. The number of bioassessment stations has been increased from three to six. The Copermittees currently conduct bioassessment monitoring at one reference station and at the two mass loading stations at Temecula and Murrieta Creek. The increase in required sampling is needed to evaluate more localized impacts higher in the Santa Margarita Hydrologic Unit (HU) in conjunction with SAL and NAL monitoring, as well as to evaluate any impacts that occur from hydromodification. The additional required reference station will aid in detecting any differences in bioassessment scores over time that may be independent of MS4 discharges.

4. The bioassessment section title has been changed to Stream Assessment Monitoring. This was done to prevent confusion by the Copermittees in

[241] SWAMP February 2007 (amended September 2008). Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California
[242] SWAMP June 2009. Standard Operating Procedures for Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessments in Californinia.
[243] USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 3-3.

understanding sampling differences between mass loading stations and bioassessment sites. Under Order No. 2004-0001 all bioassessment sites were co-located with mass loading stations. Thus, the collection of water chemistry and toxicity data was done simultaneously for mass loading and bioassessment purposes, which prevented duplicative water chemistry and toxicity testing. For new "Stream Assessment Monitoring" sites not located at mass loading stations, the nomenclature for monitoring has been changed to prevent possible misinterpretation of the term "bioassessment" to mean only the collection of benthic macroinvertebrates and physical habitat data.

Section II.A.3 (Follow-up Analysis and Actions) of the MRP requires the Copermittees to use the results of the receiving water monitoring to determine if impacts from MS4 discharges are occurring and when follow-up actions are necessary. The triad approach allows a wide range of measurements to be combined to more efficiently identify pollutants, their sources, and appropriate follow-up actions. Results from the three types of monitoring must be assessed to evaluate the extent and causes of pollution in receiving waters and to prioritize management actions to eliminate or reduce the sources. The framework provided is to be used to determine conclusions from the data and appropriate follow-up actions. The framework is proposed by the Copermittees and derived from the Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California.[244] These follow-up actions are expected to primarily help answer management questions 2 and 4, as well as address MRP goals 2, 4, 5, 6 and 7.

When, based on the framework in Table 3 of the MRP, data indicates the presence of toxic pollutants in runoff, the Copermittees are required to conduct a Toxicity Identification Evaluation (TIE). A TIE is a set of procedures used to identify the specific chemical(s) responsible for toxicity to aquatic organisms. When discharges are toxic to a test organism, a TIE must be conducted to confirm potential constituents of concern and rule out others, therefore allowing Copermittees to determine and prioritize appropriate management actions. If a sample is toxic to more than one species, it is necessary to determine the toxicant(s) affecting each species. If the type and source of pollutants can be identified based on the data alone and an analysis of potential sources in the drainage area, a TIE is not necessary.

When a TIE identifies a pollutant associated with MS4 discharge as a cause of toxicity, it is then necessary to conduct follow-up actions to identify the causative agents of toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. Follow-up actions should analyze all potential source(s) causing toxicity, potential BMPs to eliminate or reduce the pollutants causing toxicity, and suggested monitoring to demonstrate that toxicity has been removed.

[244] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 5-61.

Section II.A.4 (Regional Monitoring Programs) of the MRP identifies that the San Diego Water Board recognizes the importance of regional monitoring efforts to answer monitoring questions and/or address problems that may not be specific to only the Santa Margarita hydrologic unit (see Finding E.12 and Discussion). Additionally, the Copermittees' jurisdiction does not encompass the entire Santa Margarita hydrologic unit, as portions of the hydrologic unit include, but are not limited to, San Diego County, tribal lands, the Cleveland National Forest, and Marine Corps Base at Camp Pendleton.

Section II.B (Wet Weather MS4 Discharge Monitoring) of the MRP requires the Copermittees to develop and implement a program, in accordance with 40 CFR 122.26(d)(2)(iii), to monitor and characterize pollutants in discharges of storm water effluent from major MS4 outfalls. Currently the Copermittees do not monitor the discharge of storm water from the MS4 outfalls. As a result, a substantial amount of information regarding the quality of MS4 effluent is unknown, and in-stream stations monitored under R9-2004-001 have not accurately characterized MS4 effluent data during the permit term.[245] The collection of wet-weather MS4 effluent data will enable the Copermittees to assess the effectiveness of existing storm water BMP measures, estimate cumulative annual pollutant loads from MS4 storm water discharges, and estimate seasonal pollutant loads from individual major outfalls. This data can be used to more effectively target storm water management program efforts. The MRP also requires compliance with section D of the Order for Storm Water Action Levels.

The monitoring of outfalls is expected to be used to identify storm drains that are discharging pollutants in concentrations that may pose a threat to receiving waters. Source investigations are expected to be conducted as a response to the data. The Copermittees are required to monitor for those pollutants in 40CFR 122.26(d)(2)(iii)(B); for 303(d) listed pollutants for the Santa Margarita Hydrologic Unit; and for pollutants with Storm Water Action Levels.

The MRP provides the Copermittees great flexibility in assigning stations and sampling frequency for wet-weather monitoring. Copermittees are to propose the number and frequency of monitoring stations, thus proposing the overall cost of their program. The San Diego Water Board will review the proposed program to ensure it will comply with Federal regulations and section D of the Order for Storm Water Action Levels.

The monitoring requirements also include a requirement to measure receiving water hardness when comparing storm water MS4 discharge data to Storm Water Action Levels for priority pollutants (e.g. metals). The effect of these constituents upon receiving waters will vary depending upon the hardness of receiving waters.

Section II.B.2 (Source Identification Monitoring) requires the Copermittees to develop and implement a program to identify sources of discharges of pollutants causing the high priority water quality problems within each hydrologic subarea. The current

[245] Riverside County Copermittees. 2009. Report of Waste Discharge, section 5.1.

source identification monitoring program conducted by the Copermittees has not been demonstrated to be effective due to the continued receiving water monitoring that documents persistent exceedances of water quality objectives for 303(d) listed pollutants, as well as the listing of new water bodies and pollutants (see Finding C.7). Furthermore, all monitoring conducted under Order R9-2004-001 focused on receiving water conditions rather than MS4 effluent discharges. Outside of required toxicity identification and reduction evaluations, little to no source identification was conducted for observed exceedances of water quality standards in receiving waters.

Identification of sources causing high priority water quality problems is a central purpose of storm water runoff management programs. Monitoring which enables the Copermittees to identify sources of water quality problems aids the Copermittees in focusing their management efforts, improving their programs and choosing additional and/or better BMPs. In turn, the Copermittees' programs can abate identified sources, which will improve the quality of storm water runoff discharges and receiving waters. This monitoring is needed to address management questions 3 and 4, in addition to ensuring that pollutants in storm water discharges from the MS4 are reduced to the MEP. Moreover, in its review of the San Diego County Copermittees' monitoring proposal, Tetra Tech, Inc. finds that "after some years of assessment monitoring, it is time to look more systematically at determining the relative urban contributions and the sources of urban runoff that contribute to identified receiving water problems."[246]

Section II.C (Non-Storm Water Dry Weather Action Levels) of the MRP describes the monitoring to be conducted by the Copermittees to determine compliance with dry weather, non-storm water action levels.

The section for Dry Weather Non-Storm Water Action Level Monitoring has taken the place of Illicit Discharge Detection and Elimination Monitoring under the previous Order. This change is required to assess compliance with action levels for non-storm water discharges from the MS4 into receiving waters while the Copermittees simultaneously conduct Illicit Discharge Detection and Elimination activities. The prior Order did not require the testing of non-storm water MS4 effluent prior to discharge into receiving waters, and thus Illicit Discharge Detection and Elimination Monitoring was conducted in receiving waters that were technically considered part of the MS4 but did not necessarily contain solely MS4 effluent. Discussions between the San Diego Water Board and Copermittees identified this shortcoming, which is reflected in the Copermittees Annual Reports (2007-08 and 2008-09), and the Copermittees have requested the point of monitoring for non-storm water be changed to sample MS4 effluent.[247] The required sampling frequency has great flexibility and allows Copermittees to sample a representative number of discharge points while the sampling methodology continues to be grab sampling. Additionally, the selection of representative outfalls or other identified stations has been clarified to ensure that those selected are consistent with federal requirements under 40 CFR 122.26(d) and section C of the Order.

[246] Tetra Tech Inc., 2006. Review of San Diego County MS4 Monitoring Program.
[247] Riverside County Copermittees ROWD, January 2009. Section 7.8.2.

Section II.C.2 (Source Identification Monitoring) requires the Copermittees to develop and implement a program to identify the sources of pollutants in non-storm water discharges. The section provides clarification that the program must utilize action levels pursuant to section C of the Order as a source identification response criteria. The source identification monitoring program is required under sections C, F.4.d, and F.4.e of the Order and to comply with 40 CFR 122.26(d)(2)(iv)(B), which requires the Copermittees have a program to detect and remove illicit discharges into the MS4.

Section II.D (High Priority Inland Aquatic Habitat) of the MRP describes required monitoring to be done in order to assess if MS4 storm water and/or non-storm water discharges are affecting high priority aquatic and/or riparian species. The existing monitoring program does almost all monitoring at or near mass loading stations, which are located at and below the confluence of multiple major hydrologic subareas. While this approach may estimate cumulative loadings and impacts from entire hydrologic areas, it provides little information regarding localized impacts to receiving waters subject to MS4 discharges, especially for high priority habitats. This approach is also recommended by the Southern California Stormwater Monitoring Coalition's Model Monitoring Technical Committee as an integral part of a storm water monitoring program. The Model Monitoring Technical Committee, which includes a member from RCFCD, recommends the use of "site-specific stations focused on the status of high-priority inland habitats of concern, with monitoring based primarily on the Triad approach for dry weather sampling and on chemistry and toxicity for wet weather."[248]

The monitoring of MS4 discharges into high-priority inland habitats is of special importance to the species which rely on the habitat subject to the discharge. The Santa Margarita River, and its tributaries, has been designated with BIOL, WARM, COLD, RARE and WILD beneficial uses, in part due to the presence of threatened and endangered species.[249] Portions of the Santa Margarita HU also include areas designated as critical habitat by state and Federal agencies. Federal and State threatened and endangered species are particularly susceptible to negative direct and indirect effects of MS4 discharges because the habitat available to them has already been reduced, restricted, and/or degraded, and their populations have already been reduced to low levels.[250] Therefore, short-term or chronic degradation of habitat or exposure to pollutants caused by MS4 discharges results in a proportionally high level of negative impact to already impacted beneficial uses. Threatened or endangered species with reduced habitat availability may be restricted from avoiding pollutants associated with MS4 discharges,[251] and any reproductive impacts from pollutants would likely have significant negative effects on already low population sizes.

[248] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California.
[249] See Federal Register 50 CFR 71.11 and the California Code of Regulations, Title 14 Section 670.5.
[250] Carroll, R., Augspurger, C., Dobson, A., Franklin, J., Orians, G., Reid, W., Tracy, R., Wilcove, D. and J. Wilson. 1996. Strengthening the use of science in achieving the goals of the Endangered Species Act: An Assessment by the Ecological Society of America. *Ecological Applications*. 6(1) pp. 1-11.
[251] For example, see National Marine Fisheries Service Draft Southern Steelhead Recovery Plan, July 2009.

Information regarding the extent of environmentally-sensitive habitats is available from sources familiar to the Copermittees.[252] Examples include the Western Riverside Multiple Species Habitat Conservation Plan, Santa Margarita HU assessments conducted by the U.S. Army Corps of Engineers, and California Department of Fish and Game Ecological Reserves. Therefore, a relatively small level of effort will be required to collect information to determine high priority inland aquatic habitats. In addition, the Copermittees already are required to have updated inventories of inland MS4 outfall locations. As a result, a monitoring plan can be developed within 36 months to address the new requirement.

Section II.E.2 (Sediment Toxicity Study) includes a requirement that the Copermittees conduct a sediment toxicity special study. This study has been added to the Monitoring and Reporting requirements to assess the quality of stream sediments and possible contamination due to runoff from the MS4. Toxicity tests focusing on aqueous toxicity may not account for the full toxicity of receiving waters if constituents, such as heavy metals or pesticides, are bound to sediments. Southern California studies have shown that stream sediments can exhibit significant levels of toxic metals and pesticides, including pyrethroids.[253,254] Additionally, the Copermittees have identified the presence of aqueous toxicity at both mass loading stations due to pyrethroid pesticides, but their presence in sediments is unknown.

Section II.E.3 (Trash and Litter Investigation) includes a requirement that the Copermittees conduct a Trash and Litter Investigation (see Finding C.8 and Discussion). The objective of the study is to evaluate the quantity, type, and source(s) of trash and litter in receiving waters (see Finding E.12 and Discussion regarding regional efforts). Although trash can impair beneficial uses, the amount and type of trash discharged into receiving waters from the Copermittee(s) MS4 is unknown. Thus, the Copermittees have largely been unable to assess the effectiveness of their BMPs that target trash as a pollutant. The special study requires the Copermittees to utilize previously developed protocols to determine the source of trash and litter in receiving waters, assess BMP effectiveness, and implement additional BMPs if needed according to the requirements of the Order. Qualitative and quantitative protocols for trash assessment have already been developed for San Diego County and the San Francisco Bay Region. These protocols are required to be used in the development of the special study, are expected to reduce Copermittee costs, and promote regional consistency in trash and litter assessments.

Section II.E.4 (Agricultural, Federal and Tribal Input Study) includes a requirement for the Copermittees to draft and subsequently conduct a special study to determine the water quality of storm water flows which are entering their MS4 from agricultural,

[252] See Riverside County Copermittees ROWD, January 2009. Section 4.3.3.
[253] Holmes, R.W., Anderson, B.S., Phillips, B.M., Hunt, J.W., Crane, D.B., Mekebri, A. and V. Connor. 2008. Statewide Investigation of the Role of Pyrethroid Pesticides in Sediment Toxicity in California's Urban Waterways. *Environmental Science Technology* 42: 7003-7009..
[254] Crane, D.B. and C. Younghans-Haug. 1992. Oxadiazon residue concentrations in sediment, fish, and shellfish from a combined residential/agricultural area in Southern California. *Bulletin of Environmental Contamination and Toxicology.* Volume 48, no. 4.

federal and tribal areas. The objective of the study is to determine the type, quantity and estimated loading of pollutants in these discharges. In the ROWD, the Copermittees specifically state their concern regarding the quality of storm water which is discharged into their MS4 from such areas, and state that these discharges may affect overall water quality, primarily in the Murrieta and Temecula Creek watersheds.[255] However, no data, information, or analyses were presented or identified on the level of pollutants in such flows into their MS4. The special study has been designed with sampling frequency and parameter requirements that lend flexibility to the Copermittees. The minimum requirements are limited to grab samples for pollutants expected to be present in storm water discharges and at a number of representative sites chosen be the Copermittees. The special study requires testing to be source specific (e.g. only sampling discharge into from one of the three sources) and does not allow for sampling to be done on co-mingled flows within the MS4. Additionally, the Copermittees may elect to conduct composite sampling, toxicity testing, more targeted sites, or a combination thereof.

Section II.E.5 (MS4 and Receiving Water Maintenance Study) includes a requirement that the Copermittees investigate impacts to Beneficial Uses from routine removal of vegetation from portions of the MS4 that are also receiving waters (see Finding D.3.c and Discussion). The objective of the study is to determine if there are short-term or long-term in-stream water quality impacts from maintenance activities and to assess if the activities exacerbate the impairment of receiving waters 303(d) listed as impaired wholly or partially from MS4 discharges. Receiving waters within the Copermittees jurisdiction have been routinely cleared of vegetation by the Copermittees as part of their MS4 maintenance programs without mitigation efforts. The in-stream modification of vegetation may result in changes in water quality and Beneficial Uses from changes in nutrient cycling, the storage of organic matter, infiltration, flow attenuation, temperature and erosion potential.[256,257,258] The relative contribution, if any, of maintenance activities to CWA 303(d) water quality impairments in unknown. The program is also expected to work in conjunction with other permit requirements of the Order. For example, the Copermittees may choose to utilize study results when implementing the HMP, LID, and retrofitting programs.

Section II.E.6 (Intermittent and Ephemeral Stream Perennial Conversion Study) includes a study to assess specifically exempted non-storm water discharges[259] into surface waters and discharges into MS4s covered under a separate NPDES permit in order to determine if the exempted discharges and/or separate NPDES discharges to the MS4 are causing or contributing to a condition of pollution, contamination or nuisance. For ephemeral and intermittent inland surface waters, modification of flows

[255] Riverside County Copermittees ROWD, January 2009. Sections 3.2 and 3.3.
[256] Fischenich, J.C. and R.R. Copeland. 2001. Environmental Considerations for Vegetation in Flood Control Channels. US Army Corps of Engineers.
[257] Shade et al. 2005. Hydrologic exchange and N uptake by riparian vegetation in an arid-land stream. *Journal of North American Benthological Society*. 24(1):19–28.
[258] Warner, R.E. and K.M. Hendrix. 1984. California Riparian Systems: Ecology, Conservation, and Productive Management. *pp. 160-189*. University of California Press.
[259] See Finding C.15 of the Order for discussion of exempted non-storm water discharges.

may impact beneficial uses through modification of in-stream ecology including, but not limited to, sediment transport, biogeochemical functioning, water temperature, non-native species presence and exclusion of native species.[260,261] The objective of the study is to determine if the alteration of natural in-stream hydrologic regimes from intermittent or ephemeral to perennial due to exempted non-storm water discharges has modified the beneficial uses of the receiving water. The evaluation includes both qualitative and quantitative measurements of parameters which will help the Copermittees determine if exempted discharges and/or separate NPDES discharges into the MS4 are causing a condition of pollution, contamination, or nuisance. Such a determination would potentially require an action to be taken by the Copermittee(s) (i.e. prohibition of an exempted discharge), permit modification for a separate NPDES permit, and/or an action by the San Diego Water Board.

Section II.F (Monitoring Provisions) of the MRP includes monitoring provisions which are standard requirements for all municipal storm water permits.

III. Reporting Program

Section III of the MRP discusses submittal of the Planned Monitoring Program, the Receiving Waters and MS4 Discharge Monitoring Annual Reports, and Interim Reporting Requirements. For the purposes of Receiving Waters and MS4 Discharge Monitoring and Reporting Program, required reviews and approvals by the San Diego Water Board of draft monitoring plans, proposals or protocols shall be conducted by the San Diego Water Board Executive Officer.

Section III.C (Table of Reporting Requirements) has been added to the MRP to provide a quick reference for all required reporting dates found in the MRP

[260] Naiman, R.J., Bunn, S.E., Nilsson, C., Petts, G.E., Pinay, G., and L.C. Thompson. 2002. Legitimizing Fluvial Ecosystems as Users of Water: An Overview. *Environmental Management*: 30(4) pp. 455-467.
[261] Marchetti, M.P., Light, T., Moyle, P.B. and J.H. Viers. 2004. Fish Invasions in California Watersheds: Testing Hypotheses Using Landscape Patterns. *Ecological Applications*. 14(5) pp. 1507-1525.

U. Attachment F - Source Data

Attachment F contains data utilized for the development of Storm Water Action Levels and Non-storm Water Action Levels.

ATTACHMENT H-4

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ORDER NO. R9-2013-0001,
AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100
NPDES NO. CAS0109266

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE WATERSHEDS WITHIN THE SAN DIEGO REGION

The San Diego County Copermittees in Table 1a are subject to waste discharge requirements set forth in this Order.

Table 1a. San Diego County Copermittees

City of Carlsbad	City of Oceanside
City of Chula Vista	City of Poway
City of Coronado	City of San Diego
City of Del Mar	City of San Marcos
City of El Cajon	City of Santee
City of Encinitas	City of Solana Beach
City of Escondido	City of Vista
City of Imperial Beach	County of San Diego
City of La Mesa	San Diego County Regional Airport Authority
City of Lemon Grove	San Diego Unified Port District
City of National City	

The Orange County Copermittees in Table 1b are subject to waste discharge requirements set forth in this Order.

Table 1b. Orange County Copermittees[1]

City of Aliso Viejo	City of Rancho Santa Margarita
City of Dana Point	City of San Clemente
City of Laguna Beach	City of San Juan Capistrano
City of Laguna Hills	City of Laguna Woods
City of Laguna Niguel	County of Orange
City of Mission Viejo	Orange County Flood Control District

[1] While not listed in Table 1b., the City of Lake Forest remains a Copermittee under this Order until the later effective date of this Order or the effective date of Santa Ana Water Board Tentative Order No. R8-2015-0001. Thereafter, the City of Lake Forest will no longer be considered a Copermittee under this Order because its Phase I MS4 discharges will be regulated by the Santa Ana Water Board pursuant to Water Code section 13228 designation. The requirements of this Order that apply to the City of Lake Forest for the duration of this Order, however, are described in Finding 29 and Footnote 2 to Table B-1.

The Riverside County Copermittees in Table 1c are subject to waste discharge requirements set forth in this Order.

Table 1c. Riverside County Copermittees

City of Murrieta	County of Riverside
City of Temecula	Riverside County Flood Control and Water Conservation District
City of Wildomar	

The term Copermittee in this Order refers to any San Diego County, Orange County, or Riverside County Copermittee covered under this Order, unless specified otherwise.

This Order provides permit coverage for the Copermittee discharges described in Table 2.

Table 2. Discharge Locations and Receiving Waters

Discharge Points	Locations throughout San Diego Region
Discharge Description	Municipal Separate Storm Sewer System (MS4) Discharges
Receiving Waters	Inland Surface Waters, Enclosed Bays and Estuaries, and Coastal Ocean Waters of the San Diego Region

Table 3. Administrative Information

This Order was adopted by the San Diego Water Board on:	**May 8, 2013**
Order No. R9-2013-0001 became effective on:	**June 27, 2013**
This Order as amended by R9-2015-0001 became effective on:	**April 1, 2015**
This Order as amended by R9-2015-0100 became effective on:	**January 7, 2016**
This Order will expire on:	**June 27, 2018**
The Copermittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than 180 days in advance of the Order expiration date.	

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on May 8, 2013, as amended by adoption of Order No. R9-2015-0001 on February 11, 2015, and as amended by adoption of Order No. R9-2015-0100 on November 18, 2015.

David W. Gibson
Executive Officer

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ATTACHMENTS
Attachment A: Discharge Prohibitions and Special Protections A-1
Attachment B: Standard Permit Provisions and General Provisions B-1
Attachment C: Acronyms, Abbreviations and Definitions C-1
Attachment D: Jurisdictional Runoff Management Program Annual Report Form D-1
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Attachment F: Fact Sheet / Technical Report for Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100 ..... F-1

I. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), finds that:

JURISDICTION

1. **MS4 Ownership or Operation.** Each of the Copermittees owns or operates an MS4, through which it discharges storm water and non-storm water into waters of the U.S. within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the U.S.

2. **Legal and Regulatory Authority.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations (Code of Federal Regulations [CFR] Title 40, Part 122 [40 CFR 122]) adopted by the United States Environmental Protection Agency (USEPA), and chapter 5.5, division 7 of the California Water Code (CWC) (commencing with section 13370). This Order serves as an NPDES permit for discharges from MS4s to surface waters. This Order also serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

   The San Diego Water Board has the legal authority to issue a regional MS4 permit pursuant to its authority under CWA section 402(p)(3)(B) and 40 CFR 122.26(a)(1)(v). The USEPA also made it clear that the permitting authority, in this case the San Diego Water Board, has the flexibility to establish system- or region-wide permits (55 Federal Register [FR] 47990, 48039-48042). The regional nature of this Order will ensure consistency of regulation within watersheds and is expected to result in overall cost savings for the Copermittees and San Diego Water Board.

   The federal regulations make it clear that the Copermittees need only comply with permit conditions relating to discharges from the MS4s for which they are operators (40 CFR 122.26(a)(3)(vi)). This Order does not require the Copermittees to manage storm water outside of their jurisdictional boundaries, but rather to work collectively to improve storm water management within watersheds.

3. **CWA NPDES Permit Conditions.** Pursuant to CWA section 402(p)(3)(B), NPDES permits for storm water discharges from MS4s must include requirements to effectively prohibit non-storm water discharges into MS4s, and require controls to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP), and to require other provisions as the San Diego Water Board determines are appropriate to control such pollutants. This Order prescribes conditions to assure compliance with the CWA requirements for owners and operators of MS4s to effectively prohibit non-storm water discharges into the MS4s, and require controls to reduce the discharge of pollutants in storm water from the MS4s to the MEP.

4. **CWA and CWC Monitoring Requirements.** CWA section 308(a) and 40 CFR 122.41(h),(j)-(l) and 122.48 require that NPDES permits must specify monitoring and reporting requirements. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements in 40 CFR 122.26(d)(1)(iv)(D), 122.26(d)(1)(v)(B), 122.26(d)(2)(i)(F), 122.26(d)(2)(iii)(D), 122.26(d)(2)(iv)(B)(2) and 122.42(c). CWC section 13383 authorizes the San Diego Water Board to establish monitoring, inspection, entry, reporting and recordkeeping requirements. This Order establishes monitoring and reporting requirements to implement federal and State requirements. This Order also includes requirements for the Orange County Copermittees to participate in, and together with South Orange County Wastewater Authority and Orange County Health Care Agency, share responsibility for implementing the unified approach to beach water quality monitoring and assessment program set forth in the October 2014 report, *Workgroup Recommendation for a Unified Beach Water Quality Monitoring and Assessment Program in South Orange County*, issued pursuant to CWC section 13383 in the San Diego Water Board December 5, 2014 Letter Directive.

5. **Total Maximum Daily Loads.** CWA section 303(d)(1)(A) requires that "[e]ach state shall identify those waters within its boundaries for which the effluent limitations are not stringent enough to implement any water quality standard applicable to such waters." The CWA also requires states to establish a priority ranking of impaired water bodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired water bodies is called the Clean Water Act Section 303(d) List of Water Quality Limited Segments, commonly referred to as the 303(d) List. The CWA requires the 303(d) List to be updated every two years.

   TMDLs are numerical calculations of the maximum amount of a pollutant that a water body can assimilate and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (waste load allocations or WLAs) and non-point sources (load allocations or LAs), background contribution, plus a margin of safety. Discharges from MS4s are point source discharges. The federal regulations (40 CFR 122.44(d)(1)(vii)(B)) require that NPDES permits incorporate water quality based effluent limitations (WQBELs) developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, consistent with the assumptions and requirements of any available WLA for the discharge. Requirements of this Order implement the TMDLs established by the San Diego Water Board or USEPA as of the date this Order was amended in 2015. This Order establishes WQBELs consistent with the assumptions and requirements of all available TMDL WLAs assigned to discharges from the Copermittees' MS4s.

6. **Non-Storm Water Discharges.** Pursuant to CWA section 402(p)(3)(B)(ii), this Order requires each Copermittee to effectively prohibit discharges of non-storm water into its MS4. Nevertheless, non-storm water discharges into and from the

MS4s continue to be reported to the San Diego Water Board by the Copermittees and other persons. Monitoring conducted by the Copermittees, as well as the 303(d) List, have identified dry weather, non-storm water discharges from the MS4s as a source of pollutants causing or contributing to receiving water quality impairments in the San Diego Region. The federal regulations (40 CFR 122.26(d)(2)(iv)(B)(1)) require the Copermittees to have a program to prevent illicit discharges to the MS4. The federal regulations, however, allow for specific categories of non-storm water discharges or flows to be addressed as illicit discharges only where such discharges are identified as sources of pollutants to waters of the U.S.

7. **In-Stream Treatment Systems.** Pursuant to federal regulations (40 CFR 131.10(a)), in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of a runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Runoff treatment must occur prior to the discharge of runoff into receiving waters. Treatment control best management practices (BMPs) must not be constructed in waters of the U.S. Construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body.

DISCHARGE CHARACTERISTICS AND RUNOFF MANAGEMENT

8. **Point Source Discharges of Pollutants.** Discharges from the MS4s contain waste, as defined in the CWC, and pollutants that adversely affect the quality of the waters of the state. A discharge from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA. Storm water and non-storm water discharges from the MS4s contain pollutants that cause or threaten to cause a violation of surface water quality standards, as outlined in the Water Quality Control Plan for the San Diego Basin (Basin Plan). Storm water and non-storm water discharges from the MS4s are subject to the conditions and requirements established in the Basin Plan for point source discharges.

9. **Potential Beneficial Use Impairment.** The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution, contamination, or nuisance.

10. **Pollutants Generated by Land Development.** Land development has created and continues to create new sources of non-storm water discharges and pollutants in storm water discharges as human population density increases. This brings higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, and trash. Pollutants from these sources are dumped or washed off the surface by non-storm water or storm water flows into

and from the MS4s. When development converts natural vegetated pervious ground cover to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area without BMPs that can maintain pre-development runoff conditions will contain greater pollutant loads and have significantly greater runoff volume, velocity, and peak flow rate than pre-development runoff conditions from the same area.

11. **Runoff Discharges to Receiving Waters.** The MS4s discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within the eleven hydrologic units comprising the San Diego Region. Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Rivers, streams and creeks in developed areas used in this manner are part of the Copermittees' MS4s regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the rivers, streams and creeks in the developed areas of the Copermittees' jurisdictions are both an MS4 and receiving water. Numerous receiving water bodies and water body segments have been designated as impaired by the San Diego Water Board pursuant to CWA section 303(d).

12. **Pollutants in Runoff.** The most common pollutants in runoff discharged from the MS4s include total suspended solids, sediment, pathogens (e.g., bacteria, viruses, protozoa), heavy metals (e.g., cadmium, copper, lead, and zinc), petroleum products and polynuclear aromatic hydrocarbons, synthetic organics (e.g., pesticides, herbicides, and PCBs), nutrients (e.g., nitrogen and phosphorus), oxygen-demanding substances (e.g., decaying vegetation, animal waste), detergents, and trash. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or otherwise control. These discharges may cause or contribute to a condition of pollution or a violation of water quality standards.

13. **Human Health and Aquatic Life Impairment.** Pollutants in runoff discharged from the MS4s can threaten and adversely affect human health and aquatic organisms. Adverse responses of organisms to chemicals or physical agents in runoff range from physiological responses such as impaired reproduction or growth anomalies to mortality. Increased volume, velocity, rate, and duration of storm water runoff greatly accelerate the erosion of downstream natural channels. This alters stream channels and habitats and can adversely affect aquatic and terrestrial organisms.

14. **Water Quality Effects.** The Copermittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for runoff-related pollutants at various watershed monitoring stations. Persistent toxicity has also been observed at several watershed monitoring stations. In addition, bioassessment data indicate that the majority of the monitored receiving waters have

Poor to Very Poor Index of Biological Integrity (IBI) ratings. These findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in the San Diego Region. Non-storm water discharges from the MS4s have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds, and contribute significantly to exceedances of applicable receiving water quality objectives.

15. **Non-Storm Water and Storm Water Discharges.** Non-storm water discharges from the MS4s are not considered storm water discharges and therefore are not subject to the MEP standard of CWA section 402(p)(3)(B)(iii), which is explicitly for "Municipal … *Stormwater Discharges* (emphasis added)" from the MS4s. Pursuant to CWA 402(p)(3)(B)(ii), non-storm water discharges into the MS4s must be effectively prohibited.

16. **Best Management Practices.** Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutants in storm water discharges from the MS4s can be and must be effectively reduced in runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense." Source control BMPs (both structural and non-structural) minimize the contact between pollutants and runoff, therefore keeping pollutants onsite and out of receiving waters. Treatment control BMPs remove pollutants that have been mobilized by storm water or non-storm water flows.

17. **BMP Implementation.** Runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of storm water pollutants to the MEP, effectively prohibit non-storm water discharges, and protect receiving waters. Development which is not guided by water quality planning policies and principles can result in increased pollutant load discharges, flow rates, and flow durations which can negatively affect receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development can generate substantial pollutant loads which are discharged in runoff to receiving waters. Retrofitting areas of existing development with storm water pollutant control and hydromodification management BMPs is necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards.

18. **Water Quality Improvements.** Since 1990, the Copermittees have been developing and implementing programs and BMPs intended to effectively prohibit non-storm water discharges to the MS4s and control pollutants in storm water

discharges from the MS4s to receiving waters. As a result, several water body / pollutant combinations have been de-listed from the CWA Section 303(d) List, beach closures have been significantly reduced, and public awareness of water quality issues has increased. The Copermittees have been able to achieve improvements in water quality in some respects, but significant improvements to the quality of receiving waters and discharges from the MS4s are still necessary to meet the requirements and objectives of the CWA.

19. **Long Term Planning and Implementation.** Federal regulations require municipal storm water permits to expire 5 years from adoption, after which the permit must be renewed and reissued. The San Diego Water Board recognizes that the degradation of water quality and impacts to beneficial uses of the waters in the San Diego Region occurred over several decades. The San Diego Water Board further recognizes that a decade or more may be necessary to realize demonstrable improvement to the quality of waters in the San Diego Region. This Order includes a long term planning and implementation approach that will require more than a single permit term to complete.

WATER QUALITY STANDARDS

20. **Basin Plan.** The San Diego Water Board adopted the Water Quality Control Plan for the San Diego Basin (Basin Plan) on September 8, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters addressed through the plan. The Basin Plan was subsequently approved by the State Water Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Board. Requirements of this Order implement the Basin Plan.

    The Basin Plan identifies the following existing and potential beneficial uses for inland surface waters in the San Diego Region: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional existing and potential beneficial uses are identified for coastal waters of the San Diego Region: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

21. **Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on October 16, 2012 and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Requirements of this Order implement the Ocean Plan.

    The Ocean Plan identifies the following beneficial uses of ocean waters of the state to be protected: Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance; rare and endangered species; marine habitat; fish spawning and shellfish harvesting.

22. **Sediment Quality Control Plan**. On September 16, 2008, the State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (Sediment Quality Control Plan). The Sediment Quality Control Plan became effective on August 25, 2009. The Sediment Quality Control Plan establishes: 1) narrative sediment quality objectives for benthic community protection from exposure to contaminants in sediment and to protect human health, and 2) a program of implementation using a multiple lines of evidence approach to interpret the narrative sediment quality objectives. Requirements of this Order implement the Sediment Quality Control Plan.

23. **National Toxics Rule and California Toxics Rule.** USEPA adopted the National Toxics Rule (NTR) on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the California Toxics Rule (CTR). The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

24. **Antidegradation Policy.** This Order is in conformance with the federal Antidegradation Policy described in 40 CFR 131.12, and State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*. Federal regulations at 40 CFR 131.12 require that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. State Water Board Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. State Water Board Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The Fact Sheet of this Order contains additional discussion about antidegradation.

25. **Anti-Backsliding Requirements.** Section 402(o)(2) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as effluent limitations in the previous permits. The Fact Sheet of this Order contains additional discussion about anti-backsliding.

CONSIDERATIONS UNDER FEDERAL AND STATE LAW

26. **Coastal Zone Act Reauthorization Amendments.** Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point source pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point source pollution: agriculture, silviculture, urban, marinas, and hydromodification. This Order addresses the management measures required for the urban category, with the exception of septic systems. The runoff management programs developed pursuant to this Order fulfills the need for coastal cities to develop a runoff non-point source plan identified in the Non-Point Source Program Strategy and Implementation Plan. The San Diego Water Board addresses septic systems through the administration of other programs.

27. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 USC sections 1531 to 1544). This Order requires compliance with receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Copermittees are responsible for meeting all requirements of the applicable Endangered Species Act.

28. **Report of Waste Discharge Process.** The waste discharge requirements set forth in this Order are based upon the Report of Waste Discharge submitted by the San Diego County Copermittees prior to the expiration of Order No. R9-2007-0001 (NPDES No. CAS0109266), the Report of Waste Discharge submitted by the Orange County Copermittees prior to the expiration of Order No. R9-2009-0002 (CAS0108740), and the Report of Waste Discharge submitted by the Riverside County Copermittees prior to the expiration of Order No. R9-2010-0016 (CAS0108766).

    The federal regulations (40 CFR 122.21(d)(2)) and CWC section 13376 impose a duty on the Copermittees to reapply for continued coverage through submittal of a Report of Waste Discharge no later than 180 days prior to expiration of a currently effective permit. The expiration date of this Order as shown in Table 3, and requirement to file a Report of Waste Discharge no later than 180 days prior to the

expiration date of the Order, applies jointly to the San Diego County, Orange County, and Riverside County Copermittees.

29. **Regional Water Board Designation.** The Cities of Laguna Hills, Laguna Woods, Lake Forest, Menifee, Murrieta, and Wildomar are located partially within the jurisdictions of the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board) and the San Diego Water Board and their discharges are subject to regulation by both Regional Water Boards. CWC section 13228 provides a way to streamline the regulation of entities whose jurisdictions straddle the border of two or more Regions. CWC section 13228 is implemented in this Order at the request of these six cities and to ease the regulatory burden of municipalities that lie in both the San Diego Water Board's and the adjacent Santa Ana Water Board's jurisdiction. MS4 discharges from these municipalities are regulated by the San Diego Water Board and Santa Ana Water Board as follows:

    a. Pursuant to CWC section 13228, the Cities of Laguna Hills, Laguna Woods, and Lake Forest submitted written requests that one Regional Water Board be designated to regulate Phase I MS4 discharges for each of the Cities. The Santa Ana Water Board and the San Diego Water Board have entered into an agreement dated February 10, 2015, whereby the Cities of Laguna Woods and Laguna Hills are largely regulated by the San Diego Water Board under this Order, including those portions of the Cities of Laguna Woods and Laguna Hills not within the San Diego Water Board's jurisdiction, upon the effective date of this Order or Santa Ana Water Board Order No. R8-2015-0001, whichever is later. Similarly, the City of Lake Forest, including those portions of the City of Lake Forest within the San Diego Water Board's jurisdiction, is largely regulated by the Santa Ana Water Board under Order No. R8-2015-0001 (NPDES No. CAS618030) upon the later effective date of this Order or Order No. R8-2015-0001. The agreement provides that the City of Lake Forest is required to retain, and continue implementation of, its over-irrigation discharge prohibition in Title 15, Chapter 14.030, List (b) of the City Municipal Code for regulating storm water quality throughout its jurisdiction. The agreement also requires the City of Lake Forest to actively participate during development and implementation of the Aliso Creek Watershed Management Area Water Quality Improvement Plan required pursuant to this Order. Each Regional Water Board retains the authority to enforce provisions of its Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee under the terms of the agreement (Water Code section 13228 (b)). Under the terms of the agreement, any TMDL and associated MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Laguna Woods, Laguna Hills or Lake Forest as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement of the applicable TMDL will remain with the Regional Water Board which has jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's San

Diego Creek/Newport Bay TMDL and the San Diego Water Board's Indicator Bacteria Project I Beaches and Creeks TMDL. The San Diego Water Board will periodically review the effectiveness of the agreement during each MS4 permit reissuance. Based on this periodic review the San Diego Water Board may terminate the agreement with Santa Ana Water Board or otherwise modify the agreement subject to the approval of the Santa Ana Water Board.

b. Pursuant to CWC section 13228, the Cities of Murrieta, Wildomar, and Menifee submitted written requests that one Regional Water Board be designated to regulate Phase I MS4 discharges for each of the Cities. The Santa Ana Water Board and the San Diego Water Board have entered into an agreement dated October 26, 2015, whereby the Cities of Murrieta and Wildomar are largely regulated by the San Diego Water Board under this Order, including those portions of the Cities of Murrieta and Wildomar not within the San Diego Water Board's jurisdiction, upon the effective date of this Order. Similarly, the City of Menifee is largely regulated by the Santa Ana Water Board under Order No. R8-2010-0033 as it may be amended or reissued, including those portions of the City of Menifee within the San Diego Water Board's jurisdiction, upon the effective date of this Order. The agreement also requires the City of Menifee to actively participate during development and implementation of the Santa Margarita River Watershed Management Area Water Quality Improvement Plan required pursuant to this Order. Each Regional Water Board retains the authority to enforce provisions of its Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee under the terms of the agreement (Water Code section 13228 (b)). Under the terms of the agreement, any TMDL and associated MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Menifee, Murrieta, or Wildomar as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement of the applicable TMDL will remain with the Regional Water Board which has jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's Lake Elsinore/Canyon Lake Nutrient TMDLs. The San Diego Water Board will periodically review the effectiveness of the agreement during each MS4 permit reissuance. Based on this periodic review the San Diego Water Board may terminate the agreement with Santa Ana Water Board or otherwise modify the agreement subject to the approval of the Santa Ana Water Board.

30. Integrated Report and Clean Water Act Section 303(d) List. The San Diego Water Board and State Water Board submit an Integrated Report to USEPA to comply with the reporting requirements of CWA sections 303(d), 305(b) and 314, which lists the attainment status of water quality standards for water bodies in the San Diego Region. USEPA issued its *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* on July 29, 2005, which advocates the use of a five category approach for

classifying the attainment status of water quality standards for water bodies in the Integrated Report. Water bodies included in Category 5 in the Integrated Report indicate at least one beneficial use is not being supported or is threatened, and a TMDL is required. Water bodies included in Category 5 in the Integrated Report are placed on the 303(d) List.

Water bodies with available data and/or information that indicate at least one beneficial use is not being supported or is threatened, but a TMDL is not required, are included in Category 4 in the Integrated Report. Impaired surface water bodies may be included in Category 4 if a TMDL has been adopted and approved (Category 4a); if other pollution control requirements required by a local, state or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time (Category 4b); or, if the failure to meet an applicable water quality standard is not caused by a pollutant, but caused by other types of pollution (Category 4c).

Implementation of the requirements of this Order may allow the San Diego Water Board to include surface waters impaired by discharges from the Copermittees' MS4s in Category 4 in the Integrated Report for consideration during the next 303(d) List submittal by the State to USEPA.

31. **Economic Considerations.** The California Supreme Court has ruled that although CWC section 13263 requires the State and Regional Water Boards (collectively Water Boards) to consider factors set forth in CWC section 13241 when issuing an NPDES permit, the Water Board may not consider the factors to justify imposing pollutant restrictions that are less stringent than the applicable federal regulations require. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618, 626-627.) However, when pollutant restrictions in an NPDES permit are more stringent than federal law requires, CWC section 13263 requires that the Water Boards consider the factors described in CWC section 13241 as they apply to those specific restrictions.

    As noted in the following finding, the San Diego Water Board finds that the requirements in this Order are not more stringent than the minimum federal requirements. Therefore, a CWC section 13241 analysis is not required for permit requirements that implement the effective prohibition on the discharge of non-storm water into the MS4 or for controls to reduce the discharge of pollutants in storm water to the MEP, or other provisions that the San Diego Water Board has determined appropriate to control such pollutants, as those requirements are mandated by federal law. Notwithstanding the above, the San Diego Water Board has developed an economic analysis of the requirements in this Order. The economic analysis is provided in the Fact Sheet.

32. **Unfunded Mandates.** This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, Section (6) of the California Constitution for several reasons, including, but not limited to, the following:

a. This Order implements federally mandated requirements under CWA section 402 (33 USC section 1342(p)(3)(B)).

b. The local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges.

c. The local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order.

d. The Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA section 301(a) (33 USC section 1311(a)) and in lieu of numeric restrictions on their MS4 discharges (i.e. effluent limitations).

e. The local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIIIB, Section (6) of the California Constitution.

f. The provisions of this Order to implement TMDLs are federal mandates. The CWA requires TMDLs to be developed for water bodies that do not meet federal water quality standards (33 USC section 1313(d)). Once the USEPA or a state develops a TMDL, federal law requires that permits must contain water quality based effluent limitations consistent with the assumptions and requirements of any applicable wasteload allocation (40 CFR 122.44(d)(1)(vii)(B)).

See the Fact Sheet for further discussion of unfunded mandates.

33. California Environmental Quality Act. The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with CWC section 13389.

STATE WATER BOARD DECISIONS

34. Compliance with Prohibitions and Limitations. The receiving water limitation language specified in this Order is consistent with language recommended by the USEPA and established in State Water Board Order WQ 99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Water Board on June 17, 1999. The receiving water limitation language in this Order requires storm water discharges from MS4s to not cause or contribute to a violation of water quality standards, which is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Implementation of the iterative approach to comply with receiving water

limitations based on applicable water quality standards is necessary to ensure that storm water discharges from the MS4 will not ultimately cause or contribute to violations of water quality standards and will not create conditions of pollution, contamination, or nuisance.

The San Diego, Orange County, and Riverside County Copermittees have asserted that the prohibitions and limitations may result in many years of noncompliance because years of technical efforts may ultimately be required to achieve compliance with the prohibitions and limitations, especially for wet weather discharges. To address this concern, this Order includes an option that allows a Copermittee to be deemed in compliance with the prohibitions and limitations where more than one permit term may be necessary to achieve full compliance with the prohibitions and limitations. One or more Copermittees within a Watershed Management Area can choose to implement this option.

An alternative compliance pathway option has been included in this Order consistent with the approach described in Order WQ 2015-0075, *In the Matter of Review of Order No. R4-2012-0175, NPDES Permit No. CAS004001, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4,* adopted by the State Water Board on June 16, 2015. State Water Board Order WQ 2015-0075 directs the Regional Water Boards to consider a watershed-based planning and implementation approach to compliance with receiving water limitations when issuing Phase I MS4 permits going forward. Order WQ 2015-0075 included seven principles that the Regional Water Boards are expected to follow when incorporating an alternative compliance pathway into an MS4 permit. The Fact Sheet discusses the incorporation of the seven principles stipulated in State Water Board Order WQ 2015-0075 into the alternative compliance pathway option in this Order.

35. **Special Conditions for Areas of Special Biological Significance.** On March 20, 2012, the State Water Board approved Resolution No. 2012-0012 approving a general exception to the Ocean Plan prohibition against discharges to Areas of Special Biological Significance (ASBS) for certain nonpoint source discharges and NPDES permitted municipal storm water discharges (General Exception). On June 19, 2012, the State Water Board adopted Order No. 2012-0031, amending the General Exception to require pollutant reductions to be achieved within six years in accordance with ASBS Compliance Plans and ASBS Pollution Prevention Plans. The General Exception requires monitoring and testing of marine aquatic life and water quality in several ASBS to protect California's coastline during storms when rain water overflows into coastal waters. Specific terms, prohibitions, and special conditions were adopted to provide special protections for marine aquatic life and natural water quality in ASBS. The City of San Diego's municipal storm water discharges to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's municipal storm water discharges to the Heisler Park ASBS are subject to the terms and conditions of the General Exception as amended. The Special Protections contained in Attachment B to the General Exception as amended are

applicable to these discharges, and are hereby incorporated into Attachment A of this Order.

ADMINISTRATIVE FINDINGS

36. **Executive Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to CWC section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under CWC section 13223 or this Order explicitly states otherwise.

37. **Standard Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment B to this Order.

38. **Fact Sheet.** The Fact Sheet for this Order contains background information, regulatory and legal citations, references and additional explanatory information and data in support of the requirements of this Order. The Fact Sheet is hereby incorporated into this Order and constitutes part of the Findings of this Order.

39. **Public Notice.** In accordance with State and federal laws and regulations, the San Diego Water Board notified the Copermittees, and interested agencies and persons of its intent to prescribe waste discharge requirements for the control of discharges into and from the MS4s to waters of the U.S. and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet.

40. **Public Hearings.** The San Diego Water Board held a public hearing on April 10 and 11, 2013, that was continued to May 8, 2013 and heard and considered all comments pertaining to the terms and conditions of this Order. The San Diego Water Board also held a public workshop on October 8, 2015, and a public hearing on February 11, 2015, and heard and considered all comments pertaining to the amendment of this Order through Order No. R9-2015-0001. The San Diego Water Board also held a public hearing on November 18, 2015, and heard and considered all comments pertaining to the amendment of this Order through Order No. R9-2015-0100. Details of these public hearings are provided in the Fact Sheet.

41. **Effective Date.** This Order serves as an NPDES permit pursuant to CWA section 402 or amendments thereto, and as to the San Diego County Copermittees listed in Table 1a, became effective fifty (50) days after the date of its adoption, and as to the Orange County Copermittees listed in Table 1b, became effective on April 1, 2015, after Order No. R9-2015-0001 was adopted, and as to the Riverside County Copermittees listed in Table 1c, became effective on January 7, 2016, after Order No. R9-2015-0100 was adopted, provided that the Regional Administrator, USEPA, Region IX, does not object to this Order.

42. **Review by the State Water Board.** Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050, and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday or State holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

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THEREFORE, IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in division 7 of the CWC (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, must each comply with the requirements of this Order. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of the previous Order applicable to the Copermittees. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Copermittees must comply with the analogous portions of the previous Order, which will remain in effect for all purposes during the pendency of the stay.

II. PROVISIONS

A. PROHIBITIONS AND LIMITATIONS

The purpose of this provision is to describe the conditions under which storm water and non-storm water discharges into and from MS4s are prohibited or limited. The goal of the prohibitions and limitations is to protect the water quality and designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. This goal will be accomplished through the implementation of water quality improvement strategies and runoff management programs that effectively prohibit non-storm water discharges into the Copermittees' MS4s, and reduce pollutants in storm water discharges from the Copermittees' MS4s to the MEP.

1. Discharge Prohibitions

a. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance in receiving waters of the state are prohibited.

b. Non-storm water discharges into MS4s are to be effectively prohibited, through the implementation of Provision E.2, unless such discharges are authorized by a separate NPDES permit.

c. Discharges from MS4s are subject to all waste discharge prohibitions in the Basin Plan, included in Attachment A to this Order.

d. Storm water discharges from the City of San Diego's MS4 to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's MS4 to the Heisler Park ASBS are authorized under this Order subject to the Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012, as amended by State Water Board Resolution No. 2012-0031, applicable to these discharges, included in Attachment A to this Order. All other discharges from the Copermittees' MS4s to ASBS are prohibited.

2. Receiving Water Limitations

a. Discharges from MS4s must not cause or contribute to the violation of water quality standards in any receiving waters, including but not limited to all applicable provisions contained in:

(1) The San Diego Water Board's Basin Plan, including beneficial uses, water quality objectives, and implementation plans;

(2) State Water Board plans for water quality control including the following:

(a) Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries (Thermal Plan), and

(b) The Ocean Plan, including beneficial uses, water quality objectives, and implementation plans;

(3) State Water Board policies for water and sediment quality control including the following:

(a) Water Quality Control Policy for the Enclosed Bays and Estuaries of California,

(b) Sediment Quality Control Plan which includes the following narrative objectives for bays and estuaries:

(i) Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities, and

(ii) Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health,

(c) The Statement of Policy with Respect to Maintaining High Quality of Waters in California;[2]

(4) Priority pollutant criteria promulgated by the USEPA through the following:

(a) National Toxics Rule (NTR)[3] (promulgated on December 22, 1992 and amended on May 4, 1995), and

(b) California Toxics Rule (CTR).[4,5]

b. Discharges from MS4s composed of storm water runoff must not alter natural ocean water quality in an ASBS.

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[2] State Water Board Resolution No. 68-16
[3] 40 CFR 131.36
[4] 65 Federal Register 31682-31719 (May 18, 2000), adding Section 131.38 to 40 CFR
[5] If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies.

3. Effluent Limitations

a. Technology Based Effluent Limitations

Pollutants in storm water discharges from MS4s must be reduced to the MEP.[6]

b. Water Quality Based Effluent Limitations

Each Copermittee must comply with applicable WQBELs established for the TMDLs in Attachment E to this Order, pursuant to the applicable TMDL compliance schedules.

4. Compliance with Discharge Prohibitions and Receiving Water Limitations

Each Copermittee must achieve compliance with Provisions A.1.a, A.1.c and A.2.a of this Order through timely implementation of control measures and other actions as specified in Provisions B and E of this Order, including any modifications. The Water Quality Improvement Plans required under Provision B must be designed and adapted to ultimately achieve compliance with Provisions A.1.a, A.1.c and A.2.a.

a. If exceedance(s) of water quality standards persist in receiving waters notwithstanding implementation of this Order, the Copermittees must comply with the following procedures:

(1) For exceedance(s) of a water quality standard in the process of being addressed by the Water Quality Improvement Plan, the Copermittee(s) must implement the Water Quality Improvement Plan as accepted by the San Diego Water Board, and update the Water Quality Improvement Plan, as necessary, pursuant to Provision F.2.c;

(2) Upon a determination by either the Copermittees or the San Diego Water Board that discharges from the MS4 are causing or contributing to a new exceedance of an applicable water quality standard not addressed by the Water Quality Improvement Plan, the Copermittees must submit the following updates to the Water Quality Improvement Plan pursuant to Provision F.2.c or as part of the Water Quality Improvement Plan Annual Report required under Provision F.3.b, unless the San Diego Water Board directs an earlier submittal:

(a) The water quality improvement strategies being implemented that are effective and will continue to be implemented,

[6] This does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants in storm water discharges to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer). Runoff treatment must occur prior to the discharge of runoff into receiving waters per Finding 7.

(b) Water quality improvement strategies (i.e. BMPs, retrofitting projects, stream and/or habitat rehabilitation projects, adjustments to jurisdictional runoff management programs, etc.) that will be implemented to reduce or eliminate any pollutants or conditions that are causing or contributing to the exceedance of water quality standards,

(c) Updates to the schedule for implementation of the existing and additional water quality improvement strategies, and

(d) Updates to the monitoring and assessment program to track progress toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a of this Order;

(3) The San Diego Water Board may require the incorporation of additional modifications to the Water Quality Improvement Plan required under Provision B. The applicable Copermittees must submit any modifications to the update to the Water Quality Improvement Plan within 90 days of notification that additional modifications are required by the San Diego Water Board, or as otherwise directed;

(4) Within 90 days of the San Diego Water Board determination that the modifications to the Water Quality Improvement Plan required under Provision A.4.a.(3) meet the requirements of this Order, the applicable Copermittees must revise the jurisdictional runoff management program documents to incorporate the modified water quality improvement strategies that have been and will be implemented, the implementation schedule, and any additional monitoring required; and

(5) Each Copermittee must implement the updated Water Quality Improvement Plan.

b. The procedure set forth above to achieve compliance with Provisions A.1.a, A.1.c and A.2.a of this Order do not have to be repeated for continuing or recurring exceedances of the same water quality standard(s) following implementation of scheduled actions unless directed to do otherwise by the San Diego Water Board.

c. Nothing in Provisions A.4.a and A.4.b prevents the San Diego Water Board from enforcing any provision of this Order while the applicable Copermittees prepare and implement the above update to the Water Quality Improvement Plan and jurisdictional runoff management programs.

B. WATER QUALITY IMPROVEMENT PLANS

The purpose of this provision is to develop Water Quality Improvement Plans that guide the Copermittees' jurisdictional runoff management programs towards achieving the outcome of improved water quality in MS4 discharges and receiving waters. The goal of the Water Quality Improvement Plans is to further the Clean Water Act's objective to protect, preserve, enhance, and restore the water quality and designated beneficial uses of waters of the state. This goal will be accomplished through an adaptive planning and management process that identifies the highest priority water quality conditions within a watershed and implements strategies through the jurisdictional runoff management programs to achieve improvements in the quality of discharges from the MS4s and receiving waters.

1. Watershed Management Areas

The Copermittees must develop a Water Quality Improvement Plan for each of the Watershed Management Areas in Table B-1. A total of ten Water Quality Improvement Plans must be developed for the San Diego Region.

Table B-1. Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible Copermittees
San Juan (901.00)	South Orange County	- Aliso Creek - San Juan Creek - San Mateo Creek - Pacific Ocean - Heisler Park ASBS	- City of Aliso Viejo - City of Dana Point - City of Laguna Beach - City of Laguna Hills[1] - City of Laguna Niguel - City of Laguna Woods[1] - City of Lake Forest[2] - City of Mission Viejo - City of Rancho Santa Margarita - City of San Clemente - City of San Juan Capistrano - County of Orange - Orange County Flood Control District
Santa Margarita (902.00)	Santa Margarita River	- Murrieta Creek - Temecula Creek - Santa Margarita River - Santa Margarita Lagoon - Pacific Ocean	- City of Menifee[3] - City of Murrieta[4] - City of Temecula - City of Wildomar[4] - County of Riverside - County of San Diego - Riverside County Flood Control and Water Conservation District
San Luis Rey (903.00)	San Luis Rey River	- San Luis Rey River - San Luis Rey Estuary - Pacific Ocean	- City of Oceanside - City of Vista - County of San Diego

Table B-1. Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible Copermittees
Carlsbad (904.00)	Carlsbad	- Loma Alta Slough - Buena Vista Lagoon - Agua Hedionda Lagoon - Batiquitos Lagoon - San Elijo Lagoon - Pacific Ocean	- City of Carlsbad - City of Encinitas - City of Escondido - City of Oceanside - City of San Marcos - City of Solana Beach - City of Vista - County of San Diego
San Dieguito (905.00)	San Dieguito River	- San Dieguito River - San Dieguito Lagoon - Pacific Ocean	- City of Del Mar - City of Escondido - City of Poway - City of San Diego - City of Solana Beach - County of San Diego
Penasquitos (906.00)	Penasquitos	- Los Penasquitos Lagoon - Pacific Ocean	- City of Del Mar - City of Poway - City of San Diego - County of San Diego
	Mission Bay	- Mission Bay - Pacific Ocean - San Diego Marine Life Refuge ASBS	- City of San Diego
San Diego (907.00)	San Diego River	- San Diego River - Pacific Ocean	- City of El Cajon - City of La Mesa - City of San Diego - City of Santee - County of San Diego
Pueblo San Diego (908.00) Sweetwater (909.00) Otay (910.00)	San Diego Bay	- Sweetwater River - Otay River - San Diego Bay - Pacific Ocean	- City of Chula Vista - City of Coronado - City of Imperial Beach - City of La Mesa - City of Lemon Grove - City of National City - City of San Diego - County of San Diego - San Diego County Regional Airport Authority - San Diego Unified Port District
Tijuana (911.00)	Tijuana River	- Tijuana River - Tijuana Estuary - Pacific Ocean	- City of Imperial Beach - City of San Diego - County of San Diego

Notes:

1. By agreement dated February 10, 2015, pursuant to Water Code section 13228, the Phase I MS4 discharges within the jurisdiction of the City of Laguna Hills and the City of Laguna Woods located in the Santa Ana Region are regulated by San Diego Water Board Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, upon the later effective date of Order No. R9-2015-0001 or Santa Ana Water Board Tentative Order No. R8-2015-0001. The City of Laguna Hills and Laguna Woods must also comply with the requirements of the San Diego Creek/Newport Bay TMDL in section XVIII of Santa Ana Water Board Order No. R8-2015-0001.
2. By agreement dated February 10, 2015, pursuant to Water Code section 13228, Phase I MS4 discharges within the City of Lake Forest located within the San Diego Water Board Region are regulated by the Santa Ana Water Board Order No. R8-2015-0001 (NPDES No. CAS618030) upon the later effective date of this Order or Santa Ana Water Board Tentative Order No. R8-2015-0001. In accordance with the terms of the agreement between the San Diego Water Board and the Santa Ana Water Board, the City of Lake Forest must implement the requirements of the Bacteria TMDL in Attachment E of this Order, participate in preparation and implementation of the Water Quality Improvement Plan for the Aliso Creek Watershed Management Area as described in Provision B of this Order and continue implementation of its over-irrigation discharge prohibition in its City Ordinance, Title 15, Chapter 15, section 14.030, List (b).
3. By agreement dated October 26, 2015, pursuant to Water Code section 13228, Phase I MS4 discharges within the City of Menifee located within the San Diego Water Board Region are regulated by the Santa Ana Water Board Order No. R8-2010-0033 as it may be amended or reissued (NPDES No. CAS618033) upon the later effective date of this Order. In accordance with the terms of the agreement between the San Diego Water Board and the Santa Ana Water Board, the City of Menifee must participate in preparation and implementation of the Water Quality Improvement Plan for the Santa Margarita River Watershed Management Area as described in Provision B of this Order.
4. By agreement dated October 26, 2015, pursuant to Water Code section 13228, the Phase I MS4 discharges within the jurisdiction of the City of Murrieta and the City of Wildomar located in the Santa Ana Region are regulated by San Diego Water Board Order No. R9-2013-0001 as amended by Orders No. R9-2015-0001 and R9-2015-0100. The City of Murrieta and City of Wildomar must also comply with the requirements of the Lake Elsinore/Canyon Lake Nutrient TMDLs in section VI.D.2 of Santa Ana Water Board Order No. R8-2010-0033, or corresponding section as it may be amended or reissued.

2. Priority Water Quality Conditions

The Copermittees must identify the water quality priorities within each Watershed Management Area that will be addressed by the Water Quality Improvement Plan. Where appropriate, Watershed Management Areas may be separated into subwatersheds to focus water quality prioritization and jurisdictional runoff management program implementation efforts by receiving water.

a. Assessment of Receiving Water Conditions

The Copermittees must consider the following, at a minimum, to identify water quality priorities based on impacts of MS4 discharges on receiving water beneficial uses:

(1) Receiving waters listed as impaired on the CWA Section 303(d) List of Water Quality Limited Segments (303(d) List);

(2) TMDLs adopted and under development by the San Diego Water Board;

(3) Receiving waters recognized as sensitive or highly valued by the Copermittees, including estuaries designated under the National Estuary Program under CWA section 320, marine protected areas, wetlands defined by the State or U.S. Fish and Wildlife Service's National Wetlands Inventory as wetlands, waters having the Preservation of Biological Habitats of Special Significance (BIOL) beneficial use designation, and receiving waters identified as ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A);

(4) The receiving water limitations of Provision A.2;

(5) Known historical versus current physical, chemical, and biological water quality conditions;

(6) Available, relevant, and appropriately collected and analyzed physical, chemical, and biological receiving water monitoring data, including, but not limited to, data describing:

(a) Chemical constituents,

(b) Water quality parameters (i.e. pH, temperature, conductivity, etc.),

(c) Toxicity Identification Evaluations for both receiving water column and sediment,

(d) Trash impacts,

(e) Bioassessments, and

(f) Physical habitat;

(7) Available evidence of erosional impacts in receiving waters due to accelerated flows (i.e. hydromodification);

(8) Available evidence of adverse impacts to the chemical, physical, and biological integrity of receiving waters; and

(9) The potential improvements in the overall condition of the Watershed Management Area that can be achieved.

b. ASSESSMENT OF IMPACTS FROM MS4 DISCHARGES

The Copermittees must consider the following, at a minimum, to identify the potential impacts to receiving waters that may be caused or contributed to by discharges from the Copermittees' MS4s:

(1) The discharge prohibitions of Provision A.1 and effluent limitations of Provision A.3; and

(2) Available, relevant, and appropriately collected and analyzed storm water and non-storm water monitoring data from the Copermittees' MS4 outfalls;

(3) Locations of each Copermittee's MS4 outfalls that discharge to receiving waters;

(4) Locations of MS4 outfalls that are known to persistently discharge non-storm water to receiving waters likely causing or contributing to impacts on receiving water beneficial uses;

(5) Locations of MS4 outfalls that are known to discharge pollutants in storm water causing or contributing to impacts on receiving water beneficial uses; and

(6) The potential improvements in the quality of discharges from the MS4 that can be achieved.

c. IDENTIFICATION OF PRIORITY WATER QUALITY CONDITIONS

(1) The Copermittees must use the information gathered for Provisions B.2.a and B.2.b to develop a list of priority water quality conditions as pollutants, stressors and/or receiving water conditions that are the highest threat to receiving water quality or that most adversely affect the quality of receiving waters. The list must include the following information for each priority water quality condition:

(a) The beneficial use(s) associated with the priority water quality condition;

(b) The geographic extent of the priority water quality condition within the Watershed Management Area, if known;

(c) The temporal extent of the priority water quality condition (e.g., dry weather and/or wet weather);

(d) The Copermittees with MS4s discharges that may cause or contribute to the priority water quality condition; and

(e) An assessment of the adequacy of and data gaps in the monitoring data to characterize the conditions causing or contributing to the priority water quality condition, including a consideration of spatial and temporal variation.

(2) The Copermittees must identify the highest priority water quality conditions to be addressed by the Water Quality Improvement Plan, and provide a rationale for selecting a subset of the water quality conditions identified pursuant to Provision B.2.c.(1) as the highest priorities.

d. IDENTIFICATION OF MS4 SOURCES OF POLLUTANTS AND/OR STRESSORS

The Copermittees must identify and prioritize known and suspected sources of storm water and non-storm water pollutants and/or other stressors associated with MS4 discharges that cause or contribute to the highest priority water quality conditions identified under Provision B.2.c. The identification of known and suspected sources of pollutants and/or stressors that cause or contribute to the highest priority water quality conditions as identified for Provision B.2.c must consider the following:

(1) Pollutant generating facilities, areas, and/or activities within the Watershed Management Area, including:

(a) Each Copermittee's inventory of construction sites, commercial facilities or areas, industrial facilities, municipal facilities, and residential areas,

(b) Publicly owned parks and/or recreational areas,

(c) Open space areas,

(d) All currently operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, and

(e) Areas not within the Copermittees' jurisdictions (e.g., Phase II MS4s, tribal lands, state lands, federal lands) that are known or suspected to be discharging to the Copermittees' MS4s;

(2) Locations of the Copermittees' MS4s, including the following:

(a) All MS4 outfalls that discharge to receiving waters, and

(b) Locations of major structural controls for storm water and non-storm water (e.g., retention basins, detention basins, major infiltration devices, etc.);

(3) Other known and suspected sources of non-storm water or pollutants in storm water discharges to receiving waters within the Watershed Management Area, including the following:

(a) Other MS4 outfalls (e.g., Phase II Municipal and Caltrans),

(b) Other NPDES permitted discharges,

(c) Any other discharges that may be considered point sources (e.g., private outfalls), and

(d) Any other discharges that may be considered non-point sources (e.g., agriculture, wildlife or other natural sources);

(4) Review of available data, including but not limited to:

(a) Findings from the Copermittees' illicit discharge detection and elimination programs,

(b) Findings from the Copermittees' MS4 outfall discharge monitoring,

(c) Findings from the Copermittees' receiving water monitoring,

(d) Findings from the Copermittees' MS4 outfall discharge and receiving water assessments, and

(e) Other available, relevant, and appropriately collected data, information, or studies related to pollutant sources and/or stressors that contribute to the highest priority water quality conditions as identified for Provision B.2.c.

(5) The adequacy of the available data to identify and prioritize sources and/or stressors associated with MS4 discharges that cause or contribute to the highest priority water quality conditions identified under Provision B.2.c.

e. IDENTIFICATION OF POTENTIAL WATER QUALITY IMPROVEMENT STRATEGIES

The Copermittees must evaluate the findings identified under Provisions B.2.a-d, and identify potential strategies that can result in improvements to water quality in MS4 discharges and/or receiving waters within the Watershed Management Area. Potential water quality improvement strategies that may be implemented within the Watershed Management Area must include the following:

(1) Structural BMPs, non-structural BMPs, incentives, or programs that can potentially be implemented to address the highest priority water quality conditions identified under Provision B.2.c, or MS4 sources of pollutants or stressors identified under Provision B.2.d,

(2) Retrofitting projects in areas of existing development within the Watershed Management Area that can potentially be implemented to reduce MS4 sources of pollutants or stressors identified under Provision B.2.d causing or contributing to the highest priority water quality conditions identified under Provision B.2.c, and

(3) Stream, channel, and/or habitat rehabilitation projects within the Watershed Management Area that can potentially be implemented to protect and/or improve conditions in receiving waters from MS4 pollutants and/or stressors identified under Provision B.2.d causing or contributing to the highest priority water quality conditions identified under Provision B.2.c.

3. Water Quality Improvement Goals, Strategies and Schedules

The Copermittees must identify and develop specific water quality improvement goals and strategies to address the highest priority water quality conditions identified within a Watershed Management Area. The water quality improvement goals and strategies must address the highest priority water quality conditions by effectively prohibiting non-storm water discharges to the MS4, reducing pollutants in storm water discharges from the MS4 to the MEP, and protecting the water quality standards of receiving waters.

a. WATER QUALITY IMPROVEMENT GOALS AND SCHEDULES

(1) Numeric Goals

The Copermittees must develop and incorporate numeric goals[7] into the Water Quality Improvement Plan. Numeric goals must be used to support

[7] Interim and final numeric goals may take a variety of forms such as TMDL established WQBELs, action levels, pollutant concentration, load reductions, number of impaired water bodies delisted from the List of Water Quality Impaired Segments, Index of Biotic Integrity (IBI) scores, or other appropriate metrics. Interim and final numeric goals are not necessarily limited to one criterion or indicator, but may include multiple criteria and/or indicators. Except for TMDL established WQBELs, interim and final numeric goals and corresponding schedules may be revised through the adaptive management process under Provision B.5.

Water Quality Improvement Plan implementation and measure reasonable progress towards addressing the highest priority water quality conditions identified under Provision B.2.c. The Copermittees must establish and incorporate the following numeric goals in the Water Quality Improvement Plan:

(a) Final numeric goals must be based on measureable criteria or indicators capable of demonstrating one or more of the following:

(i) Discharges from the Copermittees' MS4s will not cause or contribute to exceedances of water quality standards in receiving waters, AND/OR

(ii) The conditions of receiving waters and associated habitat are protected from MS4 discharges, AND/OR

(iii) Beneficial uses of receiving waters are protected from MS4 discharges and will be supported.

(b) Interim numeric goals must be based on measureable criteria or indicators capable of demonstrating reasonable incremental progress toward achieving the final numeric goals in the receiving waters and/or MS4 discharges as follows:

(i) One or more interim numeric goals may be established to demonstrate progress toward achieving each final numeric goal,

(ii) For each final numeric goal, at least one interim numeric goal must be expressed as a reasonable increment toward achievement of the final numeric goal,

(iii) For each final numeric goal, reasonable interim numeric goals must be established to be accomplished during each 5 year period between the acceptance of the Water Quality Improvement Plan and the achievement of the final numeric goals.

(2) <u>Schedules for Achieving Numeric Goals</u>

The Copermittees must develop and incorporate schedules for achieving the numeric goals into the Water Quality Improvement Plan. The schedules must demonstrate reasonable progress toward achieving the final numeric goals required for Provision B.3.a.(1). The Copermittees must incorporate the schedules for achieving the numeric goals into the Water Quality Improvement Plan based on the following considerations:

(a) Final dates for achieving all final numeric goals must be established considering the following:

(i) Final compliance dates for any applicable TMDLs in Attachment E to this Order;

(ii) Compliance schedules for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A);

(iii) Achievement of the final numeric goals for the highest water quality priorities must be as soon as possible;

(iv) Final dates for achieving the final numeric goals must reflect a realistic assessment of the shortest practicable time required based on the temporal and spatial extent and factors associated with the highest priority water quality conditions identified under Provision B.2.c, and taking into account the time reasonably required to implement the water quality improvement strategies required pursuant to Provision B.3.b.

(b) Interim dates for achieving all interim numeric goals must be established considering the following:

(i) Interim compliance dates for any applicable TMDLs in Attachment E to this Order;

(ii) Compliance schedules for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A);

(iii) Interim dates for achieving the interim numeric goals must reflect a realistic assessment of the shortest practicable time reasonably required, taking into account the time needed to implement new or significantly expanded programs and securing financing, if necessary; and

(iv) For each final numeric goal, at least one interim numeric goal must be established that the Copermittees will work toward achieving within the term of this Order.

b. WATER QUALITY IMPROVEMENT STRATEGIES AND SCHEDULES

Based on the likely effectiveness and efficiency of the potential water quality improvement strategies identified under Provision B.2.e to effectively prohibit non-storm water discharges to the MS4, reduce pollutants in storm water discharges from the MS4 to the MEP, protect the beneficial uses of receiving waters from MS4 discharges, and/or achieve the interim and final numeric goals identified under Provision B.3.a, the Copermittees must identify the strategies that will be implemented in each Watershed Management Area as follows:

(1) Jurisdictional Strategies

(a) Each Copermittee in the Watershed Management Area must identify the strategies that will be implemented within its jurisdiction as part of its jurisdictional runoff management program requirements under Provisions E.2 through E.7, including descriptions of the following:

(i) For each of the inventories developed for its jurisdiction, as required under Provisions D.2.a.(1), E.3.e.(2), E.4.b, and E.5.a, each Copermittee must identify the known and suspected areas or sources causing or contributing to the highest priority water quality conditions in the Watershed Management Area that the Copermittee will focus on in its efforts to effectively prohibit non-storm water discharges to its MS4, reduce pollutants in storm water discharges from its MS4 to the MEP, and achieve the interim and final numeric goals identified under Provision B.3.a;

(ii) BMPs that each Copermittee will implement, or require to be implemented, as applicable, for those areas or sources within its jurisdiction;

(iii) Education programs that each Copermittee will implement, as applicable, for those areas or sources within its jurisdiction;

(iv) Frequencies that each Copermittee will conduct inspections on those areas or sources within its jurisdiction;

(v) Incentive and enforcement programs that each Copermittee will implement, as applicable, for those areas or sources within its jurisdiction; and

(vi) Any other BMPs, incentives, or programs that each Copermittee will implement for those areas or sources within its jurisdiction.

(b) Identify the optional jurisdictional strategies that each Copermittee will implement within its jurisdiction, as necessary, to effectively prohibit non-storm water discharges to its MS4, reduce pollutants in storm water discharges from its MS4 to the MEP, protect the beneficial uses of receiving waters from MS4 discharges, and/or achieve the interim and final numeric goals identified under Provision B.3.a. Descriptions of the optional jurisdictional strategies must include:

(i) BMPs, incentives, or programs that may be implemented by the Copermittee within its jurisdiction in addition to the requirements of Provisions B.3.b.(1)(a);

(ii) Incentives or programs that may be implemented by the Copermittee to encourage or implement projects to retrofit areas of existing development within its jurisdiction;

(iii) Incentives or programs that may be implemented by the Copermittee to encourage or implement projects that will rehabilitate the conditions of channels or habitats within its jurisdiction;

(iv) The funds and/or resources that must be secured by the Copermittee to implement the optional strategies described for Provisions B.3.b.(1)(b)(i)-(iii) within its jurisdiction; and

(v) The circumstances necessary to trigger implementation of the optional jurisdictional strategies, in addition to the requirements of Provision B.3.b.(1)(a), to achieve the interim and final numeric goals within the schedules established under Provision B.3.a.

(c) Identify the strategies that will be implemented by the Copermittee in coordination with or with the cooperation of other agencies (e.g. Caltrans, water districts, school districts) and/or entities (e.g. non-governmental organizations) within its jurisdiction.

(2) Watershed Management Area Strategies

The Copermittees must identify the optional regional or multi-jurisdictional strategies that will be implemented in the Watershed Management Area, as necessary, to effectively prohibit non-storm water discharges to the MS4, reduce pollutants in storm water discharges from the MS4 to the MEP, protect the beneficial uses of receiving waters from MS4 discharges, and/or achieve the interim and final numeric goals identified under Provision B.3.a. Descriptions of the optional regional or multi-jurisdictional strategies must include:

(a) Regional or multi-jurisdictional BMPs, incentives, or programs that may be implemented by the Copermittees in the Watershed Management Area;

(b) Incentives or programs that may be implemented by the Copermittees in the Watershed Management Area to encourage or implement regional or multi-jurisdictional projects to retrofit areas of existing development;

(c) Incentives or programs that may be implemented by the Copermittees to encourage or implement regional or multi-jurisdictional projects that will rehabilitate the conditions of channels, streams, or habitats within the Watershed Management Area;

(d) The funds and/or resources that must be secured by the Copermittees to implement the optional strategies described for Provisions B.3.b.(2)(a)-(c) within the Watershed Management Area; and

(e) The circumstances necessary to trigger implementation of the optional regional or multi-jurisdictional strategies to achieve the interim and final numeric goals within the schedules established under Provision B.3.a.

(3) Schedules for Implementing Strategies

The Copermittees must develop reasonable schedules for implementing the water quality improvement strategies identified under Provisions B.3.b.(1) and B.3.b.(2) to achieve the interim and final numeric goals identified and schedules established under Provision B.3.a. The Copermittees must incorporate the schedules to implement the water quality improvement strategies into the Water Quality Improvement Plan as follows:

(a) Each Copermittee must develop schedules for the jurisdictional strategies identified pursuant to Provisions B.3.b.(1)(a)-(b). Each schedule must specify:

(i) If each jurisdictional strategy identified pursuant to Provision B.3.b.(1)(a) will or will not be initiated upon acceptance of the Water Quality Improvement Plan;

(ii) For each jurisdictional strategy identified pursuant to Provision B.3.b.(1)(a) that will not be initiated upon acceptance of the Water Quality Improvement Plan, the shortest practicable time in which each jurisdictional strategy will be initiated after acceptance of the Water Quality Improvement Plan;

(iii) For each optional jurisdictional strategy identified pursuant to Provision B.3.b.(1)(b), a realistic assessment of the shortest practicable time required to:

[a] Secure the resources needed to fund the optional jurisdictional strategy, and
[b] Procure the resources, materials, labor, and applicable permits necessary to initiate implementation of the optional jurisdictional strategy;

(iv) If each jurisdictional strategy identified pursuant to Provisions B.3.b.(1)(a)-(b) is expected to be continuously implemented (e.g. inspections) or completed within a schedule (e.g. construction of structural BMP); and

(v) If a jurisdictional strategy identified pursuant to Provisions B.3.b.(1)(a)-(b) is expected to be completed within a schedule, the anticipated time to complete based on a realistic assessment of the shortest practicable time required.

(b) The Copermittees in the Watershed Management Area must develop schedules for the regional or multi-jurisdictional strategies identified pursuant to Provision B.3.b.(2). Each schedule must specify:

(i) A realistic assessment of the shortest practicable time to:

[a] Secure the resources needed to fund the optional regional or multi-jurisdictional strategy, and
[b] Procure the resources, materials, labor, and permits necessary to initiate the implementation of the optional regional or multi-jurisdictional strategy;

(ii) If each regional or multi-jurisdictional strategy identified pursuant to Provision B.3.b.(2) is expected to be continuously implemented (e.g. inspections) or completed within a schedule (e.g. construction of structural BMP); and

(iii) If a regional or multi-jurisdictional strategy and/or activity identified pursuant to Provisions B.3.b.(2) is expected to be completed within a schedule, the anticipated time to complete based on a realistic assessment of the shortest practicable time required.

(4) Optional Watershed Management Area Analysis

(a) For each Watershed Management Area, the Copermittees have the option to perform a Watershed Management Area Analysis for the purpose of developing watershed-specific requirements for structural BMP implementation, as described in Provision E.3.c.(3). The Watershed Management Area Analysis must include GIS layers (maps) as output. The analysis must include the following information, to the extent it is available, in order to characterize the Watershed Management Areas:

(i) A description of dominant hydrologic processes, such as areas where infiltration or overland flow likely dominates;

(ii) A description of existing streams in the watershed, including bed material and composition, and if they are perennial or ephemeral;

(iii) Current and anticipated future land uses;

(iv) Potential coarse sediment yield areas; and

(v) Locations of existing flood control structures and channel structures, such as stream armoring, constrictions, grade control structures, and hydromodification or flood management basins.

(b) The Copermittees must use the results of the Watershed Management Area Analysis performed pursuant to Provision B.3.b.(4)(a) to identify and compile a list of candidate projects that could potentially be used as

alternative compliance options for Priority Development Projects, to be implemented in lieu of onsite structural BMP performance requirements described in Provisions E.3.c.(1) and E.3.c.(2)(a). Specifically, the Copermittees must identify opportunities to be included in the list of candidate projects in each Watershed Management Area, such as:

(i) Stream or riparian area rehabilitation;

(ii) Retrofitting existing infrastructure to incorporate storm water retention or treatment;

(iii) Regional BMPs;

(iv) Groundwater recharge projects;

(v) Water supply augmentation projects; and

(vi) Land purchases to preserve floodplain functions.

(c) The Copermittees must use the results of the Watershed Management Area Analysis performed pursuant to Provision B.3.b.(4)(a) to identify areas within the Watershed Management Area where it is appropriate to allow Priority Development Projects to be exempt from the hydromodification management BMP performance requirements described in Provision E.3.c.(2), including supporting rationale.

c. PROHIBITIONS AND LIMITATIONS COMPLIANCE OPTION

Each Copermittee has the option to utilize the implementation of the Water Quality Improvement Plan to demonstrate compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b within a Watershed Management Area subject to the following conditions:

(1) A Copermittee is eligible to be deemed in compliance with Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b within a Watershed Management Area when the Water Quality Improvement Plan for a Watershed Management Area incorporates the following:

(a) Numeric goals, water quality improvement strategies, and schedules developed pursuant to Provisions B.3.a and B.3.b that include the following:

(i) Interim and final WQBELs established by the TMDLs in Attachment E to this Order applicable to the Copermittee's jurisdiction within the Watershed Management Area; AND

(ii) Interim and final numeric goals for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012

(included as Attachment A to this Order) applicable to the Copermittee's jurisdiction within the Watershed Management Area; AND

(iii) Interim and final numeric goals applicable to the Copermittee's MS4 discharges within the Watershed Management Area expressed as numeric concentration-based or load-based goals for all pollutants and conditions listed on the Clean Water Act Section 303(d) List of Water Quality Impaired Segments[8] for the receiving waters in the Watershed Management Area that do not have a TMDL incorporated into Attachment E to this Order; AND/OR

(iv) Interim and final numeric goals for pollutants and conditions identified as receiving water priorities in the Water Quality Improvement Plan that will result in chemical, physical, and biological conditions protective of the beneficial uses of the receiving waters impacted by the Copermittee's MS4 discharges within the Watershed Management Area; AND

(v) The Copermittee has the option to include interim and final numeric goals applicable to the Copermittee's MS4 discharges and/or receiving waters within the Watershed Management Area for any pollutants or conditions in addition to those described in Provisions B.3.c.(1)(a)(i)-(iv); AND

(vi) Schedules for achieving each final numeric goal that reflect a realistic assessment of the shortest practicable time needed for achievement; AND

(vii) For each final numeric goal developed pursuant to Provisions B.3.a and B.3.c.(1)(a)(i)-(v), annual milestones[9] and the dates for their achievement must be included within each of the next five (5) Water Quality Improvement Plan Annual Report reporting periods, or until the final numeric goal is achieved. Annual milestones and the dates for their achievement for the 5 Water Quality Improvement Plan Annual Report reporting periods of the next permit term, or until the final numeric goal is achieved, must be provided as part of the Report of Waste Discharge required pursuant to Provision F.5.

(b) An analysis that meets all of the following conditions:

(i) The analysis, with clearly stated assumptions included in the analysis, must quantitatively demonstrate that the implementation of

[8] 2010 and subsequent 303(d) Lists

[9] Annual milestones for each final numeric goal must be clearly and directly linked to, or demonstrate progress is being made toward the achievement of the final numeric goal. The annual milestones may consist of water quality improvement strategy implementation phases, interim numeric goals, and other acceptable metrics. The annual milestones may address multiple numeric goals and/or multiple water bodies, as applicable and appropriate.

the water quality improvement strategies required under Provision B.3.b will achieve the final numeric goals within the schedules developed pursuant to Provisions B.3.a and B.3.c.(1)(a).

(ii) The development of the analysis must include a public participation process which allows the public to review and provide comments on the analysis methodology utilized and the assumptions included in the analysis. Public comments and responses must be included as part of the analysis documentation included in the Water Quality Improvement Plan.

(iii) The analysis may be performed by an individual Copermittee or jointly by two or more Copermittees choosing to utilize this compliance option for their jurisdictions within the Watershed Management Area.

(iv) The analysis must be updated as part of the iterative approach and adaptive management process required under Provisions B.5.a-b.

(c) Specific monitoring and assessments required pursuant to Provision B.4.a that will be performed by the Copermittee capable of 1) demonstrating whether the implementation of the water quality improvement strategies are making progress toward achieving the numeric goals in accordance with the established schedules developed pursuant to Provisions B.3.a and B.3.c.(1)(a), and 2) determining whether interim and final numeric goals have been achieved. The specific monitoring and assessments must be updated as part of the iterative approach and adaptive management process required under Provision B.5.c.

(d) Documentation showing that the numeric goals, schedules, and annual milestones proposed pursuant to Provision B.3.c.(1)(a), the analysis performed pursuant to Provision B.3.c.(1)(b), and the specific monitoring and assessments proposed pursuant to Provision B.3.c.(1)(c) have been reviewed by the Water Quality Improvement Consultation Panel (see Provision F.1.a.(1)(b)). Updates must be reviewed by the Water Quality Improvement Consultation Panel for any recommendations.

(2) Each Copermittee that voluntarily completes the requirements of Provision B.3.c.(1) is deemed in compliance with Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b for the pollutants and conditions for which numeric goals are developed when the Water Quality Improvement Plan, incorporating the requirements of Provision B.3.c.(1), is accepted by the San Diego Water Board pursuant to Provision F.1.b or F.2.c. The Copermittee is deemed in compliance during the term of this Order as long as:

(a) The Copermittee is implementing the water quality improvement strategies within its jurisdiction developed pursuant to Provision B.3.b.(1) and in

compliance with the schedules for implementing the strategies established pursuant to Provisions B.3.b.(3)(a) and B.3.c.(1)(a)(vii); AND

(b) The Copermittee is performing the monitoring and assessments developed pursuant to Provision B.3.c.(1)(c); AND

(c) The Copermittee's assessments in the Water Quality Improvement Plan Annual Report submitted pursuant to Provision F.3.b.(3) support a conclusion that: 1) the Copermittee is in compliance with the annual milestones and dates for achievement developed pursuant to Provision B.3.c.(1)(a)(vii), OR 2) the Copermittee has provided acceptable rationale and recommends appropriate modifications to the interim numeric goals, and/or water quality improvement strategies, and/or schedules to improve the rate of progress toward achieving the final numeric goals developed pursuant to Provisions B.3.a and B.3.c.(1)(a)(i)-(vi); AND

(d) Any proposed modifications to the numeric goals, strategies, schedules, and/or annual milestones are accepted by the San Diego Water Board as part of subsequent updates to the Water Quality Improvement Plan pursuant to Provision F.2.c;[10] AND

(e) The Copermittee is implementing the requirements of Provision A.4.a.

4. Water Quality Improvement Monitoring and Assessment Program

a. The Copermittees in each Watershed Management Area must develop and incorporate an integrated monitoring and assessment program into the Water Quality Improvement Plan that assesses: 1) the progress toward achieving the numeric goals and schedules, 2) the progress toward addressing the highest priority water quality conditions for each Watershed Management Area, and 3) each Copermittee's overall efforts to implement the Water Quality Improvement Plan.

b. The monitoring and assessment program must incorporate the monitoring and assessment requirements of Provision D, which may allow the Copermittees to modify the program to be consistent with and focus on the highest priority water quality conditions for each Watershed Management Area.

c. For Watershed Management Areas with applicable TMDLs, the monitoring and assessment program must incorporate the specific monitoring and assessment requirements of Attachment E.

[10] A request for proposed changes to the Water Quality Improvement Plan does not stay any permit condition.

d. For Watershed Management Areas with any ASBS, the water quality monitoring and assessment program must incorporate the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A).

5. Iterative Approach and Adaptive Management Process

The Copermittees in each Watershed Management Area must implement the iterative approach pursuant to Provision A.4 to adapt the Water Quality Improvement Plan, monitoring and assessment program, and jurisdictional runoff management programs to become more effective toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a, and must include the following:

a. Re-Evaluation of Priority Water Quality Conditions

The priority water quality conditions and potential water quality improvement strategies included in the Water Quality Improvement Plan pursuant to Provisions B.2.c and B.2.e may be re-evaluated by the Copermittees as needed during the term of this Order as part of the Water Quality Improvement Plan Annual Report. Re-evaluation and recommendations for modifications to the priority water quality conditions and potential water quality improvement strategies must be provided in the Report of Waste Discharge, and must consider the following:

(1) Achieving the outcome of improved water quality in MS4 discharges and receiving waters through implementation of the water quality improvement strategies identified in the Water Quality Improvement Plan;

(2) New information developed when the requirements of Provisions B.2.a-c have been re-evaluated;

(3) Spatial and temporal accuracy of monitoring data collected to inform prioritization of water quality conditions and implementation strategies to address the highest priority water quality conditions;

(4) Availability of new information and data from sources other than the jurisdictional runoff management programs within the Watershed Management Area that informs the effectiveness of the actions implemented by the Copermittees;

(5) San Diego Water Board recommendations; and

(6) Recommendations for modifications solicited through a public participation process.

b. ADAPTATION OF GOALS, STRATEGIES AND SCHEDULES

The water quality improvement goals, strategies and schedules, included in the Water Quality Improvement Plan pursuant to Provisions B.3, must be re-evaluated and adapted as new information becomes available to result in more effective and efficient measures to address the highest priority water quality conditions identified pursuant to Provision B.2.c. Re-evaluation of and modifications to the water quality improvement goals, strategies and schedules must be provided in the Water Quality Improvement Plan Annual Report, and must consider the following:

(1) Modifications to the priority water quality conditions based on Provision B.5.a;

(2) Progress toward achieving interim and final numeric goals in receiving waters and MS4 discharges for the highest priority water quality conditions in the Watershed Management Area,

(3) Progress toward achieving outcomes according to established schedules;

(4) New policies or regulations that may affect identified numeric goals;

(5) Measurable or demonstrable reductions of non-storm water discharges to and from each Copermittee's MS4;

(6) Measurable or demonstrable reductions of pollutants in storm water discharges from each Copermittee's MS4 to the MEP;

(7) New information developed when the requirements of Provisions B.2.b and B.2.d have been re-evaluated;

(8) Efficiency in implementing the Water Quality Improvement Plan;

(9) San Diego Water Board recommendations; and

(10) Recommendations for modifications solicited through a public participation process.

c. ADAPTATION OF MONITORING AND ASSESSMENT PROGRAM

The water quality improvement monitoring and assessment program, included in the Water Quality Improvement Plan pursuant to Provision B.4, must be re-evaluated and adapted when new information becomes available. Re-evaluation and recommendations for modifications to the monitoring and assessment program, pursuant to the requirements of Provision D, may be provided in the Water Quality Improvement Plan Annual Report, but must be provided in the Report of Waste Discharge.

d. ADAPTATION OF PROHIBITIONS AND LIMITATIONS COMPLIANCE OPTION

If a Copermittee has implemented the Prohibitions and Limitations Compliance Option allowed to be included in the Water Quality Improvement Plan pursuant to Provision B.3.c, the Copermittee must re-evaluate and adapt the numeric goals, water quality improvement strategies, schedules, and annual milestones required under Provision B.3.c.(1) when significant new information becomes available, or with the Report of Waste Discharge required pursuant to Provision F.5. Significant changes in the numeric goals, water quality improvement strategies, schedules, or annual milestones requires an update to the analysis required under Provision B.3.c.(2).

6. Water Quality Improvement Plan Submittal, Updates, and Implementation

a. The Copermittees must submit and commence implementation of the Water Quality Improvement Plans in accordance with the requirements of Provision F.1.

b. The Copermittees must submit proposed updates to the Water Quality Improvement Plan for acceptance by the San Diego Water Board Executive Officer in accordance with the requirements of Provision F.2.c.

C. ACTION LEVELS

The purpose of this provision is for the Copermittees to incorporate numeric action levels in the Water Quality Improvement Plans. The goal of the action levels is to guide Water Quality Improvement Plan implementation efforts and measure progress towards the protection of water quality and designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. This goal will be accomplished through monitoring and assessing the quality of the MS4 discharges during the implementation of the Water Quality Improvement Plans.

1. Non-Storm Water Action Levels[11]

The Copermittees must develop and incorporate numeric non-storm water action levels (NALs) into the Water Quality Improvement Plan to: 1) support the development and prioritization of water quality improvement strategies for effectively prohibiting non-storm water discharges to the MS4s, 2) assess the effectiveness of the water quality improvement strategies toward addressing MS4 non-storm water discharges, required pursuant to Provision D.4.b.(1), and 3) support the detection and elimination of non-storm water and illicit discharges to the MS4, required pursuant to Provision E.2.[12]

a. The following NALs must be incorporated:

(1) Non-Storm Water Discharges from MS4s to Ocean Surf Zone

Table C-1. Non-Storm Water Action Levels for Discharges from MS4s to Ocean Surf Zone

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000/1,000[1]	OP
Fecal Coliform	MPN/100 ml	200[2]	-	400	OP
Enterococci	MPN/100 ml	35	-	104[3]	OP

Abbreviations/Acronyms
AMAL – average monthly action level
MDAL – maximum daily action level
OP – Ocean Plan water quality objective
MPN/100 ml – most probable number per 100 milliliters

Notes:
1. Total coliform density NAL is 1,000 MPN/100 ml when the fecal/total coliform ratio exceeds 0.1.
2. Fecal coliform density NAL is 200 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for saltwater "designated beach areas."

[11] NALs incorporated into the Water Quality Improvement Plans are not considered by the San Diego Water Board to be enforceable effluent limitations, unless the NAL is based on a WQBEL expressed as an interim or final effluent limitation for a TMDL in Attachment E and the interim or final compliance date has passed.
[12] The Copermittees may utilize NALs or other benchmarks currently established by the Copermittees as interim NALs until the Water Quality Improvement Plans are accepted by the San Diego Water Board Executive Officer.

(2) Non-Storm Water Discharges from MS4s to Bays, Harbors, and Lagoons/Estuaries

Table C-2. Non-Storm Water Action Levels for Discharges from MS4s to Bays, Harbors, and Lagoons/Estuaries

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Turbidity	NTU	75	-	225	OP
pH	Units	Within limit of 6.0 to 9.0 at all times			OP
Fecal Coliform	MPN/100 ml	200[1]	-	400[2]	BP
Enterococci	MPN/100 ml	35	-	104[3]	BP
Priority Pollutants	µg/L	See Table C-3			

Abbreviations/Acronyms:
AMAL – average monthly action level
MDAL – maximum daily action level
OP – Ocean Plan water quality objective
BP – Basin Plan water quality objective
NTU – Nephelometric Turbidity Units
MPN/100 ml – most probable number per 100 milliliters
µg/L – micrograms per liter

Notes:
1. Based on a minimum of not less than five samples for any 30-day period.
2. The NAL is reached if more than 10 percent of total samples exceed 400 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for saltwater "designated beach areas" and is not applicable to water bodies that are not designated with the water contact recreation (REC-1) beneficial use.

Table C-3. Non-Storm Water Action Levels for Priority Pollutants

Parameter	Units	Freshwater (CTR)		Saltwater (CTR)	
		MDAL	AMAL	MDAL	AMAL
Cadmium	µg/L	**	**	16	8
Copper	µg/L	*	*	5.8	2.9
Chromium III	µg/L	**	**	-	-
Chromium VI	µg/L	16	8.1	83	41
Lead	µg/L	*	*	14	2.9
Nickel	µg/L	**	**	14	6.8
Silver	µg/L	*	*	2.2	1.1
Zinc	µg/L	*	*	95	47

Abbreviations/Acronyms:
CTR – California Toxic Rule
µg/L – micrograms per liter
AMAL – average monthly action level
MDAL – maximum daily action level

Notes:
* Action levels developed on a case-by-case basis (see below)
** Action levels developed on a case-by-case basis (see below), but calculated criteria are not to exceed Maximum Contaminant Levels (MCLs) under the California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64431

The Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc NALs for MS4 discharges to freshwater receiving waters will be developed on a case-by-case basis based on site-specific water quality data (receiving water hardness). For these priority pollutants, refer to 40 CFR 131.38(b)(2).

(3) Non-Storm Water Discharges from MS4s to Inland Surface Waters

Table C-4. Non-Storm Water Action Levels for Discharges from MS4s to Inland Surface Waters

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Dissolved Oxygen	mg/L	Not less than 5.0 in WARM waters and not less than 6.0 in COLD waters			BP
Turbidity	NTU	-	20	See MDAL	BP
pH	Units	Within limit of 6.5 to 8.5 at all times			BP
Fecal Coliform	MPN/100 ml	200[1]	-	400[2]	BP
Enterococci	MPN/100 ml	33	-	61[3]	BP
Total Nitrogen	mg/L	-	1.0	See MDAL	BP
Total Phosphorus	mg/L	-	0.1	See MDAL	BP
MBAS	mg/L	-	0.5	See MDAL	BP
Iron	mg/L	-	0.3	See MDAL	BP
Manganese	mg/L	-	0.05	See MDAL	BP
Priority Pollutants	µg/L	See Table C-3			

Abbreviations/Acronyms:
AMAL – average monthly action level
BP – Basin Plan water quality objective
COLD – cold freshwater habitat beneficial use
NTU – Nephelometric Turbidity Units
mg/L – milligrams per liter
MDAL – maximum daily action level
WARM – warm freshwater habitat beneficial use
MBAS – Methylene Blue Active Substances
MPN/100 ml – most probable number per 100 milliliters
µg/L – micrograms per liter

Notes:
1. Based on a minimum of not less than five samples for any 30-day period.
2. The NAL is reached if more than 10 percent of total samples exceed 400 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for freshwater "designated beach areas" and is not applicable to water bodies that are not designated with the water contact recreation (REC-1) beneficial use.

b. If not identified in Provision C.1.a, NALs must be identified, developed and incorporated in the Water Quality Improvement Plan for any pollutants or waste constituents that cause or contribute, or are threatening to cause or contribute to a condition of pollution or nuisance in receiving waters associated with the highest priority water quality conditions related to non-storm water discharges from the MS4s. NALs must be based on:

(1) Applicable water quality standards which may be dependent upon site-specific or receiving water-specific conditions or assumptions to be identified by the Copermittees; or

(2) Applicable numeric WQBELs required to meet the WLAs established for the TMDLs in Attachment E to this Order.

c. For the NALs incorporated into the Water Quality Improvement Plan, the Copermittees may develop and incorporate secondary NALs specific to the Watershed Management Area at levels greater than the NALs required by Provisions C.1.a and C.1.b which can be utilized to further refine the prioritization and assessment of water quality improvement strategies for effectively prohibiting non-storm water discharges to the MS4s, as well as the detection and

elimination of non-storm water and illicit discharges to and from the MS4. The secondary NALs may be developed using an approach acceptable to the San Diego Water Board.

d. Dry weather monitoring data from MS4 outfalls collected in accordance with Provision D.2.b may be utilized to develop or revise NALs based on watershed-specific data, subject to San Diego Water Board Executive Officer approval.

2. Storm Water Action Levels[13]

The Copermittees must develop and incorporate numeric storm water action levels (SALs) in the Water Quality Improvement Plans to: 1) support the development and prioritization of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s, and 2) assess the effectiveness of the water quality improvement strategies toward reducing pollutants in storm water discharges, required pursuant to Provision D.4.b.(2).[14]

a. The following SALs for discharges of storm water from the MS4 must be incorporated:

Table C-5. Storm Water Action Levels for Discharges from MS4s to Receiving Waters

Parameter	Units	Action Level
Turbidity	NTU	126
Nitrate & Nitrite (Total)	mg/L	2.6
Phosphorus (Total P)	mg/L	1.46
Cadmium (Total Cd)*	µg/L	3.0
Copper (Total Cu)*	µg/L	127
Lead (Total Pb)*	µg/L	250
Zinc (Total Zn)*	µg/L	976

Abbreviations/Acronyms:
NTU – Nephelometric Turbidity Units
mg/L – milligrams per liter
µg/L – micrograms per liter

Notes:
* The sampling must include a measure of receiving water hardness at each MS4 outfall. If a total metal concentration exceeds the corresponding metals SAL in Table C-5, that concentration must be compared to the California Toxics Rule criteria and the USEPA 1-hour maximum concentration for the detected level of receiving water hardness associated with that sample. If it is determined that the sample's total metal concentration for that specific metal exceeds that SAL, but does not exceed the applicable USEPA 1-hour maximum concentration criterion for the measured level of hardness, then the sample result will not be considered above the SAL for that measurement.

[13] SALs incorporated into the Water Quality Improvement Plans are not considered by the San Diego Water Board to be enforceable effluent limitations, unless the SAL is based on a WQBEL expressed as an interim or final effluent limitation for a TMDL in Attachment E and the interim or final compliance date has passed.

[14] The Copermittees may utilize SALs or other benchmarks currently established by the Copermittees as interim SALs until the Water Quality Improvement Plans are accepted by the San Diego Water Board Executive Officer.

b. If not identified in Provision C.2.a, SALs must be identified, developed and incorporated in the Water Quality Improvement Plan for pollutants or waste constituents that cause or contribute, or are threatening to cause or contribute to a condition of pollution or nuisance in receiving waters associated with the highest priority water quality conditions related to storm water discharges from the MS4s. SALs must be based on:

(1) Federal and State water quality guidance and/or water quality standards; and

(2) Site-specific or receiving water-specific conditions; or

(3) Applicable numeric WQBELs required to meet the WLAs established for the TMDLs in Attachment E to this Order.

c. For the SALs incorporated into the Water Quality Improvement Plan, the Copermittees may develop and incorporate secondary SALs specific to the Watershed Management Area at levels greater than the SALs required by Provisions C.2.a and C.2.b which can be utilized to further refine the prioritization and assessment of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s. The secondary SALs may be developed based on the approaches recommended by the State Water Board's Storm Water Panel[15] or using an approach acceptable to the San Diego Water Board.

d. Wet weather monitoring data from MS4 outfalls collected in accordance with Provision D.2.c may be used to develop or revise SALs based upon watershed-specific data, subject to San Diego Water Board Executive Officer approval.

[15] Storm Water Panel Recommendations to the California State Water Resources Control Board: The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006)

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D. MONITORING AND ASSESSMENT PROGRAM REQUIREMENTS

The purpose of this provision is for the Copermittees to monitor and assess the impact on the conditions of receiving waters caused by discharges from the Copermittees' MS4s under wet weather and dry weather conditions. The goal of the monitoring and assessment program is to inform the Copermittees about the nexus between the health of receiving waters and the water quality condition of the discharges from their MS4s. This goal will be accomplished through monitoring and assessing the conditions of the receiving waters, discharges from the MS4s, pollutant sources and/or stressors, and effectiveness of the water quality improvement strategies implemented as part of the Water Quality Improvement Plans.

1. Receiving Water Monitoring Requirements

The Copermittees must develop and conduct a program to monitor the condition of the receiving waters in each Watershed Management Area during dry weather and wet weather. Following San Diego Water Board acceptance of the Water Quality Improvement Plans for each Watershed Management Area, the Copermittees must conduct long-term receiving water monitoring during implementation of the Water Quality Improvement Plan to assess the long term trends and determine if conditions in receiving waters are improving. Any available monitoring data not collected specifically for this Order that meet the quality assurance criteria of the Copermittees and the monitoring requirements of this Order may be utilized by the Copermittees. The Copermittees must conduct the following receiving water monitoring procedures:

a. TRANSITIONAL RECEIVING WATER MONITORING

Until the monitoring requirements and schedules of Provisions D.1.b-e are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1.b, the Copermittees must conduct the following receiving water monitoring in the Watershed Management Area:

(1) Continue the receiving water monitoring programs required in Order Nos. R9-2007-0001 (Monitoring and Reporting Program No. R9-2007-0001 Sections II.A.1-A.5), R9-2009-0002, and R9-2010-0016, unless the Executive Officer provides conditional approval for Copermittees to proceed with implementation of the proposed monitoring and assessment program developed in accordance with Provision B.4;

(2) Continue the monitoring in the Hydromodification Management Plans approved by the San Diego Water Board;

(3) Participate in the following regional receiving water monitoring programs, as applicable to the Watershed Management Area:

(a) Storm Water Monitoring Coalition Regional Monitoring,

(b) Southern California Bight Regional Monitoring, and

(c) Sediment Quality Monitoring;

(4) Implement the monitoring programs developed as part of any implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) for the TMDLs in Attachment E to this Order; and

(5) For Watershed Management Areas with ASBS, implement the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012, included in Attachment A to this Order.

b. LONG-TERM RECEIVING WATER MONITORING STATIONS

The Copermittees must select at least one long-term receiving water monitoring station from among the existing mass loading stations, temporary watershed assessment stations, bioassessment stations, and stream assessment stations previously established by the Copermittees to be representative of the receiving water quality in the Watershed Management Area. Additional long-term receiving water monitoring stations must be selected where necessary to support the implementation and adaptation of the Water Quality Improvement Plan.

c. DRY WEATHER RECEIVING WATER MONITORING

During the term of the Order, the Copermittees must perform monitoring during at least three dry weather monitoring events at each of the long-term receiving water monitoring stations. At least one monitoring event must be conducted during the dry season (May 1 – September 30) and at least one monitoring event must be conducted during a dry weather period during the wet season (October 1 – April 30), after the first wet weather event of the season, with an antecedent dry period of at least 72 hours following a storm event producing measureable rainfall of greater than 0.1 inch.

(1) <u>Dry Weather Receiving Water Field Observations</u>

For each dry weather monitoring event, the Copermittees must record field observations consistent with Table D-1 at each long-term receiving water monitoring station.

Table D-1. Field Observations for Receiving Water Monitoring Stations

Field Observations
• Station identification and location • Presence of flow, or pooled or ponded water • If flow is present: - Flow estimation (i.e. width of water surface, approximate depth of water, approximate flow velocity, flow rate) - Flow characteristics (i.e. presence of floatables, surface scum, sheens, odor, color) • If pooled or ponded water is present: - Characteristics of pooled or ponded water (i.e. presence of floatables, surface scum, sheens, odor, color) • Station description (i.e. deposits or stains, vegetation condition, structural condition, and observable biology) • Presence and assessment of trash in and around station

(2) Dry Weather Receiving Water Field Monitoring

For each dry weather monitoring event, if conditions allow the collection of the data, the Copermittees must monitor and record the parameters in Table D-2 at each long-term receiving water monitoring station.

Table D-2. Field Monitoring Parameters for Receiving Water Monitoring Stations

Parameters
• pH • Temperature • Specific conductivity • Dissolved oxygen • Turbidity

(3) Dry Weather Receiving Water Analytical Monitoring

For each dry weather monitoring event, the Copermittees must collect and analyze samples from each long-term receiving water monitoring station as follows:

(a) Analytes that are field measured are not required to be analyzed by a laboratory;

(b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;

(d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:

(i) Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or

(ii) Flow-weighted composites collected over a typical 24-hour period, which may be collected through the use of automated equipment;

(e) Only one analysis of the composite of aliquots is required;

(f) Analysis for the following constituents is required:

(i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,

(ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,

(iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,

(iv) Applicable NAL constituents, and

(v) Constituents listed in Table D-3.

Table D-3. Analytical Monitoring Constituents for Receiving Water Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Pesticides	Indicator Bacteria
• Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • Total Organic Carbon • Dissolved Organic Carbon • Sulfate • Methylene Blue Active Substances (MBAS) • Total Phosphorus • Orthophosphate • Nitrite[1] • Nitrate[1] • Total Kjeldhal Nitrogen • Ammonia	• Arsenic • Cadmium • Chromium • Copper • Iron • Lead • Mercury • Nickel • Selenium • Thallium • Zinc	• Organophosphate Pesticides • Pyrethroid Pesticides	• Total Coliform • Fecal Coliform[2] • *Enterococcus*

Notes:
1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
2. *E. Coli* may be substituted for Fecal Coliform.

(4) Dry Weather Receiving Water Toxicity Monitoring

For each dry weather monitoring event, the Copermittees must collect grab or composite samples from each long-term receiving water monitoring station to be analyzed for aquatic toxicity in accordance with Table D-4. When the State Water Board's Policy for Toxicity Assessment and Control (Toxicity Policy) is approved and in effect, the San Diego Water Board Executive Officer may direct the Copermittees to replace current toxicity program elements with standardized procedures in the Toxicity Policy.

Table D-4. Dry Weather Chronic[1] Toxicity Testing for Receiving Water Monitoring Stations

Organism	Units	Test	USEPA Protocol
Freshwater			
Pimephales promelas (Fathead Minnow)	Pass / Fail	Larval Survival and Growth	EPA-821-R-02-013
Ceriodaphnia dubia (*Daphnid*)	Pass / Fail	Survival and Production	EPA-821-R-02-013
Selenastrum capricornutum (Green Algae)	Pass / Fail	Growth	EPA-821-R-02-013
Marine and Estuarine			
Strongylocentrotus purpuratus (Purple Sea Urchin)	Pass / Fail	Embryo-Larval Development	EPA-600-R-95-136

Notes:
1. Chronic toxicity testing is not required at receiving water monitoring stations located at mass loading stations if the channel flows are diverted year-round during dry weather conditions to the sanitary sewer for treatment.

(a) Freshwater Test Species and Methods: If samples are collected in receiving waters with salinity less than 1 ppt, the Copermittees must follow the methods for chronic toxicity tests as established in 40 CFR 136.3 using a single-concentration test design for routine monitoring, or a five-concentration test design for additional toxicity testing if the limitation is exceeded. The Copermittees must estimate the critical life stage chronic toxicity on undiluted samples in accordance with species and short term test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA-821-R-02-013; Table IA, 40 CFR 136). Additional test species may be used by the Copermittees if approved by the San Diego Water Board Executive Officer. The Copermittees must conduct:

(i) A static renewal toxicity test with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0);

(ii) A static renewal toxicity test with the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0); and

(iii) A static renewal toxicity test with the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

(b) Marine and Estuarine Test Species and Methods: If samples are collected in receiving waters with salinity greater or equal to 1 ppt, the Copermittees must follow the methods for chronic toxicity tests as established in 40 CFR 136.3 using a single-concentration test design for routine monitoring, or a five-concentration test design for additional toxicity testing if the limitation is exceeded. The Copermittees must conduct the following critical life state chronic toxicity tests on undiluted samples in accordance with species and short term test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA-600-R-95-136; 1995). Artificial sea salts must be used to increase sample salinity. The Copermittees must conduct a static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus* (Embryo-larval Development Test Method). Additional species may be used by the Copermittees if approved by the San Diego Water Board Executive Officer.

(c) Holding Times: All toxicity tests must be conducted as soon as possible following sample collection. The 36-hour sample holding time for test initiation shall be targeted. However, no more than 72 hours shall elapse before the conclusion of sample collection and test initiation.

(d) Test Species Sensitivity Screening: To determine the most sensitive test species for freshwater, the Copermittees must screen 2 wet weather and 2 dry weather toxicity tests with a vertebrate, an invertebrate, and a plant species. After this screening period, subsequent monitoring must be conducted using the most sensitive test species. Alternatively, if a sensitive test species has already been determined, or if there is prior knowledge of potential toxicant(s) and a test species is sensitive to such toxicant(s), then monitoring must be conducted using only that test species. Sensitive test species determinations must also consider the most sensitive test species used for proximal receiving water monitoring. Rescreening must occur once each permit term.

(e) Chronic toxicity test biological endpoint data must be analyzed using the Test of Significant Toxicity t-test approach specified in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (USEPA, Office of Wastewater Management, Washington, D.C., EPA-833-R-10-003, 2010). For this monitoring program, the critical chronic instream waste concentration (IWC) is set at 100 percent receiving water (i.e. no dilution) for receiving water samples. A 100 percent receiving water and a control must be tested.

(f) Toxicity Identification Evaluation (TIE) / Toxicity Reduction Evaluation (TRE): If chronic toxicity is detected in receiving waters, the Copermittees must discuss the need for conducting a TIE/TRE in the assessments

required under Provision D.4.a.(2), and develop a plan for implementing the TIE/TRE to be incorporated in the Water Quality Improvement Plan.

(5) Dry Weather Receiving Water Bioassessment Monitoring

Bioassessment monitoring for each long-term receiving water monitoring station is required at least once during the term of this Order. The Copermittees must conduct bioassessment monitoring during at least one dry weather monitoring event at each long-term receiving water monitoring station as follows:

(a) The following bioassessment samples and measurements must be collected:

(i) Macroinvertebrate samples must be collected in accordance with the "Reachwide Benthos (Multihabitat) Procedure" in the most current Surface Water Ambient Monitoring Program (SWAMP) Bioassessment Standard Operating Procedures (SOP), and amendments, as applicable;[16]

(ii) The "Full" suite of physical habitat characterization measurements must be collected in accordance with the most current SWAMP Bioassessment SOP, and as summarized in the SWAMP Stream Habitat Characterization Form – Full Version;[17] and

(iii) Freshwater algae samples must be collected in accordance with the SWAMP Standard Operating Procedures for Collecting Algae Samples.[18] Analysis of samples must include algal taxonomic composition (diatoms and soft algae) and algal biomass.

(b) The bioassessment samples, measurements, and appropriate water chemistry data must be used to calculate the following:

(i) An Index of Biological Integrity (IBI) for macroinvertebrates for each monitoring station where bioassessment monitoring was conducted, based on the most current calculation method;[19] and

[16] Ode, P.R.. 2007. Standard operating procedures for collecting macroinvertebrate samples and associated physical and chemical data for ambient bioassessments in California. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 001. http://www.swrcb.ca.gov/water_issues/programs/swamp/tools.shtml#monitoring

[17] Available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

[18] Fetscher et al. 2009. Standard Operating Procedures for Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessments in California.

[19] The most current calculation method at the time the Order was adopted is outlined in "A Quantitative Tool for Assessing the Integrity of Southern California Coastal Streams" (Ode, et al. 2005. Environmental Management. Vol. 35, No. 1, pp. 1-13). If an updated or new calculation method is developed, either both

(ii) An IBI for algae for each monitoring station where bioassessment monitoring was conducted, when a calculation method is developed.[20]

(c) In lieu of the requirements of Provision D.1.c.(5)(a), the Copermittees may conduct the bioassessment monitoring in accordance with the "Triad" assessment approach[21] to calculate the IBIs required for Provision D.1.c.(5)(b). The Copermittees must conduct sampling, analysis, and reporting of specified in-stream biological and habitat data according to the protocols specified in the SCCWRP Technical Report No. 539, or subsequent protocols, if developed.

(6) Dry Weather Receiving Water Hydromodification Monitoring

In addition to the hydromodification monitoring conducted as part of the Copermittees' Hydromodification Management Plans, hydromodification monitoring for each long-term receiving water monitoring station is required at least once during the term of this Order. The Copermittees must collect the following hydromodification monitoring observations and measurements within an appropriate domain of analysis during at least one dry weather monitoring event for each long-term receiving water monitoring station:

(a) Channel conditions, including:

(i) Channel dimensions,

(ii) Hydrologic and geomorphic conditions, and

(iii) Presence and condition of vegetation and habitat;

(b) Location of discharge points;

(c) Habitat integrity;

(d) Photo documentation of existing erosion and habitat impacts, with location (i.e. latitude and longitude coordinates) where photos were taken;

(e) Measurement or estimate of dimensions of any existing channel bed or bank eroded areas, including length, width, and depth of any incisions; and

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(i.e. current and updated/new) methods must be used, or historical IBIs must be recalculated with the updated or new calculation method.

[20] When a calculation method is developed, IBIs must be calculated for all available and appropriate historical data.

[21] Stormwater Monitoring Coalition Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Technical Report #419. August 2004.

(f) Known or suspected cause(s) of existing downstream erosion or habitat impact, including flow, soil, slope, and vegetation conditions, as well as upstream land uses and contributing new and existing development.

d. WET WEATHER RECEIVING WATER MONITORING

During the term of the Order, the Copermittees must perform monitoring during at least three wet weather monitoring events at each long-term receiving water monitoring station. At least one wet weather monitoring event must be conducted during the first wet weather event of the wet season (October 1 – April 30), and at least one wet weather monitoring event during a wet weather event that occurs after February 1.

(1) Wet Weather Receiving Water Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each long-term receiving water monitoring station:

(a) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(b) The flow rates and volumes measured or estimated (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);

(c) Station condition (i.e. deposits or stains, vegetation condition, structural condition, observable biology); and

(d) Presence and assessment of trash in and around station.

(2) Wet Weather Receiving Water Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each long-term receiving water monitoring station.

(3) Wet Weather Receiving Water Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each long-term receiving water monitoring station as follows:

(a) Analytes that are field measured are not required to be analyzed by a laboratory;

(b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;

(d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:

(i) Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or

(ii) Flow-weighted composites collected over the length of the storm event or a typical 24-hour period, which may be collected through the use of automated equipment;

(e) Only one analysis of the composite of aliquots is required;

(f) Analysis for the following constituents is required:

(i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,

(ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,

(iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,

(iv) Applicable SAL constituents, and

(v) Constituents listed in Table D-3.

(4) <u>Wet Weather Receiving Water Toxicity Monitoring</u>

For each wet weather monitoring event, the Copermittees must collect grab or composite samples from each long-term receiving water monitoring station to be analyzed for chronic aquatic toxicity in accordance with Provisions D.1.c.(4)(a)-(f).

e. OTHER RECEIVING WATER MONITORING REQUIREMENTS

(1) Regional Monitoring

The Copermittees must participate in the following regional receiving waters monitoring programs, as applicable to the Watershed Management Area:

(a) Storm Water Monitoring Coalition Regional Monitoring; and

(b) Southern California Bight Regional Monitoring and

(c) Unified Beach Water Quality Monitoring and Assessment Program. The Orange County Copermittees shall participate in and, together with South Orange County Wastewater Authority and Orange County Health Care Agency, shall share responsibility for implementation of a unified regional beach water quality monitoring and assessment program in south Orange County, as set forth in the October 2014 report, *Workgroup Recommendation for a Unified Beach Water Quality Monitoring and Assessment Program in South Orange County* , issued pursuant to CWC section 13383 and subject to future revision in the San Diego Water Board December 5, 2014 Letter Directive.

(2) Sediment Quality Monitoring

The Copermittees must perform sediment monitoring to assess compliance with sediment quality receiving water limits applicable to MS4 discharges to enclosed bays and estuaries. The monitoring may be performed either by individual or multiple Copermittees to assess compliance with receiving water limits, or through participation in a water body monitoring coalition. A Sediment Monitoring Plan which satisfies the requirements of the State Water Board's Water Quality Control Plan for Enclosed Bays and Estuaries of California – Part 1 Sediment Quality (Sediment Control Plan) must be submitted as part of the monitoring and assessment program in the Water Quality Improvement Plan.

(a) The Sediment Monitoring Plan design must include the following:

(i) The elements required under Section VII.D (Receiving Water Limits Monitoring Frequency) and Section VII.E (Sediment Monitoring) of the Sediment Control Plan;

(ii) A Quality Assurance Project Plan (QAPP) describing the project objectives and organization, functional activities, and quality assurance/quality control protocols for the water and sediment monitoring; and

(iii) A schedule for completion of all sample collection and analysis activities and submission of Sediment Monitoring Reports.

(b) The Copermittees must implement the Sediment Monitoring Plan in accordance with the schedule contained in the Sediment Monitoring Plan, unless otherwise directed in writing by the San Diego Water Board Executive Officer.

(c) The Copermittees must incorporate a Sediment Monitoring Report as part of the Water Quality Improvement Plan Annual Report in accordance with the schedule contained in the Sediment Monitoring Plan, unless otherwise directed in writing by the San Diego Water Board Executive Officer. The Sediment Monitoring Report must contain the following information:

(i) Analysis: An evaluation, interpretation and tabulation of the water and sediment monitoring data, including interpretations and conclusions as to whether applicable Receiving Water Limitations in this Order have been attained at each sample station;

(ii) Sample Location Map: The locations, type, and number of samples must be identified and shown on a site map; and

(iii) California Environmental Data Exchange Network: A statement certifying that the monitoring data and results have been uploaded into the California Environmental Data Exchange Network (CEDEN).

(d) Based on the Sediment Monitoring Report conclusions the San Diego Water Board may require a human health risk assessment to determine if the human health objective contained in Receiving Water Limitations in Provision A.2.a.(3)(b)(ii) has been attained at each sample station. In conducting a risk assessment, the Copermittees must consider any applicable and relevant information, including California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) policies for fish consumption and risk assessment, Cal/EPA's Department of Toxic Substances Control (DTSC) Risk Assessment, and USEPA Human Health Risk Assessment policies.

(3) ASBS Monitoring

For Watershed Management Areas with ASBS, the Copermittees must implement the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012, included in Attachment A to this Order.

f. Alternative Watershed Monitoring Requirements

The San Diego Water Board may direct the Copermittees to participate in an effort to develop alternative watershed monitoring with other regulated entities, other interested parties, and the San Diego Water Board to refine, coordinate, and implement regional monitoring and assessment programs to determine the status and trends of water quality conditions in 1) coastal waters, 2) enclosed bays, harbors, estuaries, and lagoons, and 3) streams.

2. MS4 Outfall Discharge Monitoring Requirements

The Copermittees must develop and conduct a program to monitor the discharges from the MS4 outfalls in each Watershed Management Area during dry weather and wet weather. Following San Diego Water Board acceptance of the Water Quality Improvement Plans for each Watershed Management Area, the Copermittees must conduct MS4 outfall discharge monitoring during implementation of the Water Quality Improvement Plan to assess the effectiveness of their jurisdictional runoff management programs toward effectively prohibiting non-storm water discharges into the MS4 and reducing pollutants in storm water discharges from their MS4s to the MEP. Any available monitoring data not collected specifically for this Order that meet the quality assurance criteria of the Copermittees and the monitoring requirements of this Order may be utilized by the Copermittees. The Copermittees must conduct the following MS4 outfall monitoring procedures:

a. TRANSITIONAL MS4 OUTFALL DISCHARGE MONITORING

Until the monitoring requirements and schedules of Provisions D.2.b-c are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1.b, the Copermittees must conduct the following MS4 outfall discharge monitoring in the Watershed Management Area:

(1) MS4 Outfall Discharge Monitoring Station Inventory

Each Copermittee must identify all major MS4 outfalls that discharge directly to receiving waters within its jurisdiction and geo-locate those outfalls on a map of the MS4 pursuant to Provision E.2.b.(1). This information must be compiled into a MS4 outfall discharge monitoring station inventory, and must include the following information:

(a) Latitude and longitude of MS4 outfall point of discharge;

(b) Watershed Management Area;

(c) Hydrologic subarea;

(d) Outlet size;

(e) Accessibility (i.e. safety and without disturbance of critical habitat);

(f) Approximate drainage area; and

(g) Classification of whether the MS4 outfall is known to have persistent dry weather flows, transient dry weather flows, no dry weather flows, or unknown dry weather flows.

(2) Transitional Dry Weather MS4 Outfall Discharge Field Screening Monitoring

Until the monitoring requirements and schedules of Provision D.2.b are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1.b, each Copermittee must perform dry weather MS4 outfall field screening monitoring to identify non-storm water and illicit discharges within its jurisdiction in accordance with Provision E.2.c, to determine which discharges are transient flows and which are persistent flows, and prioritize the dry weather MS4 discharges that will be investigated and eliminated in accordance with Provision E.2.d.

(a) Transitional Dry Weather MS4 Outfall Discharge Field Screening Monitoring Frequency

Each Copermittee must field screen the MS4 outfalls in its inventory developed pursuant to Provision D.2.a.(1) as follows:

(i) For Copermittees with less than 125 major MS4 outfalls that discharge to receiving waters within a Watershed Management Area, at least 80 percent of the outfalls must be visually inspected two times per year during dry weather conditions. For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major outfalls, see Provision D.2.a.(2)(a)(iv).

(ii) For Copermittees with 125 major MS4 outfalls or more, but less than or equal to 500 that discharge to receiving waters within a Watershed Management Area, all the outfalls must be visually inspected at least annually during dry weather conditions. For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major outfalls, see Provision D.2.a.(2)(a)(iv).

(iii) For Copermittees with more than 500 major MS4 outfalls that discharge to receiving waters within a Watershed Management Area, at least 500 outfalls must be visually inspected at least annually during dry weather conditions. For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major outfalls, see Provision D.2.a.(2)(a)(iv). Copermittees with more than 500 major MS4 outfalls within a Watershed Management Area must identify and prioritize at least 500 outfalls to be inspected considering the following:

[a] Assessment of connectivity of the discharge to a flowing receiving water;

[b] Reported exceedances of NALs in water quality monitoring data;
[c] Surrounding land uses;
[d] Presence of constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List; and
[e] Flow rate.

(iv) For any Copermittee with portions of its jurisdiction in more than one Watershed Management Area and more than 500 major MS4 outfalls within its jurisdiction, at least 500 major MS4 outfalls within its inventory must be visually inspected at least annually during dry weather conditions. Copermittees with more than 500 major MS4 outfalls in more than one Watershed Management Area must identify and prioritize at least 500 outfalls to be inspected considering the following:

[a] Assessment of connectivity of the discharge to a flowing receiving water;
[b] Reported exceedances of NALs in water quality monitoring data;
[c] Surrounding land uses;
[d] Presence of constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List; and
[e] Flow rate.

(v) Inspections of major MS4 outfalls conducted in response to public reports and staff or contractor reports and notifications may count toward the required visual inspections of MS4 outfall discharge monitoring stations.

(b) Transitional Dry Weather MS4 Outfall Discharge Field Screening Visual Observations

(i) An antecedent dry period of at least 72 hours following any storm event producing measurable rainfall greater than 0.1 inch is required prior to conducting field screening visual observations during a field screening monitoring event.

(ii) During the field screening monitoring event, each Copermittee must record visual observations consistent with Table D-5 at each MS4 outfall discharge monitoring station inspected.

Table D-5. Field Screening Visual Observations for MS4 Outfall Discharge Monitoring Stations

Field Observations
• Station identification and location • Presence of flow, or pooled or ponded water • If flow is present: - Flow estimation (i.e. width of water surface, approximate depth of water, approximate flow velocity, flow rate) - Flow characteristics (i.e. presence of floatables, surface scum, sheens, odor, color) - Flow source(s) suspected or identified from non-storm water source investigation - Flow source(s) eliminated during non-storm water source identification • If pooled or ponded water is present: - Characteristics of pooled or ponded water (i.e. presence of floatables, surface scum, sheens, odor, color) - Known or suspected source(s) of pooled or ponded water • Station description (i.e. deposits or stains, vegetation condition, structural condition, observable biology) • Presence and assessment of trash in and around station • Evidence or signs of illicit connections or illegal dumping

(iii) Each Copermittee must implement the requirements of Provisions E.2.d.(2)(c)-(e) based on the field observations required pursuant to Provision D.2.a.(2)(b)(ii).

(iv) Each Copermittee must evaluate field observations together with existing information available from prior reports, inspections and monitoring results to determine whether any observed flowing, pooled, or ponded waters are likely to be transient or persistent flow.[22]

(c) Transitional Dry Weather MS4 Outfall Discharge Field Screening Monitoring Records

Based upon the results of the transitional dry weather MS4 outfall discharge field screening monitoring conducted pursuant to Provisions D.2.a.(2)(a)-(b), each Copermittee must update its MS4 outfall discharge monitoring station inventory, compiled pursuant to Provision D.2.a.(1), with any new information on the classification of whether the MS4 outfall produces persistent flow, transient flow, or no dry weather flow.

(3) Transitional Wet Weather MS4 Outfall Discharge Monitoring

Until the monitoring requirements and schedules of Provision D.2.c are incorporated into a Water Quality Improvement Plan that is accepted by the

[22] Persistent flow is defined as the presence of flowing, pooled, or ponded water more than 72 hours after a measureable rainfall event of 0.1 inch or greater during three consecutive monitoring and/or inspection events. All other flowing, pooled, or ponded water is considered transient.

San Diego Water Board pursuant to Provision F.1.b, the Copermittees must conduct the following wet weather MS4 outfall discharge monitoring within the Watershed Management Area:

(a) Transitional Wet Weather MS4 Outfall Discharge Monitoring Stations

The Copermittees must select wet weather MS4 outfall discharge monitoring stations from the inventories developed pursuant to Provision D.2.a.(1) for each Watershed Management Area as follows:

(i) At least five wet weather MS4 outfall discharge monitoring stations that are representative of storm water discharges from areas consisting primarily of residential, commercial, industrial, and typical mixed-use land uses present within the Watershed Management Area;

(ii) At least one wet weather MS4 outfall discharge monitoring station for each Copermittee within the Watershed Management Area; and

(iii) The County of San Diego may select at least two (2) wet weather MS4 outfall discharge monitoring stations for the portion of the Santa Margarita River Watershed Management Area within its jurisdiction to be monitored during the transitional period until the Riverside County Copermittees are notified of coverage under this Order. After the Riverside County Copermittees are notified of coverage under this Order, the Copermittees in the Watershed Management Area must select wet weather MS4 outfall discharge monitoring stations consistent with the requirements above.

(b) Transitional Wet Weather MS4 Outfall Discharge Monitoring Frequency

Each wet weather MS4 outfall discharge monitoring station selected pursuant to Provision D.2.a.(3)(a) must be monitored once during the wet season (October 1 – April 30). The wet weather monitoring events must be selected to be representative of the range of hydrological conditions experienced in the region. At least 10 percent of samples must be conducted during the first wet weather event of the wet season, to include at least one such sample in each Watershed Management Area..

(c) Transitional Wet Weather MS4 Outfall Discharge Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each wet weather MS4 outfall discharge monitoring station:

(i) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and

(ii) The flow rates and volumes measured or estimated from the MS4 outfall (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);

(d) Transitional Wet Weather MS4 Outfall Discharge Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each wet weather MS4 outfall discharge monitoring station.

(e) Transitional Wet Weather MS4 Outfall Discharge Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each wet weather MS4 outfall discharge monitoring station as follows:

(i) Analytes that are field measured are not required to be analyzed by a laboratory;

(ii) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(iii) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, and indicator bacteria;

(iv) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:

[a] Time-weighted composites collected over the length of the storm event or the first 24 hour period whichever is shorter, composed of discrete samples, which may be collected through the use of automated equipment, or

[b] Flow-weighted composites collected over the length of the storm event or a typical 24 hour period, whichever is shorter, which may be collected through the use of automated equipment, or

[c] If automated compositing is not feasible, a composite sample may be collected using a minimum of 4 grab samples, collected during

the first 24 hours of the storm water discharge, or for the entire storm water discharge if the storm event is less than 24 hours;

(v) Only one analysis of the composite of aliquots is required;

(vi) The samples must be analyzed for the following constituents:

[a] Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,

[b] Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order, and

[c] Constituents listed in Table D-6.

Table D-6. Analytical Monitoring Constituents for Wet Weather MS4 Outfall Discharge Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Indicator Bacteria
• Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • Total Organic Carbon • Dissolved Organic Carbon • Sulfate • Methylene Blue Active Substances (MBAS) • Total Phosphorus • Orthophosphate • Nitrite[1] • Nitrate[1] • Total Kjeldhal Nitrogen • Ammonia	• Arsenic • Cadmium • Chromium • Copper • Iron • Lead • Nickel • Selenium • Thallium • Zinc	• Total Coliform • Fecal Coliform[2] • *Enterococcus*

Notes:
1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
2. *E. Coli* may be substituted for Fecal Coliform.

(f) Other Transitional Wet Weather MS4 Outfall Discharge Monitoring

The San Diego County Copermittees must continue the wet weather MS4 outfall monitoring program developed under Order No. R9-2007-0001, as approved by the San Diego Water Board, through its planned completion.

b. Dry Weather MS4 Outfall Discharge Monitoring

Each Copermittee must perform dry weather MS4 outfall monitoring to identify non-storm water and illicit discharges within its jurisdiction pursuant to Provision

E.2.c, and to prioritize the dry weather MS4 discharges that will be investigated and eliminated pursuant to Provision E.2.d. Each Copermittee must conduct the following dry weather MS4 outfall discharge monitoring within its jurisdiction:

(1) Dry Weather MS4 Outfall Discharge Field Screening Monitoring

Each Copermittee must continue to perform the dry weather MS4 outfall discharge field screening monitoring in accordance with the requirements of Provision D.2.a.(2). The Copermittee may adjust the field screening monitoring frequencies and locations for the MS4 outfalls in its inventory, as needed, to identify and eliminate sources of persistent flow non-storm water discharges in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan, provided the number of visual inspections performed is equivalent to the number of visual inspections required under Provision D.2.a.(2)(a).

(2) Non-Storm Water Persistent Flow MS4 Outfall Discharge Monitoring

Each Copermittee must perform non-storm water persistent flow MS4 outfall discharge monitoring to determine which persistent non-storm water discharges contain concentrations of pollutants below NALs, and which persistent non-storm water discharges impact receiving water quality during dry weather. Each Copermittee must conduct the following non-storm water persistent flow MS4 outfall discharge monitoring within its jurisdiction:

(a) Prioritization of Non-Storm Water Persistent Flow MS4 Outfalls

Based upon the dry weather MS4 outfall discharge field screening monitoring records developed pursuant to Provision D.2.a.(2)(c), each Copermittee must identify and prioritize the MS4 outfalls with persistent flows based on the highest priority water quality conditions identified in the Water Quality Improvement Plan and any additional criteria developed by the Copermittee, which may include historical data and data from sources other than what the Copermittee collects.

(b) Non-Storm Water Persistent Flow MS4 Outfall Discharge Monitoring Frequency

(i) Based on the prioritization of major MS4 outfalls developed under Provision D.2.b.(2)(a), each Copermittee must identify, at a minimum, the 5 highest priority major MS4 outfalls with non-storm water persistent flows that the Copermittee will monitor within its jurisdiction in each Watershed Management Area. For Responsible Copermittees identified by a TMDL in Attachment E to this Order, if the 5 chosen outfall locations are not sufficient to determine compliance with the TMDL(s), then each Responsible Copermittee

must identify additional MS4 outfall monitoring locations within its jurisdiction sufficient to address compliance with the TMDL(s). If a Copermittee has less than 5 major outfalls within a Watershed Management Area, then the Copermittee must monitor all of its major MS4 outfalls with persistent flows within each Watershed Management Area. The location of the highest priority non-storm water persistent flow MS4 outfall monitoring stations must be identified on the map required pursuant to Provision E.2.b.(1). The map must specify which MS4 outfalls are being monitored for compliance with a TMDL.

(ii) Each of the highest priority non-storm water persistent flow MS4 outfall monitoring stations identified pursuant to Provision D.2.b.(2)(b)(i) must be monitored under dry weather conditions at least semi-annually until one of the following occurs:

[a] The non-storm water discharges have been effectively eliminated (i.e. no flowing, pooled, or ponded water) for three consecutive dry weather monitoring events; or
[b] The source(s) of the persistent flows has been identified as a category of non-storm water discharges that does not require an NPDES permit and does not have to be addressed as an illicit discharge because it was not identified as a source of pollutants (i.e. constituents in non-storm water discharge do not exceed NALs), and the persistent flow can be re-prioritized to a lower priority; or
[c] The constituents in the persistent flow non-storm water discharge do not exceed NALs, and the persistent flow can be re-prioritized to a lower priority; or
[d] The source(s) of the persistent flows has been identified as a non-storm water discharge authorized by a separate NPDES permit.

(iii) Where the criteria under Provision D.2.b.(2)(b)(ii) are not met, but the threat to water quality has been reduced by the Copermittee, the highest priority persistent flow MS4 outfall monitoring stations may be reprioritized accordingly for continued dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.b.(1).

(iv) Each Copermittee must document removal or re-prioritization of the highest priority persistent flow MS4 outfall monitoring stations identified under Provision D.2.b.(2)(a) in the Water Quality Improvement Plan Annual Report. Persistent flow MS4 outfall monitoring stations that have been removed must be replaced with the next highest prioritized major MS4 outfall in the Watershed Management Area within its jurisdiction, unless there are no remaining qualifying major MS4 outfalls within the Copermittee's jurisdiction in the Watershed Management Area.

(c) Non-Storm Water Persistent Flow MS4 Outfall Discharge Field Observations

During each semi-annual monitoring event, each Copermittee must record field observations consistent with Table D-5 at each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction.

(d) Non-Storm Water Persistent Flow MS4 Outfall Discharge Field Monitoring

During each semi-annual monitoring event, if conditions allow the collection of the data, each Copermittee must monitor and record the parameters in Table D-2 at each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction.

(e) Non-Storm Water Persistent Flow MS4 Outfall Discharge Analytical Monitoring

During each semi-annual monitoring event in which measurable flow is present, each Copermittee must collect and analyze samples from each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction as follows:

(i) Analytes that are field measured are not required to be analyzed by a laboratory;

(ii) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(iii) Collect grab or composite samples to be analyzed at a qualified laboratory for the following constituents:

[a] Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,
[b] Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
[c] Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,
[d] Applicable NAL constituents, and
[e] Constituents listed in Table D-7. The Copermittees may adjust the list of constituents for the Watershed Management Area if historical data or supporting information can be provided that demonstrates or justifies the analysis of a constituent is not necessary.

Table D-7. Analytical Monitoring Constituents for Persistent Flow MS4 Outfall Discharge Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Indicator Bacteria
• Total Dissolved Solids • Total Suspended Solids • Total Hardness • Total Phosphorus • Orthophosphate • Nitrite[1] • Nitrate[1] • Total Kjeldhal Nitrogen • Ammonia	• Cadmium • Copper • Lead • Zinc	• Total Coliform • Fecal Coliform[2] • *Enterococcus*

Notes:
1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
2. *E. Coli* may be substituted for Fecal Coliform.

(iv) If the Copermittee identifies and eliminates the source of the persistent flow non-storm water discharge, analysis of the sample is not required.

c. WET WEATHER MS4 OUTFALL DISCHARGE MONITORING

The Copermittees must perform wet weather MS4 outfall monitoring to identify pollutants in storm water discharges from the MS4s, to guide pollutant source identification efforts, and to determine compliance with the WQBELs associated with the applicable TMDLs in Attachment E to this Order. The Copermittees must conduct the following wet weather MS4 outfall discharge monitoring within the Watershed Management Area:

(1) Wet Weather MS4 Outfall Discharge Monitoring Stations

The Copermittees may adjust the wet weather MS4 outfall discharge monitoring locations in the Watershed Management Area, as needed, to identify pollutants in storm water discharges from MS4s, to guide pollutant source identification efforts, and to determine compliance with the WQBELs associated with the applicable TMDLs in Attachment E to this Order in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan, provided the number of stations is at least equivalent to the number of stations required under Provision D.2.a.(3)(a). Additional outfall monitoring locations, above the minimum per jurisdiction, may be required to demonstrate compliance with the WQBELs associated with the applicable TMDLs in Attachment E.

(2) Wet Weather MS4 Outfall Discharge Monitoring Frequency

The Copermittees must monitor the wet weather MS4 outfall discharge monitoring stations in the Watershed Management Area at least once (1) per year. The Copermittees may need to increase the frequency of monitoring in order to identify pollutants in storm water discharges from the MS4s causing or contributing to the highest priority water quality conditions, to guide pollutant source identification efforts, or to determine compliance with the WQBELs associated with the applicable TMDLs in Attachment E to this Order.

(3) Wet Weather MS4 Outfall Discharge Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each wet weather MS4 outfall discharge monitoring station:

(a) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and

(b) The flow rates and volumes measured or estimated (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);

(4) Wet Weather MS4 Outfall Discharge Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each wet weather MS4 outfall discharge monitoring station.

(5) Wet Weather MS4 Outfall Discharge Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each wet weather MS4 outfall discharge monitoring station as follows:

(a) Analytes that are field measured are not required to be analyzed by a laboratory;

(b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;

(d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:

(i) Time-weighted composites collected over the length of the storm event or the first 24 hour period, whichever is shorter , composed of discrete samples, which may be collected through the use of automated equipment, or

(ii) Flow-weighted composites collected over the length of the storm event or a typical 24 hour period, whichever is shorter, which may be collected through the use of automated equipment, or

(iii) If automated compositing is not feasible, a composite sample may be collected using a minimum of 4 grab samples, collected during the first 24 hours of the storm water discharge, or for the entire storm water discharge if the storm event is less than 24 hours.

(e) Only one analysis of the composite of aliquots is required;

(f) Analysis for the following constituents is required:

(i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,

(ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,

(iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,

(iv) Applicable SAL constituents, and

(v) The Copermittees may adjust the analytical monitoring required for the Watershed Management Area, if the Copermittees have historical data or supporting information that can demonstrate or provide justification that the analysis of a constituent is not necessary.

3. Special Studies

a. Within the term of this Order, the Copermittees must initiate the following special studies:

(1) At least two special studies in each Watershed Management Area to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that cause or contribute to highest priority water quality conditions identified in the Water Quality Improvement Plan.

(2) At least one special study for the San Diego Region to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that are impacting receiving waters on a regional basis in the San Diego Region.

(3) One of the two special studies in each Watershed Management Area required pursuant to Provision D.3.a.(1) may be replaced by a special study implemented pursuant to Provision D.3.a.(2).

b. The special studies must, at a minimum, be in conformance with the following criteria:

(1) The special studies must be related to the highest priority water quality conditions identified by the Copermittees in the Watershed Management Area and/or for the entire San Diego Region;

(2) The special studies developed pursuant to Provision D.3.a.(1) must:

(a) Be implemented within the applicable Watershed Management Area, and

(b) Require some form of participation by all the Copermittees within the Watershed Management Area;

(3) The special studies developed pursuant to Provision D.3.a.(2) must:

(a) Be implemented within the San Diego Region, and

(b) Require some form of participation by all Copermittees covered under the requirements of this Order.

(4) The Copermittees are encouraged to partner with environmental groups or third parties knowledgeable of watershed conditions to complete the required special studies.

c. Special studies developed to identify sources of pollutants and/or stressors should be pollutant and/or stressor specific and based on historical monitoring data and monitoring performed pursuant to Provisions D.1 and D.2. Development of source identification special studies should include the following:

(1) A compilation of known information on the specific pollutant and/or stressor, including data on potential sources and movement of the pollutant and/or stressor within the watershed. Data generated by the Copermittees and others, as well as information available from a literature research on the pollutant and/or stressor should be compiled and analyzed as appropriate.

(2) An identification of data gaps, based on the compiled information generated on the specific pollutant and/or stressor identified in Provision D.3.c.(1). Source identification special studies should be developed to fill identified data gaps.

(3) A monitoring plan that will collect and provide data the Copermittees can utilize to do the following:

(a) Quantify the relative loading or impact of a pollutant and/or stressor from a particular source or pollutant generating activity;

(b) Improve understanding of the fate of a pollutant and/or stressor in the environment;

(c) Develop an inventory of known and suspected sources of a pollutant and/or stressor in the Watershed Management Area; and/or

(d) Prioritize known and suspected sources of a pollutant and/or stressor based on relative magnitude in discharges, geographical distribution (i.e., regional or localized), frequency of occurrence in discharges, human health risk, and controllability.

d. Special studies initiated prior to the effective date of this Order that meet the requirements of Provision D.3.b and are implemented during the term of this Order as part of the Water Quality Improvement Plan may be utilized to fulfill the special study requirements of Provision D.3.a. Special studies completed before the effective date of this Order cannot be utilized to fulfill the special study requirements of Provision D.3.a.

e. The Copermittees must submit the monitoring plans for the special studies in the Water Quality Improvement Plans required pursuant to Provision F.1.

f. The Copermittees are encouraged to share the results of the special studies regionally among the Copermittees to provide information useful in improving and adapting the management of non-storm water and storm water runoff through the implementation of the Water Quality Improvement Plans.

4. Assessment Requirements

Each Copermittee must evaluate the data collected pursuant to Provisions D.1, D.2 and D.3, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E, to assess the progress of the water quality improvement strategies in the Water Quality Improvement Plan toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a. Assessments must be performed as described in the following provisions:

a. Receiving Waters Assessments

(1) The Copermittees must assess and report the conditions of the receiving waters in the Watershed Management Area as follows:

(a) Based on data collected pursuant to Provision D.1.a, the assessments under Provision D.4.a.(2) must be included in the Transitional Monitoring and Assessment Program Annual Reports required pursuant to Provision F.3.b.(2).

(b) Based on the data collected pursuant to Provisions D.1.a-e, the assessments required under Provision D.4.a.(2) must be included in the Report of Waste Discharge required pursuant to Provision F.5.b.

(2) The Copermittees must assess the status and trends of receiving water quality conditions in 1) coastal waters, 2) enclosed bays, harbors, estuaries, and lagoons, and 3) streams under dry weather and wet weather conditions. For each of the three types of receiving waters in each Watershed Management Area the Copermittees must:

(a) Determine whether or not the conditions of the receiving waters are meeting the numeric goals established pursuant to Provision B.3.a;

(b) Identify the most critical beneficial uses that must be protected to ensure overall health of the receiving water;

(c) Determine whether or not those critical beneficial uses are being protected;

(d) Identify short-term and/or long-term improvements or degradation of those critical beneficial uses;

(e) Determine whether or not the strategies established in the Water Quality Improvement Plan contribute towards progress in achieving the interim and final numeric goals of the Water Quality Improvement Plan; and

(f) Identify data gaps in the monitoring data necessary to assess Provisions D.4.a.(2)(a)-(e).

b. MS4 Outfall Discharges Assessments

(1) Non-Storm Water Discharges Reduction Assessments

(a) Each Copermittee must assess and report the progress of its illicit discharge detection and elimination program, required to be implemented pursuant to Provision E.2, toward effectively prohibiting non-storm water and illicit discharges into the MS4 within its jurisdiction as follows:

(i) Based on data collected pursuant to Provisions D.2.a.(2), the assessments under Provision D.4.b.(1)(b) must be included in the Transitional Monitoring and Assessment Program Annual Reports required pursuant to Provision F.3.b.(2).

(ii) Based on the data collected pursuant to Provisions D.2.b, the assessments required under Provision D.4.b.(1)(c) must be included in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).

(iii) Based on the data collected pursuant to Provisions D.2.b, the assessment required under Provision D.4.b.(1)(c) must be included in the Report of Waste Discharge required pursuant to F.5.b.

(b) Based on the transitional dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.a.(2), each Copermittee must assess and report the following:

(i) Identify the known and suspected controllable sources (e.g. facilities, areas, land uses, pollutant generating activities) of transient and persistent flows within the Copermittee's jurisdiction in the Watershed Management Area;

(ii) Identify sources of transient and persistent flows within the Copermittee's jurisdiction in the Watershed Management Area that have been reduced or eliminated; and

(iii) Identify modifications to the field screening monitoring locations and frequencies for the MS4 outfalls in its inventory necessary to identify and eliminate sources of persistent flow non-storm water discharges pursuant to Provision D.2.b.

(c) Based on the dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.b.(1), each Copermittee must assess and report the following:

(i) The assessments required pursuant to Provision D.4.b.(1)(b);

(ii) Based on the data collected and applicable NALs in the Water Quality Improvement Plan, rank the MS4 outfalls in the Copermittee's jurisdiction according to potential threat to receiving water quality, and produce a prioritized list of major MS4 outfalls for follow-up action to update the Water Quality Improvement Plan, with the goal of eliminating persistent flow non-storm water discharges and/or pollutant loads in order of the ranked priority list through targeted programmatic actions and source investigations;

(iii) For the highest priority major MS4 outfalls with persistent flows that are in exceedance of NALs, identify the known and suspected sources within the Copermittee's jurisdiction in the Watershed Management Area that may cause or contribute to the NAL exceedances;

(iv) Each Copermittee must analyze the data collected pursuant to Provision D.2.b, and utilize a model or other method, to calculate or estimate the non-storm water volumes and pollutant loads collectively discharged from all the major MS4s outfalls in its jurisdiction identified as having persistent dry weather flows during the monitoring year. These calculations or estimates must be updated annually.

[a] Each Copermittee must calculate or estimate the annual non-storm water volumes and pollutant loads collectively discharged from the Copermittee's major MS4 outfalls to receiving waters within the Copermittee's jurisdiction, with an estimate of the percent contribution from each known source for each MS4 outfall;

[b] Each Copermittee must annually identify and quantify (i.e. volume and pollutant loads) sources of non-storm water not subject to the Copermittee's legal authority that are discharged from the Copermittee's major MS4 outfalls to downstream receiving waters.

(v) Each Copermittee must review the data collected pursuant to Provision D.2.b and findings from the assessments required pursuant to Provision D.4.b.(1)(c)(i)-(iv) at least once during the term of this Order to:

[a] Identify reductions and progress in achieving reductions in non-storm water and illicit discharges to the Copermittee's MS4 in the Watershed Management Area;

[b] Assess the effectiveness of water quality improvement strategies being implemented by the Copermittees within the Watershed Management Area toward reducing or eliminating non-storm water and pollutant loads discharging from the MS4 to receiving waters within its jurisdiction, with an estimate, if possible, of the non-storm water volume and/or pollutant load reductions attributable to specific water quality strategies implemented by the Copermittee; and

[c] Identify modifications necessary to increase the effectiveness of the water quality improvement strategies implemented by the Copermittee in the Watershed Management Area toward reducing or eliminating non-storm water and pollutant loads discharging from the MS4 to receiving waters within its jurisdiction.

(vi) Identify data gaps in the monitoring data necessary to assess Provisions D.4.b.(1)(c)(i)-(v).

(2) Storm Water Pollutant Discharges Reduction Assessments

(a) The Copermittees must assess and report the progress of the water quality improvement strategies, required to be implemented pursuant to Provisions B and E, toward reducing pollutants in storm water discharges from the MS4s within the Watershed Management Area as follows:

(i) Based on data collected pursuant to Provisions D.2.a.(3), the assessments under Provision D.4.b.(2)(b) must be included in the Transitional Monitoring and Assessment Program Annual Reports required pursuant to Provision F.3.b.(2).

(ii) Based on the data collected pursuant to Provisions D.2.c, the assessments required under Provision D.4.b.(2)(c) must be included in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).

(iii) Based on the data collected pursuant to Provisions D.2.c, the assessment required under Provisions D.4.b.(2)(c)-(d) must be included in the Report of Waste Discharge required pursuant to F.5.b.

(b) Based on the transitional wet weather MS4 outfall discharge monitoring required pursuant to Provision D.2.a.(3) the Copermittees must assess and report the following:

(i) The Copermittees must analyze the monitoring data collected pursuant to Provision D.2.a.(3), and utilize a watershed model or other method, to calculate or estimate the following for each monitoring year:

[a] The average storm water runoff coefficient for each land use type within the Watershed Management Area;
[b] The volume of storm water and pollutant loads discharged from each of the Copermittee's monitored MS4 outfalls in its jurisdiction to receiving waters within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch;
[c] The total flow volume and pollutant loadings discharged from the Copermittee's jurisdiction within the Watershed Management Area over the course of the wet season, extrapolated from the data produced from the monitored MS4 outfalls; and
[d] The percent contribution of storm water volumes and pollutant loads discharged from each land use type within each hydrologic subarea with a major MS4 outfall to receiving waters or within each major MS4 outfall to receiving waters in the Copermittee's jurisdiction within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch.

(ii) Identify modifications to the wet weather MS4 outfall discharge monitoring locations and frequencies necessary to identify pollutants in storm water discharges from the MS4s in the Watershed Management Area pursuant to Provision D.2.c.(1).

(c) Based on the wet weather MS4 outfall discharge monitoring required pursuant to Provision D.2.c the Copermittees must assess and report the following:

(i) The assessments required pursuant to Provision D.4.b.(2)(b);

(ii) Based on the data collected and applicable SALs in the Water Quality Improvement Plan, analyze and compare the monitoring data to the analyses and assumptions used to develop the Water Quality Improvement Plans, including strategies developed pursuant to Provision B.3, and evaluate whether those analyses and assumptions should be updated as a component of the adaptive management efforts pursuant to Provision B.5 for follow-up action to update the Water Quality Improvement Plan;

(iii) The Copermittees must review the data collected pursuant to Provision D.2.c and findings from the assessments required pursuant to Provisions D.4.b.(2)(c)(i)-(ii) at least once during the term of this Order to:

[a] Identify reductions or progress in achieving reductions in pollutant concentrations and/or pollutant loads from different land uses and/or drainage areas discharging from the Copermittees' MS4s in the Watershed Management Area;
[b] Assess the effectiveness of water quality improvement strategies being implemented by the Copermittees within the Watershed Management Area toward reducing pollutants in storm water discharges from the MS4s to receiving waters within the Watershed Management Area to the MEP, with an estimate, if possible, of the pollutant load reductions attributable to specific water quality strategies implemented by the Copermittees; and
[c] Identify modifications necessary to increase the effectiveness of the water quality improvement strategies implemented by the Copermittees in the Watershed Management Area toward reducing pollutants in storm water discharges from the MS4s to receiving waters in the Watershed Management Area to the MEP.

(iv) Identify data gaps in the monitoring data necessary to assess Provisions D.4.b.(2)(c)(i)-(iii).

(d) The Copermittees must evaluate all the data collected pursuant to Provision D.2.c, and incorporate new outfall monitoring data into time series plots for each long-term monitoring constituent for the Watershed Management Area, and perform statistical trends analysis on the cumulative long-term wet weather MS4 outfall discharge water quality data set.

c. SPECIAL STUDIES ASSESSMENTS

The Copermittees must annually evaluate the results and findings from the special studies developed and implemented pursuant to Provision D.3, and assess their relevance to the Copermittees' efforts to characterize receiving water conditions, understand sources of pollutants and/or stressors, and control and reduce the discharges of pollutants from the MS4 outfalls to receiving waters in the Watershed Management Area. The Copermittees must report the results of the special studies assessments applicable to the Watershed Management Area, and identify any necessary modifications or updates to the Water Quality Improvement Plan based on the results in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3).

d. INTEGRATED ASSESSMENT OF WATER QUALITY IMPROVEMENT PLAN

As part of the iterative approach and adaptive management process required for the Water Quality Improvement Plan pursuant to Provision B.5, the Copermittees in each Watershed Management Area must integrate the data collected pursuant to Provisions D.1-D.3, the findings from the assessments required pursuant to

Provisions D.4.a-c, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E to assess the effectiveness of, and identify necessary modifications to, the Water Quality Improvement Plan as follows:

(1) The Copermittees must re-evaluate the priority water quality conditions and numeric goals for the Watershed Management Area, as needed, during the term of this Order pursuant to Provision B.5.a. The re-evaluation and recommendations for modifications to the priority water quality conditions, and/or numeric goals and corresponding schedules may be provided in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), but must at least be provided in the Report of Waste Discharge pursuant to Provision F.5.b. The priority water quality conditions and numeric goals for the Watershed Management Area must be re-evaluated as follows:

(a) Re-evaluate the receiving water conditions in the Watershed Management Area in accordance with Provision B.2.a;

(b) Re-evaluate the impacts on receiving waters in the Watershed Management Area from MS4 discharges in accordance with Provision B.2.b;

(c) Re-evaluate the identification of MS4 sources of pollutants and/or stressors in accordance with Provision B.2.d;

(d) Identify beneficial uses of the receiving waters that are protected in accordance with Provision D.4.a;

(e) Evaluate the progress toward achieving the interim and final numeric goals for protecting impacted beneficial uses in the receiving waters.

(2) The Copermittees must re-evaluate the water quality improvement strategies for the Watershed Management Area during the term of this Order pursuant to Provision B.5.b. The re-evaluation and recommendations for modifications to the water quality improvement strategies and schedules may be provided in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), but must at least be provided in the Report of Waste Discharge pursuant to Provision F.5.b. The water quality improvement strategies for the Watershed Management Area must be re-evaluated as follows:

(a) Identify the non-storm water and storm water pollutant loads from the Copermittees' MS4 outfalls in the Watershed Management Area, calculated or estimated pursuant to Provisions D.4.b;

(b) Identify the non-storm water and storm water pollutant load reductions, or other improvements to receiving water or water quality conditions, that are necessary to attain the interim and final numeric goals identified in the Water Quality Improvement Plan for protecting beneficial uses in the receiving waters;

(c) Identify the non-storm water and storm water pollutant load reductions, or other improvements to the quality of MS4 discharges, that are necessary for the Copermittees to demonstrate that non-storm water and storm water discharges from their MS4s are not causing or contributing to exceedances of receiving water limitations;

(d) Evaluate the progress of the water quality improvement strategies toward achieving the interim and final numeric goals identified in the Water Quality Improvement Plan for protecting beneficial uses in the receiving waters.

(3) The Copermittees must re-evaluate and adapt the water quality monitoring and assessment program for the Watershed Management Area when new information becomes available to improve the monitoring and assessment program pursuant to Provision B.5.c. The re-evaluation and recommendations for modifications to the monitoring and assessment program may be provided in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), but must at least be provided in the Report of Waste Discharge pursuant to Provision F.5.b. Modifications to the water quality monitoring and assessment program must be consistent with the requirements of Provision D.1-D.3. The re-evaluation of the water quality monitoring and assessment program for the Watershed Management Area must consider the data gaps identified by the assessments required pursuant to Provisions D.4.a-b, and results of the special studies implemented pursuant to Provision D.4.c.

5. Monitoring Provisions

Each Copermittee must comply with all the monitoring, reporting, and recordkeeping provisions of the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

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E. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAMS

The purpose of this provision is for each Copermittee to implement a program to control the contribution of pollutants to and the discharges from the MS4 within its jurisdiction. The goal of the jurisdictional runoff management programs is to implement strategies that effectively prohibit non-storm water discharges to the MS4 and reduce the discharge of pollutants in storm water to the MEP. This goal will be accomplished through implementing the jurisdictional runoff management programs in accordance with the strategies identified in the Water Quality Improvement Plans.

Each Copermittee must update its jurisdictional runoff management program document, in accordance with Provision F.2.a, to incorporate all the requirements of Provision E. Until the Copermittee has updated its jurisdictional runoff management program document with the requirements of Provision E, the Copermittee must continue implementing its current jurisdictional runoff management program.

1. Legal Authority Establishment and Enforcement

a. Each Copermittee must establish, maintain, and enforce adequate legal authority within its jurisdiction to control pollutant discharges into and from its MS4 through statute, ordinance, permit, contract, order, or similar means. This legal authority must, at a minimum, authorize the Copermittee to:

(1) Prohibit and eliminate all illicit discharges and illicit connections to its MS4;

(2) Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites, including industrial and construction sites which have coverage under the statewide General Permit for Discharges of Storm Water Associated with Industrial Activities (Industrial General Permit) or General Permit for Discharges of Storm Water Associated with Construction Activities (Construction General Permit), as well as to those sites which do not;

(3) Control the discharge of spills, dumping, or disposal of materials other than storm water into its MS4;

(4) Control through interagency agreements among Copermittees the contribution of pollutants from one portion of the MS4 to another portion of the MS4;

(5) Control, by coordinating and cooperating with other owners of the MS4 such as Caltrans, the U.S. federal government, or sovereign Native American Tribes through interagency agreements, where possible, the contribution of pollutants from their portion of the MS4 to the portion of the MS4 within the Copermittee's jurisdiction;

(6) Require compliance with conditions in its statutes, ordinances, permits, contracts, orders, or similar means to hold dischargers to its MS4 accountable for their contributions of pollutants and flows;

(7) Require the use of BMPs to prevent or reduce the discharge of pollutants in storm water from its MS4 to the MEP;

(8) Require documentation on the effectiveness of BMPs implemented to prevent or reduce the discharge of pollutants in storm water from its MS4 to the MEP;

(9) Utilize enforcement mechanisms to require compliance with its statutes, ordinances, permits, contracts, orders, or similar means; and

(10) Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with its statutes, ordinances, permits, contracts, orders, or similar means and with the requirements of this Order, including the prohibition of illicit discharges and connections to its MS4; the Copermittee must also have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities, including construction sites, discharging into its MS4.

b. With the first Water Quality Improvement Plan Annual Report required pursuant to Provision F.3.b.(3), each Copermittee must submit a statement certified by its Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative that the Copermittee has taken the necessary steps to obtain and maintain full legal authority within its jurisdiction to implement and enforce each of the requirements contained in this Order.

2. Illicit Discharge Detection and Elimination

Each Copermittee must implement a program to actively detect and eliminate illicit discharges and improper disposal into the MS4, or otherwise require the discharger to apply for and obtain a separate NPDES permit. The illicit discharge detection and elimination program must be implemented in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and include, at a minimum, the following requirements:

a. Non-Storm Water Discharges

Each Copermittee must address all non-storm water discharges as illicit discharges unless a non-storm water discharge is either identified as a discharge authorized by a separate NPDES permit, or identified as a category of non-storm water discharges or flows that must be addressed pursuant to the following requirements:

(1) Discharges of non-storm water to the MS4 from the following categories must be addressed as illicit discharges unless the discharge has coverage or meets the exception criteria under NPDES Permit No. CAG919003(Order No. R9-2015-0013, as it may be amended or reissued) for discharges to surface waters within the San Diego Region:

(1) Uncontaminated pumped ground water;

(2) Discharges from foundation drains;[23]

(3) Water from crawl space pumps; and

(4) Water from footing drains.[20]

(2) Discharges of non-storm water from water line flushing and water main breaks to the MS4 must be addressed as illicit discharges unless the discharge has coverage under NPDES Permit No. CAG679001 (Order No. R9-2010-0003, as it may be amended or reissued) or NPDES General Permit No. CAG140001 (Order 2014-0194-DWQ, as it may be amended or reissued). This category includes water line flushing and water main break discharges from water purveyors issued a water supply permit by the California Department of Public Health or federal military installations. Discharges from recycled or reclaimed water lines to the MS4 must be addressed as illicit discharges, unless the discharges have coverage under a separate NPDES permit.

(3) Discharges of non-storm water to the MS4 from the following categories must be addressed by the Copermittee as illicit discharges only if the Copermittee or the San Diego Water Board identifies the discharge as a source of pollutants to receiving waters:

(a) Diverted stream flows;

(b) Rising ground waters;

(c) Uncontaminated ground water infiltration to MS4s;

(d) Springs;

(e) Flows from riparian habitats and wetlands;

(f) Discharges from potable water sources;

[23] Provision E.2.a.(1) only applies to this category of non-storm water if the system is designed to be located at or below the groundwater table to actively or passively extract groundwater during any part of the year.

(g) Discharges from foundation drains;[24] and

(h) Discharges from footing drains.[21]

(4) Discharges of non-storm water to the MS4 from the following categories must be controlled by the requirements given below through statute, ordinance, permit, contract, order, or similar means. Discharges of non-storm water to the MS4 from the following categories not controlled by the requirements given below through statute, ordinance, permit, contract, order, or similar means must be addressed by the Copermittee as illicit discharges.

(a) Air conditioning condensation

The discharge of air conditioning condensation should be directed to landscaped areas or other pervious surfaces, or to the sanitary sewer, where feasible.

(b) Individual residential vehicle washing

(i) The discharge of wash water should be directed to landscaped areas or other pervious surfaces where feasible; and

(ii) The minimization of water, washing detergent and other vehicle wash products used for residential vehicle washing, and the implementation of other practices or behaviors that will prevent the discharge of pollutants associated with individual residential vehicle washing from entering the MS4 must be encouraged.

(c) Dechlorinated swimming pool discharges

(i) Residual chlorine, algaecide, filter backwash, or other pollutants from swimming pools must be eliminated prior to discharging to the MS4; and

(ii) The discharge of saline swimming pool water must be directed to the sanitary sewer, landscaped areas, or other pervious surfaces that can accommodate the volume of water, unless the saline swimming pool water can be discharged via a pipe or concrete channel directly to a naturally saline water body (e.g. Pacific Ocean).

(5) Firefighting discharges to the MS4 must be addressed by the Copermittee as illicit discharges only if the Copermittee or the San Diego Water Board identifies the discharge as a significant source of pollutants to receiving waters. Firefighting discharges to the MS4 not identified as a significant

[24] Provision E.2.a.(3) only applies to this category of non-storm water discharge if the system is designed to be located above the groundwater table at all times of the year, and the system is only expected to discharge non-storm water under unusual circumstances.

source of pollutants to receiving waters, must be addressed, at a minimum, as follows:

(a) Non-emergency firefighting discharges

(i) Building fire suppression system maintenance discharges (e.g. sprinkler line flushing) to the MS4 must be addressed as illicit discharges unless BMPs are implemented to prevent pollutants associated with such discharges to the MS4.

(ii) Non-emergency firefighting discharges (i.e., discharges from controlled or practice blazes, firefighting training, and maintenance activities not associated with building fire suppression systems) must be addressed by a program, to be developed and implemented by the Copermittee, to reduce or eliminate pollutants in such discharges from entering the MS4.

(b) Emergency firefighting discharges

Each Copermittee should develop and encourage implementation of BMPs to reduce or eliminate pollutants in emergency firefighting discharges to the MS4s and receiving waters within its jurisdiction. During emergency situations, priority of efforts should be directed toward life, property, and the environment (in descending order). BMPs should not interfere with immediate emergency response operations or impact public health and safety.

(6) If the Copermittee or San Diego Water Board identifies any category of non-storm water discharges listed under Provisions E.2.a.(1)-(4) as a source of pollutants to receiving waters, the category must be prohibited through ordinance, order, or similar means and addressed as an illicit discharge. Alternatively, the Copermittee may propose controls to be implemented for the category of non-storm water discharges as part of the Water Quality Improvement Plan instead of prohibiting the category of non-storm water discharges, and implement the controls if accepted by the San Diego Water Board as part of the Water Quality Improvement Plan.

(7) Each Copermittee must, where feasible and priorities and resources allow, reduce or eliminate non-storm water discharges listed under Provisions E.2.a.(1)-(4) into its MS4, unless a non-storm water discharge is identified as a discharge authorized by a separate NPDES permit.

b. PREVENT AND DETECT ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must include the following measures within its program to prevent and detect illicit discharges to the MS4:

(1) Each Copermittee must maintain an updated map of its entire MS4 and the

corresponding drainage areas. The accuracy of the MS4 map must be confirmed during the field screening required pursuant to Provision E.2.c. The MS4 map must be included as part of the jurisdictional runoff management program document. Any geographic information system (GIS) layers or files used by the Copermittee to maintain the MS4 map must be made available to the San Diego Water Board upon request. The MS4 map must identify the following:

(a) All segments of the MS4 owned, operated, and maintained by the Copermittee;

(b) All known locations of inlets that discharge and/or collect runoff into the Copermittee's MS4;

(c) All known locations of connections with other MS4s not owned or operated by the Copermittee (e.g. Caltrans MS4s);

(d) All known locations of MS4 outfalls and private outfalls that discharge runoff collected from areas within the Copermittee's jurisdiction;

(e) All segments of receiving waters within the Copermittee's jurisdiction that receive and convey runoff discharged from the Copermittee's MS4 outfalls;

(f) Locations of the MS4 outfalls, identified pursuant to Provision D.2.a.(1), within its jurisdiction; and

(g) Locations of the non-storm water persistent flow MS4 outfall discharge monitoring stations, identified pursuant to Provision D.2.b.(2), within its jurisdiction.

(2) Each Copermittee must use Copermittee personnel and contractors to assist in identifying and reporting illicit discharges and connections during their daily employment activities.

(3) Each Copermittee must promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges to or from the MS4, including the following methods for public reporting:

(a) Operate a public hotline, which can be Copermittee-specific or shared by the Copermittees, and must be capable of receiving reports in both English and Spanish 24 hours per day and seven days per week; and

(b) Designate an e-mail address for receiving electronic reports from the public, which can be Copermittee-specific or shared by the Copermittees,

and must be prominently displayed on the Copermittee's webpage and the Regional Clearinghouse required pursuant to Provision F.4.

(4) Each Copermittee must implement practices and procedures (including a notification mechanism) to prevent, respond to, contain, and clean up any spills that may discharge into the MS4 within its jurisdiction from any source. The Copermittee must coordinate, to the extent possible, with spill response teams to prevent entry of spills into the MS4, and prevent contamination of surface water, ground water, and soil. The Copermittee must coordinate spill prevention, containment, and response activities throughout all appropriate Copermittee departments, programs, and agencies.

(5) Each Copermittee must implement practices and procedures to prevent and limit infiltration of seepage from sanitary sewers (including private laterals and failing septic systems) to the MS4.

(6) Each Copermittee must coordinate, when necessary, with upstream Copermittees and/or entities to prevent illicit discharges from upstream sources into the MS4 within its jurisdiction.

c. FIELD SCREENING

Each Copermittee must conduct field screening (i.e. visual observations, field testing, and/or analytical testing) of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect non-storm water and illicit discharges and connections to the MS4 in accordance with the dry weather MS4 outfall discharge monitoring requirements in Provisions D.2.a.(2) and D.2.b.(1).

d. INVESTIGATE AND ELIMINATE ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must include the following measures within its program to investigate and eliminate illicit discharges to the MS4:

(1) Each Copermittee must prioritize and determine when follow-up investigations will be performed in response to visual observations and/or water quality monitoring data collected during an investigation of a detected non-storm water or illicit discharge to or from the MS4. The criteria for prioritizing investigations must consider the following:

(a) Pollutants identified as causing or contributing to the highest water quality priorities identified in the Water Quality Improvement Plan;

(b) Pollutants identified as causing or contributing, or threatening to cause or contribute to impairments in water bodies on the 303(d) List and/or in environmentally sensitive areas (ESAs), located within its jurisdiction;

(c) Pollutants identified from sources or land uses known to exist within the

area, drainage basin, or watershed that discharges to the portion of the MS4 within its jurisdiction included in the investigation;

(d) Pollutants identified as causing or contributing to an exceedance of a NAL in the Water Quality Improvement Plan; and

(e) Pollutants identified as a threat to human health or the environment.

(2) Each Copermittee must implement procedures to investigate and inspect portions of its MS4 that, based on reports or notifications, field screening, or other appropriate information, indicate a reasonable potential of receiving, containing, or discharging pollutants due to illicit discharges, illicit connections, or other sources of non-storm water. The procedures must include the following:

(a) Each Copermittee must develop criteria to:

(i) Assess the validity of each report or notification received; and

(ii) Prioritize the response to each report or notification received.

(b) Each Copermittee must prioritize and respond to each valid report or notification (e.g., public reports, staff or contractor reports and notifications, etc.) of an incident in a timely manner.

(c) In accordance with the requirements of Provision E.2.d.(1), each Copermittee must investigate and seek to identify the source(s) of discharges of non-storm water where flows are observed in and from the MS4 during the field screening required pursuant to Provision D.2.b.(1) as follows:

(i) Obvious illicit discharges must be immediately investigated to identify the source(s) of non-storm water discharges;

(ii) The investigation must include field investigations to identify sources or potential sources for the discharge, unless the source or potential source has already been identified during previous investigations; and

(iii) The investigation may include follow-up field investigations and/or reviewing Copermittee inventories and other land use data to identify potential sources of the discharge.

(d) Each Copermittee must maintain records and a database of the following information:

(i) Location of incident, including hydrologic subarea, portion of MS4

receiving the non-storm water or illicit discharge, and point of discharge or potential discharge from MS4 to receiving water;

(ii) Source of information initiating the investigation (e.g., public reports, staff or contractor reports and notifications, field screening, etc.);

(iii) Date the information used to initiate the investigation was received;

(iv) Date the investigation was initiated;

(v) Dates of follow-up investigations;

(vi) Identified or suspected source of the illicit discharge or connection, if determined;

(vii) Known or suspected related incidents, if any;

(viii) Result of the investigation; and

(ix) If a source cannot be identified and the investigation is not continued, document the response pursuant to the requirements of Provision E.2.d.(4).

(e) Each Copermittee must maintain records and, in accordance with the priorities of the Water Quality Improvement Plan, seek to identify the source(s) of non-storm water discharges from the MS4 where there is evidence of non-storm water having been discharged into or from the MS4 (e.g., pooled water), in accordance with MS4 outfall discharge monitoring requirements in Provisions D.2.a.(2) and D.2.b.(1).

(3) Each Copermittee must initiate the implementation of procedures, in a timely manner, to eliminate all detected and identified illicit discharges and connections within its jurisdiction. The procedures must include the following responses:

(a) Each Copermittee must enforce its legal authority, as required under Provision E.1, to eliminate illicit discharges and connections to the MS4.

(b) If the Copermittee identifies the source as a controllable source of non-storm water or illicit discharge or connection, the Copermittee must implement its Enforcement Response Plan pursuant to Provision E.6 and enforce its legal authority to prohibit and eliminate illicit discharges and connections to its MS4.

(c) If the Copermittee identifies the source of the discharge as a category of non-storm water discharges in Provision E.2.a, and the discharge is in exceedance of NALs in the Water Quality Improvement Plan, then the Copermittee must determine if: (1) this is an isolated incident or set of circumstances that will be addressed through its Enforcement Response Plan pursuant to Provision E.6, or (2) the category of discharge must be

addressed through the prohibition of that category of discharge as an illicit discharge pursuant to Provision E.2.a.(6).

(d) If the Copermittee suspects the source of the non-storm water discharge as natural in origin (i.e. non-anthropogenically influenced) and in conveyance into the MS4, then the Copermittee must document and provide the data and evidence necessary to demonstrate to the San Diego Water Board that it is natural in origin and does not require further investigation.

(e) If the Copermittee is unable to identify and document the source of a recurring non-storm water discharge to or from the MS4, then the Copermittee must address the discharge as an illicit discharge and update its jurisdictional runoff management program to address the common and suspected sources of the non-storm water discharge within its jurisdiction in accordance with the Copermittee's priorities.

(4) Each Copermittee must submit a summary of the non-storm water discharges and illicit discharges and connections investigated and eliminated within its jurisdiction with each Water Quality Improvement Plan Annual Report required under Provision F.3.b.(3) of this Order.

3. Development Planning

Each Copermittee must use their land use and planning authorities to implement a development planning program in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and includes, at a minimum, the following requirements:

a. BMP Requirements for All Development Projects

Each Copermittee must prescribe the following BMP requirements during the planning process (i.e. prior to project approval and issuance of local permits) for all development projects (regardless of project type or size), where local permits are issued, including unpaved roads and flood management projects:

(1) <u>General Requirements</u>

(a) Onsite BMPs must be located so as to remove pollutants from runoff prior to its discharge to any receiving waters, and as close to the source as possible;

(b) Structural BMPs must not be constructed within waters of the U.S.

(c) Onsite BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors (e.g.

mosquitos, rodents, or flies).

(2) Source Control BMP Requirements

The following source control BMPs must be implemented at all development projects where applicable and feasible:

(a) Prevention of illicit discharges into the MS4;

(b) Storm drain system stenciling or signage;

(c) Protect outdoor material storage areas from rainfall, run-on, runoff, and wind dispersal;

(d) Protect materials stored in outdoor work areas from rainfall, run-on, runoff, and wind dispersal;

(e) Protect trash storage areas from rainfall, run-on, runoff, and wind dispersal; and

(f) Any additional BMPs determined to be necessary by the Copermittee to minimize pollutant generation at each project.

(3) Low Impact Development (LID) BMP Requirements

The following LID BMPs must be implemented at all development projects where applicable and feasible:

(a) Maintenance or restoration of natural storage reservoirs and drainage corridors (including topographic depressions, areas of permeable soils, natural swales, and ephemeral and intermittent streams);[25]

(b) Buffer zones for natural water bodies (where buffer zones are technically infeasible, require project applicant to include other buffers such as trees, access restrictions, etc.);

(c) Conservation of natural areas within the project footprint including existing trees, other vegetation, and soils;

(d) Construction of streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided public safety is not compromised;

(e) Minimization of the impervious footprint of the project;

[25] Development projects proposing to dredge or fill materials in waters of the U.S. must obtain a CWA Section 401 Water Quality Certification. Projects proposing to dredge or fill waters of the state must obtain waste discharge requirements.

(f) Minimization of soil compaction to landscaped areas;

(g) Disconnection of impervious surfaces through distributed pervious areas;

(h) Landscaped or other pervious areas designed and constructed to effectively receive and infiltrate, retain and/or treat runoff from impervious areas, prior to discharging to the MS4;

(i) Small collection strategies located at, or as close as possible to, the source (i.e. the point where storm water initially meets the ground) to minimize the transport of runoff and pollutants to the MS4 and receiving waters;

(j) Use of permeable materials for projects with low traffic areas and appropriate soil conditions;

(k) Landscaping with native or drought tolerant species; and

(l) Harvesting and using precipitation.

b. PRIORITY DEVELOPMENT PROJECTS

Priority Development Projects are land development projects that fall under the planning and building authority of the Copermittee for which the Copermittee must impose specific requirements, in addition to those described in Provision E.3.a, including the implementation of structural BMPs to meet the performance requirements described in Provision E.3.c.

(1) Definition of Priority Development Project

Priority Development Projects include the following:

(a) New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.

(b) Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.

(c) New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project

site), and support one or more of the following uses:

(i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).

(ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater.

(iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

(iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

(d) New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).

(e) New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses:

(i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

(ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

(f) New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.

(2) Special Considerations for Redevelopment Projects

The structural BMP performance requirements of Provision E.3.c are applicable to redevelopment Priority Development Projects, as defined in E.3.b.(1), as follows:

(a) Where redevelopment results in the creation or replacement of impervious surface in an amount of less than fifty percent of the surface area of the previously existing development, then the structural BMP performance requirements of Provision E.3.c apply only to the creation or replacement of impervious surface, and not the entire development; or

(b) Where redevelopment results in the creation or replacement of impervious surface in an amount of more than fifty percent of the surface area of the previously existing development, then the structural BMP performance requirements of Provision E.3.c apply to the entire development.

(3) Priority Development Project Exemptions

Each Copermittee has the discretion to exempt the following projects from being defined as Priority Development Projects:

(a) New or retrofit paved sidewalks, bicycle lanes, or trails that meet the following criteria:

(i) Designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR

(ii) Designed and constructed to be hydraulically disconnected from paved streets or roads; OR

(iii) Designed and constructed with permeable pavements or surfaces in accordance with USEPA Green Streets guidance.[26]

(b) Retrofitting or redevelopment of existing paved alleys, streets or roads that are designed and constructed in accordance with the USEPA Green Streets guidance.[27]

c. Priority Development Project Structural BMP Performance Requirements

In addition to the BMP requirements listed for all development projects under Provision E.3.a, Priority Development Projects must also implement structural BMPs that conform to performance requirements described below.

(1) Storm Water Pollutant Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite structural BMPs to control pollutants in storm water that may be discharged from a project as follows:

[26] See "Managing Wet Weather with Green Infrastructure – Municipal Handbook: Green Streets" (USEPA, 2008).
[27] Ibid.

(a) Each Priority Development Project must be required to implement LID BMPs that are designed to retain (i.e. intercept, store, infiltrate, evaporate, and evapotranspire) onsite the pollutants contained in the volume of storm water runoff produced from a 24-hour 85th percentile storm event (design capture volume);[28]

(i) If a Copermittee determines that implementing BMPs to retain the full design capture volume onsite for a Priority Development Project is not technically feasible, then the Copermittee may allow the Priority Development Project to utilize biofiltration BMPs. Biofiltration BMPs must be designed to have an appropriate hydraulic loading rate to maximize storm water retention and pollutant removal, as well as to prevent erosion, scour, and channeling within the BMP,[29] and must be sized to:

[a] Treat 1.5 times the design capture volume not reliably retained onsite, OR
[b] Treat the design capture volume not reliably retained onsite with a flow-thru design that has a total volume, including pore spaces and pre-filter detention volume, sized to hold at least 0.75 times the portion of the design capture volume not reliably retained onsite.

(ii) If a Copermittee determines that biofiltration is not technically feasible, then the Copermittee may allow the Priority Development Project to utilize flow-thru treatment control BMPs to treat runoff leaving the site, AND mitigate for the design capture volume not reliably retained onsite pursuant to Provision E.3.c.(1)(b). Flow thru treatment control BMPs must be sized and designed to:

[a] Remove pollutants from storm water to the MEP;
[b] Filter or treat either: 1) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event, or 2) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two;

[28] This volume is not a single volume to be applied to all areas covered by this Order. The size of the 85th percentile storm event is different for various parts of the San Diego Region. The Copermittees are encouraged to calculate the 85th percentile storm event for each of its jurisdictions using local rain data pertinent to its particular jurisdiction. In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees must describe their method for using isopluvial maps in its BMP Design Manuals.

[29] As part of the Copermittee's update to its BMP Design Manual, pursuant to Provision E.3.d, the Copermittee must provide guidance for hydraulic loading rates and other biofiltration design criteria necessary to maximize storm water retention and pollutant removal.

[c] Be ranked with high or medium pollutant removal efficiency for the Priority Development Project's most significant pollutants of concern. Flow-thru treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of flow-thru treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

(b) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1)(a). The Priority Development Project must mitigate for the portion of the pollutant load in the design capture volume not retained onsite if Provision E.3.c.(3) is utilized. If a Priority Development Project is allowed to utilize alternative compliance, flow-thru treatment control BMPs must be implemented to treat the portion of the design capture volume that is not reliably retained onsite. Flow-thru treatment control BMPs must be sized and designed in accordance with Provisions E.3.c.(1)(a)(ii)[a]-[c].

(2) Hydromodification Management BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite BMPs to manage hydromodification that may be caused by storm water runoff discharged from a project as follows:

(a) Post-project runoff conditions (flow rates and durations) must not exceed pre-development runoff conditions by more than 10 percent (for the range of flows that result in increased potential for erosion, or degraded instream habitat downstream of Priority Development Projects).

(i) In evaluating the range of flows that results in increased potential for erosion of natural (non-hardened) channels, the lower boundary must correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks.

(ii) The Copermittees may use monitoring results collected pursuant to Provision D.1.a.(2) to re-define the range of flows resulting in increased potential for erosion, or degraded instream habitat conditions, as warranted by the data.

(b) Each Priority Development Project must avoid critical sediment yield areas known to the Copermittee or identified by the optional Watershed Management Area Analysis pursuant to Provision B.3.b.(4), or implement measures that allow critical coarse sediment to be discharged to receiving waters, such that there is no net impact to the receiving water.

(c) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the performance requirements of Provision E.3.c.(2)(a). The Priority Development Project must mitigate for the post-project runoff conditions not fully managed onsite if Provision E.3.c.(3) is utilized.

(d) Exemptions

Each Copermittee has the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provisions E.3.c.(2) where the project discharges storm water runoff to:

(i) Existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean;

(ii) Conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean; or

(iii) An area identified by the Copermittees as appropriate for an exemption by the optional Watershed Management Area Analysis incorporated into the Water Quality Improvement Plan pursuant to Provision B.3.b.(4).

(e) Interim Timeframe Exemptions

Until the Copermittees have updated their BMP Design Manual in accordance with Provision F.2.b with the requirements of Provision E, the Copermittees have the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provision E.3.c.(2) where the project discharges storm water runoff directly to:

(i) An engineered channel conveyance system with a capacity to convey peak flows generated by the 10-year storm event all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean; and

(ii) Large river reaches with a drainage area larger than 100 square miles and a 100-year flow capacity in excess of 20,000 cubic feet per second, provided that properly sized energy dissipation is included at all Priority Development Project discharge points.

(3) Alternative Compliance Program to Onsite Structural BMP Implementation

At the discretion of each Copermittee, Priority Development Projects may be allowed to participate in an alternative compliance program in lieu of implementing the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a), provided that the Water Quality Improvement Plan includes the optional Watershed Management Area Analysis described in Provision B.3.b.(4), and Water Quality Equivalency calculations have been accepted by the San Diego Water Board's Executive Officer pursuant to Provision E.3.c.(3)(a). The alternative compliance program is available to a Priority Development Project only if the Priority Development Project applicant enters into a voluntary agreement with the Copermittee authorizing this arrangement. In addition to the voluntary agreement, relief from implementing structural BMPs onsite may be authorized by the Copermittee under the following conditions:

(a) Water Quality Equivalency

Copermittees must submit Water Quality Equivalency calculations for acceptance by the San Diego Water Board's Executive Officer prior to administering an alternative compliance program in order to establish a regional and technical basis for determining the water quality benefits associated with alternative compliance projects. Accepted Water Quality Equivalency calculations must be incorporated as part of any Copermittee's alternative compliance program necessary for evaluating Watershed Management Area Analysis candidate projects, project applicant-proposed alternative compliance projects, alternative compliance in lieu fee structures, and alternative compliance water quality credit systems as described in Provisions E.3.c.(3)(b)-(e).

(b) Watershed Management Area Analysis Candidate Projects

The Priority Development Project applicant agrees to fund, contribute funds to, or implement a candidate project identified by the Copermittees in the Watershed Management Area Analysis included in the Water Quality Improvement Plan, pursuant to Provisions B.3.b.(4) subject to the following conditions:

(i) The Copermittee must determine that implementation of the candidate project will have a greater overall water quality benefit for the Watershed Management Area than fully complying with the performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a) onsite;

(ii) If the Priority Development Project applicant chooses to fully or partially fund a candidate project, then the in-lieu fee structure described in Provision E.3.c.(3)(c) must be followed;

(iii) If the Priority Development Project applicant chooses to fully or partially fund a candidate project, then the Copermittee must ensure that the funds to be obtained from the Priority Development Project applicant are sufficient to mitigate for impacts caused by not fully implementing structural BMPs onsite, pursuant to the performance requirements described in Provisions E.3.c.(1) and E.3.c.(2)(a);

(iv) If the Priority Development Project applicant chooses to implement a candidate project, then the Copermittee must ensure that pollutant control and/or hydromodification management within the candidate project are sufficient to mitigate for impacts caused by not implementing structural BMPs fully onsite, pursuant to the performance requirements described in Provisions E.3.c.(1) and E.3.c.(2)(a);

(v) The voluntary agreement to fund, partially fund, or implement a candidate project must include reliable sources of funding for operation and maintenance of the candidate project;

(vi) Design of the candidate project must be conducted under an appropriately qualified engineer, geologist, architect, landscape architect, or other professional, licenses where applicable, and competent and proficient in the fields pertinent to the candidate project design;

(vii) The candidate project must be constructed as soon as possible, but no later than 4 years after the certificate of occupancy is granted for the first Priority Development Project that contributed funds toward the construction of the candidate project, unless a longer period of time is authorized by the San Diego Water Board Executive Officer; and

(viii) If the candidate project is constructed after the Priority Development Project is constructed, the Copermittee must require temporal mitigation for pollutant loads and altered flows that are discharged from the Priority Development Project.

(c) Project Applicant Proposed Alternative Compliance Projects

The Copermittee may allow a Priority Development Project applicant to propose and fund, contribute funds to, or implement an alternative compliance project not identified by the Watershed Management Area Analysis included in the Water Quality Improvement Plan pursuant to Provisions B.3.b.(4). This option is allowed provided the Copermittee determines that implementation of the alternative compliance project will have a greater overall water quality benefit for the Watershed Management Area than fully complying with the performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a) onsite, and is subject to the requirements described in Provisions E.3.c.(3)(a)(ii)-(viii).

(d) Alternative Compliance In-Lieu Fee Structure

If a Copermittee chooses to allow a Priority Development Project applicant to fund, or partially fund a candidate project or an alternative compliance project, then the Copermittee must develop and implement an in-lieu fee structure. This may be developed individually or with other Copermittees and/or entities, as a means for designing, developing, constructing, operating and maintaining offsite alternative compliance projects. The in-lieu fee must be transferred to the Copermittee (for public projects) or an escrow account (for private projects) prior to the construction of the Priority Development Project.

(e) Alternative Compliance Water Quality Credit System Option

The Copermittee may develop and implement an alternative compliance water quality credit system option, individually or with other Copermittees and/or entities, provided that such a credit system clearly exhibits that it will not allow discharges from Priority Development Projects to cause or contribute to a net impact over and above the impact caused by projects meeting the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2)(a). Any credit system that a Copermittee chooses to implement must be submitted to the San Diego Water Board Executive Officer for review and acceptance as part of the Water Quality Improvement Plan.

(4) Long-Term Structural BMP Maintenance

Each Copermittee must require the project applicant to submit proof of the mechanism under which ongoing long-term maintenance of all structural BMPs will be conducted.

(5) Infiltration and Groundwater Protection

(a) Structural BMPs designed to primarily function as large, centralized infiltration devices (such as large infiltration trenches and infiltration basins) must not cause or contribute to an exceedance of an applicable groundwater quality objective. At a minimum, such infiltration BMPs must be in conformance with the design criteria listed below, unless the development project applicant demonstrates to the Copermittee that one or more of the specific design criteria listed below are not necessary to protect groundwater quality. The design criteria listed below do not apply to small infiltration systems dispersed throughout a development project.

(i) Runoff must undergo pretreatment such as sedimentation or filtration prior to infiltration;

(ii) Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality at sites where infiltration BMPs are to be used;

(iii) Infiltration BMPs must be adequately maintained to remove pollutants in storm water to the MEP;

(iv) The vertical distance from the base of any infiltration BMP to the seasonal high groundwater mark must be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;

(v) The soil through which infiltration is to occur must have physical and chemical characteristics (e.g., appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of runoff for the protection of groundwater beneficial uses;

(vi) Infiltration BMPs must not be used for areas of industrial or light industrial activity, and other high threat to water quality land uses and activities as designated by each Copermittee, unless source control BMPs to prevent exposure of high threat activities are implemented, or runoff from such activities is first treated or filtered to remove pollutants prior to infiltration; and

(vii) Infiltration BMPs must be located a minimum of 100 feet horizontally from any water supply wells.

(b) The Copermittee may develop, individually or with other Copermittees, alternative mandatory design criteria to that listed above for infiltration BMPs which are designed to primarily function as centralized infiltration devices. Before implementing the alternative design criteria in the development planning process the Copermitee(s) must:

(i) Notify the San Diego Water Board of the intent to implement the alternative design criteria submitted; and

(ii) Comply with any conditions set by the San Diego Water Board.

d. BMP DESIGN MANUAL UPDATE

Each Copermittee must update its BMP Design Manual[30] pursuant to Provision F.2.b. Until the Copermittee has updated its BMP Design Manual pursuant to Provision F.2.b.(1), the Copermittee must continue implementing its current BMP Design Manual. The Copermittee must implement the updated BMP Design Manual within 180 days following completion of the update pursuant to Provision

[30] The BMP Design Manual was formerly known as the Standard Storm Water Mitigation Plan under Order Nos. R9-2007-0001, R9-2009-0002, and R9-2010-0016.

F.2.b.(1), unless directed otherwise by the San Diego Water Board Executive Officer. The date the BMP Design Manual is implemented is the "effective date" of the BMP Design Manual. The update of the BMP Design Manual required pursuant to Provision F.2.b.(1) must include the following:

(1) Updated procedures to determine the nature and extent of storm water requirements applicable to a potential development or redevelopment projects. These procedures must inform project applicants of the storm water management requirements applicable to their project including, but not limited to, general requirements for all development projects, structural BMP design procedures and requirements, hydromodification management requirements, requirements specific to phased projects, and procedures specific to private developments and public improvement projects;

(2) Updated procedures to identify pollutants and conditions of concern for selecting the most appropriate structural BMPs that consider, at a minimum, the following:

(a) Receiving water quality (including pollutants for which receiving waters are listed as impaired under the CWA section 303(d) List);

(b) Pollutants, stressors, and/or receiving water conditions that cause or contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(c) Land use type of the project and pollutants associated with that land use type; and

(d) Pollutants expected to be present onsite.

(3) Updated procedures for designing structural BMPs, including any updated performance requirements to be consistent with the requirements of Provision E.3.c for all structural BMPs listed in the BMP Design Manual;

(4) Long-term maintenance criteria for each structural BMP listed in the BMP Design Manual; and

(5) Alternative compliance criteria, in accordance with the requirements under Provision E.3.c.(3), if the Copermittee elects to allow Priority Development Projects within its jurisdiction to utilize alternative compliance.

e. PRIORITY DEVELOPMENT PROJECT BMP IMPLEMENTATION AND OVERSIGHT

Each Copermittee must implement a program that requires and confirms structural BMPs on all Priority Development Projects are designed, constructed, and maintained to remove pollutants in storm water to the MEP.

(1) Structural BMP Approval and Verification Process

(a) Each Copermittee must require and confirm that all Priority Development Projects implement the requirements of Provision E.3, except that the Copermittee may allow previous land development requirements to apply to a Priority Development Project if the conditions of Provision E.3.e.(1)(a)(i) or Provision E.3.e.(1)(a)(ii) are met:

(i) The Copermittee has, prior to the effective date of the BMP Design Manual required to be developed pursuant to Provision E.3.d:

[a] Approved[31] a design that incorporates the storm water drainage system for the Priority Development Project in its entirety, including all applicable structural pollutant treatment control and hydromodification management BMPs consistent with the previous applicable MS4 permit requirements;[32] AND

[b] Issued a private project permit or approval, or functional equivalent for public projects, that authorizes the Priority Development Project applicant to commence construction activities based on a design that incorporates the storm water drainage system approved in conformance with Provision E.3.e.(1)(a)(i)[a]; AND

[c] Confirmed that there have been construction activities on the Priority Development Project site within the 365 days prior to the effective date of the BMP Design Manual, *OR* the Copermittee confirms that construction activities have commenced on the Priority Development Project site within the 180 days after the effective date of the BMP Design Manual, where construction activities are undertaken in reliance on the permit or approval, or functional equivalent for public projects, issued by the Copermittee in conformance with Provision E.3.e.(1)(a)(i)[b]; AND

[d] Issued all subsequent private project permits or approvals, or functional equivalent for public projects, that are needed to implement the design initially approved in conformance with Provision E.3.e.(1)(a)(i)[a] within 5 years of the effective date of the BMP Design Manual. The storm water drainage system for the Priority Development Project in its entirety, including all applicable structural pollutant treatment control and hydromodification management BMPs must remain in substantial conformity with the design initially approved in conformance with Provision E.3.e.(1)(a)(i)[a].

[31] For public projects, a design stamped by the City or County Engineer, or engineer of record for the project is considered an approved design.
[32] Order Nos. R9-2007-0001, R9-2009-0002, and R9-2010-0016 for San Diego County, Orange County, and Riverside County Copermittees, respectively

(ii) The Copermittee demonstrates it lacks the land use authority or legal authority to require a Priority Development Project to implement the requirements of Provision E.3.

(b) Each Copermittee must identify the roles and responsibilities of its various municipal departments in implementing the structural BMP requirements, including each stage of a project from application review and approval through BMP maintenance and inspections.

(c) Each Copermittee must require and confirm that appropriate easements and ownerships are properly recorded in public records and the information is conveyed to all appropriate parties when there is a change in project or site ownership.

(d) Each Copermittee must require and confirm that prior to occupancy and/or intended use of any portion of the Priority Development Project, each structural BMP is inspected to verify that it has been constructed and is operating in compliance with all of its specifications, plans, permits, ordinances, and the requirements of this Order.

(2) Priority Development Project Inventory and Prioritization

(a) Each Copermittee must develop, maintain, and update at least annually, a watershed-based database to track and inventory all Priority Development Projects and associated structural BMPs within its jurisdiction. Inventories must be accurate and complete beginning from December 2002 for the San Diego County Copermittees, February 2003 for the Orange County Copermittees, and July 2005 for the Riverside County Copermittees. The use of an automated database system, such as GIS, is highly recommended. The database must include, at a minimum, the following information:

(i) Priority Development Project location (address and hydrologic subarea);

(ii) Descriptions of structural BMP type(s);

(iii) Date(s) of construction;

(iv) Party responsible for structural BMP maintenance;

(v) Dates and findings of structural BMP maintenance verifications; and

(vi) Corrective actions and/or resolutions, when applicable.

(b) Each Copermittee must prioritize the Priority Development Projects with structural BMPs within its jurisdiction. The designation of Priority Development Projects as high priority must consider the following:

(i) The highest water quality priorities identified in the Water Quality Improvement Plan;

(ii) Receiving water quality;

(iii) Number and sizes of structural BMPs;

(iv) Recommended maintenance frequency of structural BMPs;

(v) Likelihood of operation and maintenance issues of structural BMPs;

(vi) Land use and expected pollutants generated; and

(vii) Compliance record.

(3) Structural BMP Maintenance Verifications and Inspections

Each Copermittee is required to verify that structural BMPs on each Priority Development Project are adequately maintained, and continue to operate effectively to remove pollutants in storm water to the MEP through inspections, self-certifications, surveys, or other equally effective approaches.

(a) All (100 percent) of the structural BMPs at Priority Development Projects that are designated as high priority must be inspected directly by the Copermittee annually prior to each rainy season;

(b) For verifications performed through a means other than direct Copermittee inspection, adequate documentation must be required by the Copermittee to provide assurance that the required maintenance of structural BMPs at each Priority Development Project has been completed; and

(c) Appropriate follow-up measures (including re-inspections, enforcement, etc.) must be conducted to ensure that structural BMPs at each Priority Development Project continue to reduce pollutants in storm water to the MEP as originally designed.

f. DEVELOPMENT PROJECT ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all development projects, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

4. Construction Management

Each Copermittee must implement a construction management program in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and includes, at a minimum, the following requirements:

a. Project Approval Process

Prior to issuance of any local permit(s) that allows the commencement of construction projects that involve ground disturbance or soil disturbing activities that can potentially generate pollutants in storm water runoff, each Copermittee must:

(1) Require a pollution control plan, construction BMP plan, and/or an erosion and sediment control plan, to be submitted by the project applicant to the Copermittee;

(2) Confirm the pollution control plan, construction BMP plan, and/or erosion and sediment control plan, complies with the local grading ordinance, other applicable local ordinances, and the requirements of this Order;

(3) Confirm the pollution control, construction BMP, and/or erosion and sediment control plan, includes seasonally appropriate and effective BMPs and management measures described in Provision E.4.c, as applicable to the project; and

(4) Verify that the project applicant has obtained coverage under the statewide Construction General Permit (Order 2009-0009-DWQ or subsequent Order), if applicable.

b. Construction Site Inventory and Tracking

(1) Each Copermittee must maintain and update, at least quarterly, a watershed-based inventory of all construction projects issued a local permit that allows ground disturbance or soil disturbing activities that can potentially generate pollutants in storm water runoff. The use of an automated database system, such as GIS, is highly recommended. The inventory must include:

(a) Relevant contact information for each site (e.g., name, address, phone, and email for the owner and contractor);

(b) The basic site information including location (address and hydrologic subarea), Waste Discharge Identification (WDID) number (if applicable), size of the site, and approximate area of disturbance;

(c) Whether or not the site is considered a high threat to water quality, as defined in Provision E.4.b.(2) below;

(d) The project start and completion dates;

(e) The required inspection frequency, as defined in the Copermittee's jurisdictional runoff management program document;

(f) The date the Copermittee accepted or approved the pollution control plan, construction BMP plan, and/or erosion and sediment control plan; and

(g) Whether or not there are ongoing enforcement actions administered to the site.

(2) Each Copermittee must identify all construction sites within its jurisdiction that represent a high threat to downstream surface water quality. The designation of construction sites as high threat to water quality must consider the following:

(a) Sites located within a hydrologic subarea where sediment is known or suspected to contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(b) Sites located within the same hydrologic subarea and tributary to a water body segment listed as impaired for sediment on the CWA section 303(d) List;

(c) Sites located within, directly adjacent to, or discharging directly to a receiving water within an ESA; and

(d) Other sites determined by the Copermittees or the San Diego Water Board as a high threat to water quality.

c. Construction Site BMP Implementation

Each Copermittee must implement, or require the implementation of effective BMPs to reduce discharges of pollutants in storm water from construction sites to the MEP, and effectively prohibit non-storm water discharges from construction sites into the MS4. These BMPs must be site specific, seasonally appropriate, and construction phase appropriate. BMPs must be implemented at each construction site year round. Dry season BMP implementation must plan for and address unseasonal rain events that may occur during the dry season (May 1 through September 30). Copermittees must implement, or require the implementation of, BMPs in the following categories:

(1) Project Planning;

(2) Good Site Management "Housekeeping", including waste management;

(3) Non-storm Water Management;

(4) Erosion Control;

(5) Sediment Control;

(6) Run-on and Run-off Control; and

(7) Active/Passive Sediment Treatment Systems, where applicable.

d. CONSTRUCTION SITE INSPECTIONS

Each Copermittee must conduct construction site inspections to require and confirm compliance with its local permits and applicable local ordinances, and the requirements of this Order. Priority for site inspections must consider threat to water quality pursuant to Provision E.4.b as well as the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.

(1) Inspection Frequency

(a) Each Copermittee must conduct inspections at all inventoried sites, including high threat to water quality sites, at an appropriate frequency for each phase of construction to confirm the site reduces the discharge of pollutants in storm water from construction sites to the MEP, and effectively prohibits non-storm water discharges from entering the MS4.

(b) Each Copermittee must establish appropriate inspection frequencies for high threat to water quality sites, and all other sites, for each phase of construction. Inspection frequencies appropriate for addressing the highest water quality priorities identified in the Water Quality Improvement Plan, and for complying with the requirements of this Order must be identified in each Copermittee's jurisdictional runoff management program document.

(c) Based upon inspection findings, each Copermittee must implement all follow-up actions (i.e., re-inspection, enforcement) necessary to require and confirm site compliance with its local permits and applicable local ordinances, and the requirements of this Order.

(2) Inspection Content

Inspections of construction sites by the Copermittee must include, at a minimum:

(a) Verification of coverage under the Construction General Permit (Notice of Intent (NOI) and/or WDID number) during initial inspections, when applicable;

(b) Assessment of compliance with its local permits and applicable local ordinances related to pollution prevention, including the implementation and maintenance of applicable BMPs;

(c) Assessment of BMP adequacy and effectiveness;

(d) Visual observations of actual non-storm water discharges;

(e) Visual observations of actual or potential discharge of sediment and/or construction related materials from the site;

(f) Visual observations of actual or potential illicit connections; and

(g) If any violations are found and BMP corrections are needed, inspectors must take and document appropriate actions in accordance with the Enforcement Response Plan pursuant to Provision E.6.

(3) Inspection Tracking and Records

Each Copermittee must track all inspections and re-inspections at all inventoried construction sites. The Copermittee must retain all inspection records in an electronic database or tabular format, which must be made available to the San Diego Water Board upon request. Inspection records must include, at a minimum:

(a) Site name, location (address and hydrologic subarea), and WDID number (if applicable);

(b) Inspection date;

(c) Approximate amount of rainfall since last inspection;

(d) Description of problems observed with BMPs and indication of need for BMP addition/repair/replacement and any scheduled re-inspection, and date of re-inspection;

(e) Descriptions of any other specific inspection comments which must, at a minimum, include rationales for longer compliance time;

(f) Description of enforcement actions issued in accordance with the Enforcement Response Plan pursuant to Provision E.6; and

(g) Resolution of problems noted and date problems fixed.

e. CONSTRUCTION SITE ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all its inventoried construction sites, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

5. Existing Development Management

Each Copermittee must implement an existing development management program in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and includes, at a minimum, the following requirements:

a. EXISTING DEVELOPMENT INVENTORY AND TRACKING

Each Copermittee must maintain, and update at least annually, a watershed-based inventory of the existing development within its jurisdiction that may discharge a pollutant load to and from the MS4. The use of an automated database system, such as GIS, is highly recommended. The inventory must, at a minimum, include:

(1) Name, location (hydrological subarea and address, if applicable) of the following types of existing development with its jurisdiction:

(a) Commercial facilities or areas;

(b) Industrial facilities;

(c) Municipal facilities, including:

(i) MS4 and related structures;[33]

(ii) Roads, streets, and highways;

(iii) Parking facilities;

(iv) Municipal airfields;

(v) Parks and recreation facilities;

[33] The inventory may refer to the MS4 map required to be maintained pursuant to Provision E.2.b.(1).

(vi) Flood management facilities, flood control devices and structures;

(vii) Operating or closed municipal landfills;

(viii) Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewer collection systems;

(ix) Corporate yards, including maintenance and storage yards for materials, waste, equipment, and vehicles;

(x) Hazardous waste collection facilities;

(xi) Other treatment, storage or disposal facilities for municipal waste; and

(xii) Other municipal facilities that the Copermittee determines may contribute a significant pollutant load to the MS4.

(d) Residential areas, which may be designated by one or more of the following:

(i) Residential management area;

(ii) Drainage basin or area;

(iii) Land use (e.g., single family, multi-family, rural);

(iv) Neighborhood;

(v) Common Interest Area;

(vi) Home Owner Association;

(vii) Mobile home park; and/or

(viii) Other designations accepted by the San Diego Water Board Executive Officer.

(2) A description of the facility or area, including the following information:

(a) Classification as commercial, industrial, municipal, or residential;

(b) Status of facility or area as active or inactive;

(c) Identification if a business is a mobile business;

(d) SIC Code or NAICS Code, if applicable;

(e) Industrial General Permit NOI and/or WDID number, if applicable;

(f) Identification if a residential area is or includes a Common Interest Area / Home Owner Association, or mobile home park;

(g) Identification of pollutants generated and potentially generated by the facility or area;

(h) Whether the facility or area is adjacent to an ESA;

(i) Whether the facility or area is tributary to and within the same hydrologic subarea as a water body segment listed as impaired on the CWA section 303(d) List and generates pollutants for which the water body segment is impaired; and

(3) An annually updated map showing the location of inventoried existing development, watershed boundaries, and water bodies.

b. EXISTING DEVELOPMENT BMP IMPLEMENTATION AND MAINTENANCE

Each Copermittee must designate a minimum set of BMPs required for all inventoried existing development, including special event venues. The designated minimum BMPs must be specific to facility or area types and pollutant generating activities, as appropriate.

(1) Commercial, Industrial, and Municipal Facilities and Areas

(a) Pollution Prevention

Each Copermittee must require the use of pollution prevention methods by the commercial, industrial, and municipal facilities and areas in its inventoried existing development to address the priorities and strategies in the Water Quality Improvement Plan.

(b) BMP Implementation

Each Copermittee must require the implementation of designated BMPs at commercial facilities and areas, industrial facilities, and implement designated BMPs at municipal facilities in its inventoried existing development.

(c) BMP Operation and Maintenance

(i) Each Copermittee must properly operate and maintain, or require the proper operation and maintenance of designated BMPs at commercial facilities and areas, industrial facilities, and municipal facilities in its inventoried existing development.

(ii) Each Copermittee must implement a schedule of operation and maintenance activities for its MS4 and related structures (including

but not limited to catch basins, storm drain inlets, detention basins, etc.), and verify proper operation of all its municipal structural treatment controls designed to reduce pollutants (including floatables) in storm water discharges to or from its MS4s and related drainage structures. Operation and maintenance activities may include, but is not limited to, the following:

[a] Inspections of the MS4 and related structures;
[b] Cleaning of the MS4 and related structures; and
[c] Proper disposal of materials removed from cleaning of the MS4 and related structures.

(iii) Each Copermittee must implement a schedule of operation and maintenance for public streets, unpaved roads, paved roads, and paved highways within its jurisdiction to minimize pollutants that can be discharged in storm water.

(iv) Each Copermittee must implement controls to prevent infiltration of sewage into the MS4 from leaking sanitary sewers. Copermittees that operate both a municipal sanitary sewer system and a MS4 must implement controls and measures to prevent and eliminate seeping sewage from infiltrating the MS4. Copermittees that do not operate both a municipal sanitary sewer system and a MS4 must coordinate with sewering agencies to keep themselves informed of relevant and appropriate maintenance activities and sanitary sewage projects in their jurisdiction that may cause or contribute to seepage of sewage into the MS4.

(d) Pesticides, Herbicides, and Fertilizers BMPs

Each Copermittee must require the implementation of BMPs to reduce pollutants in storm water discharges to the MEP and effectively prohibit non-storm water discharges associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from commercial facilities and areas and industrial facilities, and implement BMPs at municipal facilities in its inventoried existing development. Such BMPs must include, as appropriate, educational activities, permits, certifications and other measures for applicators and distributors.

(2) Residential Areas

(a) Pollution Prevention

Each Copermittee must promote and encourage the use of pollution prevention methods, where appropriate, by the residential areas in its inventoried existing development.

(b) BMP Implementation

Each Copermittee must promote and encourage the implementation of designated BMPs at residential areas in its inventoried existing development.

(c) BMP Operation and Maintenance

Each Copermittee must properly operate and maintain, or require the proper operation and maintenance of designated BMPs at residential areas in its inventoried existing development.

(d) Pesticides, Herbicides, and Fertilizers BMPs

Each Copermittee must promote and encourage the implementation of BMPs to reduce pollutants in storm water discharges to the MEP and effectively prohibit non-storm water discharges associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from residential areas in its inventoried existing development.

c. EXISTING DEVELOPMENT INSPECTIONS

Each Copermittee must conduct inspections of inventoried existing development to ensure compliance with applicable local ordinances and permits, and the requirements of this Order.

(1) Inspection Frequency

(a) Each Copermittee must establish appropriate inspection frequencies for inventoried existing development in accordance with the following requirements:

(i) At a minimum, inventoried existing development must be inspected once every five years utilizing one or more of the following methods:

[a] Drive-by inspections by Copermittee municipal and contract staff;
[b] Onsite inspections by Copermittee municipal and contract staff; and/or
[c] Visual inspections of publicly accessible inventoried facilities or areas by volunteer monitoring or patrol programs that have been trained by the Copermittee;

(ii) The frequency of inspections must be appropriate to confirm that BMPs are being implemented to reduce the discharge of pollutants in storm water from the MS4 to the MEP and effectively prohibit non-storm water discharges to the MS4;

(iii) The frequency of inspections must be based on the potential for a facility or area to discharge non-storm water and pollutants in storm water, and should reflect the priorities set forth in the Water Quality Improvement Plan;

(iv) Each Copermittee must annually perform onsite inspections of an equivalent of at least 20 percent of the commercial facilities and areas, industrial facilities, and municipal facilities in its inventoried existing development;[34] and

(v) Inventoried existing development must be inspected by the Copermittee, as needed, in response to valid public complaints.

(b) Based upon inspection findings, each Copermittee must implement all follow-up actions (i.e. education and outreach, re-inspection, enforcement) necessary to require and confirm compliance with its applicable local ordinances and permits and the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

(2) Inspection Content

(a) Inspections of existing development must include, at a minimum:

(i) Visual inspections for the presence of actual non-storm water discharges;

(ii) Visual inspections for the presence of actual or potential discharge of pollutants;

(iii) Visual inspections for the presence of actual or potential illicit connections; and

(iv) Verification that the description of the facility or area in the inventory, required pursuant to Provision E.5.a.(2), has not changed.

(b) Onsite inspections of existing development by the Copermittee must include, at a minimum:

(i) Assessment of compliance with its applicable local ordinances and permits related to non-storm water and storm water discharges and runoff;

(ii) Assessment of the implementation of the designated BMPs;

(iii) Verification of coverage under the Industrial General Permit, when applicable; and

[34] If any commercial, industrial, or municipal facilities or areas require multiple onsite inspections during any given year, those additional inspection may count toward the total annual inspection requirement. This requirement excludes linear municipal facilities (i.e., MS4 linear channels, sanitary sewer collection systems, streets, roads and highways).

(iv) If any problems or violations are found, inspectors must take and document appropriate actions in accordance with the Enforcement Response Plan pursuant to Provision E.6.

(3) Inspection Tracking and Records

Each Copermittee must track all inspections and re-inspections at all inventoried existing development. The Copermittee must retain all inspection records in an electronic database or tabular format, which must be made available to the San Diego Water Board upon request. Inspection records must include, at a minimum:

(a) Name and location of the facility or area (address and hydrologic subarea) consistent with the inventory name and location, pursuant to Provision E.5.a.(1);

(b) Inspection and re-inspection date(s);

(c) Inspection method(s) (i.e. drive-by, onsite);

(d) Observations and findings from the inspection(s);

(e) For onsite inspections of existing development by Copermittee municipal or contract staff, the records must also include, as applicable:

(i) Description of any problems or violations found during the inspection(s);

(ii) Description of enforcement actions issued in accordance with the Enforcement Response Plan pursuant to Provision E.6; and

(iii) The date problems or violations were resolved.

d. EXISTING DEVELOPMENT ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all its inventoried existing development, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

e. RETROFITTING AND REHABILITATING AREAS OF EXISTING DEVELOPMENT

(1) Retrofitting Areas of Existing Development

Each Copermittee must describe in its jurisdictional runoff management program document, a program to retrofit areas of existing development within its jurisdiction to address identified sources of pollutants and/or stressors that

contribute to the highest priority water quality conditions in the Watershed Management Area. The program must be implemented as follows:

(a) Each Copermittee must identify areas of existing development as candidates for retrofitting, focusing on areas where retrofitting will address pollutants and/or stressors that contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(b) Candidates for retrofitting projects may be utilized to reduce pollutants that may be discharged in storm water from areas of existing development, and/or address storm water runoff flows and durations from areas of existing development that cause or contribute to hydromodification in receiving waters;

(c) Each Copermittee must develop a strategy to facilitate the implementation of retrofitting projects in areas of existing development identified as candidates;

(d) Each Copermittee should identify areas of existing development where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance retrofitting projects; and

(e) Where retrofitting projects within specific areas of existing development are determined to be infeasible to address the highest priority water quality conditions in the Water Quality Improvement Plan, the Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify, develop, and implement regional retrofitting projects (i.e. projects that can receive and/or treat storm water from one or more areas of existing development and will result in a net benefit to water quality and the environment) adjacent to and/or downstream of the areas of existing development.

(2) Stream, Channel and/or Habitat Rehabilitation in Areas of Existing Development

Each Copermittee must describe in its jurisdictional runoff management program document, a program to rehabilitate streams, channels, and/or habitats in areas of existing development within its jurisdiction to address the highest priority water quality conditions in the Watershed Management Area. The program must be implemented as follows:

(a) Each Copermittee must identify streams, channels, and/or habitats in areas of existing development as candidates for rehabilitation, focusing on areas where stream, channel, and/or habitat rehabilitation projects will address the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(b) Candidates for stream, channel, and/or habitat rehabilitation projects may be utilized to address storm water runoff flows and durations from areas of existing development that cause or contribute to hydromodification in receiving waters, rehabilitate channelized or hydromodified streams, restore wetland and riparian habitat, restore watershed functions, and/or restore beneficial uses of receiving waters;

(c) Each Copermittee must develop a strategy to facilitate the implementation of stream, channel, and/or habitat rehabilitation projects in areas of existing development identified as candidates;

(d) Each Copermittee should identify areas of existing development where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance stream, channel, and/or habitat rehabilitation projects; and

(e) Where stream, channel, and/or habitat rehabilitation projects within specific areas of existing development are determined to be infeasible to address the highest priority water quality conditions in the Water Quality Improvement Plan, the Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify, develop, and implement regional stream, channel, and/or habitat rehabilitation projects (i.e. projects that can receive storm water from one or more areas of existing development and will result in a net benefit to water quality and the environment).

6. Enforcement Response Plans

Each Copermittee must develop and implement an Enforcement Response Plan as part of its jurisdictional runoff management program document. The Enforcement Response Plan must describe the applicable approaches and options to enforce its legal authority established pursuant to Provision E.1, as necessary, to achieve compliance with the requirements of this Order. The Enforcement Response Plan must be in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and include the following:

a. Enforcement Response Plan Components

The Enforcement Response Plan must include the following individual components:

(1) Illicit Discharge Detection and Elimination Enforcement Component;

(2) Development Planning Enforcement Component;

(3) Construction Management Enforcement Component; and

(4) Existing Development Enforcement Component.

b. Enforcement Response Approaches and Options

Each component of the Enforcement Response Plan must describe the enforcement response approaches that the Copermittee will implement to compel compliance with its statutes, ordinances, permits, contracts, orders, or similar means, and the requirements of this Order. The description must include the protocols for implementing progressively stricter enforcement responses. The enforcement response approaches must include appropriate sanctions to compel compliance, including, at a minimum, the following tools or their equivalent:

(1) Verbal and written notices of violation;

(2) Cleanup requirements;

(3) Fines;

(4) Bonding requirements;

(5) Administrative and criminal penalties;

(6) Liens;

(7) Stop work orders; and

(8) Permit and occupancy denials.

c. Correction of Violations

(1) Violations must be corrected in a timely manner with the goal of correcting the violations within 30 calendar days after the violations are discovered, or prior to the next predicted rain event, whichever is sooner.

(2) If more than 30 calendar days are required to achieve compliance, then a rationale must be recorded in the applicable electronic database or tabular system used to track violations.

d. Escalated Enforcement

(1) The Enforcement Response Plan must include a definition of "escalated enforcement." Escalated enforcement must include any enforcement scenario where a violation or other non-compliance is determined to cause or contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan. Escalated enforcement may be defined differently for development planning, construction sites, commercial facilities or areas, industrial facilities, municipal facilities, and residential areas.

(2) Where the Copermittee determines escalated enforcement is not required, a rationale must be recorded in the applicable electronic database or tabular system used to track violations.

(3) Escalated enforcement actions must continue to increase in severity, as necessary, to compel compliance as soon as possible.

e. REPORTING OF NON-COMPLIANT SITES

(1) Each Copermittee must notify the San Diego Water Board in writing within five (5) calendar days of issuing escalated enforcement (as defined in the Copermittee's Enforcement Response Plan) to a construction site that poses a significant threat to water quality as a result of violations or other non-compliance with its permits and applicable local ordinances, and the requirements of this Order. Written notification may be provided electronically by email to the appropriate San Diego Water Board staff.

(2) Each Copermittee must notify the San Diego Water Board of any persons required to obtain coverage under the statewide Industrial General Permit and Construction General Permit and failing to do so, within five (5) calendar days from the time the Copermittee become aware of the circumstances. Written notification may be provided electronically by email to RB9_Nonfilers@waterboards.ca.gov.

7. Public Education and Participation

Each Copermittee must implement, individually or with other Copermittees, a public education and participation program in accordance with the strategies identified in the Water Quality Improvement Plan to promote and encourage the development of programs, management practices, and behaviors that reduce the discharge of pollutants in storm water to the MEP, prevent controllable non-storm water discharges from entering the MS4, and protect water quality standards in receiving waters. The public education and participation program must be implemented in accordance with the strategies in the Water Quality Improvement Plan described pursuant to Provision B.3.b.(1) and include, at a minimum, the following requirements:

a. PUBLIC EDUCATION

The public education program component implemented within the Copermittee's jurisdiction must include, at a minimum, the following:

(1) Educational activities, public information activities, and other appropriate outreach activities intended to reduce pollutants associated with the application of pesticides, herbicides and fertilizer and other pollutants of

concern in storm water discharges to and from its MS4 to the MEP, as determined and prioritized by the Copermittee(s) by jurisdiction and/or watershed to address the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(2) Educational activities, public information activities, and other appropriate outreach activities to facilitate the proper management and disposal of used oil and toxic materials; and

(3) Appropriate education and training measures for specific target audiences, such as construction site operators, residents, underserved target audiences and school-aged children, as determined and prioritized by the Copermittee(s) by jurisdiction and/or watershed, based on high risk behaviors and pollutants of concern.

b. PUBLIC PARTICIPATION

The public participation program component implemented within the Copermittee's jurisdiction must include, at a minimum, the following:

(1) A process for members of the public to participate in updating the highest priority water quality conditions, numeric goals, and water quality improvement strategies in the Water Quality Improvement Plan;

(2) Opportunities for members of the public to participate in providing the Copermittee recommendations for improving the effectiveness of the water quality improvement strategies implemented within its jurisdiction; and

(3) Opportunities for members of the public to participate in programs and/or activities that can result in the prevention or elimination of non-storm water discharges to the MS4, reduction of pollutants in storm water discharges from the MS4, and/or protection of the quality of receiving waters.

8. Fiscal Analysis

a. Each Copermittee must secure the resources necessary to meet all the requirements of this Order.

b. Each Copermittee must conduct an annual fiscal analysis of its jurisdictional runoff management program in its entirety. The fiscal analysis must include the following:

(1) Identification of the various categories of expenditures necessary to implement the requirements of this Order, including a description of the specific capital, operation and maintenance, and other expenditure items to be accounted for in each category of expenditures;

(2) The staff resources needed and allocated to meet the requirements of this Order, including any development, implementation, and enforcement activities required;

(3) The estimated expenditures for Provisions E.8.b.(1) and E.8.b.(2) for the current fiscal year; and

(4) The source(s) of funds that are proposed to meet the necessary expenditures described in Provisions E.8.b.(1) and E.8.b.(2), including legal restrictions on the use of such funds, for the current fiscal year and next fiscal year.

c. Each Copermittee must submit a summary of the annual fiscal analysis with each Water Quality Improvement Plan Annual Report required pursuant to Provision F.3.b.(3).

d. Each Copermittee must provide the documentation used to develop the summary of the annual fiscal analysis upon request by the San Diego Water Board.

F. REPORTING

The purpose of this provision is to determine and document compliance with the requirements set forth in this Order. The goal of reporting is to communicate to the San Diego Water Board and the people of the State of California the implementation status of each jurisdictional runoff management program and compliance with the requirements of this Order. This goal is to be accomplished through the submittal of specific deliverables to the San Diego Water Board by the Copermittees.

1. Water Quality Improvement Plans

The Copermittees for each Watershed Management Area must develop and submit the Water Quality Improvement Plan in accordance with the following requirements:

a. WATER QUALITY IMPROVEMENT PLAN DEVELOPMENT

Each Water Quality Improvement Plan must be developed in accordance with the following process:

(1) Public Participation Process

The Copermittees must implement a public participation process to solicit data, information, and recommendations to be utilized in the development of the Water Quality Improvement Plan. The public participation process must include the following:

(a) The Copermittees must develop a publicly available and noticed schedule of the opportunities for the public to participate and provide comments during the development of the Water Quality Improvement Plan. The schedule may be adjusted as necessary by the Copermittees, provided the public is provided timely notification of the changes to the schedule.

(b) The Copermittees must form a Water Quality Improvement Consultation Panel to provide recommendations during the development of the Water Quality Improvement Plan. The Water Quality Improvement Consultation Panel must consist of at least the following members:

(i) A representative of the San Diego Water Board;

(ii) A representative of the environmental community familiar with the water quality conditions of concern of the receiving waters in the Watershed Management Area, preferably from an environmental interest group associated with a water body within the Watershed Management Area; and

(iii) A representative of the development community familiar with the opportunities and constraints for implementing structural BMPs,

retrofitting projects, and stream, channel or habitat rehabilitation projects in the Watershed Management Area, preferably with relevant engineering, hydrology, and/or geomorphology experience in the Watershed Management Area.

(c) The Copermittees must coordinate the schedules for the public participation process among the Watershed Management Areas to provide the public time and opportunity to participate during the development of the Water Quality Improvement Plans.

(2) Priority Water Quality Conditions

(a) The Copermittees must solicit data, information and recommendations from the public to be utilized in the development and identification of the priority water quality conditions and potential water quality improvement strategies for the Watershed Management Area.

(b) The Copermittees must review the priority water quality conditions the Copermittees plan on including in the Water Quality Improvement Plan with the Water Quality Improvement Consultation Panel to receive recommendations or concurrence.

(c) The Copermittees must consider revisions to the priority water quality conditions based on recommendations from the Water Quality Improvement Consultation Panel.

(d) The Copermittees must include all the potential water quality improvement strategies identified by the public and the Water Quality Improvement Consultation Panel with the submittal of the priority water quality conditions to the San Diego Water Board.

(e) The Copermittees must submit the Water Quality Improvement Plan requirements of Provision B.2 to the San Diego Water Board as early as 6 months and no later than 12 months after the commencement of coverage under this Order. Upon receipt, the San Diego Water Board will issue a public notice and release the proposed priority water quality conditions and potential water quality improvement strategies for public review and comment for a minimum of 30 days.

(f) The Copermittees must consider revisions to the priority water quality conditions and potential water quality improvement strategies developed pursuant to Provision B.2 based on public comments received by the close of the comment period.

(3) Water Quality Improvement Goals, Strategies and Schedules

(a) The Copermittees must solicit recommendations from the public on potential numeric goals for the highest priority water quality conditions identified for the Watershed Management Area, and recommendations on the strategies that should be implemented to achieve the potential numeric goals.

(b) The Copermittees must consult with the Water Quality Improvement Consultation Panel and consider revisions to the following items based on the Panel's recommendations:

(i) The numeric goals and schedules the Copermittees propose to include in the Water Quality Improvement Plan;

(ii) The water quality improvement strategies and schedules the Copermittees propose to implement in the Watershed Management Area and include in the Water Quality Improvement Plan; and

(iii) If the Copermittees choose to implement Provision B.3.b.(4), the results of the Watershed Management Area Analysis the Copermittees proposed to incorporate into the Water Quality Improvement Plan.

(c) The Copermittees must submit the Water Quality Improvement Plan requirements of Provision B.3 to the San Diego Water Board as early as 9 months and no later than 18 months after the commencement of coverage under this Order. Upon receipt, the San Diego Water Board will issue a public notice and release the proposed water quality improvement goals, strategies and schedules for public review and comment for a minimum of 30 days.

(d) The Copermittees must consider revisions to the water quality improvement goals, strategies and schedules developed pursuant to Provision B.3 based on public comments received by the close of the comment period.

b. WATER QUALITY IMPROVEMENT PLAN SUBMITTAL AND IMPLEMENTATION

(1) Within 24 months after the commencement of coverage under this Order, the Copermittees for each Watershed Management Area must submit a complete Water Quality Improvement Plan in accordance with the requirements of Provision B of this Order to the San Diego Water Board. The San Diego Water Board will issue a public notice and release the Water Quality Improvement Plan for public review and comment for a minimum of 30 days.

(2) The Copermittees must consider revisions to the Water Quality Improvement Plan based on written comments received by the close of the public comment period.

(3) The Copermittees must promptly submit any revisions to the Water Quality Improvement Plan to the San Diego Water Board no later than 60 days after the close of the public comment period.

(4) If issues concerning the Water Quality Improvement Plan are resolved informally through discussions among the Copermittees, the San Diego Water Board and interested parties, the San Diego Water Board Executive Officer may provide written notification of acceptance to the Copermittees that the Water Quality Improvement Plan meets the requirements of Provision B. However, if the Executive Officer determines that significant issues with the Water Quality Improvement Plan remain, the matter will be scheduled for San Diego Water Board consideration at a public meeting.

(5) The Copermittees must commence with implementation of the Water Quality Improvement Plan, in accordance with the water quality improvement strategies and schedules therein, upon written notification of acceptance with the Water Quality Improvement Plan by the San Diego Water Board Executive Officer.

(6) During implementation of the Water Quality Improvement Plan the Copermittees must correct any deficiencies in the Plan identified by the San Diego Water Board in the updates submitted with the Water Quality Improvement Plan Annual Report following a request by the Board to do so.

(7) The Water Quality Improvement Plan must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of receiving notification of acceptance with the Water Quality Improvement Plan by the San Diego Water Board Executive Officer.

2. Updates

a. Jurisdictional Runoff Management Program Document Updates

Each Copermittee must update its jurisdictional runoff management program document in accordance with the following requirements:

(1) Each Copermittee is encouraged to seek public and key stakeholder participation and comments, as early and often as possible during the process of developing updates to its jurisdictional runoff management program document;

(2) Each Copermittee must update its jurisdictional runoff management program document to incorporate the requirements of Provision E concurrent with the submittal of the Water Quality Improvement Plan. Each Copermittee must correct any deficiencies in the jurisdictional runoff management program document based on comments received from the San Diego Water Board in the updates submitted with the Water Quality Improvement Plan Annual Report;

(3) Each Copermittee must submit updates to its jurisdictional runoff management program, with the supporting rationale for the modifications, either in the Water Quality Improvement Plan Annual Report required pursuant to Provision F.3.b.(3), or as part of the Report of Waste Discharge required pursuant to Provision F.5.b;

(4) The Copermittee must revise proposed modifications to its jurisdictional runoff management program as directed by the San Diego Water Board Executive Officer; and

(5) Updated jurisdictional runoff management program documents must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of submitting the Water Quality Improvement Plan Annual Report.

b. BMP DESIGN MANUAL UPDATES

Each Copermittee must update its BMP Design Manual in accordance with the following requirements:

(1) Each Copermittee must update its BMP Design Manual to incorporate the requirements of Provisions E.3.a-d concurrent with the submittal of the Water Quality Improvement Plan. Each Copermittee must correct any deficiencies in the BMP Design Manual based on comments received from the San Diego Water Board in the updates submitted with the Water Quality Improvement Plan Annual Report;

(2) Any future updates to the BMP Design Manual made after its update pursuant to Provision F.2.b.(1) is completed must be consistent with the requirements of Provisions E.3.a-d and must be submitted as part of the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), or as part of the Report of Waste Discharge required pursuant to Provision F.5.b; and

(3) BMP Design Manuals must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of completing the update.

(4) If the San Diego Water Board amends Provisions E.3.a-d during the permit term but after the Copermittee has completed the update pursuant to Provision F.2.b.(1), the Copermittee must revise its BMP Design Manual to

incorporate the amended Provision E.3.a-d requirements as soon as possible but not later than 90 days after the date the San Diego Water Board adopts the amendments to Provisions E.3.a-d, unless otherwise directed by the San Diego Water Board Executive Officer. Under these circumstances, the effective date of the BMP Design Manual is no later than 90 days after the date the San Diego Water Board adopts the amendments to Provisions E.3.a-d, unless otherwise directed by the San Diego Water Board Executive Officer.

c. Water Quality Improvement Plan Updates

(1) The Water Quality Improvement Plans must be updated in accordance with the following process:

(a) The Copermittees must develop and implement a public participation process to obtain data, information and recommendations for updating the Water Quality Improvement Plan. The public participation process must provide for a publicly available and noticed schedule of opportunities for the public to participate and provide comments during the development of updates to the Water Quality Improvement Plan;

(b) The Copermittees must consult with the Water Quality Improvement Consultation Panel on proposed updates of the Water Quality Improvement Plan, and consider the Water Quality Improvement Consultation Panel's recommendations in finalizing the proposed updates;

(c) The Copermittees for each Watershed Management Area must submit 1) proposed updates to the Water Quality Improvement Plan and supporting rationale, and 2) recommendations received from the public and the Water Quality Improvement Consultation Panel and the rationale for the requested updates, either in the Water Quality Improvement Plan Annual Reports required pursuant to Provision F.3.b.(3), or as part of the Report of Waste Discharge required pursuant to Provision F.5.b. The updates submitted will be deemed accepted for inclusion in the Water Quality Improvement Plan ninety (90) days after submission unless otherwise directed in writing by the San Diego Water Board Executive Officer;

(d) The Copermittees must revise the requested updates as directed by the San Diego Water Board Executive Officer; and

(e) Updated Water Quality Improvement Plans must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of acceptance of the requested updates by the San Diego Water Board.

(2) No later than six months following Office of Administrative Law and USEPA approval of any TMDL Basin Plan amendment with wasteload allocations (WLAs) assigned to the Copermittees during the term of this Order, the

Copermittees must initiate an update to the applicable Water Quality Improvement Plans in accordance with Provision F.1 or Provision F.2.c.(1) to incorporate the requirements of the TMDL WLAs.

3. Progress Reporting

a. Progress Report Presentations

The Copermittees for each Watershed Management Area must periodically appear before the San Diego Water Board, as requested by the Board, to provide progress reports on the implementation of the Water Quality Improvement Plan and jurisdictional runoff management programs.

b. Annual Reports

(1) Transitional Jurisdictional Runoff Management Program Annual Reports

(a) Each Copermittee must complete and submit a Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D to this Order or a revised form accepted by the San Diego Water Board) no later than October 31 of each year for each jurisdictional runoff management program reporting period (i.e. July 1 to June 30) during the transitional period, until the first Water Quality Improvement Plan Annual Reports are required to be submitted.

(b) Each Copermittee must submit the information on the Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D to this Order or a revised form accepted by the San Diego Water Board) specific to the area within its jurisdiction in each Watershed Management Area.

(c) In addition to submitting the Jurisdictional Runoff Management Program Annual Report Form during the transitional reporting period, each Copermittee may continue to utilize and submit the jurisdictional runoff management program annual reporting format of its previous NPDES permit until the first Water Quality Improvement Plan Annual Report is required to be submitted.

(2) Transitional Monitoring and Assessment Program Annual Reports

The Copermittees for each Watershed Management Area must submit a Transitional Monitoring and Assessment Program Annual Report no later than January 31 for each complete transitional monitoring and assessment program reporting period (i.e. October 1 to September 30) during the transitional period, until the first Water Quality Improvement Plan Annual Reports are required to be submitted under this Order. The Transitional

Monitoring and Assessment Program Annual Reports must include:

(a) The receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1.a and D.2.a, summarized and presented in tabular and graphical form; and

(b) The findings from the assessments required pursuant to Provisions D.4.a.(1)(a), D.4.b.(1)(a)(i), D.4.b.(2)(a)(i).

(3) Water Quality Improvement Plan Annual Reports

The Copermittees for each Watershed Management Area must submit a Water Quality Improvement Plan Annual Report for each reporting period no later than January 31 of the following year. The annual reporting period consists of two different periods: 1) July 1 to June 30 of the following year for the jurisdictional runoff management programs, 2) October 1 to September 30 of the following year for the monitoring and assessment programs. The Water Quality Improvement Plan Annual Reports must be made available on the Regional Clearinghouse required pursuant to Provision F.4. Each Annual Report must include the following:

(a) The receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1 and D.2, summarized and presented in tabular and graphical form;

(b) The progress of the special studies required pursuant to Provision D.3, and the findings, interpretations and conclusions of a special study, or each phase of a special study, upon its completion;

(c) The findings, interpretations and conclusions from the assessments required pursuant to Provision D.4;

(d) The progress of implementing the Water Quality Improvement Plan, including, but not limited to, the following:

(i) The progress toward achieving the interim and final numeric goals for the highest water quality priorities for the Watershed Management Area;

(ii) The water quality improvement strategies that were implemented and/or no longer implemented by each of the Copermittees during the reporting period and previous reporting periods;

(iii) The water quality improvement strategies planned for implementation during the next reporting period;

(iv) Proposed modifications to the water quality improvement strategies, the public comments received and the supporting rationale for the

proposed modifications;

(v) Previous modifications or updates incorporated into the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document and implemented by the Copermittees in the Watershed Management Area; and

(vi) Proposed modifications or updates to the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document;

(e) A completed Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D to this Order or a revised form accepted by the San Diego Water Board) for each Copermittee in the Watershed Management Area, certified by a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative; and

(f) Each Copermittee must provide any data or documentation utilized in developing the Water Quality Improvement Plan Annual Report upon request by the San Diego Water Board. Any Copermittee monitoring data utilized in developing the Water Quality Improvement Plan Annual Report must be uploaded to the California Environmental Data Exchange Network (CEDEN).[35] Any Copermittee monitoring and assessment data utilized in developing the Water Quality Improvement Plan Annual Report must be available for access on the Regional Clearinghouse required pursuant to Provision F.4.

c. Regional Monitoring and Assessment Report

(1) The Copermittees must submit a Regional Monitoring and Assessment Report no later than 180 days prior to the expiration date of this Order. The Regional Monitoring and Assessment Report may be submitted as part of the Report of Waste Discharge required pursuant to Provision F.5.b. In preparing the report the Copermittees must consider the receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1 and D.2, and the findings, interpretations, and conclusions from the assessments required pursuant to Provision D.4. Based on these considerations the report must assess the following:

[35] Data must be uploaded to CEDEN Southern California Regional Data Center (http://www.sccwrp.org/Data/DataSubmission/SouthernCaliforniaRegionalDataCenter.aspx) using the templates provided on the CEDEN website.

(a) The beneficial uses of the receiving waters within the San Diego Region that are supported and not adversely affected by the Copermittees' MS4 discharges;

(b) The beneficial uses of the receiving waters within the San Diego Region that are adversely impacted by the Copermittees' MS4 discharges;

(c) The progress toward protecting the beneficial uses in the receiving waters within the San Diego Region from the Copermittees' discharges; and

(d) Pollutants or conditions of emerging concern that may impact beneficial uses in the receiving waters within the San Diego Region.

(2) The Regional Monitoring and Assessment Report must include recommendations for improving the implementation and assessment of the Water Quality Improvement Plans and jurisdictional runoff management programs.

(3) Each Copermittee must provide any data or documentation utilized in developing the Regional Monitoring and Assessment Report upon request by the San Diego Water Board. Any Copermittee monitoring and assessment data utilized in developing the Regional Monitoring and Assessment Report must be available for access on the Regional Clearinghouse required pursuant to Provision F.4.

4. Regional Clearinghouse

The Copermittees must develop, update, and maintain an internet-based Regional Clearinghouse that is made available to the public no later than 18 months after the effective date of this Order.[36]

a. The Copermittees, through the Regional Clearinghouse, must make the following documents and data available for access, and organized by Watershed Management Area. The documents and data may be linked to other internet-based data portals and databases where the original documents are stored:

(1) Water Quality Improvement Plan for the Watershed Management Area, and all updated versions with date of update;

(2) Annual Reports for the Watershed Management Area;

(3) Jurisdictional Runoff Management Program document for each Copermittee within the Watershed Management Area, and all updated versions with date of update;

[36] The Copermittees may develop, update and maintain the clearinghouse(s) of other Copermittees or agencies.

(4) BMP Design Manual for each Copermittee within the Watershed Management Area, and all updated versions with date of update;

(5) Reports from special studies (e.g. source identification, BMP effectiveness assessment) conducted in the Watershed Management Area;

(6) Monitoring data collected pursuant to Provision D for each Watershed Management Area must be uploaded to CEDEN,[37] with links to the uploaded data; and

(7) Available GIS data, layers, and/or shapefiles used to develop the maps generated and maintained by the Copermittees for the Water Quality Improvement Plans, Annual Reports, and jurisdictional runoff management program documents.

b. The Copermittees, through the Regional Clearinghouse, must make the following information and documents available for access:

(1) Contact information (point of contact, phone number, email address, and mailing address) for each Copermittee;

(2) Public hotline number for reporting non-storm water and illicit discharges for each Copermittee;

(3) Email address for reporting non-storm water and illicit discharges for each Copermittee;

(4) Link to each Copermittee's website, if available, where the public may find additional information about the Copermittee's storm water management program and for requesting records for the implementation of its program;

(5) Information about opportunities for the public to participate in programs and/or activities that can result in the prevention or elimination of non-storm water discharges to the MS4, reduction of pollutants in storm water discharges from the MS4, and/or protection of the quality of receiving waters; and

(6) Reports from regional monitoring programs in which the Copermittees participate (e.g. Southern California Monitoring Coalition, Southern California Coastal Water Research Project Bight Monitoring);

(7) Regional Monitoring and Assessment Reports; and

(8) Any other information, data, and documents the Copermittees determine as appropriate for making available to the public.

[37] Data must be uploaded to CEDEN Southern California Regional Data Center (http://www.sccwrp.org/Data/DataSubmission/SouthernCaliforniaRegionalDataCenter.aspx) using the templates provided on the CEDEN website.

5. Report of Waste Discharge

The Copermittees subject to the requirements of this Order must submit to the San Diego Water Board a complete Report of Waste Discharge as an application for the re-issuance of this Order and NPDES permit. The Report of Waste Discharge must be submitted no later than 180 days in advance of the expiration date of this Order. The Report of Waste Discharge must contain the following minimum information:

a. Names and addresses of the Copermittees;

b. Names and titles of the primary contacts of the Copermittees;

c. Proposed changes to the Copermittees' Water Quality Improvement Plans and the supporting justification;

d. Proposed changes to the Copermittees' jurisdictional runoff management programs and the supporting justification;

e. Any other information necessary for the re-issuance of this Order;

f. Any information to be included as part of the Report of Waste Discharge pursuant to the requirements of this Order; and

g. Any other information required by federal regulations for NPDES permit reissuance.

6. Reporting Provisions

Each Copermittee must comply with all the reporting and recordkeeping provisions of the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

G. PRINCIPAL WATERSHED COPERMITTEE RESPONSIBILITIES

1. The Copermittees within each Watershed Management Area must designate a Principal Watershed Copermittee and notify the San Diego Water Board of the name of the Principal Watershed Copermittee. An individual Copermittee should not be designated a Principal Watershed Copermittee for more than two Watershed Management Areas. The notification may be submitted with the Water Quality Improvement Plan required pursuant to Provision F.1 of this Order.

2. The Principal Watershed Copermittee is responsible for, at a minimum, the following:

a. Serving as liaison between the Copermittees in the Watershed Management Area and the San Diego Water Board on general permit issues, and when necessary and appropriate, representing the Copermittees in the Watershed Management Area before the San Diego Water Board;

b. Facilitating the development of the Water Quality Improvement Plan in accordance with the requirements of Provision B of this Order;

c. Coordinating the submittal of the deliverables required by Provisions F.1, F.2, F.3.a, and F.3.b of this Order; and

d. Coordinating and developing, with the other Principal Watershed Copermittees, the requirements of Provisions F.3.c, F.4, and F.5.b of this Order.

3. The Principal Watershed Copermittee is not responsible for ensuring that the other Copermittees within the Watershed Management Area are in compliance with the requirements of this Order. Each Copermittee within the Watershed Management Area is responsible for complying with the requirements of this Order.

H. MODIFICATION OF ORDER

1. Modifications of the Order may be initiated by the San Diego Water Board or by the Copermittees. Requests by Copermittees must be made to the San Diego Water Board.

2. Minor modifications to the Order may be made by the San Diego Water Board where the proposed modification complies with all the prohibitions and limitations, and other requirements of this Order.

3. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR 122.44, 122.62 to 122.64, and 124.5. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

4. This Order may be re-opened for modification for cause including but not limited to the following:

a. Any of the TMDLs in Attachment E to this Order are amended in the Basin Plan by San Diego Water Board, and the amendment is approved by the State Water Board, Office of Administrative Law, and the USEPA;

b. The Basin Plan is amended by the San Diego Water Board to incorporate a new TMDL, and the amendment is approved by the State Water Board, Office of Administrative Law, and the USEPA; or

c. Updating or revising the monitoring and reporting requirements is determined to be necessary, at the discretion of the San Diego Water Board. Such modification(s) may include, but is (are) not limited to, revision(s) to: (i) implement recommendations from Southern California Coastal Water Research Project (SCCWRP), (ii) develop, refine, implement, and/or coordinate a regional monitoring program, (iii) develop and implement improved monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, Resolution in Support of a Regional Monitoring Framework, and/or (iv) add provisions to require the Copermittees to evaluate and provide information on cost and values of the monitoring and reporting program.

I. STANDARD PERMIT PROVISIONS AND GENERAL PROVISIONS

Each Copermittee must comply with all the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

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ATTACHMENT A

DISCHARGE PROHIBITIONS AND SPECIAL PROTECTIONS

1. Basin Plan Waste Discharge Prohibitions

California Water Code Section 13243 provides that a Regional Water Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste or certain types of waste is not permitted. The following waste discharge prohibitions in the Water Quality Control Plan for the San Diego Basin (Basin Plan) are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a National Pollutant Discharge Elimination System (NPDES) permit or a dredged or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services (DHS) and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.

8. Any discharge to a storm water conveyance system that is not composed entirely of "*storm water*" is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities.] [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.

10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.

14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.

16. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.

17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at mean lower low water (MLLW) is prohibited.

18. The discharge of treated sewage from vessels, which do not have a properly functioning US Coast Guard certified Type I or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at mean lower low water (MLLW) is prohibited.

2. Attachment B to State Water Board Resolution 2012-0012, as amended by State Water Board Resolution No. 2012-0031.

Special Protections for Areas of Special Biological Significance (ASBS), Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges

I. PROVISIONS FOR POINT SOURCE DISCHARGES OF STORM WATER AND NONPOINT SOURCE WASTE DISCHARGES

The following terms, prohibitions, and special conditions (hereafter collectively referred to as special conditions) are established as limitations on point source storm water and nonpoint source discharges. These special conditions provide Special Protections for marine aquatic life and natural water quality in Areas of Special Biological Significance (ASBS), as required for State Water Quality Protection Areas pursuant to California Public Resources Code Sections 36700(f) and 36710(f). These Special Protections are adopted by the State Water Board as part of the California Ocean Plan (Ocean Plan) General Exception.

The special conditions are organized by category of discharge. The State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards (Regional Water Boards) will determine categories and the means of regulation for those categories [e.g., Point Source Storm Water National Pollutant Discharge Elimination System (NPDES) or Nonpoint Source].

A. PERMITTED POINT SOURCE DISCHARGES OF STORM WATER

1. General Provisions for Permitted Point Source Discharges of Storm Water

   a. Existing storm water discharges into an ASBS are allowed only under the following conditions:

      (1) The discharges are authorized by an NPDES permit issued by the State Water Board or Regional Water Board;

      (2) The discharges comply with all of the applicable terms, prohibitions, and special conditions contained in these Special Protections; and

      (3) The discharges:

         (i) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;

         (ii) Are designed to prevent soil erosion;

         (iii) Occur only during wet weather;

         (iv) Are composed of only storm water runoff.

   b. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.

   c. The discharge of trash is prohibited.

d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no additional pollutant loading). "Existing storm water outfalls" are those that were constructed or under construction prior to January 1, 2005. "New contribution of waste" is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

e. Non-storm water discharges are prohibited except as provided below:

(1) The term "non-storm water discharges" means any waste discharges from a municipal separate storm sewer system (MS4) or other NPDES permitted storm drain system to an ASBS that are not composed entirely of storm water.

(2) (i) The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:

(a) Discharges associated with emergency fire fighting operations.

(b) Foundation and footing drains.

(c) Water from crawl space or basement pumps.

(d) Hillside dewatering.

(e) Naturally occurring groundwater seepage via a storm drain.

(f) Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

(ii) An NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS only to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS.

(3) Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.

2. Compliance Plans for Inclusion in Storm Water Management Plans (SWMP) and Storm Water Pollution Prevention Plans (SWPPP).

The discharger shall specifically address the prohibition of non-storm water runoff and the requirement to maintain natural water quality for storm water discharges to an ASBS in an ASBS Compliance Plan to be included in its SWMP or a SWPPP, as appropriate to permit type. If a statewide permit includes a SWMP, then the discharger shall prepare a stand-alone compliance plan for ASBS discharges. The ASBS Compliance Plan is subject to approval by the Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (for permits issued by Regional Water Boards).

a. The Compliance Plan shall include a map of surface drainage of storm water runoff, showing areas of sheet runoff, prioritize discharges, and describe any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. Priority discharges are those that pose the greatest water quality threat and which are identified to require installation of structural BMPs. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable. The SWMP or SWPPP shall also include a procedure for updating the map and plan when changes are made to the storm water conveyance facilities.

b. The ASBS Compliance Plan shall describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.

c. For Municipal Separate Storm Sewer System (MS4s), the ASBS Compliance Plan shall require minimum inspection frequencies as follows:

(1) The minimum inspection frequency for construction sites shall be weekly during rainy season;

(2) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season;

(3) The minimum inspection frequency for commercial facilities (e.g., restaurants) shall be twice during the rainy season; and

(4) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season and maintained to remove trash and other anthropogenic debris.

d. The ASBS Compliance Plan shall address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits) that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:

(1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or

(2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges.

The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of these Special Protections, and the reductions must be achieved and documented within six (6) years of the effective date.

e. The ASBS Compliance Plan shall address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.

f. The ASBS Compliance Plan shall describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. Education and outreach efforts must adequately inform the public that direct discharges of pollutants from private property not entering an MS4 are prohibited. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures, currently employed and planned for higher threat discharges and include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, permittees must first consider, and use where feasible, LID practices to infiltrate, use, or evapotranspirate storm water runoff on-site, if LID practices would be the most effective at reducing pollutants from entering the ASBS.

g. The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.

h. If the results of the receiving water monitoring described in IV.B. of these special conditions indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and Regional Water Board within 30 days of receiving the results.

(1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.

(2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWMP or SWPPP for future implementation, and any additional BMPs that may be added to the SWMP or SWPPP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.

(3) Within 30 days of the approval of the report by the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits), the discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.

(4) As long as the discharger has complied with the procedures described above and is implementing the revised SWMP or SWPPP, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

(5) The requirements of this section are in addition to the terms, prohibitions, and conditions contained in these Special Protections.

3. Compliance Schedule

a. On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) are effectively prohibited.

b. Within eighteen (18) months from the effective date of the Exception, the discharger shall submit a draft written ASBS Compliance Plan to the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits) that describes its strategy to comply with these special conditions, including the requirement to maintain natural water quality in the affected ASBS. The ASBS Compliance Plan shall include a description of appropriate non-structural controls and a time schedule to implement structural controls (implementation schedule) to comply with these special conditions for inclusion in the discharger's SWMP or SWPPP, as appropriate to permit type. The final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, must be submitted within thirty (30) months from the effective date of the Exception.

c. Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these special conditions shall be implemented.

d. Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these special conditions shall be operational.

e. Within six (6) years of the effective date of the Exception, all dischargers must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the discharger must re-sample the receiving water, pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See attached Flowchart.

f. The Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may only authorize additional time to comply with the special conditions d. and e., above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If a discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in d. or e. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by

the discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. for municipalities, a demonstration of significant hardship to discharger ratepayers, by showing the relationship of storm water fees to annual household income for residents within the discharger's jurisdictional area, and the discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or

2. for other governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

B. NONPOINT SOURCE DISCHARGES

1. General Provisions for Nonpoint Sources

a. Existing nonpoint source waste discharges are allowed into an ASBS only under the following conditions:

(1) The discharges are authorized under waste discharge requirements, a conditional waiver of waste discharge requirements, or a conditional prohibition issued by the State Water Board or a Regional Water Board.

(2) The discharges are in compliance with the applicable terms, prohibitions, and special conditions contained in these Special Protections.

(3) The discharges:

(i) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;

(ii) Are designed to prevent soil erosion;

(iii) Occur only during wet weather;

(iv) Are composed of only storm water runoff.

b. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.

c. The discharge of trash is prohibited.

d. Only existing nonpoint source waste discharges are allowed. "Existing nonpoint source waste discharges" are discharges that were ongoing prior to January 1, 2005. "New nonpoint source discharges" are defined as those that commenced on or after January 1,

2005. A change to an existing nonpoint source discharge, in terms of relocation or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

e. Non-storm water discharges from nonpoint sources (those not subject to an NPDES Permit) are prohibited except as provided below:

(1) The term "non-storm water discharges" means any waste discharges that are not composed entirely of storm water.

(2) The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability, or occur naturally:

(i) Discharges associated with emergency fire fighting operations.

(ii) Foundation and footing drains.

(iii) Water from crawl space or basement pumps.

(iv) Hillside dewatering.

(v) Naturally occurring groundwater seepage via a storm drain.

(vi) Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

(3) Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.

f. At the San Clemente Island ASBS, discharges incidental to military training and research, development, test, and evaluation operations are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed in the two military closure areas in the vicinity of Wilson Cove and Castle Rock. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.

g. At the San Nicolas Island and Begg Rock ASBS, discharges incidental to military research, development, testing, and evaluation of, and training with, guided missile and other weapons systems, fleet training exercises, small-scale amphibious warfare training, and special warfare training are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.

h. All other nonpoint source discharges not specifically authorized above are prohibited.

2. Planning and Reporting

a. The nonpoint source discharger shall develop an ASBS Pollution Prevention ~~P~~lan, including an implementation schedule, to address storm water runoff and any other nonpoint source discharges from its facilities. The ASBS Pollution Prevention Plan must be equivalent in contents to an ASBS Compliance Plan as described in I (A)(2) in this document. The ASBS Pollution Prevention Plan is subject to approval by the Executive Director of the State Water Board (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements).

b. The ASBS Pollution Prevention Plan shall address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff that are necessary to comply with these special conditions, will be achieved through Management Measures and associated Management Practices (Management Measures/Practices). Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director or Regional Water Board Executive Officer that such installation would pose a threat to health or safety. Management Measures to control storm water runoff during a design storm shall achieve on average the following target levels:

(1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or

(2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges.

The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of these Special Protections, and the reductions must be achieved and documented within six (6) years of the effective date.

c. If the results of the receiving water monitoring described in IV.B. of these special conditions indicate that the storm water runoff or other nonpoint source pollution is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and the Regional Water Board within 30 days of receiving the results.

(1) The report shall identify the constituents that alter natural water quality and the sources of these constituents.

(2) The report shall describe Management Measures/Practices that are currently being implemented, Management Measures/Practices that are identified in the ASBS Pollution Prevention Plan for future implementation, and any additional Management Measures/Practices that may be added to the Pollution Prevention Plan to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the Management Measures/Practices.

(3) Within 30 days of the approval of the report by the State Water Board Executive Director (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements), the discharger shall revise its ASBS Pollution Prevention Plan to incorporate any new or modified Management Measures/Practices that have been or

will be implemented, the implementation schedule, and any additional monitoring required.

(4) As long as the discharger has complied with the procedures described above and is implementing the revised ASBS Pollution Prevention Plan, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural water quality conditions due to the same constituent.

(5) The requirements of this section are in addition to the terms, prohibitions, and conditions contained in these Special Protections.

3. Compliance Schedule

a. On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) are effectively prohibited.

b. Within eighteen (18) months from the effective date of the Exception, the dischargers shall submit a draft written ASBS Pollution Prevention Plan to the State Water Board Executive Director (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements) that describes its strategy to comply with these special conditions, including the requirement to maintain natural ocean water quality in the affected ASBS. The Pollution Prevention Plan shall include a description of appropriate non-structural controls and a time schedule to implement structural controls to comply with these special conditions for inclusion in the discharger's Pollution Prevention Plan. The final ASBS Pollution Prevention Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, must be submitted within thirty (30) months from the effective date of the Exception.

c. Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these Special Protections shall be implemented.

d. Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Pollution Prevention Plan that are necessary to comply with these special conditions shall be operational.

e. Within six (6) years of the effective date of the Exception, all dischargers must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the discharger must re-sample the receiving water pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See attached Flowchart.

f. The Executive Director of the State Water Board (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements) may only authorize additional time to comply with the special conditions d. and e., above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If a discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in (d.) or (e.). The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. a demonstration that the discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or

2. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

II. ADDITIONAL REQUIREMENTS FOR PARKS AND RECREATION FACILITIES

In addition to the provisions in Section I (A) or I (B), respectively, a discharger with parks and recreation facilities shall comply with the following:

A. The discharger shall include a section in an ASBS Compliance Plan (for NPDES dischargers) or an ASBS Pollution Prevention Plan (for nonpoint source dischargers) to address storm water runoff from parks and recreation facilities.

1. The plan shall identify all pollutant sources, including sediment sources, which may result in waste entering storm water runoff. Pollutant sources include, but are not limited to, roadside rest areas and vistas, picnic areas, campgrounds, trash receptacles, maintenance facilities, park personnel housing, portable toilets, leach fields, fuel tanks, roads, piers, and boat launch facilities.

2. The plan shall describe BMPs or Management Measures/Practices that will be implemented to control soil erosion (both temporary and permanent erosion controls) and reduce or eliminate pollutants in storm water runoff in order to achieve and maintain natural water quality conditions in the affected ASBS. The plan shall include BMPs or Management Measures/Practices to ensure that trails and culverts are maintained to prevent erosion and minimize waste discharges to ASBS.

3. The plan shall include BMPs or Management Measures/Practices to prevent the discharge of pesticides or other chemicals, including agricultural chemicals, in storm water runoff to the affected ASBS.

4. The plan shall include BMPs or Management Measures/Practices that address public education and outreach. The goal of these BMPs or Management Measures/Practices is to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in these Special Protections. The BMPs or Management Measures/Practices shall include signage at camping, picnicking, beach and roadside parking areas, and visitor centers, or other appropriate measures, which notify the public of any applicable requirements of these Special Protections and identify the ASBS boundaries.

5. The plan shall include BMPs or Management Measures/Practices that address the prohibition against the discharge of trash to ASBS. The BMPs or Management Measures/Practices shall include measures to ensure that adequate trash receptacles are available for public use at visitor facilities, including parking areas, and that the receptacles are adequately maintained to prevent trash discharges into the ASBS. Appropriate measures include covering trash receptacles to prevent trash from being wind blown and periodically emptying the receptacles to prevent overflows.

6. The plan shall include BMPs or Management Measures/Practices to address runoff from parking areas and other developed features to ensure that the runoff does not alter natural water quality in the affected ASBS. BMPs or Management Measures/Practices shall include measures to reduce pollutant loading in runoff to the ASBS through installation of natural area buffers (LID), treatment, or other appropriate measures.

B. Maintenance and repair of park and recreation facilities must not result in waste discharges to the ASBS. The practice of road oiling must be minimized or eliminated, and must not result in waste discharges to the ASBS.

III. ADDITIONAL REQUIREMENTS – WATERFRONT AND MARINE OPERATIONS

In addition to the provisions in Section I (A) or I (B), respectively, a discharger with waterfront and marine operations shall comply with the following:

A. For discharges related to waterfront and marine operations, the discharger shall develop a Waterfront and Marine Operations Management Plan (Waterfront Plan). This plan shall contain appropriate Management Measures/Practices to address nonpoint source pollutant discharges to the affected ASBS.

1. The Waterfront Plan shall contain appropriate Management Measures/Practices for any waste discharges associated with the operation and maintenance of vessels, moorings, piers, launch ramps, and cleaning stations in order to ensure that beneficial uses are protected and natural water quality is maintained in the affected ASBS.

2. For discharges from marinas and recreational boating activities, the Waterfront Plan shall include appropriate Management Measures, described in The Plan for California's Nonpoint Source Pollution Control Program, for marinas and recreational boating, or equivalent practices, to ensure that nonpoint source pollutant discharges do not alter natural water quality in the affected ASBS.

3. The Waterfront Plan shall include Management Practices to address public education and outreach to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in these Special

Protections. The management practices shall include appropriate signage, or similar measures, to inform the public of the ASBS restrictions and to identify the ASBS boundaries.

4. The Waterfront Plan shall include Management Practices to address the prohibition against trash discharges to ASBS. The Management Practices shall include the provision of adequate trash receptacles for marine recreation areas, including parking areas, launch ramps, and docks. The plan shall also include appropriate Management Practices to ensure that the receptacles are adequately maintained and secured in order to prevent trash discharges into the ASBS. Appropriate Management Practices include covering the trash receptacles to prevent trash from being windblown, staking or securing the trash receptacles so they don't tip over, and periodically emptying the receptacles to prevent overflow.

5. The discharger shall submit its Waterfront Plan to the by the State Water Board Executive Director (statewide waivers or waste discharge requirements) or Executive Officer of the Regional Water Board (Regional Water Board waivers or waste discharge requirements) within six months of the effective date of these special conditions. The Waterfront Plan is subject to approval by the State Water Board Executive Director or the Regional Water Board Executive Officer, as appropriate. The plan must be fully implemented within 18 months of the effective date of the Exception.

B. The discharge of chlorine, soaps, petroleum, other chemical contaminants, trash, fish offal, or human sewage to ASBS is prohibited. Sinks and fish cleaning stations are point source discharges of wastes and are prohibited from discharging into ASBS. Anthropogenic accumulations of discarded fouling organisms on the sea floor must be minimized.

C. Limited-term activities, such as the repair, renovation, or maintenance of waterfront facilities, including, but not limited to, piers, docks, moorings, and breakwaters, are authorized only in accordance with Chapter III.E.2 of the Ocean Plan.

D. If the discharger anticipates that the discharger will fail to fully implement the approved Waterfront Plan within the 18 month deadline, the discharger shall submit a technical report as soon as practicable to the State Water Board Executive Director or the Regional Water Board Executive Officer, as appropriate. The technical report shall contain reasons for failing to meet the deadline and propose a revised schedule to fully implement the plan.

E. The State Water Board or the Regional Water Board may, for good cause, authorize additional time to comply with the Waterfront Plan. Good cause means a physical impossibility or lack of funding.

If a discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in Section III.A.5. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the

discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality. The discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. a demonstration of significant hardship by showing that the discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate.

2. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

IV. MONITORING REQUIREMENTS

Monitoring is mandatory for all dischargers to assure compliance with the Ocean Plan. Monitoring requirements include both: (A) core discharge monitoring, and (B) ocean receiving water monitoring. The State and Regional Water Boards must approve sampling site locations and any adjustments to the monitoring programs. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions prevail.

Analytical Chemistry Methods: All constituents must be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, must be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

A. CORE DISCHARGE MONITORING PROGRAM

1. General sampling requirements for timing and storm size:

   Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples (see section IV B) as described below.

2. Runoff flow measurements

   a. For municipal/industrial storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width (including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State and Regional Water Boards.

b. This will be reported annually for each precipitation season to the State and Regional Water Boards.

3. Runoff samples – storm events

a. For outfalls equal to or greater than 18 inches (0.46m) in diameter or width:

(1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination; and

(2) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

(3) If an applicant has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

b. For outfalls equal to or greater than 36 inches (0.91m) in diameter or width:

(1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination; and

(2) samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates); and

(3) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

c. For an applicant not participating in a regional monitoring program [see below in Section IV (B)] in addition to (a.) and (b.) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For parties discharging to ASBS in

more than one Regional Water Board region, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

4. The Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

B. Ocean Receiving Water and Reference Area Monitoring Program

In addition to performing the Core Discharge Monitoring Program in Section II.A above, all applicants having authorized discharges must perform ocean receiving water monitoring. In order to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS, dischargers may choose either (1) an individual monitoring program, or (2) participation in a regional integrated monitoring program.

1. Individual Monitoring Program: The requirements listed below are for those dischargers who elect to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS. In addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

   a. Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in section (IV)(A)(3)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

      The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm) and during (or immediately after) the same storm (post storm). Post storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

   b. Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.

   c. A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be

completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.

d. Once during each five (5) year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

e. Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

f. The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

2. Regional Integrated Monitoring Program: Dischargers may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the otherwise prescribed individual monitoring approach (in Section IV.B.1) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

a. Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non- storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water

Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled per responsible party. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

b. ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than18 inches.) Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS per responsible party in that ASBS. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

c. Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons. For those ASBS dischargers that have already participated in the Southern California Bight 2008 ASBS regional monitoring effort, sampling may be limited to only one storm season.

d. Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.

3. Waterfront and Marine Operations: In addition to the above requirements for ocean receiving water monitoring, additional monitoring must be performed for marinas and boat launch and pier facilities:

a. For all marina or mooring field operators, in mooring fields with 10 or more occupied moorings, the ocean receiving water must be sampled for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), and ammonia nitrogen.

(1) For mooring field operators opting for an individual monitoring program (Section IV.B.1 above), this sampling must occur weekly (on the weekend) from May through October.

(2) For mooring field operators opting to participate in a regional integrated monitoring program (Section IV.B.2 above), this sampling must occur monthly from May through October on a high use weekend in each month. The Water Boards may allow a reduction in the frequency of sampling, through the regional monitoring program, after the first year of monitoring.

b. For all mooring field operators, the subtidal sediment (sand or finer, if present) within mooring fields and below piers shall be sampled and analyzed for Ocean Plan Table B metals (for marine aquatic life beneficial use), acute toxicity, PAHs, and tributyltin. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed. This sampling shall occur at least three times during a five (5) year period. For mooring field operators opting to participate in a regional integrated monitoring program, the Water Boards may allow a reduction in the frequency of sampling after the first sampling effort's results are assessed.

Glossary

At the point of discharge(s) – Means in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

Areas of Special Biological Significance (ASBS) – Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of State Water Quality Protection Areas.

Design storm – For purposes of these Special Protections, a design storm is defined as the volume of runoff produced from one inch of precipitation per day or, if this definition is inconsistent with the discharger's applicable storm water permit, then the design storm shall be the definition included in the discharger's applicable storm water permit.

Development – Relevant to reference monitoring sites, means urban, industrial, agricultural, grazing, mining, and timber harvesting land uses.

Higher threat discharges - Permitted storm drains discharging equal to or greater than 18 inches, industrial storm drains, agricultural runoff discharged through an MS4, discharges associated with waterfront and marina operations (e.g., piers, launch ramps, mooring fields, and associated vessel support activities, except for passive discharges defined below), and direct discharges associated with commercial or industrial activities to ASBS.

Low Impact Development (LID) – A sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which entails collecting and conveying storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID focuses on using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall.

Marine Operations – Marinas or mooring fields that contain slips or mooring locations for 10 or more vessels.

Management Measure (MM) - Economically achievable measures for the control of the addition of pollutants from various classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives. For example, in the "marinas and recreational boating" land- use category specified in the Plan for California's Nonpoint Source Pollution Control Program (NPS Program Plan) (SWRCB, 1999), "boat cleaning and maintenance" is considered a MM or the source of a specific class or type of NPS pollution.

Management Practice (MP) - The practices (e.g., structural, non-structural, operational, or other alternatives) that can be used either individually or in combination to address a specific MM class or classes of NPS pollution. For example, for the "boat cleaning and maintenance" MM, specific MPs can include, but are not limited to, methods for the selection of environmentally sensitive hull paints or methods for cleaning/removal of hull copper anti- fouling paints.

Municipal Separate Storm Sewer System (MS4) – A municipally-owned storm sewer system regulated under the Phase I or Phase II storm water program implemented in compliance with Clean Water Act section 402(p). Note that an MS4 program's boundaries are not necessarily congruent with the permittee's political boundaries.

Natural Ocean Water Quality - The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, *i.e.*, an absence of significant amounts of: (a) man-made constituents (*e.g.,* DDT); (b) other chemical (*e.g.,* trace metals), physical (temperature/thermal pollution, sediment burial), and biological (*e.g.*, bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (*e.g.,* invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "*shall not alter natural ocean water quality*" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional monitoring program(s). If monitoring information indicates that *natural ocean water quality* is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

Nonpoint source – Nonpoint pollution sources generally are sources that do not meet the definition of a point source. Nonpoint source pollution typically results from land runoff, precipitation, atmospheric deposition, agricultural drainage, marine/boating operations or hydrologic modification. Nonpoint sources, for purposes of these Special Protections, include discharges that are not required to be regulated under an NPDES permit.

Non-storm water discharge – Any runoff that is not the result of a precipitation event. This is often referred to as "dry weather flow."

Non-structural control – A Best Management Practice that involves operational, maintenance, regulatory (e.g., ordinances) or educational activities designed to reduce or eliminate pollutants in runoff, and that are not structural controls (i.e. there are no physical structures involved).

Physical impossibility - Means any act of God, war, fire, earthquake, windstorm, flood or natural catastrophe; unexpected and unintended accidents not caused by discharger or its employees' negligence; civil disturbance, vandalism, sabotage or terrorism; restrain by court order or public authority or agency; or action or non-action by, or inability to

obtain the necessary authorizations or approvals from any governmental agency other than the permittee.

Representative sites and monitoring procedures – Are to be proposed by the discharger, with appropriate rationale, and subject to approval by Water Board staff.

Sheet-flow – Runoff that flows across land surfaces at a shallow depth relative to the cross- sectional width of the flow. These types of flow may or may not enter a storm drain system before discharge to receiving waters.

Storm Season – Also referred to as rainy season, means the months of the year from the onset of rainfall during autumn until the cessation of rainfall in the spring.

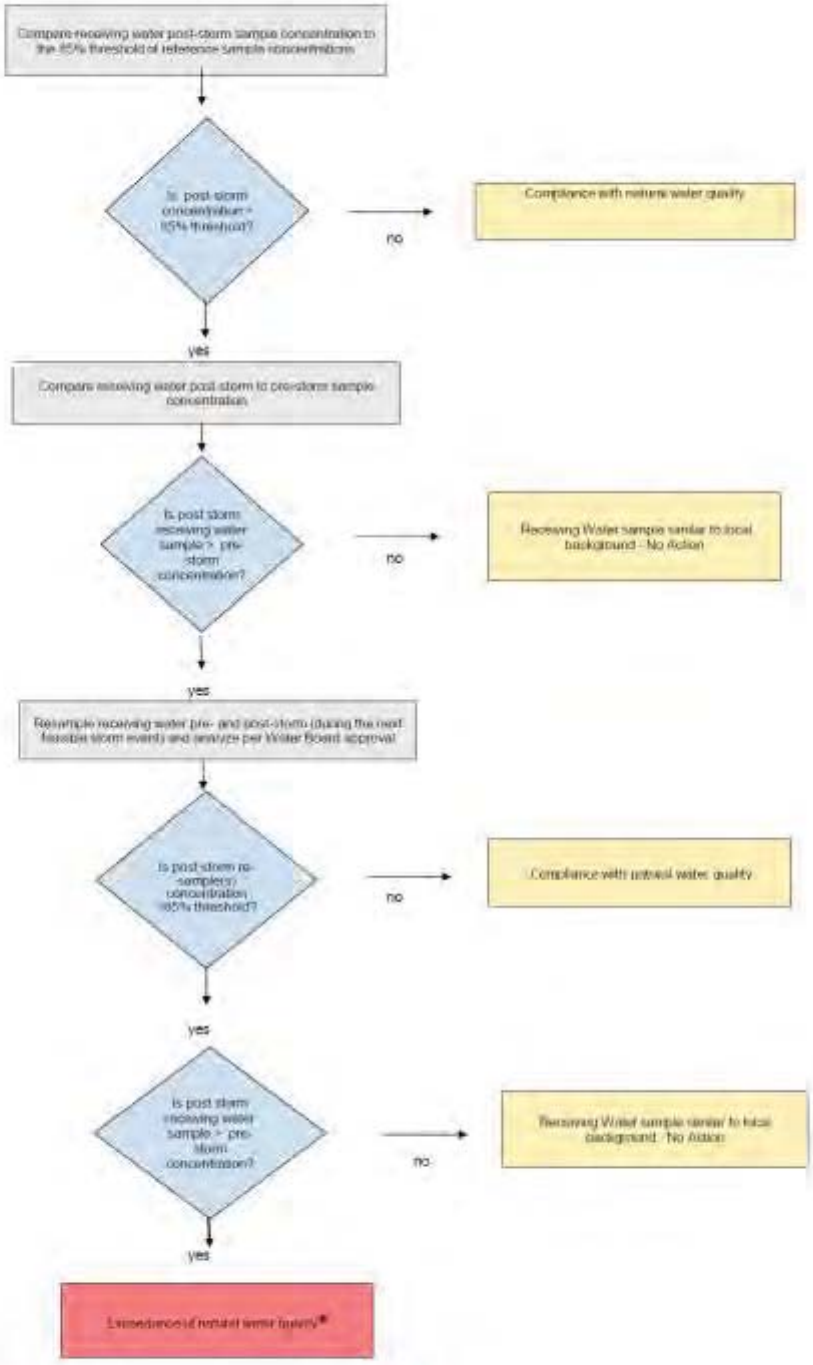
Structural control – A Best Management Practice that involves the installation of engineering solutions to the physical treatment or infiltration of runoff.

Surf Zone - The surf zone is defined as the submerged area between the breaking waves and the shoreline at any one time.

Surface Water Ambient Monitoring Program (SWAMP) comparable – Means that the monitoring program must 1) meet or exceed 2008 SWAMP Quality Assurance Program Management Plan (QAPP) Measurement Quality Objectives, or 2) have a Quality Assurance Project Plan that has been approved by SWAMP; in addition data must be formatted to match the database requirements of the SWAMP Information Management System. Adherence to the measurement quality objectives in the Southern California Bight 2008 ASBS Regional Monitoring Program QAPP and data base management comprises being SWAMP comparable.

Waterfront Operations - Piers, launch ramps, and cleaning stations in the water or on the adjacent shoreline.

Attachment 1
Special Protections Sections I(A)(3)(e) and I(B)(3)(e)
Flowchart to Determine Compliance with natural Water Quality



*** When an exceedance of natural water quality occurs, the discharger must comply with section I.A.2.h (for permitted storm water) or section I.B.2.c (for nonpoint sources). Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.**

ATTACHMENT B

STANDARD PERMIT PROVISIONS AND GENERAL PROVISIONS

1. Standard Permit Provisions

Code of Federal Regulations Title 40 Section 122.41 (40 CFR 122.41) includes conditions, or provisions, that apply to all National Pollutant Discharge Elimination System (NPDES) permits. Additional provisions applicable to NPDES permits are in 40 CFR 122.42. All applicable provisions in 40 CFR 122.41 and 40 CFR 122.42 must be incorporated into this Order and NPDES permit. The applicable 40 CFR 122.41 and 40 CFR 122.42 provisions are as follows:

a. DUTY TO COMPLY [40 CFR 122.41(a)]

The Copermittee must comply with all of the provisions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The Copermittee must comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement. [40 CFR 122.41(a)(1)]

(2) The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who *negligently* violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA, and who knows at that time that he thereby places another person in imminent

danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.
[40 CFR 122.41(a)(2)]

(3) Any person may be assessed an administrative penalty by the San Diego Regional Water Quality Control Board (San Diego Water Board), State Water Resources Control Board (State Water Board), or United States Environmental Protection Agency (USEPA) for violating Section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.
[40 CFR 122.41(a)(3)]

b. DUTY TO REAPPLY [40 CFR 122.41(b)]

If a Copermittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Copermittee must apply for and obtain a new permit.

c. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE [40 CFR 122.41(c)]

It shall not be a defense for a Copermittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

d. DUTY TO MITIGATE [40 CFR 122.41(d)]

The Copermittee must take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

e. PROPER OPERATION AND MAINTENANCE [40 CFR 122.41(e)]

The Copermittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Copermittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a Copermittee only when the operation is necessary to achieve compliance with the conditions of this permit.

f. PERMIT ACTIONS [40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Copermittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

g. PROPERTY RIGHTS [40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

h. DUTY TO PROVIDE INFORMATION [40 CFR 122.41(h)]

The Copermittee must furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USPEA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Copermittee must also furnish to the San Diego Water Board, State Water Board, or USPEA upon request, copies of records required to be kept by this permit.

i. INSPECTION AND ENTRY [40 CFR 122.41(i)]

The Copermittee must allow the San Diego Water Board, State Water Board, USEPA, and/or their authorized representative (including an authorized contractor acting as their representative), upon presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the Copermittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit; [40 CFR 122.41(i)(1)]

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; [40 CFR 122.41(i)(2)]

(3) Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; [40 CFR 122.41(i)(3)] and

(4) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location. [40 CFR 122.41(i)(4)]

j. MONITORING AND RECORDS [40 CFR 122.41(j)]

(1) Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. [40 CFR 122.41(j)(1)]

(2) Except for records of monitoring information required by this permit related to the Copermittee's sewage sludge use and disposal activities, which shall be retained for

a period of at least five (5) years (or longer as required by 40 CFR Part 503), the Copermittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board at any time. [40 CFR 122.41(j)(2)]

(3) Records for monitoring information must include: [40 CFR 122.41(j)(3)]

(a) The date, exact place, and time of sampling or measurements; [40 CFR 122.41(j)(3)(i)]
(b) The individual(s) who performed the sampling or measurements; [40 CFR 122.41(j)(3)(ii)]
(c) The date(s) analyses were performed; [40 CFR 122.41(j)(3)(iii)]
(d) The individual(s) who performed the analyses; [40 CFR 122.41(j)(3)(iv)]
(e) The analytical techniques or methods used; [40 CFR 122.41(j)(3)(v)] and
(f) The results of such analyses. [40 CFR 122.41(j)(3)(vi)]

(4) Monitoring must be conducted according to test procedures under 40 CFR Part 136 unless another method is required under 40 CFR Subchapters N or O. [40 CFR 122.41(j)(4)]

In the case of pollutants for which there are no approved methods under 40 CFR Part 136 or otherwise required under 40 CFR Subchapters N and O, monitoring must be conducted according to a test procedure specified in the permit for such pollutants. [40 CFR 122.44(i)(1)(iv)]

(5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. [40 CFR 122.41(j)(5)]

k. SIGNATORY REQUIREMENT [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the San Diego Water Board, State Water Board, or USEPA must be signed and certified. (See 40 CFR 122.22) [40 CFR 122.41(k)(1)]

(a) *For a municipality, State, Federal, or other public agency.* [All applications must be signed] by either a principal executive officer or ranking elected official. [40 CFR 122.22(a)(3)]

(b) All reports required by permits, and other information requested by the San Diego Water Board, State Water Board, or USEPA must be signed by a person described in paragraph (a) of this section, or by a duly authorized

representative of that person. A person is a duly authorized representative only if: [40 CFR 122.22(b)]

(i) The authorization is made in writing by a person described in paragraph (a) of this section; [40 CFR 122.22(b)(1)]

(ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) [40 CFR 122.22(b)(2)] and,

(iii) The written authorization is submitted to the San Diego Water Board and State Water Board. [40 CFR 122.22(b)(3)]

(c) *Changes to authorization.* If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative. [40 CFR 122.22(c)]

(d) *Certification.* Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." [40 CFR 122.22(d)]

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. [40 CFR 122.41(k)(2)]

I. REPORTING REQUIREMENTS [40 CFR 122.41(l)]

(1) *Planned changes.* The Copermittee must give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when: [40 CFR 122.41(l)(1)]

(a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); [40 CFR 122.41(l)(1)(i)] or

(b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1). [40 CFR 122.41(l)(1)(ii)]

(c) The alteration or addition results in a significant change in the Copermittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. [40 CFR 122.41(l)(1)(iii)]

(2) *Anticipated noncompliance*. The Copermittee must give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. [40 CFR 122.41(l)(2)]

(3) *Transfers*. This permit is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the permit to change the name of the Copermittee and incorporate such other requirements as may be necessary under the CWA. [40 CFR 122.41(l)(3)]

(4) *Monitoring reports.* Monitoring results must be reported at the intervals specified elsewhere in this permit. [40 CFR 122.41(l)(4)]

(a) Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. [40 CFR 122.41(l)(4)(i)]

(b) If the Copermittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or another method required for an industry-specific waste stream under 40 CFR Subchapters N or O, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board or State Water Board. [40 CFR 122.41(l)(4)(ii)]

(c) Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean unless otherwise specified in the permit. [40 CFR 122.41(l)(4)(iii)]

(5) *Compliance schedules*. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. [40 CFR 122.41(l)(5)]

(6) *Twenty-four hour reporting.*

(a) The Copermittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally within 24 hours from the time the Copermittee becomes aware of the circumstances. A written submission must also be provided within five (5) days of the time the Copermittee becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)(i)]

(b) The following must be included as information which must be reported within 24 hours under this paragraph: [40 CFR 122.41(l)(6)(ii)]

(i) Any unanticipated bypass that exceeds any effluent limitation in the permit (See 40 CFR 122.41(g)). [40 CFR 122.41(l)(6)(ii)(A)]
(ii) Any upset which exceeds any effluent limitation in the permit. [40 CFR 122.41(l)(6)(ii)(B)] and,
(iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the San Diego Water Board in the permit to be reported within 24 hours. (See 40 CFR 122.44(g)) [40 CFR 122.41(l)(6)(ii)(C)]

(c) The San Diego Water Board may waive the above-required written report on a case-by-case basis if the oral report has been received within 24 hours. [40 CFR 122.41(l)(6)(iii)]

(7) *Other noncompliance.* The Copermittee must report all instances of noncompliance not reported in accordance with the standard provisions required under 40 CFR 122.41(l)(4), (5), and (6), at the time monitoring reports are submitted. The reports must contain the information listed in the standard provisions required under 40 CFR 122.41(l)(6). [40 CFR 122.41(l)(7))]

(8) *Other information.* When the Copermittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Copermittee must promptly submit such facts or information. [40 CFR 122.41(l)(8)]

m. BYPASS [40 CFR 122.41(m)]

(1) *Definitions.*

(a) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. [40 CFR 122.41(m)(1)(i)] or

(b) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or

substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
[40 CFR 122.41(m)(1)(ii)]

(2) *Bypass not exceeding limitations*. The Copermittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the standard provisions required under 40 CFR 122.41(m)(3) and (4).
[40 CFR 122.41(m)(2)]

(3) *Notice.*

(a) *Anticipated bypass*. If the Copermittee knows in advance of the need for a bypass, it must submit a notice, if possible at least ten days before the date of the bypass. [40 CFR 122.41(m)(3)(i)] or

(b) *Unanticipated bypass*. The Copermittee must submit notice of an unanticipated bypass in accordance with the standard provisions required under 40 CFR 122.41(l)(6) (24-hour notice).
[40 CFR 122.41(m)(3)(ii)]

(4) *Prohibition of Bypass.*

(a) Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Copermittee for bypass, unless:
[40 CFR 122.41(m)(4)(i)]

(i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; [40 CFR 122.41(m)(4)(i)(A)]
(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance;
[40 CFR 122.41(m)(4)(i)(B)] and,
(iii) The Copermittee submitted notice in accordance with the standard provisions required under 40 CFR 122.41(m)(3).
[40 CFR 122.41(m)(4)(i)(C)]

(b) The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed above.
[40 CFR 122.41(m)(4)(ii)]

n. UPSET [40 CFR 122.41(n)]

(1) *Definition.* "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because

of factors beyond the reasonable control of the Copermittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. [40 CFR 122.41(n)(1)]

(2) *Effect of an upset*. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the standard provisions required under 40 CFR 122.41(n)(3) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. [40 CFR 122.41(n)(2)]

(3) *Conditions necessary for a demonstration of upset*. A Copermittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that: [40 CFR 122.41(n)(3)]

(a) An upset occurred and that the Copermittee can identify the cause(s) of the upset; [40 CFR 122.41(n)(3)(i)]
(b) The permitted facility was at the time being properly operated; [40 CFR 122.41(n)(3)(ii)] and
(c) The Copermittee submitted notice of the upset in accordance with the standard provisions required under 40 CFR 122.41(l)(6)(ii)(B) (24-hour notice). [40 CFR 122.41(n)(3)(iii)]
(d) The Copermittee complied with any remedial measures pursuant to the standard provisions required under 40 CFR 122.41(d). [40 CFR 122.41(n)(3)(iii)]

(4) *Burden of proof*. In any enforcement proceeding, the Copermittee seeking to establish the occurrence of an upset has the burden of proof. [40 CFR 122.41(n)(4)]

o. STANDARD PERMIT PROVISIONS FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS [40 CFR 122.42(c)]

The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the San Diego Water Board or State Water Board under 40 CFR 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report must include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions; [40 CFR 122.42(c)(1)]

(2) Proposed changes to the storm water management programs that are established as permit conditions. Such proposed changes must be consistent with 40 CFR 122.26(d)(2)(iii); [40 CFR 122.42(c)(2)] and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and (v); [40 CFR 122.42(c)(3)]

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; [40 CFR 122.42(c)(4)]

(5) Annual expenditures and budget for year following each annual report; [40 CFR 122.42(c)(5)]

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; [40 CFR 122.42(c)(6)]

(7) Identification of water quality improvements or degradation. [40 CFR 122.42(c)(7)]

p. STANDARD PERMIT PROVISIONS FOR STORM WATER DISCHARGES [40 CFR 122.42(d)]

The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) must require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

2. General Provisions

In addition to the standard provisions required to be incorporated into the Order and NPDES permit pursuant to 40 CFR 122.41 and 40 CFR 122.42, several other general provisions apply to this Order. The general provisions applicable to this Order and NPDES permit are as follows:

a. DISCHARGE OF WASTE IS A PRIVILEGE

No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights. [CWC Section 13263(g)]

b. DURATION OF ORDER AND NPDES PERMIT

(1) *Effective date*. This Order supersedes Order No. R9-2007-0001 for the San Diego County Copermittees listed in Table 1a and became effective on June 27, 2013. This Order as amended by Order R9-2015-0001 supersedes Order No. R9-2009-0002 for the Orange County Copermittees listed in Table 1b and its amendments through Order No. R9-2015-0001 became effective April 1, 2015. This Order as amended by Order Nos. R9-2015-0001 and R9-2015-0100 supersedes Order No. R9-2010-0016 for the Riverside County Copermittees listed in Table 1c and its amendments through Order No. R9-2015-0100 became effective January 7, 2016.

(2) *Expiration*. This Order and NPDES permit expires five years after June 27, 2013, its initial effective date. [40 CFR 122.46(a)]

(3) *Continuation of expired order*. After this Order and NPDES permit expires, the terms and conditions of this Order and NPDES permit are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.

c. AVAILABILITY

A copy of this Order must be kept at a readily accessible location and must be available to on-site personnel at all times.

d. CONFIDENTIALITY OF INFORMATION

Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the San Diego Water Board office.

Claims of confidentiality for the following information will be denied: [40 CFR 122.7(b)]

(1) The name and address of any permit applicant or Copermittee; [40 CFR 122.7(b)(1)] and

(2) Permit applications and attachments, permits, and effluent data. [40 CFR 122.7(b)(2)]

e. EFFLUENT LIMITATIONS

(1) *Interim effluent limitations*. The Copermittee must comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by the San Diego Water Board.

(2) *Other effluent limitations and standards*. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the San Diego Water Board shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. [40 CFR 122.44(b)(1)]

f. DUTY TO MINIMIZE OR CORRECT ADVERSE IMPACTS

The Copermittee must take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

g. PERMIT ACTIONS

The filing of a request by the Copermittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order. (See 40 CFR 122.41(f)) In addition, the following provisions apply to this Order:

(1) Upon application by any affected person, or on its own motion, the San Diego Water Board may review and revise the requirements in this Order. All requirements must be reviewed periodically. [CWC Section 13263(e)]

(2) This Order may be terminated or modified for cause, including, but not limited to, all of the following: [CWC Section 13381]

(a) Violation of any condition contained in the requirements of this Order. [CWC Section 13381(a)]

(b) Obtaining the requirements in this Order by misrepresentation, or failure to disclose fully all relevant facts. [CWC Section 13381(b)]

(c) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge. [CWC Section 13381(c)]

(3) When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.

h. NPDES Permitted Non-Storm Water Discharges

The San Diego Water Board has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The San Diego Water Board or State Water Board may in the future, upon prior notice to the Copermittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to an MS4.

i. Monitoring

In addition to the standard provisions required under 40 CFR 122.41(j) and (l)(4), the following general monitoring provisions apply to this Order:

(1) Where procedures are not otherwise specified in Order, sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Management Plan (QAMP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP), adopted by the State Water Resources Control Board (State Water Board).

(2) Pursuant to 40 CFR 122.41(j)(2) and CWC Section 13383(a), each Copermittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board at any time.

(3) All chemical, bacteriological, and toxicity analyses must be conducted at a laboratory certified for such analyses by the California Department of Public Health or a laboratory approved by the San Diego Water Board.

(4) For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Copermittees must instruct their laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Copermittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR Part 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Copermittee must submit documentation from the laboratory to the San Diego Water Board for approval prior to raising the ML for any priority toxic pollutant.

j. ENFORCEMENT

(1) The San Diego Water Board is authorized to enforce the terms of this Order under several provisions of the CWC, including, but not limited to, CWC Sections 13385, 13386, and 13387.

(2) Nothing in this Order shall be construed to protect the Copermittee from its liabilities under federal, state, or local laws.

(3) The CWC provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

(4) Except as provided in the standard conditions required under 40 CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the Copermittee from civil or criminal penalties for noncompliance.

(5) Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties to which the Copermittee is or may be subject to under Section 311 of the CWA.

(6) Nothing in this Order shall be construed to preclude institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

k. SEVERABILITY

The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

l. APPLICATIONS

Any application submitted by a Copermittee for reissuance or modification of this Order must satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the California Code of Regulations.

m. IMPLEMENTATION

All plans, reports and subsequent amendments submitted in compliance with this Order must be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

n. REPORT SUBMITTALS

(1) All report submittals must include an executive summary, introduction, conclusion, recommendations, and signed certified statement.

(2) Each Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal.

(3) The Principal Watershed Copermittee(s) must submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.

(4) Unless otherwise directed, the Copermittees must submit one electronic copy of each report required under this Order to the San Diego Water Board at SanDiego@waterboards.ca.gov.

(5) When hard copies are requested or required, the Copermittees must submit reports and provide notifications as required by this Order to:

EXECUTIVE OFFICER
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
2375 NORTHSIDE DRIVE, SUITE 100
SAN DIEGO CA 92108
Telephone: (619) 516-1990 Fax: (619) 516-1994

ATTACHMENT C

ACRONYMS AND ABBREVIATIONS

AMAL	Average Monthly Action Level
ASBS	Area(s) of Special Biological Significance
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the San Diego Basin
CEQA	California Environmental Quality Act
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWC	California Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
ESAs	Environmentally Sensitive Areas
GIS	Geographic Information System
IBI	Index of Biological Integrity
LID	Low Impact Development
MDAL	Maximum Daily Action Level
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NAL	Non-Storm Water Action Level
NAICS	North American Industry Classification System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
ROWD	Report of Waste Discharge (application for NPDES reissuance)
SAL	Storm Water Action Level
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SIC	Standard Industrial Classification Code
State Water Board	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
WDID	Waste Discharge Identification Number
WLA	Waste Load Allocation
WQBEL	Water Quality Based Effluent Limitation

DEFINITIONS

Active/Passive Sediment Treatment - Using mechanical, electrical or chemical means to flocculate or coagulate suspended sediment for removal from runoff from construction sites prior to discharge.

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Average Monthly Action Level – The highest allowable average of daily discharges over a calendar month.

Beneficial Uses - The uses of water necessary for the survival or wellbeing of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. "Beneficial Uses" of the waters of the State that may be protected include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)].

Best Management Practices (BMPs) - Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biotic integrity) of a water body.

Biofiltration - Practices that use vegetation and amended soils to detain and treat runoff from impervious areas. Treatment is through filtration, infiltration, adsorption, ion exchange, and biological uptake of pollutants.

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. *Environmental Management* 5:55-68 as: "A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

BMP Design Manual – A plan developed to eliminate, reduce, or mitigate the impacts of runoff from development projects, including Priority Development Projects.

Chronic Toxicity – A measurement of sublethal effect (e.g. reduced growth, reproduction) to experimental test organisms exposed to an effluent or receiving waters compared to that of the control organisms.

Clean Water Act Section 303(d) Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Activities – Actions implemented during construction of development or redevelopment projects during the Preliminary Task (including rough grading and/or disking, clearing and grubbing operations, or any soil disturbance prior to mass grading), Grading or Land Development (including topography and slope reconfiguration, alluvium removals, canyon cleanouts, rock undercuts, keyway excavations, land form grading, and stockpiling of select material for capping operations), Streets and Utility Installation (including excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer systems and/or other drainage improvements), or Vertical Construction (including the build out of structures from foundations to roofing, including rough landscaping).

Construction Site – Any project, including projects requiring coverage under the Construction General Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste whether or not waters of the State are affected."

Copermittee – A permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator [40 CFR 122.26(b)(1)]. For the purposes of this Order, a Copermittee is one of the individual permittees identified in Tables 1a-1c of this Order.

Copermittees – All of the individual Copermittees, collectively.

Critical Channel Flow (Qc) – The channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Qc, it should be based on the weakest boundary material – either bed or bank.

Daily Discharge – Defined as either: (1) the total mass of the constituent discharged over the calendar day or any 24 hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g. concentration.)

The Daily Discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day, or other 24 hour period other than a day), or by the arithmetic mean of analytical results from one or more grab samples taken over the course of a day.

Development Projects - Construction, rehabilitation, redevelopment, or reconstruction of any public or private projects.

Dry Season –May 1 to September 30.

Dry Weather – Weather is considered dry if the preceding 72 hours has been without measurable precipitation (>0.1 inch).

Enclosed Bays – Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost bay works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays do not include inland surface waters or ocean waters.

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Orange; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

Estuaries – Waters, including coastal lagoons, located at the mouth of streams that serve as areas of mixing fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and ocean water. Estuaries do not include inland surface waters or ocean waters.

Existing Development – Any area that has been developed and exists for municipal, commercial, industrial, or residential purposes, uses, or activities. May include areas that are not actively used for its originally developed purpose, but may be re-purposed or redeveloped for another use or activity.

Flow Duration – The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). The simplest way to visualize this is to consider a histogram of pre- and post-project flows using long-term records of hourly data. To maintain pre-development flow duration means that the total number of hours (counts) within each range of flows in a flow-duration histogram cannot increase between the pre- and post-development condition. Flow duration within the range of geomorphologically significant flows is important for managing erosion.

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Groundwater – Subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as "any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code" [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other hazardous wastes generated during home improvement or maintenance activities.

Hydromodification – The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, such as stream channelization, concrete lining, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection – Any man-made conveyance or drainage system through which a non-storm water discharge to the storm water drainage system occurs or may occur. Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from firefighting activities [40 CFR 122.26(b)(2)].

Inactive Areas – Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Infiltration – In the context of low impact development, infiltration is defined as the percolation of water into the ground. Infiltration is often expressed as a rate (inches per hour), which is determined through an infiltration test. In the context of non-storm water, infiltration is water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow [40 CFR 35.2005(20)].

Inland Surface Waters – Includes all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Jurisdictional Runoff Management Program Document – A written description of the specific jurisdictional runoff management measures and programs that each Copermittee will implement to comply with this Order and ensure that storm water pollutant discharges in runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Low Impact Development (LID) – A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Low Impact Development Best Management Practices (LID BMPs) – LID BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States through storm water management and land development strategies that emphasize conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions. LID BMPs include retention practices that do not allow runoff, such as infiltration, rain water harvesting and reuse, and evapotranspiration. LID BMPs also include flow-through practices such as biofiltration that may have some discharge of storm water following pollutant reduction.

Major Outfall – As defined in the Code of Federal Regulations, a major outfall is a MS4 outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (i.e. discharge from a single conveyance other than a circular pipe which is associated with a drainage area of more than 50 acres); or, for MS4s that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or equivalent), a MS4 outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (i.e. discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

Maximum Daily Action Level (MDAL) –The highest allowable daily discharge of a pollutant, over a calendar day (or 24 hour period). For pollutants with action levels expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with action levels expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) for storm water that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their runoff management programs. Their total collective and individual activities conducted pursuant to the runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the San Diego Water Board, the San Diego Water Board defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

"*To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:*

a. *Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
b. *Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
c. *Public Acceptance: Does the BMP have public support?*
d. *Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
e. *Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.?*

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP based solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."

Monitoring Year – October 1 to September 30

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). Non-storm water includes illicit discharges and NPDES permitted discharges.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act, a nuisance is "anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes."

Ocean Waters – The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board's California Ocean Plan.

Order – Unless otherwise specified, refers to this Order, Order No. R9-2013-0001 (NPDES No. CAS0109266)

Outfall - Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the US and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the US and are used to convey waters of the US.

Persistent Flow - Persistent flow is defined as the presence of flowing, pooled, or ponded water more than 72 hours after a measureable rainfall event of 0.1 inch or greater during three consecutive monitoring and/or inspection events. All other flowing, pooled, or ponded water is considered transient.

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act, pollution is "the alteration of the quality of the waters of the State by waste, to a degree which unreasonably affects either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses." Pollution may include contamination.

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Pre-Development Runoff Conditions – Approximate flow rates and durations that exist or existed onsite before land development occurs. For new development projects, this equates to runoff conditions immediately before project construction. For redevelopment projects, this equates to runoff conditions from the project footprint assuming infiltration characteristics of the underlying soil, and existing grade. Runoff coefficients of concrete or asphalt must not be used. A redevelopment Priority Development Project must use available information pertaining to existing underlying soil type and onsite existing grade to estimate pre-development runoff conditions.

Priority Development Projects - New development and redevelopment projects defined under Provision E.3.b of Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100.

Rainy Season (aka Wet Season) –October 1 to April 30

Receiving Waters – Waters of the United States.

Receiving Water Limitations - Waste discharge requirements issued by the San Diego Water Board typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirements of CWA section 402(p)(3)(B).

Redevelopment - The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure. Replacement of impervious surfaces includes any activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include routine maintenance activities, such as trenching and resurfacing associated with utility work; pavement grinding; resurfacing existing roadways, sidewalks, pedestrian ramps, or bike lanes on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Regional Clearinghouse – A central location for the collection and distribution of information developed and maintained by the Copermittees including, but not limited to, plans, reports, manuals, data, contact information, and/or links to such documents and information.

Rehabilitation - Remedial measures or activities for the purpose of improving or restoring the beneficial uses of streams, channels or river systems. Techniques may vary from in-stream restoration techniques to off-line storm water management practices installed in the system corridor or upland areas, or a combination of in-stream and out of stream techniques. Rehabilitation techniques may include, but are not limited to the following: riparian zone restoration, constructed wetlands, channel modifications that improve habitat and stability, and daylighting of drainage systems.

Reporting Period – The period of information that is reported in the Water Quality Improvement Plan Annual Report. The reporting period consists of two components: 1) July 1 to June 30, consistent with the fiscal year, for the implementation of the jurisdictional runoff management programs, and 2) October 1 to September 30, consistent with the monitoring year for the monitoring and assessment programs. Together, these two time periods constitute the reporting year for the Water Quality Improvement Plan Annual Report due January 31 following the end of the monitoring year.

Retain – Keep or hold in a particular place, condition, or position without discharge to surface waters.

Retrofitting – Storm water management practice put into place after development has occurred in watersheds where the practices previously did not exist or are ineffective. Retrofitting of developed areas is intended to improve water quality, protect downstream channels, reduce flooding, or meet other specific objectives. Retrofitting developed areas may include, but is not limited to replacing roofs with green roofs, disconnecting downspouts or impervious surfaces to drain to pervious surfaces, replacing impervious surfaces with pervious surfaces, installing rain barrels, installing rain gardens, and trash area enclosures.

Runoff - All flows in a storm water conveyance system that consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water including dry weather flows.

San Diego Water Board – As used in this document the term "San Diego Water Board" is synonymous with the term "Regional Board" as defined in Water Code section 13050(b) and is intended to refer to the California Regional Water Quality Control Board for the San Diego Region as specified in Water Code Section 13200.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and runoff.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage. Surface runoff and drainage pertains to runoff and drainage resulting from precipitation events.

Structural BMPs - A subset of BMPs which detains, retains, filters, removes, or prevents the release of pollutants to surface waters from development projects in perpetuity, after construction of a project is completed.

Test of Significant Toxicity (TST) - A statistical approach used to analyze toxicity test data. The TST incorporates a restated null hypothesis, Welch's t-test, and biological effect thresholds for chronic and acute toxicity.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies. The water quality objectives for toxicity provided in the Basin Plan, state in part…"All waters shall be

free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life….The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge."

Toxicity Identification Evaluation (TIE) - A set of procedures for identifying the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

Toxicity Reduction Evaluation (TRE) - A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate.

Treatment Control BMP – Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

Unpaved Road – Any long, narrow stretch without pavement used for traveling by motor passenger vehicles between two or more points. Unpaved roads are generally constructed of dirt, gravel, aggregate or macadam and may be improved or unimproved.

Waste - As defined in CWC Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans. Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne's definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has

become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards - Water quality standards, as defined in Clean Water Act section 303(c) consist of the beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of a water body and criteria (referred to as water quality objectives in the California Water Code) necessary to protect those uses. Under the Water Code, the water boards establish beneficial uses and water quality objectives in water quality control or basin plans. Together with an anti-degradation policy, these beneficial uses and water quality objectives serve as water quality standards under the Clean Water Act. In Clean Water Act parlance, state beneficial uses are called "designated uses" and state water quality objectives are called "criteria." Throughout this Order, the relevant term is used depending on the statutory scheme.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition.

Waters of the United States - As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: "(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA."

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

Wet Season (aka Rainy Season) – October 1 to April 30

Wet Weather – Weather is considered wet up to 72 hours after a storm event of 0.1 inches and greater, unless otherwise defined by another regulatory mechanism (e.g. a TMDL).

ATTACHMENT D

JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM ANNUAL REPORT FORM

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JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM ANNUAL REPORT FORM

FY _____

I. COPERMITTEE INFORMATION

Copermittee Name:			
Copermittee Primary Contact Name:			
Copermittee Primary Contact Information:			
Address:			
City:	County:	State:	Zip:
Telephone:	Fax:	Email:	

II. LEGAL AUTHORITY

Has the Copermittee established adequate legal authority within its jurisdiction to control pollutant discharges into and from its MS4 that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐	
A Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative has certified that the Copermittee obtained and maintains adequate legal authority?	**YES** ☐ **NO** ☐	

III. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM DOCUMENT UPDATE

Was an update of the jurisdictional runoff management program document required or recommended by the San Diego Water Board?	**YES** ☐ **NO** ☐	
If YES to the question above, did the Copermittee update its jurisdictional runoff management program document and make it available on the Regional Clearinghouse?	**YES** ☐ **NO** ☐	

IV. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

Has the Copermittee implemented a program to actively detect and eliminate illicit discharges and connections to its MS4 that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐	
Number of non-storm water discharges reported by the public		
Number of non-storm water discharges detected by Copermittee staff or contractors		
Number of non-storm water discharges investigated by the Copermittee		
Number of sources of non-storm water discharges identified		
Number of non-storm water discharges eliminated		
Number of sources of illicit discharges or connections identified		
Number of illicit discharges or connections eliminated		
Number of enforcement actions issued		
Number of escalated enforcement actions issued		

V. DEVELOPMENT PLANNING PROGRAM

Has the Copermittee implemented a development planning program that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐	
Was an update to the BMP Design Manual required or recommended by the San Diego Water Board?	**YES** ☐ **NO** ☐	
If YES to the question above, did the Copermittee update its BMP Design Manual and make it available on the Regional Clearinghouse?	**YES** ☐ **NO** ☐	
Number of proposed development projects in review		
Number of Priority Development Projects in review		
Number of Priority Development Projects approved		
Number of approved Priority Development Projects exempt from any BMP requirements		
Number of approved Priority Development Projects allowed alternative compliance		
Number of Priority Development Projects granted occupancy		
Number of completed Priority Development Projects in inventory		
Number of high priority Priority Development Project structural BMP inspections		
Number of Priority Development Project structural BMP violations		
Number of enforcement actions issued		
Number of escalated enforcement actions issued		

JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM ANNUAL REPORT FORM

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VI. CONSTRUCTION MANAGEMENT PROGRAM

Has the Copermittee implemented a construction management program that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐	

Number of construction sites in inventory	
Number of active construction sites in inventory	
Number of inactive construction sites in inventory	
Number of construction sites closed/completed during reporting period	
Number of construction site inspections	
Number of construction site violations	
Number of enforcement actions issued	
Number of escalated enforcement actions issued	

VII. EXISTING DEVELOPMENT MANAGEMENT PROGRAM

Has the Copermittee implemented an existing development management program that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐	

	Municipal	Commercial	Industrial	Residential
Number of facilities or areas in inventory				
Number of existing development inspections				
Number of follow-up inspections				
Number of violations				
Number of enforcement actions issued				
Number of escalated enforcement actions issued				

VIII. PUBLIC EDUCATION AND PARTICIPATION

Has the Copermittee implemented a public education program component that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐
Has the Copermittee implemented a public participation program component that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐

IX. FISCAL ANALYSIS

Has the Copermittee attached to this form a summary of its fiscal analysis that complies with Order No. R9-2013-0001?	**YES** ☐ **NO** ☐

X. CERTIFICATION

I [☐ Principal Executive Officer ☐ Ranking Elected Official ☐ Duly Authorized Representative] certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature	Date
Print Name	Title
Telephone Number	Email

ATTACHMENT E

SPECIFIC PROVISIONS FOR TOTAL MAXIMUM DAILY LOADS APPLICABLE TO ORDER NO. R9-2013-0001, AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100

These provisions implement load allocations (LAs) and wasteload allocations (WLAs) of the Total Maximum Daily Loads (TMDLs) established by the San Diego Water Board or USEPA under Clean Water Act section 303(c), applicable to discharges regulated under this Order. The provisions and schedules for implementation of the TMDLs described below must be incorporated into the Water Quality Improvement Plans, required pursuant to Provision B of this Order, for the specified Watershed Management Areas.

1. Total Maximum Daily Load for Diazinon in Chollas Creek Watershed
2. Total Maximum Daily Loads for Dissolved Copper in Shelter Island Yacht Basin
3. Total Maximum Daily Loads for Total Nitrogen and Total Phosphorus in Rainbow Creek Watershed
4. Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek
5. Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay
6. Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)
7. Total Maximum Daily Load for Sediment in Los Peñasquitos Lagoon

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1. Total Maximum Daily Load for Diazinon in Chollas Creek Watershed

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2002-0123

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	August 14, 2002
State Water Board Approval Date:	July 16, 2003
Office of Administrative Law Approval Date:	September 11, 2003
US EPA Approval Date:	November 3, 2003

(3) TMDL Effective Date: September 11, 2003

(4) Watershed Management Area: San Diego Bay

(5) Water Body: Chollas Creek

(6) Responsible Copermittees: City of La Mesa, City of Lemon Grove, City of San Diego, County of San Diego, San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final diazinon TMDL compliance requirements for Chollas Creek consist of the following:

(1) Final TMDL Compliance Date

The Responsible Copermittees must be in compliance with the final TMDL compliance requirements as of December 31, 2010.

(2) Final Water Quality Based Effluent Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations:

Table 1.1
Final Receiving Water Limitations Expressed as Concentrations in Chollas Creek

Constituent	Exposure Duration	Receiving Water Limitation	Averaging Period
Diazinon	Acute	0.08 µg/L	1 hour
	Chronic	0.05 µg/L	4 days

(b) Final Effluent Limitations

Discharges from the MS4s containing concentrations that do not exceed the following effluent limitations will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 1.b.(2)(a):

Table 1.2
Final Effluent Limitations Expressed as Concentrations in MS4 Discharges to Chollas Creek

Constituent	Exposure Duration	Effluent Limitation	Averaging Period
Diazinon	Acute	0.072 µg/L	1 hour
	Chronic	0.045 µg/L	4 days

(c) Best Management Practices

The following BMPs for Chollas Creek must be incorporated into the Water Quality Improvement Plan for the San Diego Bay Watershed Management Area and implemented by the Responsible Copermittees:

(i) The Responsible Copermittees must implement BMPs to achieve the receiving water limitations under Specific Provision 1.b.(2)(a) and/or the effluent limitations under Specific Provision 1.b.(2)(b) for Chollas Creek.

(ii) The Responsible Copermittees must implement the Diazinon Toxicity Control Plan and Diazinon Public Outreach/Education Program as described in the report titled, *Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County*, dated August 14, 2002, including subsequent modifications, in order to achieve the receiving water limitations under Specific Provision 1.b.(2)(a) and/or the effluent limitations under Specific Provision 1.b.(2)(b).

(iii) The Responsible Copermittees should coordinate any BMPs implemented to address this TMDL with Caltrans as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 1.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 1.b.(2)(b) at the Responsible Copermittee's MS4 outfalls; OR

(d) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 1.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 1.b.(2)(c) achieves compliance with Specific Provisions 1.b.(3)(a), 1.b.(3)(b) and/or 1.b.(3)(c),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 1.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 1.d, to demonstrate compliance with Specific Provisions 1.b.(3)(a), 1.b.(3)(b) and/or 1.b.(3)(c).

c. Interim TMDL Compliance Requirements

The Responsible Copermittees must be in compliance with the final diazinon TMDL compliance requirements as of December 31, 2010.

d. Specific Monitoring and Assessment Requirements

(1) The Responsible Copermittees must implement the monitoring and assessment requirements issued under Investigation Order No. R9-2004-0277, *California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the Discharge of Diazinon into the Chollas Creek Watershed*. The monitoring reports required under Investigation Order No. R9-2004-0277 must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

(2) The Responsible Copermittees must monitor the effluent of the MS4 outfalls for diazinon within the Chollas Creek watershed, and calculate or estimate the annual diazinon loads, in accordance with the requirements of Provisions D.2, D.4.b.(1), and D.4.b.(2) of this Order. The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment

Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

(3) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 1.b.(2)(b), dry and wet weather discharge concentrations may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

2. Total Maximum Daily Loads for Dissolved Copper in Shelter Island Yacht Basin

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2005-0019

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	February 9, 2005
State Water Board Approval Date:	September 22, 2005
Office of Administrative Law Approval Date:	December 2, 2005
US EPA Approval Date:	February 8, 2006

(3) TMDL Effective Date: December 2, 2005

(4) Watershed Management Area: San Diego Bay

(5) Water Body: Shelter Island Yacht Basin

(6) Responsible Copermittee: City of San Diego

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final dissolved copper TMDL compliance requirements for Shelter Island Yacht Basin consist of the following:

(1) Final TMDL Compliance Date

The Responsible Copermittee must be in compliance with the final TMDL compliance requirements as of December 2, 2005.

(2) Final Water Quality Based Effluent Water Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations:

Table 2.1
Final Receiving Water Limitations Expressed as Concentrations in Shelter Island Yacht Basin

Constituent	Exposure Duration	Receiving Water Limitation	Averaging Period
Dissolved Copper	Acute	4.8 µg/L x WER*	1 hour
	Chronic	3.1 µg/L x WER*	4 days

Notes:
* The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(b) Final Effluent Limitations

Discharges from the MS4s containing pollutant loads that do not exceed the following effluent limitations will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 2.b.(2)(a):

Table 2.2
Final Effluent Limitations as Expressed as Annual Loads in MS4 Discharges to Shelter Island Yacht Basin

Constituent	Effluent Limitation
Dissolved Copper	30 kg/yr*

* If the water quality objectives for dissolved copper in Shelter Island Yacht Basin are changed in the future, then the margin of safety (MOS), TMDL and allocations will be recalculated using the *Method for Recalculation of the Total Maximum Daily Load for Dissolved Copper in the Shelter Island Yacht Basin, San Diego Bay* in the Basin Plan (p. 7-14).

(c) Best Management Practices

The Responsible Copermittee must implement BMPs to achieve the receiving water limitations under Specific Provision 2.b.(2)(a) and/or the effluent limitations under Specific Provision 2.b.(2)(b) for Shelter Island Yacht Basin. The BMPs must be incorporated into the Water Quality Improvement Plan for the San Diego Bay Watershed Management Area.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 2.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 2.b.(2)(b) at the Responsible Copermittee's MS4 outfalls; OR

(d) The Responsible Copermittee develops and implements the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 2.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 2.b.(2)(c) achieves compliance with Specific Provisions 2.b.(3)(a), 2.b.(3)(b) and/or 2.b.(3)(c),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 2.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 2.d, to demonstrate compliance with Specific Provisions 2.b.(3)(a), 2.b.(3)(b) and/or 2.b.(3)(c).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The Responsible Copermittees must be in compliance with the final dissolved copper TMDL compliance requirements as of December 2, 2005.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

The Responsible Copermittee must monitor the effluent of its MS4 outfalls for dissolved copper, and calculate or estimate the monthly and annual dissolved copper loads, in accordance with the requirements of Provisions D.2, D.4.b.(1), and D.4.(b)(2)of this Order. The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

3. Total Maximum Daily Loads for Total Nitrogen and Total Phosphorus in Rainbow Creek Watershed

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2005-0036

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	February 9, 2005
State Water Board Approval Date:	November 16, 2005
Office of Administrative Law Approval Date:	February 1, 2006
US EPA Approval Date:	March 22, 2006

(3) TMDL Effective Date: February 1, 2006

(4) Watershed Management Area: Santa Margarita River

(5) Water Body: Rainbow Creek

(6) Responsible Copermittee: County of San Diego

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final total nitrogen and total phosphorus TMDL compliance requirements for Rainbow Creek consist of the following

(1) Final TMDL Compliance Date

The Responsible Copermittee must comply with final TMDL compliance requirements by December 31, 2021.

(2) Final Water Quality Based Effluent Water Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance date under Specific Provision 3.b.(1):

Table 3.1
Final Receiving Water Limitations Expressed as Concentrations in Rainbow Creek

Constituent	Receiving Water Limitation
Nitrate (as N)	10 mg/L
Total Nitrogen	1 mg/L
Total Phosphorus	0.1 mg/L

(b) Final Effluent Limitations

(i) Discharges from the MS4s containing concentrations that do not exceed the following effluent limitations by the compliance date under Specific Provision 3.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 3.b.(2)(a):

Table 3.2
Final Effluent Limitations Expressed as Concentrations in MS4 Discharges to Rainbow Creek

Constituent	Effluent Limitation
Nitrate (as N)	10 mg/L
Total Nitrogen	1 mg/L
Total Phosphorus	0.1 mg/L

(ii) Annual pollutant loads from given land uses discharging to and from the MS4s that do not exceed the following annual loads by the compliance date under Specific Provision 3.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 3.b.(2)(a):

Table 3.3
Final Effluent Limitations Expressed as Annual Loads in MS4 Discharges to Rainbow Creek

Land Use	Total N	Total P
Commercial nurseries	116 kg/yr	3 kg/yr
Park	3 kg/yr	0.1 kg/yr
Residential areas	149 kg/yr	12 kg/yr
Urban areas	27 kg/yr	6 kg/yr

(c) Best Management Practices

(i) The Responsible Copermittee must implement BMPs to achieve the receiving water limitations under Specific Provision 3.b.(2)(a) and/or the effluent limitations under Specific Provision 3.b.(2)(b) for Rainbow Creek.

(ii) The Responsible Copermittee should coordinate any BMPs implemented to address this TMDL with Caltrans and other sources as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 3.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 3.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR

(d) The annual pollutant loads from given land uses discharging to and from the MS4s do not exceed the final effluent limitations under Specific Provision 3.b.(2)(b)(ii); OR

(e) The Responsible Copermittee develops and implements the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 3.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Specific Provision 3.b.(2)(c) achieves compliance with Specific Provisions 3.b.(3)(a), 3.b.(3)(b), 3.b.(3)(c) and/or 3.b.(3)(d),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 3.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 3.d, to demonstrate compliance with Specific Provisions 3.b.(3)(a), 3.b.(3)(b), 3.b.(3)(c) and/or 3.b.(3)(d).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim total nitrogen and total phosphorus TMDL compliance requirements for Rainbow Creek consist of the following:

(1) Interim Compliance Dates and WQBELs

The Responsible Copermittee must comply with the interim WQBELs, expressed as annual loads, by December 31 of the interim compliance year given in Table 3.4.

Table 3.4
Interim Water Quality Based Effluent Limitations Expressed as Annual Loads in MS4 Discharges from Specific Land Uses to Rainbow Creek

	Total N Interim Effluent Limitations (kg/yr)			Total P Interim Effluent Limitations (kg/yr)		
	Interim Compliance Date			Interim Compliance Date		
Land Use	2009	2013	2017	2009	2013	2017
Commercial nurseries	390	299	196	20	16	10
Park	5	3	3	0.15	0.10	0.10
Residential areas	507	390	260	99	74	47
Urban areas	40	27	27	9	6	6

(2) Interim TMDL Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 3.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 3.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR

(d) The annual pollutant loads from given land uses discharging to and from the MS4s do not exceed the final effluent limitations under Specific Provision 3.b.(2)(b)(ii); OR

(e) The annual pollutant loads from given land uses discharging to and from the MS4s do not exceed the interim effluent limitations under Specific Provision 3.c.(1); OR

(f) The Responsible Copermittee has submitted and is fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) The Responsible Copermittee must incorporate into the Water Quality Improvement Plan and implement the Sampling and Analysis Plan for Rainbow Creek Nutrient Reduction TMDL Implementation Water Quality Monitoring, dated January 2010.

(2) The results of any monitoring conducted during the reporting period, and assessment of whether the interim and final TMDL compliance requirements have been achieved must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

(3) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 3.b.(2)(b)(i), dry and wet weather discharge concentrations may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

4. Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2007-0043

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	June 13, 2007
State Water Board Approval Date:	July 15, 2008
Office of Administrative Law Approval Date:	October 22, 2008
US EPA Approval Date:	December 18, 2008

(3) TMDL Effective Date: October 22, 2008

(4) Watershed Management Area: San Diego Bay

(5) Water Body: Chollas Creek

(6) Responsible Copermittees: City of La Mesa, City of Lemon Grove, City of San Diego, County of San Diego, San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final dissolved copper, lead, and zinc TMDL compliance requirements for Chollas Creek consist of the following:

(1) Final TMDL Compliance Date

The Responsible Copermittees must comply with the final TMDL compliance requirements by October 22, 2028.

(2) Final Water Quality Based Effluent Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance date under Specific Provision 4.b.(1):

Table 4.1
Final Receiving Water Limitations Expressed as Concentrations in Chollas Creek

Constituent	Exposure Duration	Receiving Water Limitation (µg/L)	Averaging Period
Dissolved Copper	Acute	$(0.96) \times e^{[0.9422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 hour
	Chronic	$(0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 days
Dissolved Lead	Acute	$[1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 hour
	Chronic	$[1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 days
Dissolved Zinc	Acute	$(0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 hour
	Chronic	$(0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 days

Notes:
* The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(b) Final Effluent Limitations

Discharges from the MS4s containing pollutant loads that do not exceed the following effluent limitations by the compliance date under Specific Provision 4.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 4.b.(2)(a):

Table 4.2
Final Effluent Limitations as Expressed Concentrations in MS4 Discharges to Chollas Creek

Constituent	Exposure Duration	Effluent Limitation (µg/L)	Averaging Period
Dissolved Copper	Acute	$90\% \times (0.96) \times e^{[0.9422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 hour
	Chronic	$90\% \times (0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 days
Dissolved Lead	Acute	$90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 hour
	Chronic	$90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 days
Dissolved Zinc	Acute	$90\% \times (0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 hour
	Chronic	$90\% \times (0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 days

Notes:
* The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(c) Best Management Practices

(i) The Responsible Copermittees must implement BMPs to achieve the receiving water limitations under Specific Provision 4.b.(2)(a) and/or the effluent limitations under Specific Provision 4.b.(2)(b) for Chollas Creek.

(ii) The Responsible Copermittees should coordinate any BMPs implemented to address this TMDL with Caltrans and the U.S. Navy as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 4.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 4.b.(2)(b) at the Responsible Copermittee's MS4 outfalls; OR

(d) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 4.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 4.b.(2)(c) achieves compliance with Specific Provisions 4.b.(3)(a), 4.b.(3)(b) and/or 4.b.(3)(c),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 4.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 4.d, to demonstrate compliance with Specific Provisions 4.b.(3)(a), 4.b.(3)(b) and/or 4.b.(3)(c).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim dissolved copper, lead, and zinc TMDL compliance requirements for Chollas Creek consist of the following:

(1) Interim Compliance Date and WQBELs

The Responsible Copermittee must comply with the interim WQBELs, expressed as concentrations, by the interim compliance date given in Table 4.3:

Table 4.3
Interim Water Quality Based Effluent Limitations Expressed as Concentrations in MS4 Discharges to Chollas Creek

Interim Compliance Date	Constituent	Exposure Duration	Effluent Limitation (µg/L)	Averaging Period
October 22, 2018	Dissolved Copper	Acute	$1.2 \times 90\% \times (0.96) \times e^{[0.9422 \times \ln(\text{hardness}) - 1.700]} \times \text{WER}^*$	1 hour
		Chronic	$1.2 \times 90\% \times (0.96) \times e^{[0.8545 \times \ln(\text{hardness}) - 1.702]} \times \text{WER}^*$	4 days
	Dissolved Lead	Acute	$1.2 \times 90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 1.460]} \times \text{WER}^*$	1 hour
		Chronic	$1.2 \times 90\% \times [1.46203 - 0.145712 \times \ln(\text{hardness})] \times e^{[1.273 \times \ln(\text{hardness}) - 4.705]} \times \text{WER}^*$	4 days
	Dissolved Zinc	Acute	$1.2 \times 90\% \times (0.978) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	1 hour
		Chronic	$1.2 \times 90\% \times (0.986) \times e^{[0.8473 \times \ln(\text{hardness}) + 0.884]} \times \text{WER}^*$	4 days

Notes:
* The Water Effect Ratio (WER) is assumed to be 1.0 unless there is a site-specific and chemical-specific WER provided in the Basin Plan.

(2) Interim TMDL Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance date, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the applicable receiving water limitations under Specific Provision 4.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 4.b.(2)(b) at the Responsible Copermittee's MS4 outfalls; OR

(d) There are no exceedances of the interim effluent limitations under Specific Provision 4.c.(1) at the Responsible Copermittee's MS4 outfalls; OR

(e) The Responsible Copermittees have submitted and is fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance date.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) The Responsible Copermittees must implement the monitoring and assessment requirements issued under Investigation Order No. R9-2004-0277, *California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the Discharge of Diazinon into the Chollas Creek Watershed*, when it is amended to include monitoring requirements for the Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek. The monitoring reports required under Investigation Order No. R9-2004-0277 must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

(2) The Responsible Copermittees must monitor the effluent of the MS4 outfalls discharging to Chollas Creek for dissolved copper, lead, and zinc, and calculate or estimate the monthly and annual dissolved copper, lead, and zinc loads, in accordance with the requirements of Provisions D.2, D.4.b.(1), and D.4.b.(2) of this Order. The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

(3) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 4.b.(2)(b) or 4.c.(1), dry and wet weather discharge concentrations may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

5. Total Maximum Daily Loads for Indicator Bacteria, Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2008-0027

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	June 11, 2008
State Water Board Approval Date:	June 16, 2009
Office of Administrative Law Approval Date:	September 15, 2009
US EPA Approval Date:	October 26, 2009

(3) TMDL Effective Date: September 15, 2009

(4) Watershed Management Areas: See Table 5.0

(5) Water Bodies: See Table 5.0

(6) Responsible Copermittees: See Table 5.0

Table 5.0
Applicability of Total Maximum Daily Loads for Indicator Bacteria
Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in San Diego Bay

Watershed Management Area	Water Body	Segment or Area	Responsible Copermittees
South Orange County	Dana Point Harbor	Baby Beach	-City of Dana Point -County of Orange
San Diego Bay	San Diego Bay	Shelter Island Shoreline Park	- San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final indicator bacteria TMDL compliance requirements for segments or areas of the water bodies listed in Table 5.0 consist of the following:

(1) Final TMDL Compliance Dates

(a) Baby Beach in Dana Point Harbor

The Responsible Copermittees for MS4 discharges to Baby Beach must be in compliance with the final TMDL compliance requirements according to the following compliance dates:

Table 5.1
Compliance Dates to Achieve Final TMDL Compliance Requirements For Baby Beach in Dana Point Harbor

Constituent	Dry Weather WLA Compliance Date	Wet Weather WLA Compliance Date
Total Coliform	September 15, 2014	September 15, 2009
Fecal Coliform		September 15, 2009
Enterococcus		September 15, 2019

(b) Shelter Island Shoreline Park in San Diego Bay

The Responsible Copermittee for MS4 discharges to Shelter Island Shoreline Park must be in compliance with the final TMDL compliance requirements as of December 31, 2012.

(2) Final Water Quality Based Effluent Water Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance dates under Specific Provision 5.b.(1):

Table 5.2
Final Receiving Water Limitations Expressed as Bacteria Densities in the Water Body

	Receiving Water Limitations	
Constituent	Single Sample Maximum[1,2]	30-Day Geometric Mean[2]
Total Coliform	10,000 MPN/100mL	1,000 MPN/100mL
Fecal Coliform	400 MPN/100mL	200 MPN/100mL
Enterococcus	104 MPN/100mL	35 MPN/100mL

Notes:
1. During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
2. During dry weather days, the single sample maximum and 30-day geometric mean receiving water limitations are required to be achieved.

(b) Final Effluent Limitations

(i) Discharges from the MS4s containing indicator bacteria densities that do not exceed the following effluent limitations by the compliance dates under Specific Provision 5.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 5.b.(2)(a):

Table 5.3a
Final Effluent Limitations as Expressed as Bacteria Densities in MS4 Discharges to the Water Body

	Effluent Limitations	
Constituent	**Single Sample Maximum[1,2]**	**30-Day Geometric Mean[2]**
Total Coliform	10,000 MPN/100mL	1,000 MPN/100mL
Fecal Coliform	400 MPN/100mL	200 MPN/100mL
Enterococcus	104 MPN/100mL	35 MPN/100mL

Notes:
1. During wet weather days, only the single sample maximum effluent limitations are required to be achieved.
2. During dry weather days, the single sample maximum and 30-day geometric mean effluent limitations are required to be achieved.

(ii) Discharges from the MS4s containing indicator bacteria loads that do not exceed the following effluent limitations by the compliance dates under Specific Provision 5.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 5.b.(2)(a):

Table 5.4a
Final Effluent Limitations Expressed as Bacteria Loads in MS4 Discharges to the Baby Beach in Dana Point Harbor

Constituent	**Dry Weather Final Effluent Limitation**	**Wet Weather Final Effluent Limitation**
Total Coliform	0.86×10^9 MPN/day	$3{,}254 \times 10^9$ MPN/30days
Fecal Coliform	0.17×10^9 MPN/day	112×10^9 MPN/30days
Enterococcus	0.03×10^9 MPN/day	114×10^9 MPN/30days

Table 5.4b
Final Effluent Limitations Expressed as Bacteria Loads in MS4 Discharges to the Shelter Island Shoreline Park in San Diego Bay

Constituent	**Dry Weather Final Effluent Limitation**	**Wet Weather Final Effluent Limitation**
Total Coliform	0 MPN/day	198×10^9 MPN/30days
Fecal Coliform	0 MPN/day	8×10^9 MPN/30days
Enterococcus	0 MPN/day	26×10^9 MPN/30days

(iii) Indicator bacteria percent load reductions from the Responsible Copermittees' MS4s that are greater than or equal to the following effluent limitations by the compliance dates under Specific Provision 5.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 5.b.(2)(a):

Table 5.5a
Final Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to Baby Beach in Dana Point Harbor*

Constituent	Dry Weather Final Effluent Limitation	Wet Weather Final Effluent Limitation
Total Coliform	90.4%	0%
Fecal Coliform	82.7%	0%
Enterococcus	96.2%	62.2%

Notes:
* The percent load reductions are relative to data collected between 1996-2002. For pollutant load reductions of 0%, pollutant loads discharged from the Responsible Copermittees' MS4s must not exceed the loads in Table 5.4a, unless an updated model or analysis, accepted by the San Diego Water Board, identifies a different allowable pollutant load that can be discharged from the Responsible Copermittee's MS4s to the water body.

Table 5.5b
*Final Effluent Limitations Expressed as Percent Load Reductions** in MS4 Discharges to Shelter Island Shoreline Park in San Diego Bay*

Constituent	Dry Weather Final Effluent Limitation	Wet Weather Final Effluent Limitation
Total Coliform	0%	0%
Fecal Coliform	0%	0%
Enterococcus	0%	0%

Notes:
* The percent load reductions are relative to data collected between 1999-2004. For pollutant load reductions of 0%, pollutant loads discharged from the Responsible Copermittee's MS4s must not exceed the loads in Table 5.4b, unless an updated model or analysis, accepted by the San Diego Water Board, identifies a different allowable pollutant load that can be discharged from the Responsible Copermittee's MS4s to the water body.

(c) Best Management Practices

(i) The Water Quality Improvement Plans for the applicable Watershed Management Areas in Table 5.0 must incorporate the Bacteria Load Reduction Plan (BLRP) required to be developed pursuant to Resolution No. R9-2008-0027.

(ii) The Responsible Copermittee must implement BMPs to achieve the receiving water limitations under Specific Provision 5.b.(2)(a) and/or the effluent limitations under Specific Provision 5.b.(2)(b) for the segments or areas of the water bodies listed in Table 5.0

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 5.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR

(d) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the final effluent limitations under Specific Provision 5.b.(2)(b)(ii); OR

(e) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 5.b.(2)(b)(iii); OR

(f) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(g) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 5.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 5.b.(2)(c) achieves compliance with Specific Provisions 5.b.(3)(a), 5.b.(3)(b), 5.b.(3)(c), 5.b.(3)(d), 5.b.(3)(e) and/or 5.b.(3)(f),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 5.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 5.d, to demonstrate compliance with Specific Provisions 5.b.(3)(a), 5.b.(3)(b), 5.b.(3)(c), 5.b.(3)(d), 5.b.(3)(e) and/or 5.b.(3)(f).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim indicator bacteria TMDL compliance requirements for segments or areas of the water bodies listed in Table 5.0 consist of the following:

(1) Baby Beach in Dana Point Harbor

(a) Interim TMDL Compliance Dates and WQBELs

The Responsible Copermittees for MS4 discharges to Baby Beach must comply with the following interim WQBELs by the interim compliance dates given in Tables 5.6a and/or 5.6b:

Table 5.6a
Interim Water Quality Based Effluent Limitations Expressed as Bacteria Loads in MS4 Discharges to Baby Beach in Dana Point Harbor

Constituent	Interim Compliance Dates	Dry Weather Interim Effluent Limitation	Wet Weather Interim Effluent Limitation
Total Coliform	September 15, 2012	4.93×10^9 MPN/day	$3{,}254 \times 10^9$ MPN/30days*
Fecal Coliform	September 15, 2012	0.59×10^9 MPN/day	112×10^9 MPN/30days*
Enterococcus	September 15, 2012	0.42×10^9 MPN/day	301×10^9 MPN/30days
	September 15, 2016	0.03×10^9 MPN/day *	207×10^9 MPN/30days

Notes:
* Same as the final effluent limitations in Table 5.4a.

Table 5.6b
Interim Water Quality Based Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to Baby Beach in Dana Point Harbor*

Constituent	Interim Compliance Dates	Dry Weather Interim Effluent Limitation	Wet Weather Interim Effluent Limitation
Total Coliform	September 15, 2012	45.2%	0%**
Fecal Coliform	September 15, 2012	41.4%	0%**
Enterococcus	September 15, 2012	48.1%	0%
	September 15, 2016	96.2%**	31.1%

Notes:
* The percent load reductions are relative to data collected between 1996-2002. For pollutant load reductions of 0%, pollutant loads discharged from the Responsible Copermittees' MS4s must not exceed the loads in Table 5.6a, unless an updated model or analysis, accepted by the San Diego Water Board, identifies a different allowable pollutant load that can be discharged from the Responsible Copermittee's MS4s to the waterbody.
** Same as the final effluent limitations in Table 5.5a.

(b) Interim Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

(i) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(ii) There are no exceedances of the final receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(iii) There are no exceedances of the final effluent limitations under Specific Provision 5.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR

(iv) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the final effluent limitations under Specific Provision 5.b(2)(b)(ii); OR

(v) The Responsible Copermittees can demonstrate that exceedances of the applicable receiving water limitations under Specific Provision 5.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(vi) The pollutant loads discharging from the Responsible Copermittees' MS4 outfalls do not exceed the interim effluent limitations under Table 5.6a of Specific Provision 5.c.(1)(a); OR

(vii) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the interim effluent limitations under Table 5.6b of Specific Provision 5.c.(1)(a); OR

(viii) The Responsible Copermittees have submitted and are fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates.

(2) Shelter Island Shoreline Park in San Diego Bay

The Responsible Copermittee for MS4 discharges to Shelter Island Shoreline Park must be in compliance with the final indicator bacteria TMDL requirements as of December 31, 2012.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) Monitoring Stations

Monitoring locations should consist of, at a minimum, the same locations used to collect data required pursuant to Order Nos. R9-2007-0001 and R9-2009-0002, and beach monitoring for Health and Safety Code section 115880.[38] If discharges of bacteria from the MS4 exceed the applicable interim or final WQBELs, additional monitoring locations and/or other source identification methods must be implemented to identify the sources causing the exceedances. The additional monitoring locations must also be used to demonstrate that the bacteria loads from the identified anthropogenic sources have been addressed and are no longer causing exceedances in the receiving waters.

(2) Monitoring Procedures

(a) The Responsible Copermittees must collect dry weather monitoring samples from the receiving water monitoring stations at least monthly. Dry weather samples collected from additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified anthropogenic sources have been addressed and are no longer causing exceedances in the receiving waters.

(b) The Responsible Copermittees must collect wet weather monitoring samples within the first 24 hours of a storm event[39] of the rainy season (i.e. October 1 through April 30). Wet weather samples collected from receiving water stations and any additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified sources have been addressed and are no longer causing exceedances in the receiving waters.

(c) Samples must be analyzed for total coliform, fecal coliform, and *Enterococcus* indicator bacteria.

[38] Commonly referred to as AB 411 monitoring
[39] Wet weather days are defined by the TMDL as storm events of 0.2 inches or greater and the following 72 hours. The Responsible Copermittees may choose to limit their wet weather sampling requirements to storm events of 0.2 inches or greater, or also include storm events of 0.1 inches or greater as defined by the federal regulations [40CFR122.26(d)(2)(iii)(A)(2)].

(3) Assessment and Reporting Requirements

(a) The Responsible Copermittees must analyze the dry weather and wet weather monitoring data to assess whether the interim and final WQBELs have been achieved.

(b) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 5.b.(2)(b)(i), dry and wet weather discharge bacteria densities may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

(c) The Responsible Copermittees must analyze the dry weather and wet weather monitoring data to correlate elevated bacteria levels with known or suspected sewage spills from wastewater collection systems and treatment plants or boats.

(d) The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

6. Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2010-0001

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	February 10, 2010
State Water Board Approval Date:	December 14, 2010
Office of Administrative Law Approval Date:	April 4, 2011
US EPA Approval Date:	June 22, 2011

(3) TMDL Effective Date: April 4, 2011

(4) Watershed Management Areas: See Table 6.0

(5) Water Bodies: See Table 6.0

(6) Responsible Copermittees: See Table 6.0

Table 6.0
Applicability of Total Maximum Daily Loads for Indicator Bacteria
Project I - Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
South Orange County San Joaquin Hills HSA (901.11) and Laguna Beach HSA (901.12)	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Drive – Riviera Way	-City of Laguna Beach -County of Orange -Orange County Flood Control District
		at Heisler Park - North	
	Pacific Ocean Shoreline	at Main Laguna Beach	-City of Aliso Viejo -City of Laguna Beach -City of Laguna Woods -County of Orange -Orange County Flood Control District
		Laguna Beach at Ocean Avenue	
		Laguna Beach at Cleo Street	
		Arch Cove at Bluebird Canyon Road	
		Laguna Beach at Dumond Drive	
South Orange County Aliso HSA (901.13)	Pacific Ocean Shoreline	Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach	-City of Aliso Viejo -City of Laguna Beach -City of Laguna Hills -City of Laguna Niguel -City of Laguna Woods -City of Lake Forest -City of Mission Viejo -County of Orange -Orange County Flood Control District
	Aliso Creek	Entire reach (7.2 miles) and associated tributaries: - Aliso Hills Channel - English Canyon Creek - Dairy Fork Creek - Sulfur Creek - Wood Canyon Creek	
	Aliso Creek Mouth	at mouth	

Table 6.0 (Cont'd)
Applicability of Total Maximum Daily Loads for Indicator Bacteria
Project I - Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
South Orange County Dana Point HSA (901.14)	Pacific Ocean Shoreline	Aliso Beach at West Street	-City of Dana Point -City of Laguna Beach -City of Laguna Niguel -County of Orange -Orange County Flood Control District
		Aliso Beach at Table Rock Drive	
		100 Steps Beach at Pacific Coast Hwy at hospital (9th Avenue)	
		at Salt Creek (large outlet)	
		Salt Creek Beach at Salt Creek service road	
		Salt Creek Beach at Strand Road	
South Orange County Lower San Juan HSA (901.27)	Pacific Ocean Shoreline	at San Juan Creek	-City of Dana Point -City of Laguna Hills -City of Laguna Niguel -City of Mission Viejo -City of Rancho Santa Margarita -City of San Juan Capistrano -County of Orange -Orange County Flood Control District
	San Juan Creek	lower 1 mile	
	San Juan Creek Mouth	at mouth	
South Orange County San Clemente HA (901.30)	Pacific Ocean Shoreline	at Poche Beach	-City of Dana Point -City of San Clemente -County of Orange -Orange County Flood Control District
		Ole Hanson Beach Club Beach at Pico Drain	
		San Clemente City Beach at El Portal Street Stairs	
		San Clemente City Beach at Mariposa Street	
		San Clemente City Beach at Linda Lane	
		San Clemente City Beach at South Linda Lane	
		San Clemente City Beach at Lifeguard Headquarters	
		under San Clemente Municipal Pier	
		San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)	
		San Clemente State Beach at Riviera Beach	
		Can Clemente State Beach at Cypress Shores	

Table 6.0 (Cont'd)
Applicability of Total Maximum Daily Loads for Indicator Bacteria
Project I - Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
San Luis Rey River San Luis Rey HU (903.00)	Pacific Ocean Shoreline	at San Luis Rey River mouth	-City of Oceanside -City of Vista -County of San Diego
Carlsbad San Marcos HA (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach	-City of Carlsbad -City of Encinitas -City of Escondido -City of San Marcos -County of San Diego
San Dieguito River San Dieguito HU (905.00)	Pacific Ocean Shoreline	at San Dieguito Lagoon mouth	-City of Del Mar -City of Escondido -City of Poway -City of San Diego -City of Solana Beach -County of San Diego
Penasquitos Miramar Reservoir HA (906.10)	Pacific Ocean Shoreline	Torrey Pines State Beach at Del Mar (Anderson Canyon)	-City of Del Mar -City of Poway -City of San Diego -County of San Diego
Mission Bay Scripps HA (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at El Paseo Grande	-City of San Diego
		La Jolla Shores Beach at Caminito del Oro	
		La Jolla Shores Beach at Vallecitos	
		La Jolla Shores Beach at Avenida de la Playa	
		at Casa Beach, Children's Pool	
		South Casa Beach at Coast Boulevard	
		Whispering Sands Beach at Ravina Street	
		Windansea Beach at Vista de la Playa	
		Windansea Beach at Bonair Street	
		Windansea Beach at Playa del Norte	
		Windansea Beach at Palomar Avenue	
		at Tourmaline Surf Park	
		Pacific Beach at Grand Avenue	
Mission Bay Tecolote HA (906.50)	Tecolote Creek	Entire reach and tributaries	

Table 6.0 (Cont'd)
Applicability of Total Maximum Daily Loads for Indicator Bacteria
Project I- Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)

Watershed Management Area and Watershed	Water Body	Segment or Area	Responsible Copermittees
San Diego River Mission San Diego HSA (907.11) and Santee HSA (907.12)	Forrester Creek	lower 1 mile	-City of El Cajon -City of Santee -County of San Diego
	San Diego River	lower 6 miles	-City of El Cajon -City of La Mesa -City of San Diego -City of Santee -County of San Diego
	Pacific Ocean Shoreline	at San Diego River mouth at Dog Beach	
San Diego Bay Chollas HSA (908.22)	Chollas Creek	lower 1.2 miles	-City of La Mesa -City of Lemon Grove -City of San Diego -County of San Diego - San Diego Unified Port District

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final indicator bacteria TMDL compliance requirements for the water bodies listed in Table 6.0 consist of the following:

(1) Final TMDL Compliance Dates

The Responsible Copermittees for MS4 discharges to the water bodies listed in Table 6.0 must be in compliance with the final TMDL compliance requirements according to the following compliance dates:

Table 6.1
Compliance Dates to Achieve Final TMDL Compliance Requirements

Constituent	Dry Weather TMDL Compliance Date	Wet Weather TMDL Compliance Date*
Total Coliform	April 4, 2021	April 4, 2031 (April 4, 2021)
Fecal Coliform		
Enterococcus		

* The Wet Weather TMDL Compliance Date in parenthesis applies if the applicable Water Quality Improvement Plan does not include load reduction programs for other constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with bacteria load reduction requirements of these TMDLs.

(2) Final Water Quality Based Effluent Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not cause or contribute to the exceedance of the following receiving water limitations by the compliance dates under Specific Provision 6.b.(1):

Table 6.2a
Final Receiving Water Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies for Beaches

Constituent	Wet Weather Days		Dry Weather Days	
	Single Sample Maximum[a,b] (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency[c]	30-Day Geometric Mean[b] (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Total Coliform	10,000	22%	1,000	0%
Fecal Coliform	400	22%	200	0%
Enterococcus	104	22%	35	0%

Notes:
a. During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
b. During dry weather days, the single sample maximum and 30-day geometric mean receiving water limitations are required to be achieved.
c. The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. For dry weather days, the dry weather bacteria densities must be consistent with the single sample maximum REC-1 water quality objectives in the Ocean Plan.

Table 6.2b
Final Receiving Water Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies for Creeks

Constituent	Wet Weather Days		Dry Weather Days	
	Single Sample Maximum[a,b] (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency[c]	30-Day Geometric Mean[b] (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Fecal Coliform	400	22%	200	0%
Enterococcus	61 (104)	22%	33	0%

Notes:
a. During wet weather days, only the single sample maximum receiving water limitations are required to be achieved.
b. During dry weather days, the single sample maximum and 30-day geometric mean receiving water limitations are required to be achieved.
c. The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. For dry weather days, the dry weather bacteria densities must be consistent with the single sample maximum REC-1 water quality objectives in the Basin Plan.
d. A single sample maximum of 104 MPN/100ml for *Enterococcus* may be applied as a receiving water limitation for creeks, instead of 61 MPN/100mL, if one or more of the creeks addressed by these TMDLs (San Juan Creek, Aliso Creek, Tecolote Creek, Forrester Creek, San Diego River, and/or Chollas Creek) is designated with a "moderately to lightly used area" or less frequent usage frequency in the Basin Plan. Otherwise, the single sample maximum of 61 MPN/100mL for *Enterococcus* must be used to assess compliance with the allowable exceedance frequency.

(b) Final Effluent Limitations

(i) Discharges from the MS4s containing indicator bacteria densities that do not exceed the following effluent limitations by the compliance dates under Specific Provision 6.c.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 6.b.(2)(a):

Table 6.2c
Final Effluent Limitations Expressed as Bacteria Densities and Allowable Exceedance Frequencies in MS4 Discharges to the Water Body

Constituent	Concentration-Based Effluent Limitations			
	Single Sample Maximum[a,b] (MPN/100mL)	Single Sample Maximum Allowable Exceedance Frequency[c]	30-Day Geometric Mean[b] (MPN/100mL)	30-Day Geometric Mean Allowable Exceedance Frequency
Total Coliform[d]	10,000	22%	1,000	0%
Fecal Coliform	400	22%	200	0%
Enterococcus	104[e] / 61[f]	22%	35[e] / 33[f]	0%

Notes:
a. During wet weather days, only the single sample maximum effluent limitations are required to be achieved.
b. During dry weather days, the single sample maximum and 30-day geometric mean effluent limitations are required to be achieved.
c. The 22% single sample maximum allowable exceedance frequency only applies to wet weather days. For dry weather days, the dry weather bacteria densities must be consistent with the single sample maximum REC-1 water quality objectives in the Ocean Plan for discharges to beaches, and the Basin Plan for discharges to creeks and creek mouths.
d. Total coliform effluent limitations only apply to MS4 outfalls that discharge to the Pacific Ocean Shorelines and creek mouths listed in Table 6.0.
e. This *Enterococcus* effluent limitation applies to MS4 discharges to segments of areas of Pacific Ocean Shoreline listed in Table 6.0.
f. This *Enterococcus* effluent limitation applies to MS4 discharges to segments or areas of creeks or creek mouths listed in Table 6.0.

(ii) Indicator bacteria percent load reductions from the Responsible Copermittees' MS4s that are greater than or equal to the following effluent limitations by the compliance dates under Specific Provision 6.b.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 6.b.(2)(a):

Table 6.3
Final Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to the Water Body*

Watershed Management Areas	Watershed and Water Bodies	Load-Based Effluent Limitations					
		Dry Weather			Wet Weather		
		Total Coliform	Fecal Coliform	Entero-coccus	Total Coliform	Fecal Coliform	Entero-coccus
South Orange County	**San Joaquin Hills HSA** (901.11) and **Laguna Hills HSA** (901.12) - Pacific Ocean Shoreline	91.78%	91.72%	98.28%	46.85%	52.07%	51.26%
	Aliso HSA (901.13) - Pacific Ocean Shoreline - Aliso Creek - Aliso Creek mouth	95.47%	95.58%	99.13%	25.29%	26.62%	27.52% (27.37%)**
	Dana Point HSA (901.14) - Pacific Ocean Shoreline	95.04%	95.03%	98.98%	13.15%	14.86%	15.16%
	Lower San Juan HSA (901.27) - Pacific Ocean Shoreline - San Juan Creek - San Juan Creek mouth	72.96%	74.21%	94.94%	19.21%	12.82%	27.12% (26.90%)**
	San Clemente HA (901.30) - Pacific Ocean Shoreline	94.28%	94.23%	98.83%	23.85%	24.58%	25.26%
San Luis Rey River	**San Luis Rey HU** (903.00) - Pacific Ocean Shoreline	38.13%	39.09%	87.38%	5.62%	3.12%	11.69%

Table 6.3 (Cont'd)
Final Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to the Water Body*

Watershed Management Areas	Watershed and Water Bodies	Load-Based Effluent Limitations					
		Dry Weather			Wet Weather		
		Total Coliform	Fecal Coliform	Entero-coccus	Total Coliform	Fecal Coliform	Entero-coccus
Carlsbad	**San Marcos HA** (904.50) - Pacific Ocean Shoreline	82.82%	82.55%	96.03%	18.47%	18.98%	20.19%
San Dieguito River	**San Dieguito HU** (905.00) - Pacific Ocean Shoreline	14.39%	20.72%	83.48%	4.29%	1.46%	7.72%
Penasquitos	**Miramar Reservoir HA** (906.10) - Pacific Ocean Shoreline	96.50%	96.59%	99.42%	1.61%	1.99%	1.93%
Mission Bay	**Scripps HA** (906.30) - Pacific Ocean Shoreline	96.44%	96.42%	99.25%	16.32%	21.14%	18.82%
	Tecolote HA (906.50) - Tecolote Creek	94.51%	94.59%	98.94%	16.51%	20.47%	18.15% (18.08%)**
San Diego River	**Mission San Diego HSA** (907.11) and **Santee HSA** (907.12) - Pacific Ocean Shoreline - Forrester Creek (lower 1 mile) - San Diego River (lower 6 miles)	74.03%	69.44%	93.96%	38.14%	53.22%	42.74% (42.47%)**
San Diego Bay	**Chollas HSA** (908.22) - Chollas Creek	92.06%	92.15%	98.46%	17.82%	24.84%	21.46% (21.36%)**

Notes:
* The percent load reductions are based on reducing loads compared to pollutant loads from 2001 to 2002.
** The alternative *Enterococcus* percent load reduction was calculated based on a numeric target of 104 MPN/100mL instead of 61 MPN/100mL, protective of the REC-1 "moderately to lightly used area" usage frequency that is protective of freshwater creeks and downstream beaches. Acceptable evidence that impaired freshwater creeks can be considered "moderately to lightly used areas" must be provided before these alternative pollutant load reductions can be utilized.

(c) Best Management Practices

(i) The Water Quality Improvement Plans for the applicable Watershed Management Areas in Table 6.0 must incorporate the Bacteria Load Reduction Plans (BLRPs) or Comprehensive Load Reduction Plans (CLRPs) required to be developed pursuant to Resolution No. R9-2010-0001.

(ii) The Responsible Copermittee must implement BMPs to achieve the receiving water limitations under Specific Provision 6.b.(2)(a) and/or the effluent limitations under Specific Provision 6.b.(2)(b) for the segments or areas of the water bodies listed in Table 6.0.

(iii) The Responsible Copermittees should coordinate any BMPs implemented to address this TMDL with Caltrans, owners/operators of small MS4s, and agricultural dischargers as possible.

(3) Final TMDL Compliance Determination

Compliance with the final WQBELs, on or after the final TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 6.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR

(d) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 6.b.(2)(b)(ii); OR

(e) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(f) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 6.b.(2)(c) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 6.b.(2)(c) achieves compliance with Specific Provisions 6.b.(3)(a), 6.b.(3)(b), 6.b.(3)(c), 6.b.(3)(d), and/or 6.b.(3)(e),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 6.b.(2)(c), AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 6.d, to demonstrate compliance with Specific Provisions 6.b.(3)(a), 6.b.(3)(b), 6.b.(3)(c), 6.b.(3)(d), 6.b.(3)(e) and/or 6.b.(3)(f).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim indicator bacteria TMDL compliance requirements for the water bodies listed in Table 6.0 consist of the following:

(1) Interim TMDL Compliance Dates

The Responsible Copermittees must achieve compliance with the interim TMDL compliance requirements, as determined in accordance with Specific Provision 6.c.(3), by the interim compliance dates given in Table 6.4, unless alternative interim compliance dates are accepted by the San Diego Water Board Executive Officer as part of the Water Quality Improvement Plan.

Table 6.4
Interim Compliance Dates to Achieve Interim TMDL Compliance Requirements

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Compliance Dates	
			Interim Dry Weather WQBELs	Interim Wet Weather WQBELs*
South Orange County San Joaquin Hills HSA (901.11) and Laguna Beach HSA (901.12)	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Drive – Riviera Way	April 4, 2016	April 4, 2021 (April 4, 2016)
		at Heisler Park - North		
		at Main Laguna Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
		Laguna Beach at Ocean Avenue		
		Laguna Beach at Cleo Street		
		Arch Cove at Bluebird Canyon Road		
		Laguna Beach at Dumond Drive		
South Orange County Aliso HSA (901.13)	Pacific Ocean Shoreline	Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
	Aliso Creek	Entire reach (7.2 miles) and associated tributaries: - Aliso Hills Channel - English Canyon Creek - Dairy Fork Creek - Sulfur Creek - Wood Canyon Creek	April 4, 2018	April 4, 2021 (April 4, 2018)
	Aliso Creek Mouth	at mouth	April 4, 2018	April 4, 2021 (April 4, 2018)
South Orange County Dana Point HSA (901.14)	Pacific Ocean Shoreline	Aliso Beach at West Street	April 4, 2016	April 4, 2021 (April 4, 2016)
		Aliso Beach at Table Rock Drive		
		100 Steps Beach at Pacific Coast Hwy at hospital (9th Avenue)		
		at Salt Creek (large outlet)		
		Salt Creek Beach at Salt Creek service road	April 4, 2017	April 4, 2021 (April 4, 2017)
		Salt Creek Beach at Strand Road	April 4, 2017	April 4, 2021 (April 4, 2017)

Table 6.4 (Cont'd)
Interim Compliance Dates to Achieve Interim WQBELs

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Compliance Dates	
			Interim Dry Weather WQBELs	Interim Wet Weather WQBELs*
South Orange County Lower San Juan HSA (901.27)	Pacific Ocean Shoreline	at San Juan Creek	April 4, 2016	April 4, 2021 (April 4, 2016)
	San Juan Creek	lower 1 mile	April 4, 2018	April 4, 2021 (April 4, 2018)
	San Juan Creek Mouth	at mouth	April 4, 2016	April 4, 2021 (April 4, 2016)
South Orange County San Clemente HA (901.30)	Pacific Ocean Shoreline	at Poche Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
		Ole Hanson Beach Club Beach at Pico Drain	April 4, 2016	April 4, 2021 (April 4, 2016)
		San Clemente City Beach at El Portal Street Stairs	April 4, 2017	April 4, 2021 (April 4, 2017)
		San Clemente City Beach at Mariposa Street		
		San Clemente City Beach at Linda Lane	April 4, 2016	April 4, 2021 (April 4, 2016)
		San Clemente City Beach at South Linda Lane	April 4, 2018	April 4, 2021 (April 4, 2018)
		San Clemente City Beach at Lifeguard Headquarters	April 4, 2017	April 4, 2021 (April 4, 2017)
		under San Clemente Municipal Pier		
		San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)	April 4, 2018	April 4, 2021 (April 4, 2018)
		San Clemente State Beach at Riviera Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
		Can Clemente State Beach at Cypress Shores	April 4, 2017	April 4, 2021 (April 4, 2017)
San Luis Rey River San Luis Rey HU (903.00)	Pacific Ocean Shoreline	at San Luis Rey River mouth	April 4, 2017	April 4, 2021 (April 4, 2017)
Carlsbad San Marcos HA (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach	April 4, 2016	April 4, 2021 (April 4, 2016)
San Dieguito River San Dieguito HU (905.00)	Pacific Ocean Shoreline	at San Dieguito Lagoon mouth	April 4, 2016	April 4, 2021 (April 4, 2016)

Table 6.4 (Cont'd)
Interim Compliance Dates to Achieve Interim WQBELs

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Compliance Dates	
			Interim Dry Weather WQBELs	Interim Wet Weather WQBELs*
Penasquitos Miramar Reservoir HA (906.10)	Pacific Ocean Shoreline	Torrey Pines State Beach at Del Mar (Anderson Canyon)	April 4, 2016	April 4, 2021 (April 4, 2016)
Mission Bay Scripps HA (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at El Paseo Grande	April 4, 2016	April 4, 2021 (April 4, 2016)
		La Jolla Shores Beach at Caminito del Oro		
		La Jolla Shores Beach at Vallecitos		
		La Jolla Shores Beach at Avenida de la Playa		
		at Casa Beach, Children's Pool		
		South Casa Beach at Coast Boulevard		
		Whispering Sands Beach at Ravina Street		
		Windansea Beach at Vista de la Playa		
		Windansea Beach at Bonair Street		
		Windansea Beach at Playa del Norte		
		Windansea Beach at Palomar Avenue		
		at Tourmaline Surf Park		
		Pacific Beach at Grand Avenue		
Mission Bay Tecolote HA (906.50)	Tecolote Creek	Entire reach and tributaries		
San Diego River Mission San Diego HSA (907.11) and Santee HSA (907.12)	Forrester Creek	lower 1 mile	April 4, 2018	April 4, 2021 (April 4, 2018)
	San Diego River	lower 6 miles		
	Pacific Ocean Shoreline	at San Diego River mouth at Dog Beach		
San Diego Bay Chollas HSA (908.22)	Chollas Creek	lower 1.2 miles	April 4, 2018	April 4, 2021 (April 4, 2018)

* The Interim Compliance Dates to achieve the Interim Wet Weather WQBELs in parenthesis apply if the applicable Water Quality Improvement Plan does not include load reduction programs for other constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with bacteria load reduction requirements of these TMDLs.

(2) Interim Water Quality Based Effluent Limitations

The Responsible Copermittees for discharges to the water bodies in Table 6.0 must comply with the following interim WQBELs by the interim compliance dates given in Specific Provision 6.c.(1):

(a) Interim Receiving Water Limitations

(i) *Interim Dry Weather Receiving Water Limitations*

The Responsible Copermittee must calculate the "existing" exceedance frequencies of the 30-day geometric mean water quality objectives for each of the indicator bacteria by analyzing the available monitoring data collected between January 1, 1996 and December 31, 2002. "Existing" exceedance frequencies may be calculated by water body and/or by Watershed Management Area listed in Table 6.0. Separate "existing" exceedance frequencies must be calculated for beaches and creeks/creek mouths.

The Responsible Copermittees must achieve a 50 percent reduction in the "existing" exceedance frequency of the 30-day geometric mean WQBELs for the water bodies listed in Table 6.0 by the interim compliance dates given in Table 6.4. A 50 percent reduction in the "existing" exceedance frequency is equivalent to half of the "existing" exceedance frequency of the 30-day geometric mean WQBELs.

The "existing" exceedance frequencies and the interim dry weather allowable exceedance frequencies (i.e. interim dry weather receiving water limitations) calculated by the Responsible Copermittees must be included in the Water Quality Improvement Plans for the applicable Watershed Management Areas.

(ii) *Interim Wet Weather Receiving Water Limitations*

The Responsible Copermittees must achieve the interim wet weather receiving water limitations in Table 6.5, expressed as interim wet weather allowable exceedance frequencies, by the interim compliance dates given in Table 6.4.

Table 6.5
Interim Wet Weather Receiving Water Limitations Expressed as Interim Wet Weather Allowable Exceedance Frequencies

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Wet Weather Allowable Exceedance Frequencies		
			Total Coliform	Fecal Coliform	*Entero-coccus*
South Orange County San Joaquin Hills HSA (901.11) and Laguna Beach HSA (901.12)	Pacific Ocean Shoreline	Cameo Cove at Irvine Cove Drive – Riviera Way	38%	37%	39%
		at Heisler Park - North			
	Pacific Ocean Shoreline	at Main Laguna Beach			
		Laguna Beach at Ocean Avenue			
		Laguna Beach at Cleo Street			
		Arch Cove at Bluebird Canyon Road			
		Laguna Beach at Dumond Drive			
South Orange County Aliso HSA (901.13)	Pacific Ocean Shoreline	Laguna Beach at Lagunita Place / Blue Lagoon Place at Aliso Beach	41%	41%	42%
	Aliso Creek	Entire reach (7.2 miles) and associated tributaries: - Aliso Hills Channel - English Canyon Creek - Dairy Fork Creek - Sulfur Creek - Wood Canyon Creek	41%	41%	42%
	Aliso Creek Mouth	at mouth	41%	41%	42%
South Orange County Dana Point HSA (901.14)	Pacific Ocean Shoreline	Aliso Beach at West Street	36%	36%	36%
		Aliso Beach at Table Rock Drive			
		100 Steps Beach at Pacific Coast Hwy at hospital (9th Avenue)			
		at Salt Creek (large outlet)			
		Salt Creek Beach at Salt Creek service road			
		Salt Creek Beach at Strand Road			

Table 6.5 (Cont'd)
Interim Wet Weather Receiving Water Limitations Expressed as Interim Wet Weather Allowable Exceedance Frequencies

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Wet Weather Allowable Exceedance Frequencies		
			Total Coliform	Fecal Coliform	*Entero-coccus*
South Orange County Lower San Juan HSA (901.27)	Pacific Ocean Shoreline	at San Juan Creek	44%	44%	48%
	San Juan Creek	lower 1 mile	44%	44%	47%
	San Juan Creek Mouth	at mouth	44%	44%	47%
South Orange County San Clemente HA (901.30)	Pacific Ocean Shoreline	at Poche Beach	35%	35%	36%
		Ole Hanson Beach Club Beach at Pico Drain			
		San Clemente City Beach at El Portal Street Stairs			
		San Clemente City Beach at Mariposa Street			
		San Clemente City Beach at Linda Lane			
		San Clemente City Beach at South Linda Lane			
		San Clemente City Beach at Lifeguard Headquarters			
		under San Clemente Municipal Pier			
		San Clemente City Beach at Trafalgar Canyon (Trafalgar Lane)			
		San Clemente State Beach at Riviera Beach			
		Can Clemente State Beach at Cypress Shores			
San Luis Rey River San Luis Rey HU (903.00)	Pacific Ocean Shoreline	at San Luis Rey River mouth	45%	44%	47%
Carlsbad San Marcos HA (904.50)	Pacific Ocean Shoreline	at Moonlight State Beach	40%	40%	41%
San Dieguito River San Dieguito HU (905.00)	Pacific Ocean Shoreline	at San Dieguito Lagoon mouth	33%	33%	36%

Table 6.5 (Cont'd)
Interim Wet Weather Receiving Water Limitations Expressed as Interim Wet Weather Allowable Exceedance Frequencies

Watershed Management Area and Watershed	Water Body	Segment or Area	Interim Wet Weather Allowable Exceedance Frequencies		
			Total Coliform	Fecal Coliform	*Entero-coccus*
Penasquitos Miramar Reservoir HA (906.10)	Pacific Ocean Shoreline	Torrey Pines State Beach at Del Mar (Anderson Canyon)	26%	26%	26%
Mission Bay Scripps HA (906.30)	Pacific Ocean Shoreline	La Jolla Shores Beach at El Paseo Grande	37%	37%	37%
		La Jolla Shores Beach at Caminito del Oro			
		La Jolla Shores Beach at Vallecitos			
		La Jolla Shores Beach at Avenida de la Playa			
		at Casa Beach, Children's Pool			
		South Casa Beach at Coast Boulevard			
		Whispering Sands Beach at Ravina Street			
		Windansea Beach at Vista de la Playa			
		Windansea Beach at Bonair Street			
		Windansea Beach at Playa del Norte			
		Windansea Beach at Palomar Avenue			
		at Tourmaline Surf Park			
		Pacific Beach at Grand Avenue			
Mission Bay Tecolote HA (906.50)	Tecolote Creek	Entire reach and tributaries	49%	49%	51%
San Diego River Mission San Diego HSA (907.11) and Santee HSA (907.12)	Forrester Creek	lower 1 mile	46%	43%	49%
	San Diego River	lower 6 miles	46%	43%	49%
	Pacific Ocean Shoreline	at San Diego River mouth at Dog Beach	46%	43%	51%
San Diego Bay Chollas HSA (908.22)	Chollas Creek	lower 1.2 miles	41%	41%	43%

(b) Interim Effluent Limitations

Indicator bacteria percent load reductions from the Responsible Copermittees' MS4s that are greater than or equal to the following effluent limitations by the interim compliance dates under Specific Provision 6.c.(1) will not cause or contribute to exceedances of the receiving water limitations under Specific Provision 6.c.(2)(a):

Table 6.6
Interim Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to the Water Body*

Watershed Management Areas	*Watersheds and Water Bodies*	*Load-Based Effluent Limitations*					
		Dry Weather			*Wet Weather*		
		Total Coliform	*Fecal Coliform*	*Entero-coccus*	*Total Coliform*	*Fecal Coliform*	*Entero-coccus*
South Orange County	**San Joaquin Hills HSA** (901.11) and **Laguna Hills HSA** (901.12) - Pacific Ocean Shoreline	45.89%	45.86%	49.14%	23.43%	26.04%	25.63%
	Aliso HSA (901.13) - Pacific Ocean Shoreline - Aliso Creek - Aliso Creek mouth	47.74%	47.79%	49.57%	12.65%	13.31%	13.76% (13.69%)**
	Dana Point HSA (901.14) - Pacific Ocean Shoreline	47.52%	47.52%	49.49%	6.58%	7.43%	7.58%
	Lower San Juan HSA (901.27) - Pacific Ocean Shoreline - San Juan Creek - San Juan Creek mouth	36.48%	37.11%	47.47%	9.61%	6.41%	13.56% (13.45%)**
	San Clemente HA (901.30) - Pacific Ocean Shoreline	47.14%	47.12%	49.42%	11.93%	12.29%	12.63%
San Luis Rey River	**San Luis Rey HU** (903.00) - Pacific Ocean Shoreline	19.07%	19.55%	43.69%	2.81%	1.56%	5.85%
Carlsbad	**San Marcos HA** (904.50) - Pacific Ocean Shoreline	41.41%	41.28%	48.02%	9.24%	9.49%	10.10%

Table 6.6 (Cont'd)
Interim Effluent Limitations Expressed as Percent Load Reductions in MS4 Discharges to the Water Body*

Watershed Management Areas	Watersheds and Water Bodies	Load-Based Effluent Limitations					
		Dry Weather			Wet Weather		
		Total Coliform	Fecal Coliform	Entero-coccus	Total Coliform	Fecal Coliform	Entero-coccus
San Dieguito River	**San Dieguito HU** (905.00) - Pacific Ocean Shoreline	7.20%	10.36%	41.74%	2.15%	0.73%	3.86%
Penasquitos	**Miramar Reservoir HA** (906.10) - Pacific Ocean Shoreline	48.25%	48.30%	49.71%	0.81%	1.00%	0.97%
Mission Bay	**Scripps HA** (906.30) - Pacific Ocean Shoreline	48.22%	48.21%	49.63%	8.16%	10.57%	9.41%
	Tecolote HA (906.50) - Tecolote Creek	47.26%	47.30%	49.47%	8.26%	10.24%	9.08% (9.04%)**
San Diego River	**Mission San Diego HSA** (907.11) and **Santee HSA** (907.12) - Pacific Ocean Shoreline - Forrester Creek (lower 1 mile) - San Diego River (lower 6 miles)	37.02%	34.72%	46.98%	19.07%	26.61%	21.37% (21.24%)**
San Diego Bay	**Chollas HSA** (908.22) - Chollas Creek	46.03%	46.08%	49.23%	8.91%	12.42%	10.73% (10.68%)**

Notes:
* The percent load reductions are based on reducing loads compared to pollutant loads from 2001 to 2002.
** The alternative *Enterococcus* percent load reduction was calculated based on a numeric target of 104 MPN/100mL instead of 61 MPN/100mL, protective of the REC-1 "moderately to lightly used area" usage frequency that is protective of freshwater creeks and downstream beaches. Acceptable evidence that impaired freshwater creeks can be considered "moderately to lightly used areas" must be provided before these alternative pollutant load reductions can be utilized.

(3) Interim TMDL Compliance Determination

Compliance with the interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) There are no exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water at, or downstream of the Responsible Copermittee's MS4 outfalls; OR

(c) There are no exceedances of the final effluent limitations under Specific Provision 6.b.(2)(b)(i) at the Responsible Copermittee's MS4 outfalls; OR

(d) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the final effluent limitations under Specific Provision 6.b.(2)(b)(ii); OR

(e) The Responsible Copermittees can demonstrate that exceedances of the final receiving water limitations under Specific Provision 6.b.(2)(a) in the receiving water are due to loads from natural sources, AND pollutant loads from the Copermittees' MS4s are not causing or contributing to the exceedances; OR

(f) There are no exceedances of the interim receiving water limitations under Specific Provision 6.c.(2)(a) in the receiving water at, or downstream of the Responsible Copermittees' MS4 outfalls; OR

(g) The pollutant load reductions for discharges from the Responsible Copermittees' MS4 outfalls are greater than or equal to the interim effluent limitations under Specific Provision 6.c.(2)(b); OR

(h) The Responsible Copermittees have submitted and are fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the interim TMDL compliance requirements will be achieved by the interim compliance dates.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) Monitoring and Assessment Requirements for Beaches

(a) Monitoring Stations

For beaches addressed by the TMDL, monitoring locations should consist of, at a minimum, the same locations used to collect data required pursuant to Order Nos. R9-2007-0001 and R9-2009-0002, and beach monitoring for Health and Safety Code section 115880.[40] If exceedances of the applicable interim or final receiving water limitations are observed in the monitoring data, additional monitoring locations and/or other source

[40] Commonly referred to as AB 411 monitoring

identification methods must be implemented to identify the sources causing the exceedances. The additional monitoring locations must also be used to demonstrate that the bacteria loads from the identified anthropogenic sources have been addressed and are no longer causing exceedances in the receiving waters.

(b) Monitoring Procedures

(i) The Responsible Copermittees must collect dry weather monitoring samples from the receiving water monitoring stations at least monthly. Dry weather samples collected from additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified sources have been addressed and are no longer causing exceedances in the receiving waters.

(ii) The Responsible Copermittees must collect wet weather monitoring samples from the receiving water monitoring stations at least once within the first 24 hours of the end of a storm event[41] during the rainy season (i.e. October 1 through April 30). Wet weather samples collected from receiving water stations and any additional monitoring stations established to identify sources must be collected at an appropriate frequency to demonstrate bacteria loads from the identified sources have been addressed and are no longer in exceedance of the allowable exceedance frequencies in the receiving waters.

(iii) Samples must be analyzed for total coliform, fecal coliform, and *Enterococcus* indicator bacteria.

(iv) For Pacific Ocean Shoreline segments or areas listed in Table 6.0 that have been de-listed from the Clean Water Act Section 303(d) List, the Responsible Copermittees may propose alternative monitoring procedures to demonstrate that the water bodies continue to remain in compliance with water quality standards under wet weather and dry weather conditions. The alternative monitoring procedures must be submitted as a part of the Water Quality Improvement Plans or any updates required under Provisions F.1 and F.2.c of the Order.

[41] Wet weather days are defined by the TMDL as storm events of 0.2 inches or greater and the following 72 hours. The Responsible Copermittees may choose to limit their wet weather sampling requirements to storm events of 0.2 inches or greater, or also include storm events of 0.1 inches or greater as defined by the federal regulations [40CFR122.26(d)(2)(iii)(A)(2)].

(c) Assessment and Reporting Requirements

(i) The Responsible Copermittees must analyze the dry weather and wet weather monitoring data to assess whether the interim and final WQBELs for the Pacific Ocean Shoreline segments or areas listed in Table 6.0 have been achieved.

(ii) Dry weather exceedance frequencies must be calculated as follows:

[a] 30-day geometric means must be calculated from the results of any dry weather samples collected from the segments or areas for each water body listed in Table 6.0;
[b] The method and number of samples need for calculating the 30-day geometric means must be consistent with the number of samples required by the Ocean Plan;
[c] Where there are multiple segments or areas associated with a water body listed in Table 6.0, the Copermittees may calculate geometric means for each segment or area, or combine the dry weather monitoring data from all the segments or areas to calculate geometric means for the water body;
[d] The exceedance frequency must be calculated by dividing the number of geometric means that exceed the geometric mean receiving water limitations in Table 6.2 by the total number of geometric means calculated from samples collected during the dry season.

(iii) Wet weather exceedance frequencies must be calculated as follows:

[a] If only one sample is collected for a storm event, the bacteria density for every wet weather day associated with that storm event must be assumed to be equal to the results from the one sample collected;
[b] If more than one sample is collected for a storm event, but not on a daily basis, the bacteria density for all wet weather days of the storm event not sampled must be assumed to be equal to the highest bacteria density result reported from the samples collected;
[c] If there are any storm events not sampled, the bacteria density for every wet weather day of those storm events must be assumed to be equal to the average of the highest bacteria densities reported from each storm event sampled; and
[d] The single sample maximum exceedance frequency must be calculated by dividing the number of wet weather days that exceed the single sample maximum receiving water limitations in Table 6.2 by the total number of wet weather days during the rainy season.
[e] The data collected for dry weather must be used in addition to the data collected for wet weather to calculate the wet weather 30-

day geometric means. The exceedance frequency of the wet weather 30-day geometric means must be calculated by dividing the number of geometric means that exceed the geometric mean receiving water limitations in Table 6.2 by the total number of geometric means calculated from samples collected during the wet season.

(iv) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 6.b.(2)(b)(i), dry and wet weather discharge bacteria densities may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

(v) The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

(2) Monitoring and Assessment Requirements for Creeks and Creek Mouths

(a) Monitoring Stations

For creeks addressed by the TMDL, monitoring locations should consist of, at a minimum, a location at or near the mouth of the creek (e.g. Mass Loading Station or Mass Emission Station) and one or more locations upstream of the mouth (e.g. Watershed Assessment Station). If exceedances of the applicable interim or final receiving water limitations are observed in the monitoring data, additional monitoring locations and/or other source identification methods must be implemented to identify the sources causing the exceedances. The additional monitoring locations must also be used to demonstrate that the bacteria loads from the identified sources have been addressed and are no longer causing exceedances in the receiving waters.

(b) Monitoring Procedures

(i) The Responsible Copermittees must collect dry weather monitoring samples from the receiving water monitoring stations in accordance with the requirements of Provision D.

(ii) The Responsible Copermittees must collect wet weather monitoring samples from the receiving water monitoring stations within the first 24 hours of the end of a storm event[42] during the rainy season (i.e. October 1 through April 30).

[42] Wet weather days are defined by the TMDL as storm events of 0.2 inches or greater and the following 72 hours. The Responsible Copermittees may choose to limit their wet weather sampling requirements to

(iii) Samples collected from receiving water monitoring stations must be analyzed for fecal coliform and *Enterococcus* indicator bacteria.

(iv) For creeks or creek mouths listed in Table 6.0 that have been de-listed from the Clean Water Act Section 303(d) List, the Responsible Copermittees may propose alternative monitoring procedures to demonstrate that the water bodies continue to remain in compliance with water quality standards under wet weather and dry weather conditions. The alternative monitoring procedures must be submitted as a part of the Water Quality Improvement Plans or any updates required under Provisions F.1 and F.2.c of the Order.

(c) Assessment and Reporting Requirements

(i) The Responsible Copermittees must analyze the receiving water monitoring data to assess whether the interim and final receiving water WQBELs for the creeks and creek mouths listed in Table 6.0 have been achieved.

(ii) Dry weather exceedance frequencies must be calculated as follows:

[a] 30-day geometric means must be calculated from the results of any dry weather samples collected from the segment or area for each water body listed in Table 6.0;
[b] The method and number of samples need for calculating the 30-day geometric means must be consistent with the number of samples required by the Basin Plan;
[c] The exceedance frequency must be calculated by dividing the number of 30-day geometric means that exceed the 30-day geometric mean receiving water limitations in Table 6.2 by the total number of 30-day geometric means calculated from samples collected during the dry season.

(iii) Wet weather exceedance frequencies must be calculated as follows:

[a] If only one sample is collected for a storm event, the bacteria density for every wet weather day associated with that storm event must be assumed to be equal to the results from the one sample collected;
[b] If more than one sample is collected for a storm event, but not on a daily basis, the bacteria density for all wet weather days of the storm event not sampled must be assumed to be equal to the highest bacteria density result reported from the samples collected;

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storm events of 0.2 inches or greater, or also include storm events of 0.1 inches or greater as defined by the federal regulations [40CFR122.26(d)(2)(iii)(A)(2)].

[c] If there are any storm events not sampled, the bacteria density for every wet weather day of those storm events must be assumed to be equal to the average of the highest bacteria densities reported from each of the storm events sampled; and

[d] The exceedance frequency must be calculated by dividing the number of wet weather days that exceed the single sample maximum receiving water limitations in Table 6.2 by the total number of wet weather days during the rainy season.

[e] The data collected for dry weather must be used in addition to the data collected for wet weather to calculate the wet weather 30-day geometric means. The exceedance frequency of the wet weather 30-day geometric means must be calculated by dividing the number of geometric means that exceed the geometric mean receiving water limitations in Table 6.2 by the total number of geometric means calculated from samples collected during the wet season.

(iv) The Responsible Copermittee must identify and incorporate additional MS4 outfall and receiving water monitoring stations and/or adjust monitoring frequencies to identify sources causing exceedances of the receiving water WQBELs.

(v) For assessing and determining compliance with the concentration-based effluent limitations under Specific Provision 6.b.(2)(b)(i), dry and wet weather discharge bacteria densities may be calculated based on a flow-weighted average across all major MS4 outfalls along a water body segment or within a jurisdiction if samples are collected within a similar time period.

(vi) The monitoring and assessment results must be submitted as part of the Transitional Monitoring and Assessment Program and Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

7. Total Maximum Daily Loads for Sediment in Los Peñasquitos Lagoon

a. APPLICABILITY

(1) TMDL Basin Plan Amendment: Resolution No. R9-2012-0033

(2) TMDL Adoption and Approval Dates:

San Diego Water Board Adoption Date:	June 13, 2012
State Water Board Approval Date:	January 21, 2014
Office of Administrative Law Approval Date:	July 14, 2014
US EPA Approval Date:	October 30, 2014

(3) TMDL Effective Date: July 14, 2014

(4) Watershed Management Area: Peñasquitos

(5) Water Body: Los Peñasquitos Lagoon

(6) Responsible Copermittees: County of San Diego, City of San Diego, City of Del Mar, and City of Poway

b. FINAL TMDL COMPLIANCE REQUIREMENTS

The final sediment TMDL compliance requirements for Los Peñasquitos Lagoon consist of the following:

(1) Final TMDL Compliance Date

The Responsible Copermittees must be in compliance with the final TMDL compliance requirements by December 31, 2034.

(2) Final Water Quality Based Effluent Limitations

(a) Final Receiving Water Limitations

Discharges from the MS4s must not prohibit the sustainable restoration of tidal and non-tidal saltmarsh vegetation of at least 346 acres.

(b) Final Effluent Limitations

Discharges from the MS4s containing pollutant loads that do not exceed the following effluent limitations by the compliance date under Provision 7.b(1) will not cause or contribute to a failure of the receiving water condition specified under Specific Provision 7.b.(2)(a):

Table 7.1
*Final Effluent Limitations as Expressed as Wet Season Loads in MS4 Discharges to Los Peñasquitos Lagoon**

Constituent	Effluent Limitation
Sediment	2,580 tons/wet season

* Final effluent limitations are to be achieved by the following Responsible Parties: County of San Diego, City of San Diego, City of Del Mar, City of Poway, Phase II MS4 permittees, Caltrans, general construction storm water NPDES permittees, and general industrial storm water NPDES permittees.

(c) Best Management Practices

(i) The Water Quality Improvement Plan for the Los Peñasquitos Watershed Management Area must incorporate the Sediment Load Reduction Plan required to be developed pursuant to Resolution No. R9-2012-0033.

(ii) The Responsible Copermittees must implement BMPs to achieve the receiving water limitations under Specific Provision 7.b.(2)(a) and/or the Copermittee's portion of the effluent limitations under Specific Provision 7.b.(2)(b) for Los Peñasquitos Lagoon.

(3) Final TMDL Compliance Determination

Compliance determination with the final WQBELs, on or after the final TMDL compliance date, may be demonstrated via one of the following methods:

(a) Successful restoration of 80 percent of the 1973 acreage of tidal and non-tidal lagoon salt marsh (346 acres) as described in Attachment A of Resolution No. R9-2010-0033; OR

(b) The Responsible Copermittees develop and implement the Water Quality Improvement Plan as follows:

(i) Incorporate the BMPs required under Specific Provision 7.b.(2)(c)(ii) and/or other implementation actions to achieve compliance with Specific Provision 7.b.(3)(a) as part of the Water Quality Improvement Plan,

(ii) Include an analysis in the Water Quality Improvement Plan, utilizing a watershed model or other watershed analytical tools, to demonstrate that the implementation of the BMPs required under Provision 7.b.(2)(c)(ii) or other implementation actions to achieve compliance with Specific Provision 7.b.(3)(a),

(iii) The results of the analysis must be accepted by the San Diego Water Board as part of the Water Quality Improvement Plan,

(iv) The Responsible Copermittees continue to implement the BMPs required under Specific Provision 7.b.(2)(c)(ii) or other implementation actions, AND

(v) The Responsible Copermittees continue to perform the specific monitoring and assessments specified in Specific Provision 7.d to demonstrate compliance with Specific Provision 7.b.(3)(a).

c. INTERIM TMDL COMPLIANCE REQUIREMENTS

The interim sediment TMDL compliance requirements for Los Penasquitos Lagoon consist of the following:

(1) Interim Compliance Dates and WQBELs

The Responsible Copermittees must comply with the interim WQBELs, expressed as wet season loads, by December 31 of the interim compliance year set forth in Table 7.2.

Table 7.2
*Interim Water Quality Based Effluent Limitations Expressed as Wet Season Loads in MS4 Discharges**

Interim Compliance Date	Interim Effluent Limitations (tons/wet season)
December 31, 2019	6,691
December 31, 2023	5,663
December 31, 2027	4,636
December 31, 2029	3,608

* Interim effluent limitations are to be achieved by the following Responsible Parties: County of San Diego, City of San Diego, City of Del Mar, City of Poway, Phase II MS4 permittees, Caltrans, general construction storm water NPDES permittees, and general industrial storm water NPDES permittees.

(2) Interim TMDL Compliance Determination

Compliance with interim WQBELs, on or after the interim TMDL compliance dates, may be demonstrated via one of the following methods:

(a) There is no direct or indirect discharge from the Responsible Copermittee's MS4s to the receiving water; OR

(b) The final receiving water limitation under Specific Provision 7.b.(2)(a) is met; OR

(c) There are no exceedances of the Copermittee's portion of interim effluent limitations under Table 7.2 at the Responsible Copermittee's MS4 outfalls; OR

(d) The Responsible Copermittees have submitted and is fully implementing a Water Quality Improvement Plan, accepted by the San Diego Water Board, which provides reasonable assurance that the Copermittee's portion of the interim TMDL compliance requirements described in Attachment A of Resolution No. R9-2010-0033 will be achieved by the interim compliance date.

d. SPECIFIC MONITORING AND ASSESSMENT REQUIREMENTS

(1) Watershed Monitoring

The Responsible Copermittees must conduct suspended sediment, bed load, and flow monitoring to calculate total sediment loading to the Los Peñasquitos Lagoon for each wet season (October 1 thru April 30) as set forth below:

(a) The Responsible Copermittees must monitor enough storm events throughout the season to quantify sediment loading over each wet season, and

(b) The Responsible Copermittees must monitor at least 3 stations to quantify cumulative sediment loading into Los Peñasquitos Lagoon. Stations must be located within the Los Peñasquitos, Carroll Canyon, and Carmel Creek tributaries prior to discharging into Los Peñasquitos Lagoon.

(2) Lagoon Monitoring

The Responsible Copermittees must monitor Los Peñasquitos Lagoon each Fall for changes in the extent of the vegetation types as set forth below:

(a) The Responsible Copermittees must acquire aerial photos of Los Peñasquitos Lagoon and digitize them at an approximate scale of 1:2,500,

(b) The Responsible Copermittees must appropriately interpret the vegetation and classify the various types as saltmarsh, non-tidal saltmarsh, freshwater marsh, non-tidal saltmarsh –*Lolium perrene* infested, southern willow scrub/mulefat scrub, herbaceous wetland, or upland land cover.

(3) Assessment and Reporting Requirements

(a) The Responsible Copermittees must analyze the monitoring data collected under Specific Provision 7.d(1) and 7.d(2) to assess whether the interim and final WQBELs have been achieved.

(b) For assessing and determining compliance with the final receiving water limitations under Specific Provision 7.b.(2)(a), the Responsible Copermittees must use the data acquired under Specific Provision 7.d.(2) to estimate the acreage of tidal and non-tidal saltmarsh actually restored.

(c) For assessing and determining compliance with the final effluent limitations under Specific Provision 7.b.(2)(b), the Responsible Copermittees must use the data acquired under Specific Provision 7.d.(1) to estimate sediment loading into Los Peñasquitos Lagoon. Sediment loading must be evaluated using a 3-year, weighted rolling average. The first reported average shall be calculated using data collected in the year, 2015-2016, 2016-2017, and 2017-2018 wet seasons.

(d) The monitoring and assessment results must be submitted as part of the Water Quality Improvement Plan Annual Reports required under Provision F.3.b of this Order.

ATTACHMENT F

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

FACT SHEET / TECHNICAL REPORT

FOR

ORDER NO. R9-2013-0001
AS AMENDED BY ORDER NOS. R9-2015-0001 AND R9-2015-0100
NPDES NO. CAS0109266

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE WATERSHEDS WITHIN THE SAN DIEGO REGION

May 8, 2013
Amended February 11, 2015
and November 18, 2015

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I. FACT SHEET FORMAT

This Fact Sheet briefly sets forth the principal facts and the significant factual, legal, methodological, and policy questions that the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) considered in preparing Order No. R9-2013-0001 (Order), as amended by Order Nos. R9-2015-0001 and R9-2015-0100. In accordance with the Code of Federal Regulations (CFR) Title 40 Parts 124.8 and 124.56 (40 CFR 124.8 and 40 CFR 124.56), this Fact Sheet includes, but is not limited to, the following information:

1. Contact information
2. Public process and notification procedures
3. Background of municipal storm water permits
4. Regional MS4 Permit approach
5. Economic considerations
6. Applicable statutes, regulations, plans and policies
7. Discussion of the provisions in the Order

Tentative Order No. R9-2013-0001 was distributed for public review on October 31, 2012. The San Diego Water Board accepted written comments on Tentative Order No. R9-2013-0001 until January 11, 2013. A public hearing was subsequently held on April 10 and 11, 2013, that was continued to May 8, 2013 to receive oral comments from interested persons. The San Diego Water Board adopted Order No. R9-2013-0001 on May 8, 2013.

Tentative Order No. R9-2015-0001, an Order amending Order No. R9-2013-0001, was distributed for public review on September 19, 2014. The San Diego Water Board accepted written comments on Tentative Order No. R9-2015-0001 until November 19, 2014. A public hearing was held on February 11, 2015, to receive oral comments from Copermittees and interested persons. The San Diego Water Board adopted Order No. R9-2015-0001 amending Order No. R9-2013-0001 on February 11, 2015. Order No. R9-2015-0001 amended the findings and provisions of Order No. R9-2013-0001 to:

a. Enroll the County of Orange, the Orange County Flood Control District and the south Orange County Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano as Copermittees responsible for compliance with the terms and conditions of Order No. R9-2013-0001, as amended by Order No. R9-2015-0001;

b. Designate the San Diego Water Board to regulate all Phase I MS4 discharges within the jurisdiction of the Cities of Laguna Woods and Laguna Hills and agree to the designation of the Santa Ana Water Board to regulate all Phase I MS4 discharges within the jurisdiction of the City of Lake Forest, subject to the

terms of the February 10, 2015 agreement between San Diego Water Board and the Santa Ana Water Board described in Finding 29 of this Order, upon the later effective date of Order No. R9-2015-0001 or Order No. R8-2015-0001 (superseding Order No. R8-2009-0030);

c. Establish interim exceptions to land development requirements for those priority development projects that discharge to engineered channels and large river reaches as described in Provision E.3.c.(2)(e) of this Order;

d. Incorporate the amended requirements of the State Water Resources Control Board's (State Water Board) General Exception to require that pollutant reductions be achieved within 6 years for storm water and nonpoint source discharges to ASBS within the Region;

e. Incorporate applicable requirements of the Los Peñasquitos Lagoon Sediment TMDL; and

f. Require the Orange County Copermittees to implement the "*Workgroup Recommendation for a Unified Beach Water Quality Monitoring and Assessment Program in South Orange County*," dated October 2014, made effective in the Monitoring and Reporting Program/Order issued pursuant to California Water Code section 13383 in the December 5, 2014 San Diego Water Board Letter Directive and subject to future revisions by the Executive Officer after appropriate public input.

Tentative Order No. R9-2015-0100, an Order amending Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, was distributed for public review on July 31, 2015. The San Diego Water Board accepted written comments on Tentative Order No. R9-2015-0100 until September 14, 2015. A public hearing was held on November 18, 2015, to receive oral comments from Copermittees and interested persons. The San Diego Water Board adopted Order No. R9-2015-0100 amending Order No. R9-2013-0001 as amended by Order No. R9-2015-0001, on November 18, 2015. Order No. R9-2015-0100 amended the findings and provisions of Order No. R9-2013-0001 as amended by Order No. R9-2015-0001 to:

a. Enroll the County of Riverside, the Cities of Murrieta, Temecula, and Wildomar, and the Riverside County Flood Control and Water Conservation District as Copermittees responsible for compliance with the terms and conditions of Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100;

b. Continue designation of the San Diego Water Board to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Murrieta and Wildomar, including areas within the Santa Ana Region; and, agree to continue designation of the Santa Ana Water Board to regulate all Phase I MS4 discharges within the jurisdiction of the City of Menifee, including areas within

the San Diego Region, subject to the terms of the October 26, 2015 agreement between San Diego Water Board and the Santa Ana Water Board described in Finding 29 of this Order;

d. Incorporate Provision B.3.c, which provides an option that allows a Copermittee to utilize the watershed-based Water Quality Improvement Plan to be deemed in compliance with the prohibitions and limitations of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b;

e. Incorporate minor revisions to Provisions E.2.a.(1) and E.2.a.(2) to include San Diego Water Board Order No. R9-2015-0013 and State Water Board Order 2014-0194-DWQ into the requirements for addressing non-storm water discharges to a Copermittee's MS4;

e. Incorporate minor revisions to Provision E.3.b.(1) to correct inconsistencies in the definition of a Priority Development Project as compared to the definitions in Order No. R9-2009-0002 (Fourth Term Orange County MS4 Permit) and Order No. R9-2010-0016 (Fourth Term Riverside County MS4 Permit), and requirements for incorporating the corrected definitions into the BMP Design Manual;

f. Incorporate revisions to Provision E.3.e.(1)(a) to provide additional clarity on when the structural BMP performance requirements of Provision E.3.c are applicable to Priority Development Projects;

e. Incorporate minor revisions to the Revised TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region and the TMDLs for Sediment in Los Peñasquitos Lagoon in Attachment E to the Order to make the requirements consistent with the Basin Plan amendments adopted by the San Diego Water Board; and

f. Remove provisions related to allowing the Riverside County Copermittees to apply for early coverage under the Regional MS4 Permit.

The San Diego Water Board files applicable to the issuance of Order No. R9-2013-0001 and amendments thereto are incorporated into the administrative record in support of the findings and requirements of the Order.

II. CONTACT INFORMATION

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The Order and other related documents can be downloaded from the San Diego Water Board website at

http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/index.shtml

The documents referenced in this Fact Sheet and in Order No. R9-2013-0001 and amendments thereto are available for public review at the San Diego Water Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 8:00 am to 5:00 pm Monday through Friday. To schedule an appointment to inspect public records, contact the San Diego Water Board Records Management Officer at 619-516-1990.

COPERMITTEES

Orange County Copermittees

- County of Orange
- City of Aliso Viejo
- City of Dana Point
- City of Laguna Beach
- City of Laguna Hills
- City of Laguna Niguel
- City of Laguna Woods
- City of Lake Forest *
- City of Mission Viejo
- City of Ranch Santa Margarita
- City of San Clemente
- City of San Juan Capistrano
- Orange County Flood Control District

* While not listed in the above table, the City of Lake Forest remains a Copermittee under this Order until the later effective date of this Order or Santa Ana Water Board Tentative Order No. R8-2015-0001. Thereafter, the City of Lake Forest will no longer be considered a Copermittee under this Order because its Phase I MS4 discharges will be regulated by the Santa Ana Water Board pursuant to Water Code section 13328 designation. The requirements of this Order that apply to the City of Lake Forest for the duration of this Order, consistent with the Water Code section 13228 agreement dated February 10, 2015, are described in Finding 29 and Footnote 2 to Table B-1.

Riverside County Copermittees

- County of Riverside
- City of Menifee**
- City of Murrieta
- City of Temecula
- City of Wildomar
- Riverside County Flood Control and Water Conservation District

** The City of Menifee is not regulated as a Copermittee under this Order because its Phase I MS4 discharges are regulated by Santa Ana Water Board Order No. R8-2010-0033 as it may be amended or issued pursuant to Water Code section 13228 designation. The requirements of this Order that apply to the City of Menifee for the duration of this Order, consistent with the Water Code section 13228 written agreement dated October 26, 2015, are described in Finding 29 and Footnote 3 to Table B-1.

San Diego County Copermittees

- County of San Diego
- City of Carlsbad
- City of Chula Vista
- City of Coronado
- City of Del Mar
- City of El Cajon
- City of Encinitas
- City of Escondido
- City of Imperial Beach
- City of La Mesa
- City of Lemon Grove
- City of National City
- City of Oceanside
- City of Poway
- City of San Diego
- City of San Marcos
- City of Santee
- City of Solana Beach
- City of Vista
- San Diego County Regional Airport Authority
- San Diego Unified Port District

III. PUBLIC PROCESS AND NOTIFICATION PROCEDURES

The San Diego Water Board followed the schedule listed below for the preparation of Order No. R9-2013-0001 and amendments thereto:

San Diego County Copermittee Permit Reissuance Process

1. On February 8, 2011, the San Diego Water Board met with the San Diego County Copermittees to discuss the Report of Waste Discharge required pursuant to Order No. R9-2007-0001.

2. Between February and May 2011, the San Diego Water Board met with select San Diego County, Orange County, and Riverside County Copermittees, as well as representatives of the environmental community to discuss concepts and receive recommendations for elements to be incorporated in a Regional Municipal Separate Storm Sewer System Permit (Regional MS4 Permit).

3. On June 27, 2011 the San Diego Water Board received the Report of Waste Discharge from the San Diego County Copermittees for the renewal of their NPDES permit, Order No. R9-2007-0001.

4. On April 9, 2012, the San Diego Water Board released an administrative draft of Tentative Order No. R9-2013-0001 for preliminary informal comments and feedback.

5. On April 25, 2012, the San Diego Water Board held an informal public workshop to present the administrative draft of Tentative Order No. R9-2013-0001 and receive verbal comments.

6. Between June and August 2012, the San Diego Water Board held four (4) focused meetings with representatives of the principal stakeholders (the Copermittees, the environmental community, the development/business community, and USEPA) to discuss and receive preliminary comments and feedback about specific elements in the administrative draft of Tentative Order No. R9-2013-0001.

7. On September 5, 2012, the San Diego Water Board held an informal public workshop to present the modifications that were expected to be incorporated into the Tentative Order based on the preliminary comments and feedback received during the focused meetings held between June and August 2012.

8. Informal written comments on the administrative draft of Tentative Order No. R9-2013-0001 were accepted until September 14, 2012.

9. On October 12, 2012, the San Diego Water Board released a revised administrative draft of Tentative Order No. R9-2013-0001.

10. On October 24, 2012, the San Diego Water Board held a focused meeting with representatives of the principal stakeholders (the Copermittees, the environmental community, the development/business community, and USEPA) to discuss modifications incorporated into the administrative draft of Tentative Order No. R9-2013-0001.

11. On October 31, 2012, the San Diego Water Board released Tentative Order No. R9-2013-0001 for formal public review and comment.

12. On November 13, 2012 and December 12, 2012, the San Diego Water Board held a formal public Board workshop to present the public draft of Tentative Order No. R9-2013-0001 and receive verbal comments.

13. Formal written comments on the public draft of Tentative Order No. R9-2013-0001 were accepted until January 11, 2013.

14. A public hearing of Tentative Order No. R9-2013-0001 was conducted on April 10 and 11, 2013, that was continued to May 8, 2013.

Orange County Copermittee Permit Reissuance Process

15. On May 20, 2014 the San Diego Water Board received the Report of Waste Discharge from the Orange County Copermittees for the renewal of their MS4 NPDES permit, Order No. R9-2009-0002.

16. On June 24, 2014, the San Diego Water Board met with the Orange County Copermittees to discuss the Report of Waste Discharge required pursuant to Order No.R9-2009-0002 and the process for enrollment as Copermittees under Regional MS4 Permit Order No. R9-2013-0001.

17. On July 1, 2014, the San Diego Water Board held a public meeting to discuss the Orange County Report of Waste Discharge and receive comments on potential modifications to Order No. R9-2013-0001. Based on comments received from the Orange County Copermittees and other interested persons at this meeting, the San Diego Water Board determined that additional public meetings were not needed prior to release of Tentative Order No. R9-2015-0001, amending Order No. R9-2013-0001 in redlined – strikeout format for public review and comment.

18. On September 19, 2014, the San Diego Water Board released Tentative Order No. R9-2015-0001 for a 60 day public review and comment period.

19. On October 8, 2014, the San Diego Water Board held a formal public workshop at a regular board meeting to receive information and discuss the proposed amendments to Order No. R9-2013-0001 described in Tentative Order No. R9-2015-0001.

20. In accordance with State and federal laws and regulations, the San Diego Water Board notified San Diego County, Orange County and Riverside County Copermittees, and all known interested agencies and persons of its intent to adopt Tentative Order No. R9-2015-0001 and provided them with an opportunity to submit their written comments and recommendations. Written comments and recommendations on Tentative Order No. R9-2015-0001 were accepted until November 19, 2014.

21. The San Diego Water Board held a public workshop on October 8, 2014, and a public hearing on February 11, 2015, and heard and considered all comments pertaining to the adoption of Tentative Order No. R9-2015-0001 on February 11, 2015.

Riverside County Copermittee Permit Reissuance Process

22. Between April and June 2015, the San Diego Water Board held three (3) public workshops with representatives of the principal stakeholders (the Copermittees, the environmental community, the development/business community) to discuss and receive comments and feedback about amending Order No. R9-2013-0001 to incorporate a definition of prior lawful approval for Priority Development Projects, and an alternative compliance pathway for prohibitions and limitations in Provision A of the Order. A San Diego Water Board member attended the April and May 2015 public workshops, but no actions or voting took place.

23. On April 15, 2015, the San Diego Water Board met with the Riverside County Copermittees to discuss the Report of Waste Discharge required pursuant to Order No.R9-2010-0016 and the process for enrollment as Copermittees under Order No. R9-2013-0001 (Regional MS4 Permit).

24. On May 8, 2015 the San Diego Water Board received a Report of Waste Discharge from the Riverside County Copermittees for the renewal of their MS4 NPDES permit, Order No. R9-2010-0016.

25. On July 31, 2015, the San Diego Water Board released Tentative Order No. R9-2015-0100 for a formal public review and comment period.

26. Formal written comments on the public draft of Tentative Order No. R9-2015-0100 were accepted until September 14, 2015, a formal public written comment period of 46 days.

27. A public hearing to receive oral comments on Tentative Order No. R9-2015-0100 was conducted on November 18, 2015.

IV. BACKGROUND OF THE SAN DIEGO REGION MUNICIPAL STORM WATER PERMITS

In developed and developing areas, storm water runoff is commonly transported through municipal separate storm sewer systems (MS4s) and discharged into local receiving water bodies. As the storm water runs off and flows over the land or impervious surfaces (e.g., paved streets, parking lots, and building rooftops), it accumulates debris, chemicals, sediment, and other pollutants that can adversely affect receiving water quality if discharged untreated. The United States Environmental Protection Agency (USEPA) recognizes wet weather flows from urban areas as the number one source of estuarine pollution in coastal communities,[1] such as those within the San Diego Region.

The federal Clean Water Act (CWA) was amended in 1987 to address and regulate discharges of storm water associated with industrial activities and from municipal storm sewers. With the amendments, many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of storm water from their MS4s.

In response to the CWA 1987 amendment, as well as the pending federal NPDES regulations which would implement the amendment, the San Diego Water Board issued "early" MS4 permits. The San Diego Water Board adopted and issued Order Nos. 90-38, 90-42, and 90-46 to regulate storm water discharges from the MS4s in Orange County, San Diego County, and Riverside County, respectively, within the San Diego Region on July 16, 1990.

The "early" MS4 permits, or First Term Permits, were issued prior to the November 1990 promulgation of the final federal NPDES storm water regulations. By issuing these First Term Permits before the federal regulations took effect, the San Diego Water Board was able to provide the Copermittees additional flexibility in addressing and managing storm water discharges. The First Term Permits contained the essentials of the 1990 regulations, and required the Copermittees to develop and implement runoff management programs, but provided little specificity about what was required to be included in or actually achieved by those programs.

The flexibility provided in the First Term Permits was generally continued through the Second Term Permits. The combination of the lack of specificity in the First and Second Term Permits, a general lack of meaningful action by the Copermittees and a general lack of corresponding reaction (i.e. enforcement) by the San Diego Water Board during the first ten years of the storm water program, resulted in few substantive steps towards achieving improvements in the quality of receiving waters or storm water discharges from the MS4s.

[1] US EPA. 1999. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68727.

From 2001, the regulatory approach incorporated into Third Term Permits was a significant departure from the regulatory approach of the First and Second Term Permits. The Third Term Permits issued by the San Diego Water Board included more detailed requirements that outlined the minimum level of implementation required for the Copermittees' programs to meet the maximum extent practicable (MEP) standard for storm water. The Third Term Permits included more detail to emphasize and enhance the jurisdictional runoff management programs developed by the Copermittees and introduced requirements for developing and implementing watershed-based programs.

The Third Term Permits also incorporated two precedent setting decisions by the State Water Board. In Order WQ 99-05, the State Water Board established receiving water limitation language to be included in all MS4 permits. The State Water Board's precedential language clarified that municipal storm water permits must include provisions requiring discharges to be controlled to attain water quality standards in receiving waters. Unlike previously adopted versions of the receiving water limitation language in the First and Second Term Permits, the language no longer stated that "*violations of water quality standards are not violations of the municipal storm water permit under certain conditions*." In addition, the receiving water limitation language no longer indicated that the "*implementation of best management practices is the 'functional equivalent' of meeting water quality standards*." State Water Board Order WQ 99-05 specifically requires language in MS4 permits for the Copermittees to comply with water quality standards based discharge prohibitions and receiving water limitations through timely implementation of control measures and other actions to reduce pollutants in discharges. (See State Water Board Order WQ 99-05 (*Environmental Health Coalition*)).

In Order WQ 2000-11, also a precedential decision, the State Water Board addressed design standards for structural post-construction best management practices (BMPs) for new development and significant redevelopment. The State Water Board found that the design standards, which require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. State Water Board Order WQ 2000-11 also found that the post-construction BMP provisions, or Standard Storm Water Mitigation Plan (SSMP) provisions, constitute MEP for addressing storm water pollutant discharges resulting from specific development categories.

The Third Term San Diego County and Orange County Permits (Order Nos. 2001-01 and R9-2002-0001, respectively) were appealed to the State Water Board. Minor modifications were made by the State Water Board, but the requirements were largely upheld. In State Water Board Order WQ 2001-15, the State Water Board upheld the Third Term San Diego County Permit requirements with certain modifications. The State Water Board removed the prohibition of storm water discharges *into* the MS4 that cause or contribute to exceedances of water quality objectives. The revision allows for treatment of pollutants in storm water runoff after the pollutants have entered the MS4.

State Water Board Order WQ 2001-15 otherwise upheld all the other requirements of the permit.

In addition to the modification to the discharge prohibition in Order WQ 2001-15, the State Water Board refined Order WQ 99-05 by making clear that the Copermittees may use an iterative approach to achieving compliance with water quality standards that involves ongoing assessments and revisions. Thus, the language for the discharge prohibitions and receiving water limitations was revised to explicitly require the Copermittees to implement an iterative process of assessments and revisions to comply with the discharge prohibitions and receiving water limitations. The San Diego Water Board retained the authority to enforce receiving water limitations and discharge prohibitions even if the Copermittee is engaged in the iterative process.

The Third Term San Diego County Permit was subsequently challenged in the Superior Court of the State of California and the Court of Appeal, Fourth Appellate District. The Court of Appeal, Fourth Appellate District, found that the approach of the Third Term San Diego County Permit to regulating discharges into the MS4 was appropriate (*Building Industry Ass'n. v. State Water Resources Control Bd., et al.,* 124 Cal.App.4th 866 (2004)). The State of California Supreme Court denied review sought by the Building Industry Association in March 2005.

The Fourth Term Permits began with the adoption of Order No. R9-2007-0001 issued to the Copermittees of San Diego County in January 2007. Order Nos. R9-2009-0002 and R9-2010-0016 were subsequently issued to the Copermittees of Orange County and Riverside County. The Fourth Term Permits continued to include more detailed requirements to be implemented by each Copermittee's jurisdictional runoff management program. The Fourth Term Permits also included requirements to further emphasize a watershed management approach and for more coordination among jurisdictional runoff management programs. In addition, the Fourth Term Permits included more requirements for assessing the effectiveness of the runoff management programs being implemented by the Copermittees. The intent of the inclusion of additional requirements was to enhance and better define elements of the permit that were expected to be incorporated into the iterative process for managing runoff from each Copermittee's jurisdiction and within the watersheds of the San Diego Region.

The Fourth Term Permits included several new and emerging approaches for managing storm water runoff and discharges. Low impact development (LID) requirements are included for development and significant redevelopment to reduce pollutants in storm water runoff from sites through more natural processes such as infiltration and biofiltration closer to the source, rather than utilizing conventional mechanical end-of-pipe treatment systems. Hydrograph modification (hydromodification) management requirements also are included to mitigate the potential for increased erosion in receiving waters due to increased runoff rates and durations often caused by development and increased impervious surfaces. The Fourth Term Orange County and Riverside County Permits introduced requirements to identify areas of existing

development where retrofitting with LID projects would be feasible and could be implemented to reduce storm water runoff and pollutants in storm water discharges.

The Fourth Term Orange County and Riverside County Permits included a clearer distinction between storm water and non-storm water discharges. The term "urban runoff" was completely removed, and a distinction between storm water (wet weather) runoff and non-storm water (dry weather) runoff was emphasized. This clarification was made to prevent any potential misunderstanding that regulation under the MS4 permits is limited only to urbanized areas, and to prevent non-storm water runoff from being managed in the same manner as storm water runoff. The term "urban runoff" is not defined in the Code of Federal Regulations (CFR) or Federal Register (FR) in the regulation of MS4 discharges. According to the CWA 402(p)(3)(B)(ii), MS4 permits must include a requirement to effectively prohibit non-storm water discharges into the MS4s.

Finally, for the Fourth Term Orange County and Riverside County Permits the San Diego Water Board found that non-storm water discharges to the MS4 from over application of irrigation water are sources of pollutants. The San Diego Water Board found that non-storm water discharges resulting from over-irrigation must be prohibited from entering the MS4 in accordance with the requirements of the CWA and pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1).

The requirements of the Fourth Term Permits issued to the Copermittees in each county within the San Diego Region now have substantively the same core requirements such as discharge prohibitions, receiving water limitations, jurisdictional runoff management program components, and monitoring program requirements. There are, however, several inconsistencies that exist among the three Fourth Term Permits which complicate oversight and implementation of the permits by the San Diego Water Board.

The Fourth Term San Diego County Permit expired in January 2012. The Fourth Term Orange County permit expired in December 2014 and the Fourth Term Riverside County Permit expired in November 2015. Issuing the Fifth Term Permits within five years for three counties under three different permits would have required the San Diego Water Board to expend significant time and resources for the issuance of the permits through three separate public proceedings, thereby greatly reducing the time and resources available to oversee implementation and compliance. Multiple permits also create confusion for determining compliance among regulated entities, especially for the land development community.

The San Diego Water Board acknowledged that issuing a single MS4 permit for all the Copermittees in the San Diego Region can and is expected to result in more consistent implementation, improve communication among agencies within watersheds crossing multiple jurisdictions, and minimize resources spent with each permit renewal process. Within the findings of the Fourth Term Riverside County Permit issued in November 2010, the San Diego Water Board notified the public of its intent to develop and issue a single Regional MS4 Permit.

V. REGIONAL MS4 PERMIT APPROACH

The Fifth Term Permit, or Regional MS4 Permit, shifts the focus of the permit requirements from a minimum level of actions to be implemented by the Copermittees to identifying outcomes to be achieved by those actions. Order No. R9-2013-0001 represents an important paradigm shift in the approach for MS4 permits within the San Diego Region.

Historical Permitting Approach

The First and Second Term Permits were very broad and provided little specificity about what was required to be developed and implemented by the Copermittees. The Third Term Permits began to become more specific about the minimum level of implementation required by the Copermittees. The Fourth Term Permits subsequently increased in specificity. The MS4 permits have progressively become more detailed and focused on specifying the minimum level of actions expected to be implemented by the Copermittees. As detailed and specific as the MS4 permits have become, however, they include very little detail about what the desired outcomes of the required actions are expected to achieve. Compliance with the permit requirements has essentially been tracking numbers of actions and reporting, not tracking progress or actual improvements in the quality of receiving waters or discharges from the MS4s. The result has been an increase in actions being implemented by the Copermittees with little or no ability or expectations to determine whether or not improvements in water quality are being achieved.

The Fourth Term Permits result in significant resource expenditure by the Copermittees to report permit compliance information to the San Diego Water Board in the form of annual jurisdictional runoff management program, watershed program, and monitoring program reports. The San Diego Water Board was required to expend much of its limited resources on reviewing more than 50 voluminous reports submitted annually by the Copermittees. The information reported by the Copermittees was of limited value when trying to measure progress toward achieving improvements in the quality of receiving waters or discharges from the MS4s. Oversight of the MS4 permits was further complicated by the inconsistencies among the requirements issued to the Orange County, San Diego County, and Riverside County Copermittees under three separate MS4 permits.

Under the Fourth Term Permits, the Copermittees were required to expend a significant portion of their limited resources collecting data of limited value, and putting together reports to submit that information to the San Diego Water Board. Likewise, the San Diego Water Board was required to expend most of its limited resources reviewing reports, and developing permits instead of working directly with the Copermittees to identify solutions to problems causing impacts to water quality. This was an unsustainable course that would have continued to demand more resources

from the Copermittees and the San Diego Water Board, and would have continued to result in unknown water quality benefits.

New Permitting Approach

The goal of the Regional MS4 Permit is twofold: 1) bring a consistent set of MS4 permit requirements to all of the Copermittees within the San Diego Region; and, 2) provide an MS4 permit with requirements that will allow the Copermittees to focus their efforts and resources on achieving goals and desired outcomes toward the improvement of water quality rather than completing specific actions.

The overall approach included in the Regional MS4 Permit with respect to the jurisdictional runoff management programs will not differ significantly from the current permits. The general requirements for the jurisdictional runoff management program components and compliance with those requirements will remain and be applied consistently throughout the San Diego Region under the Regional MS4 Permit.

The most significant difference in the new permitting approach is the specific manner of implementation for those jurisdictional runoff management programs. Implementation will be based on decisions made by the Copermittees in accordance with what they have identified as their highest priority water quality conditions. In other words, the Copermittees will have significant control in how to implement the jurisdictional runoff management programs to best utilize their available resources in addressing a specific set of priorities effectively, instead of trying to address all the water quality priorities ineffectively.

The Copermittees are given the responsibility of identifying their highest priority water quality conditions that they intend to address. The Copermittees will develop goals that can be used to measure and demonstrate progress or improvements toward addressing those priorities. In addition to the goals, the Copermittees will provide a schedule for achieving the goals for those highest priorities. The measurement of progress toward achieving the goals for those highest priorities requires a better defined and more focused program of monitoring and assessment than under the Fourth Term Permits.

The monitoring and assessment program must be designed to inform the Copermittees of their progress, and the need for modifications in their jurisdictional runoff management programs and schedules to achieve their goals to improve water quality. The monitoring and assessment program requirements will have a more central role in the Regional MS4 Permit than in earlier permits. The monitoring and assessment requirements must also be designed to enable the Copermittees to focus and direct their efforts in implementing their jurisdictional runoff management programs toward their stated desired outcomes to improve the quality of receiving waters and/or discharges from the MS4s.

By providing an MS4 permit that allows the Copermittees to make more decisions about how to utilize and focus their resources, along with a better defined monitoring and assessment program to inform their water quality management decisions, the Copermittees have the opportunity to:

1) *Plan strategically*. The Copermittees must have the ability to identify their available resources and develop and implement long term plans that can organize, collect, and use those resources in the most strategically advantageous and efficient manner possible. This ability to develop long term plans will allow the Copermittees to focus and utilize their resources in a more concerted way over the short term and long term to address specific water quality priorities through stated desired outcomes.

2) *Manage adaptively*. The Copermittees must be given the ability to modify their plans as additional information and data are collected from the monitoring and assessment programs. The Copermittees' plans may require modifications to the programs, priorities, goals, strategies, and/or schedules in order for the Copermittees to achieve a stated desired outcome.

3) *Identify synergies*. The Copermittees must be given more flexibility to identify efficiencies within and among their jurisdictional runoff management programs as the strategies are developed and implemented to increase the Copermittees' collective effectiveness. The Copermittees must also be able to identify and utilize resources available from other agencies and entities to further augment and enhance their jurisdictional runoff management programs and/or to collectively work with those other agencies and entities toward achieving a stated desired outcome.

The Regional MS4 Permit requirements provide the Copermittees the flexibility and responsibility to decide what actions will be necessary to achieve an outcome that is tailored and designed by the Copermittees to improve specific prioritized water quality conditions. The San Diego Water Board expects the approach of the Regional MS4 Permit to give the Copermittees a greater sense of ownership for restoring the quality of receiving waters in the San Diego Region by becoming an integral part of the decision making process in identifying water quality conditions to be addressed, as well as determining the best use of their resources.

VI. ECONOMIC CONSIDERATIONS

Statutory Considerations

California Water Code (CWC) section 13241 requires the San Diego Water Board to consider certain factors, including economic considerations, in the adoption of water quality objectives. CWC section 13263 requires the San Diego Water Board to take into consideration the provisions of CWC section 13241 in adopting waste discharge requirements.

In *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, the California Supreme Court considered whether Regional Water Boards must comply with CWC section 13241 when issuing waste discharge requirements under CWC section 13263(a) by taking into account the costs a permittee will incur in complying with the permit requirements. The Court concluded that whether it is necessary to consider such cost information "*depends on whether those restrictions meet or exceed the requirements of the federal Clean Water Act.*" (*Id.* at p. 627.) The Court ruled that Regional Water Boards may not consider the factors in CWC section 13241, including economics, to justify imposing pollutant restrictions that are less stringent than applicable federal law requires. (*Id.* At pp. 618, 626-627 ["*[Water Code section 13377 specifies that [ ] discharge permits issued by California's regional boards must meet the federal standards set by federal law. In effect, section 13377 forbids a regional board's consideration of any economic hardship on the part of the permit holder if doing so would result in the dilution of the requirements set by Congress in the Clean Water Act...Because CWC section 13263 cannot authorize what federal law forbids, it cannot authorize a regional board, when issuing a [ ] discharge permit, to use compliance costs to justify pollutant restrictions that do not comply with federal clean water standards*."]). However, when pollutant restrictions in an NPDES permit are more stringent than federal law requires, CWC section 13263 requires that the Regional Water Boards consider the factors described in CWC section 13241 as they apply to those specific restrictions.

As discussed in Section VII.F, Unfunded State Mandates, the San Diego Water Board finds that the requirements in this Order are not more stringent than the minimum federal requirements. Among other requirements, federal law requires MS4 permits to include requirements to effectively prohibit non-storm water discharges into the MS4s, in addition to requiring controls to reduce the discharge of pollutants in storm water to the MEP, and other provisions as USEPA or the State determines are appropriate for the control of pollutants in MS4 discharges.

The requirements in this Order may be more specific or detailed than those enumerated in federal regulations under 40 CFR 122.26 or in the USEPA guidance. However, the requirements have been designed to be consistent with and within the federal statutory mandates described in CWA section 402(p)(3)(B)(ii) and (iii) and the related federal regulations and guidance. Consistent with federal law, all of the

conditions in this Order could have been included in a permit adopted by USEPA in the absence of the in lieu authority of California to issue NPDES permits.

Moreover, the inclusion of numeric WQBELs in this Order does not cause this Order to be more stringent than federal law. Federal law authorizes both narrative and numeric effluent limitations to meet state water quality standards. The inclusion of WQBELs as discharge specifications in an NPDES permit in order to achieve compliance with water quality standards is not a more stringent requirement than the inclusion of BMP based permit limitations to achieve water quality standards (State Water Board Order No. WQ 2006-0012 (*Boeing*)). Therefore, consideration of the factors set forth in CWC section 13241 is not required for permit requirements to implement the effective prohibition on the discharge of non-storm water discharges into the MS4 or for controls to reduce the discharge of pollutants in storm water to the MEP, or other provisions that the San Diego Water Board has determine appropriate to control such pollutants, as those requirements are mandated by federal law.

Included in the provisions of the Order are monitoring and reporting requirements that are designed to demonstrate that the Copermittees are implementing programs to comply with the CWA municipal storm water requirements. CWA section 308(a) and 40 CFR 122.41(h), (j)-(l), 122.44(i) and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Federal regulations applicable to large and medium MS4s (40 CFR 122.26(d)(1)(iv)(D), 122.26(d)(1)(v)(B), 122.26(d)(2)(i)(F), 122.26(d)(2)(iii)(D), 122.26(d)(2)(iv)(B)(2) and 122.42(c)) also specify additional monitoring and reporting requirements. In addition to the federal requirements of the CWA, the San Diego Water Board also has the authority in CWC 13383 to establish monitoring, reporting, and recordkeeping requirements that implement federal and state laws and regulations through NPDES permits.

The monitoring and assessment information that will be reported to the San Diego Water Board is necessary to determine if the Copermittees are making progress toward achieving compliance with the discharge prohibitions, receiving water limitations, and effluent limitations under Provision A of the Order. The monitoring and assessment information that will be reported is also expected to be key to the iterative approach and adaptive management process that is required to be implemented by the Copermittees if they cannot meet the discharge prohibitions and receiving water limitations under the present conditions, which is also part of the requirements under Provision A of the Order.

Notwithstanding the above, the San Diego Water Board has considered cost information in issuing this Order, as discussed below. The San Diego Water Board has also considered all of the evidence that has been presented to the San Diego Water Board regarding the CWC section 13241 factors in adopting this Order. The San Diego Water Board finds that the requirements in this Order are reasonably necessary to protect beneficial uses identified in the Basin Plan and the economic information related to costs of compliance and other CWC section 13241 factors are not sufficient to justify failing to protect those beneficial uses. Where appropriate, the

San Diego Water Board has provided or will consider providing the Copermittees with additional time to implement control measures to achieve final WQBELs and/or water quality standards.

Cost Information

Discussions of the financial and economic ramifications of municipal storm water management programs tend to focus on the significant costs incurred by municipalities in developing and implementing the programs. When considering the cost of implementing the programs, however, it is also important to consider the alternative costs that are incurred when programs are not fully implemented, as well as the economic benefits which result from effective program implementation.

The recent financial and economic conditions have amplified the concerns about the costs incurred by the municipalities in developing and implementing their programs. The reduction in resources resulting from the recent financial and economic conditions has been cited by many of the Copermittees as a justification for reducing the requirements that must be met by their programs. While the recent conditions are a cause for concern in the short term, these programs also have an opportunity to identify and implement improvements and efficiencies before the next period of growth and development, resulting in more effective and sustainable programs over the long term.

In addition, it is very difficult to ascertain the true cost of implementation of the Copermittees' management programs because of inconsistencies in reporting by the Copermittees. Reported costs of compliance for the same program element can vary widely from city to city, often by a very wide margin that is not easily explained.[2] Despite these problems, efforts have been made to identify management program costs, which can be helpful in understanding the costs of program implementation.

The San Diego Water Board recognizes that the Copermittees will incur costs in implementing this Order, potentially above and beyond the costs from the Copermittees' prior permits. The San Diego Water Board also recognizes that, due to California's current economic condition, many Copermittees currently have limited staff and resources to implement actions to address its MS4 discharges. Based on the economic considerations below, the San Diego Water Board has provided the Copermittees a significant amount of flexibility to choose how to implement the requirements of the Order.

The Order also allows the Copermittees to customize their plans, programs, and monitoring requirements. In the end, it is up to the Copermittees to determine the effective BMPs and measures necessary to comply with this Order. The Copermittees can choose to implement the least expensive measures that are effective in meeting

[2] Los Angeles Water Board, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.

the requirements of this Order. This Order also does not require the Copermittees to fully implement all requirements within a single permit term. Where appropriate, the Board has provided the Copermittees with additional time outside of the permit term to implement control measures to achieve final WQBELs and/or water quality standards.

The San Diego Water Board has considered available cost information associated with compliance with this Order. It is not possible to predict accurately the cost impact of the requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined. Only general conclusions can be drawn from this information.

Estimated Municipal Storm Water Program Implementation Costs

The USEPA, the State Water Board, and the California Regional Water Quality Control Boards (Regional Water Boards) have attempted to evaluate the costs of implementing municipal storm water programs. The assessments have demonstrated that the true costs are difficult to ascertain and reported costs vary widely. In addition, reported fiscal analyses tend to neglect the costs incurred to municipalities when storm water and non-storm water runoff is not effectively managed, which are incurred as a result of pollution, contamination, nuisance, and damage to ecosystems, property, and human health. Nonetheless, they provide a useful context for considering the costs of requirements within Order No. R9-2013-0001.

In 1999, the USEPA reported on multiple studies it conducted to determine the cost of management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be $9.16 per household. The USEPA also studied 35 Phase I municipalities, finding costs to be $9.08 per household annually, similar to those anticipated for Phase II municipalities.[3]

The State Water Board commissioned a study by the California State University, Sacramento to assess costs of the Phase I MS4 program. This study includes an assessment of costs incurred by Phase I MS4s throughout the state to implement their programs. Annual cost per household in the study ranged from $18 to $46, with the Fresno-Clovis Metropolitan Area representing the lower end of the range, and the City of Encinitas (in San Diego County) representing the upper end of the range.[4]

A study on Phase I MS4 program costs was also conducted by the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board), where program costs reported in the municipalities' annual reports were assessed. The Los

[3] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791-68792.
[4] State Water Board, 2005. NPDES Stormwater Cost Survey. P. ii.

Angeles Water Board estimated that average per household cost to implement the MS4 program in Los Angeles County was $12.50. [5]

It is important to note that reported program costs are not all attributable to solely complying with MS4 permits. Many program components, and their associated costs, existed before any MS4 permits were ever issued. For example, street sweeping and trash collection costs cannot be solely or even principally attributable to MS4 permit compliance, since these practices have long been expected from and implemented by municipalities.

Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. The California State University, Sacramento study found that only 38 percent of program costs are new costs fully attributable to MS4 permits. The remainder of the program costs was either pre-existing or resulted from enhancement of pre-existing programs.[6] In 2000, the County of Orange found that even lower amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement the County or Orange Drainage Area Management Plan (DAMP), was less than 20 percent of the total budget. The remaining 80 percent was attributable to pre-existing programs.[7] More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.

Estimated Value of Healthy Water Quality

Economic considerations of municipal storm water management programs cannot be limited only to program costs. Evaluation of programs must also consider information on the benefits derived from environmental protection and improvement.[8] Attention is often focused on municipal storm water management program costs, but the programs must also be viewed in terms of their value to the public.

Placing a value on healthy receiving waters is very difficult. Often the value of receiving waters with good water quality manifests in other forms, such as tourism, recreational opportunities, and/or increased property values. When surface water bodies are degraded, thereby degrading the habitat within and adjacent to the water bodies, the public loses the value and benefits associated with being able to use the area in and around the water bodies. Surface waters that are able to support the beneficial uses designated in the Basin Plan can sustain plants and wildlife that can attract visitors and residents, providing aesthetic, recreational, as well as monetary value to the public. At this time, however, there have been no studies for the San

[5] Los Angeles Water Board, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.
[6] State Water Board, 2005. NPDES Stormwater Cost Survey. P. 58.
[7] County of Orange, 2000. A NPDES Annual Progress Report. P. 60.
[8] Ribaudo M.O. and D. Heelerstein. 1992, *Estimating Water Quality Benefits: Theoretical and Methodological Issues.* U.S. Department of Agriculture. Technical Bulletin No. 1808.

Diego Region to quantify the added value that surface waters with healthy water quality can provide.

USEPA has estimated that household willingness to pay for improvements in fresh water quality for fishing and boating is approximately $158-$210.[9] This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. Another study conducted by California State University, Sacramento reported that the annual household willingness to pay for statewide clean water is approximately $180.[10]

A study conducted by the University of Southern California and University of California, Los Angeles assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles region. The study found that non-structural systems would cost $2.8 billion but provide $5.6 billion in benefit. If structural systems were determined to be needed, the study found that total costs would be $5.7 to $7.4 billion, while benefits could reach $18 billion.[11] Costs are anticipated to be borne over many years, probably at least ten years.

As can be seen, the benefits of the municipal storm water management programs are expected to considerably exceed their costs. Such findings are corroborated by USEPA, which found that the benefits of implementation of its Phase II storm water rule would also outweigh the costs.[12]

[9] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.
[10] State Water Board, 2005. NPDES Stormwater Cost Survey. P. iv.
[11] Los Angeles Water Board, 2004. Alternative Approaches to Stormwater Control.
[12] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

VII. APPLICABLE STATUTES, REGULATIONS, PLANS AND POLICIES

A. Legal Authorities – Federal Clean Water Act and California Water Code

This Order is issued pursuant to section 402 of the CWA and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the CWC (commencing with section 13370). This Order serves as an NPDES permit for point source discharges to surface waters. This Order also serves as waste discharge requirements pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

The objective of the CWA is "*to restore and maintain the chemical, physical, and biological integrity of the Nation's waters*." To carry out this objective, the CWA requires the implementation of permit programs to regulate the discharge of pollutants and dredged or fill material to the navigable waters of the U.S. and to regulate the use and disposal of sewage sludge. CWA section 402 provides the legal authority to issue a permit for the discharge of pollutants to waters of the U.S. under the NPDES. The CWA provides that NPDES permits may be issued by states which are authorized to implement the provisions of that act. California became authorized to implement the NPDES permit program on May 14, 1973.

The Porter-Cologne Water Quality Control Act (Division 7, commencing with CWC section 13000) established the State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards (Regional Water Boards) as the principal state agencies with primary responsibility for the coordination and control of water quality. CWC section 13200(f) established the San Diego Water Board, which has the primary responsibility for the coordination and control of water quality in the San Diego Region, which includes all the basins draining into the Pacific Ocean between the southern boundary of the Santa Ana Region and the California-Mexico boundary. The San Diego Water Board implements the CWA through Chapter 5.5 of the CWC, commencing with section 13370. CWC section 13377 provides the San Diego Water Board the legal authority to issue waste discharge requirements to ensure compliance with all applicable provisions of the CWA and acts amendatory thereof or supplementary, thereto, to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.

CWA section 402(p) requires the USEPA or authorized state to issue NPDES permits for storm water discharges from MS4s to waters of the U.S. CWA section 402(p)(3)(B)(ii) requires that NPDES permits for storm water discharges from MS4s "*effectively prohibit non-storm water discharges*" into the MS4s. CWA section 402(p)(3)(B)(iii) requires that NPDES permits for storm water discharges from MS4s to "*require controls to reduce the discharge of pollutants* [in storm water] *to the maximum extent practicable* [MEP], *including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants*."

The USEPA published implementing regulations (Code of Federal Regulations [CFR] Title 40, Part 122 [40 CFR 122]), which prescribe permit application requirements for storm water discharges from MS4s pursuant to CWA 402(p), on November 16, 1990. The USEPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s, on May 17, 1996. The federal regulations in 40 CFR 122 and guidance issued by USEPA serve as the foundation for the provisions of Order No. R9-2013-0001. The legal authorities provided by the above statutes and regulations are included as part of the discussions in Section VIII of this Fact Sheet.

B. Legal Authority for the Permit Issued on a Region-wide Basis

CWA section 402(p)(3)(B) provides the San Diego Water Board the legal authority to issue an NPDES permit for the San Diego Region as compared to separate MS4 permits based upon County- and partial County-wide boundaries as they existed within the San Diego Region. CWA section 402(p)(3)(B) states that "*Permits for discharges from municipal storm sewers- (i) may be issued on a system- or jurisdiction-wide basis* ...." The federal regulations in 40 CFR 122.26(a)(1)(v) also state that the San Diego Water Board "*may designate dischargers from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination, the [San Diego Water Board] may consider the following factors: (A) the location of the discharge with respect to waters of the United States; (B) the size of the discharge; (C) the quantity and nature of the pollutants discharged to waters of the United States; and (D) other relevant factors*."

More specifically, the federal regulations provide that for large and medium MS4 systems, the San Diego Water Board may issue a regional permit. Specifically, the federal regulation in 40 CFR 122.26(a)(3) provide:

"*(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.*

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either: (A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operator of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system; (B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for

which the operator is responsible; or (C) A regional authority may be responsible for submitting a permit application under the following guidelines....

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one systemwide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system."

Based on these regulations, the San Diego Water Board may issue a region-wide MS4 permit. The regulations also clarify that the permit may include different conditions for separate discharges covered by the permit. This allows the San Diego Water Board to ensure that suitable water quality conditions and provisions are identified for each watershed.

The USEPA's responses to comments in the Final Rule for the above-mentioned regulations also make it clear that the permitting authority, in this case the San Diego Water Board, has the flexibility to establish system- or region-wide, permits. In the Final Rule published in the Federal Register and containing the responses to comments, USEPA notes that 40 CFR 122.26(a)(3)(iv) would allow an entire system in a geographical region under the purview of a State agency to be designated under a permit.[13] USEPA also states that many commenters wanted to allow the permitting authority broad discretion to establish system-wide permits, and that EPA believes that paragraphs 40 CFR 122.26 (a)(1)(v) and (a)(3)(ii) allow for such broad discretion.[14]

This Order creates watershed requirements that apply to multiple counties. The regional nature of this Order will ensure consistency of regulation within watersheds and is expected to result in overall cost savings for the Copermittees. Managing storm water on a regional and watershed basis is expected to result in improved water quality, as the Order focuses on monitoring and management practices necessary to improve each watershed rather than political boundaries. A single permit also allows the San Diego Water Board staff to expend fewer resources developing successive multiple permits and allows more resources to be devoted to working cooperatively with all three current groups of Copermittees to ensure implementation of this Order results in improved water quality.

[13] 55 Federal Register 47990-01, 48042.
[14] Ibid.

C. Federal and California Endangered Species Acts

This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2115.5) or the Federal Endangered Species Act (16 United States Code [USC] sections 1531 to 1544). This Order requires compliance with requirements to protect the beneficial uses of waters of the U.S. The Copermittees are responsible for meeting all requirements of the applicable Endangered Species Act.

D. California Environmental Quality Act

The action to adopt an NPDES Permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code section 21100, et seq.) pursuant to CWC section 13389. (*County of Los Angeles v. Cal. Water Boards* (2006) 143 Cal.App.4th 985.)

E. State and Federal Regulations, Plans and Policies

The legal authority provided by the following regulations, plans, and policies are also included as part of the discussions in Section VIII of this Fact Sheet.

Water Quality Control Plan for the San Diego Basin

The CWA requires the San Diego Water Board to establish water quality standards for each water body in its region. Water quality standards include beneficial uses, water quality objectives and criteria that are established at levels sufficient to protect beneficial uses, and an antidegradation policy to prevent degrading of waters. On September 8, 1994, the San Diego Water Board adopted the *Water Quality Control Plan for the San Diego Basin* (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters in the San Diego Region. The San Diego Water Board has amended the Basin Plan on multiple occasions since 1994. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the surface water bodies that receive discharges from the MS4s within the San Diego Region generally include those listed below:

The Basin Plan identifies the following existing and potential beneficial uses for inland surface waters in the San Diego Region:

- Municipal and Domestic Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Process Supply (PROC)

- Industrial Service Supply (IND)
- Ground Water Recharge (GWR)
- Contact Water Recreation (REC1)
- Non-contact Water Recreation (REC2)
- Warm Freshwater Habitat (WARM)
- Cold Freshwater Habitat (COLD)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)
- Freshwater Replenishment (FRSH)
- Hydropower Generation (POW)
- Preservation of Biological Habitats of Special Significance (BIOL)

The following additional existing and potential beneficial uses are identified for coastal waters of the San Diego Region:

- Navigation (NAV)
- Commercial and Sport Fishing (COMM)
- Estuarine Habitat (EST)
- Marine Habitat (MAR)
- Aquaculture (AQUA)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Shellfish Harvesting (SHELL)

Pursuant to Water Code sections 13263 and 13377, the requirements of this Order implement the Basin Plan.

Water Quality Control Plan for Ocean Waters of California, California Ocean Plan

In 1972, the State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan). The State Water Board adopted the most recent amended Ocean Plan on October 16, 2012. The Office of Administrative Law approved it on July 3, 2013. The amended Ocean Plan became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to ocean waters of the State. In order to protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Pursuant to Water Code sections 13263 and 13377, the requirements of this Order implement the Ocean Plan. The Ocean Plan identifies the beneficial uses of ocean waters of the State to be protected as summarized below:

- Industrial water supply
- Water contact and non-contact recreation, including aesthetic enjoyment; navigation
- Commercial and sport fishing

- Mariculture
- Preservation and enhancement of designated Areas of Special Biological Significance
- Rare and endangered species
- Marine habitat
- Fish spawning and shellfish harvesting

On March 20, 2012, the State Water Board approved Resolution No. 2012-0012 approving an exception to the Ocean Plan prohibition against discharges to Areas of Special Biological Significance (ASBS) for certain nonpoint source discharges and NPDES permitted municipal storm water discharges. On June 19, 2012, the State Water Board adopted Order No. 2012-0031, amending Order No. 2012-0012 to require pollutant load reductions to be achieved within six years for the ASBS Compliance Plans, section A.2.d(2) and ASBS Pollution Prevention Plans, section B.2.b(2). The State Water Board Resolution No. 2012-0012, as amended requires monitoring and testing of marine aquatic life and water quality in several ASBS to protect California's coastline during storms when rain water overflows into coastal waters. Specific terms, prohibitions, and special conditions were adopted to provide special protections for marine aquatic life and natural water quality in ASBS. The City of San Diego's municipal storm water discharges to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's municipal storm water discharges to the Heisler Park ASBS are subject terms and conditions of State Water Board Resolution No. 2012-0012, as amended. The Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012, as amended, applicable to these discharges, are incorporated in Attachment A of this Order. Requirements of this Order implement the Ocean Plan.

Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality

On September 16, 2008, the State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (Sediment Quality Control Plan). The Sediment Quality Control Plan became effective on August 25, 2009. The Sediment Quality Control Plan establishes 1) narrative sediment quality objectives for benthic community protection from exposure to contaminants in sediment and to protect human health, and 2) a program of implementation using a multiple lines of evidence approach to interpret the narrative sediment quality objectives. Requirements of this Order implement the Sediment Quality Control Plan.

Antidegradation Policy

Federal regulations (40 CFR 131.12) require that the state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining the Quality of the Waters of the State"). State Water Board Resolution No. 68-16 incorporates the

federal antidegradation policy where the federal policy applies under federal law.

The San Diego Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. State Water Board Resolution No. 68-16 and 40 CFR 131.12 require the San Diego Water Board to maintain high quality waters of the State unless degradation is justified based on specific findings. First, the Board must ensure that "existing instream uses and the level of water quality necessary to protect the existing uses" are maintained and protected. Second, if the baseline quality of a water body for a given constituent exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected through the requirements of the Order unless the Board makes findings that (1) any lowering of the water quality is necessary to accommodate important economic or social development in the area in which the waters are located; (2) water quality adequate to protect existing uses fully is assured; and (3) the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control are achieved. The San Diego Water Board must also comply with any requirements of State Water Board Resolution No. 68-16 beyond those imposed through incorporation of the federal antidegradation policy. In particular, the Board must find that not only present, but also anticipated future uses of water are protected, and must ensure best practicable treatment or control of the discharges. The baseline quality considered in making the appropriate findings is the best quality of the water since 1968, the year of the adoption of Resolution No. 68-16, or a lower level if that lower level was allowed through a permitting action that was consistent with the federal and state antidegradation policies.

The discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16 as set forth below:

1. Many of the waters within the area covered by this Order are impaired for multiple pollutants discharged through MS4s and are not high quality waters with regard to these pollutants. In most cases, there is insufficient data to determine whether these water bodies were impaired as early as 1968, but the limited available data shows impairment dating back for more than two decades. Many such water bodies are listed on the State's CWA Section 303(d) List and the San Diego Water Board has established TMDLs to address the impairments. This Order ensures that existing instream (beneficial) water uses and the level of water quality necessary to protect the existing uses is maintained and protected. This Order requires the Copermittees to comply with permit provisions to implement the WLAs set forth in the TMDLs in order to restore the beneficial uses of the impaired water bodies consistent with the assumptions and requirements of the TMDLs. This Order further requires compliance with receiving water limitations to meet water quality standards in the receiving water either by demonstrating compliance pursuant to Provision A and the Copermittees' monitoring and assessment program pursuant to Provision D of this Order, or by implementing Provision B.3.c with a schedule to achieve compliance

with receiving water limitations. This Order includes requirements to develop and implement storm water management programs, achieve WQBELs, and effectively prohibit non-storm water discharges into the MS4. The issuance of this Order does not authorize an increase in the amount of discharge of waste.

2. To the extent that water bodies within the area covered by this Order are high quality waters with regard to some constituents, this Order finds as follows:

   a. Allowing limited degradation of high quality water bodies through MS4 discharges is necessary to accommodate important economic or social development in the area and is consistent with the maximum benefit to the people of the state. The discharge of storm water in certain circumstances is to the maximum benefit to the people of the state because it can assist with maintaining instream flows that support beneficial uses, may spur the development of multiple-benefit projects, and may be necessary for flood control, and public safety as well as to accommodate development in the area. The alternative – capturing all storm water from all storm events – would be an enormous opportunity cost that would preclude MS4 permittees from spending substantial funds on other important social needs. The Order ensures that any limited degradation does not affect existing and anticipated future uses of the water and does not result in water quality less than established standards. The Order requires compliance with receiving water limitations that act as a floor to any limited degradation.

   b. The Order requires the highest statutory and regulatory requirements and requires that the Copermittees meet best practicable treatment or control. The Order prohibits all non-storm water discharges, with a few enumerated exceptions, through the MS4 to the receiving waters. As required by 40 CFR section 122.44(a), the Copermittees must comply with the "maximum extent practicable" technology-based standard set forth in CWA section 402(p), and implement extensive minimum control measures in a storm water management program. Recognizing that best practicable treatment or control may evolve over time, the Order includes new and more specific requirements as compared to the prior Phase I MS4 permits for the San Diego County, Orange County and Riverside County Copermittees. The Order incorporates options to implement Water Quality Improvement Plans that must specify detailed structural and non-structural storm water controls that must be implemented in accordance with an accepted proposed time schedule. The Order contains provisions to encourage, wherever feasible, retention of the storm water from the 85th percentile 24-hour storm event.

Anti-Backsliding Requirements

CWA sections 402(o) and 303(d)(4) and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations or conditions may be relaxed. While this Order

allows implementation of an alternative compliance pathway option in Provision B.3.c to constitute compliance with receiving water limitations under certain circumstances, the availability of that alternative and the corresponding availability of additional time to come into compliance with receiving water limitations does not violate the anti-backsliding provisions. The receiving water limitations provisions of this Order are imposed under section 402(p)(3)(B) of the Clean Water Act rather than based on best professional judgment, or based on section 301(b)(1)(C) or sections 303(d) or (e), and are accordingly not subject to the anti-backsliding requirements of section 402(o). Although the non-applicability is less clear with respect to the regulatory anti-backsliding provisions in 40 CFR 122.44(l), the regulatory history suggests that USEPA's intent was to establish the anti-backsliding regulations with respect to evolving technology standards for traditional point sources. (See, e.g., 44 Fed.Reg. 32854, 32864 (Jun. 7, 1979)). It is unnecessary, however, to resolve the ultimate applicability of the regulatory anti-backsliding provisions, because the alternative compliance pathway option in Provision B.3.c qualifies for an exception to backsliding as based on new information.

The alternative compliance pathway option in Provision B.3.c of this Order was informed by new information available to the Board from experience and knowledge gained through storm water permitting at the Regional Water Boards in the last ten years. There has been a statewide paradigm shift in storm water management. State Water Board Order WQ 2015-0075 directed all of the Regional Water Boards to consider the Los Angeles Water Board's alternative compliance path to receiving water limitations in all Phase I MS4 permits going forward (State Water Board Order WQ 2015-0075 at page 51), and the Los Angeles Water Board's process of developing over 30 watershed-based TMDLs and implementing several TMDLs since the adoption of the previous permits. In particular, the Los Angeles Water Board recognized the significance of allowing time to plan, design, fund, operate and maintain watershed-based BMPs necessary to attain water quality improvements and additionally recognized the potential for municipal storm water to benefit water supply. Similarly, the San Diego Water Board's experience developing and implementing the Fourth Term MS4 Permits and TMDLs that apply on a region-wide scale (e.g. TMDLs for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region) has resulted in a similar recognition of the need for a watershed-based approach that allows time to plan, design, fund, operate and maintain BMPs to address impaired waters that have been impacted by MS4 discharges. Thus, even if the receiving water limitations are subject to anti-backsliding requirements, they were revised based on new information that would support an exception to the anti-backsliding provisions. (33 U.S.C. § 1342(o)(2)(B)(i); 40 C.F.R. § 122.44(l)(1); 40 C.F.R. §122.44(l)(2)(i)(B)(1)).

Clean Water Act Section 303(d) List

CWA section 303(d)(1) requires each State to identify specific water bodies within its boundaries where water quality standards are not being met or are not expected to be met after implementation of technology-based effluent limitations on point sources. Water bodies that do not meet water quality standards are considered impaired and are placed on the state's "303(d) List." Periodically, USEPA approves the State's 303(d) List.

Most recently, USEPA approved the State's 2010 303(d) List of impaired water bodies on October 11, 2011, which includes certain receiving waters in the San Diego Region. For each listed water body, the state or USEPA is required to establish a TMDL of each pollutant impairing the water quality standards in that water body. A TMDL is a tool for implementing water quality standards and is based on the relationship between pollution sources and in-stream water quality conditions. The TMDL establishes the allowable pollutant loadings for a water body and thereby provides the basis to establish water quality-based controls. These controls should provide the pollution reduction necessary for a water body to meet water quality standards.

A TMDL is the sum of the allowable pollutant loads of a single pollutant from all contributing point sources (the waste load allocations or WLAs) and non-point sources (load allocations of LAs) plus the contribution from background sources and a margin of safety (40 CFR 130.2(i)). MS4 discharges are considered point source discharges. For 303(d)-listed water bodies and pollutants in the San Diego Region, the San Diego Water Board or USEPA develops and adopts TMDLs that specify these requirements.

Since 2002, the San Diego Water Board has established seven (7) TMDLs to remedy water quality impairments in various water bodies within the San Diego Region (see Attachment E to the Order). These TMDLs identify MS4 discharges as a source of pollutants to these water bodies, and, as required, establish WLAs for MS4 discharges to reduce the amount of pollutant discharged to receiving waters. CWA section 402(p)(3)(B)(iii) requires the San Diego Water Board to impose permit conditions, including: "management practices, control techniques and system, design and engineering methods, and *such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."* (Emphasis added.) CWA section 402(a)(1) also requires states to issue permits with conditions necessary to carry out the provisions of the CWA. Federal regulations also require that NDPES permits contain WQBELs consistent with the assumptions and requirements of all available WLAs (40 CFR 122.44(d)(1)(vii)(B)). CWC section 13377 also requires that NPDES permits include limitations necessary to implement water quality control plans. Therefore, this Order includes WQBELs and other provisions to implement the TMDL WLAs assigned to Copermittees regulated by this Order.

Other Regulations, Plans and Policies

This Order implements all other applicable federal regulations and State regulations, plans and policies, including the California Toxics Rule at 40 CFR 131.38 (Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California Rule [California Toxics Rule or CTR]), and State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP).

F. Unfunded State Mandates

Article XIII B, Section 6(a) of the California Constitution provides that whenever "*any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service*." The requirements of this Order do not constitute state mandates that are subject to a subvention of funds for several reasons, including, but not limited to, the following.

First, the requirements of this Order do not constitute a new program or a higher level of service as compared to the requirements contained in the previous Fourth Term Permits. The overarching requirement to impose controls to reduce the pollutants in discharges from MS4s is dictated by the CWA and is not new to this permit cycle (33 USC section 1342(p)(3)(B)). The inclusion of new and advanced measures as the MS4 programs evolve and mature over time is anticipated under the CWA (55 FR 47990, 48052 (Nov. 16, 1990)), and to the extent requirements in this Order are interpreted as new advanced measures, they do not constitute a new program or higher level of service.

Second, and more broadly, mandates imposed by federal law, rather than by a state agency, are exempt from the requirement that the local agency's expenditures be reimbursed (Cal. Const., art. XIII B, section 9, subd. (b)). This Order implements federally mandated requirements under the CWA and its requirements are therefore not subject to subvention of funds. This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants in storm water to the MEP, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants (33 USC section 1342(p)(3)(B)). Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (*Natural Resources Defense Council, Inc., v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.)

The authority exercised under this Order is not reserved state authority under the CWA's savings clause (cf. *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 USC section 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Board, Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego Co. v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

The MEP standard is a flexible standard that balances a number of considerations, including technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness. (*Building Ind. Ass'n., supra,* 124 Cal.App.4th at pp. 873-874, 889.) Such considerations change over time with advances in technology and with experience

gained in storm water management (55 FR 47990, 48052 (Nov. 16, 1990)). Accordingly, a determination of whether the conditions contained in this Order exceed the requirements of federal law cannot be based on a point by point comparison of the permit conditions and the minimum control measures that are required "at a minimum" to reduce pollutants to the maximum extent practicable and to protect water quality (40 CFR 122.34). Rather, the appropriate focus is whether the permit conditions, as a whole, exceed the MEP standard.

In recent months, the County of Los Angeles and County of Sacramento Superior Courts have granted writs setting aside decisions of the Commission on State Mandates that held certain requirements in Phase I permits constituted unfunded mandates. In both cases, the courts have found that the correct analysis in determining whether an MS4 permit constituted a state mandate was to evaluate whether the permit as a whole exceeds the MEP standard. (*State of Cal. v. Comm. on State Mandates* (Super. Ct. Sacramento County, 2012, No. 34-2010-80000604), *State of California v. County of Los Angeles* (Super. Ct. Los Angeles County, 2011, No. BS130730.) Both cases are currently pending appeal.

The requirements of the Order, taken as a whole rather than individually, are necessary to reduce the discharge of pollutants to the MEP and to protect water quality. The San Diego Water Board finds that the requirements of the Order are practicable, do not exceed federal law, and thus do not constitute an unfunded mandate. These findings are the expert conclusions of the principal state agency charged with implementing the NPDES program in California (CWC sections 13001, 13370).

It should also be noted that the provisions in this Order to effectively prohibit non-storm water discharges are also mandated by the CWA (33 USC section 1342(p)(3)(B)(ii)). Likewise, the provisions of this Order to implement TMDLs are federal mandates. The CWA requires TMDLs to be developed for water bodies that do not meet federal water quality standards (33 USC section 1313(d)). Once the USEPA or a state establishes or adopts a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions and requirements of any applicable waste load allocation in a TMDL (40 CFR 122.44(d)(1)(vii)(B)).

Third, the local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few inapplicable exceptions, the CWA regulates the discharge of pollutants from point sources (33 USC section 1342) and the Porter-Cologne Act regulates the discharge of waste (CWC section 13263), both without regard to the source of the pollutant or waste. As a result, the "costs incurred by local agencies" to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and non-governmental dischargers. (See *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 57-58 [finding comprehensive workers' compensation scheme did not create a cost for local agencies that was subject to state subvention].)

The CWA and the Porter-Cologne Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Generally, the CWA requires point source dischargers, including dischargers of storm water associated with industrial or construction activity, to comply strictly with water quality standards (33 USC section 1311(b)(1)(C); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1164-1165 [noting that industrial discharges must strictly comply with water quality standards]). As discussed in prior State Water Board decisions, certain provisions of this Order do not require strict compliance with water quality standards (State Water Board Order No. WQ 2001-0015, p. 7). Those provisions of this Order regulate the discharge of waste in municipal storm water under the CWA's MEP standard, not the BAT/BCT standard that applies to other types of discharges. These provisions, therefore, regulate the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.

Fourth, the Copermittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA section 301(a) (33 USC section 1311(a)). To the extent that the local agency Copermittees have voluntarily availed themselves of the permit, the program is not a state mandate. (Accord, *County of San Diego v. State of California* (1997) 15 Cal.4th 68, 107-108.)

Fifth, the local agency Copermittees' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIIIB, Section (6) of the California Constitution.

Finally, even if any of the permit provisions could be considered unfunded mandates, under Government Code section 17556, subdivision (d), a state mandate is not subject to reimbursement if the local agency has the authority to charge a fee. The local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order, subject to certain voting requirements contained in the California Constitution. (See Cal. Const., Art. XIII D, section 6, subd. (c); see also *Howard Jarvis Taxpayers Ass'n v. City of Salinas* (2002) 98 Cal.App.4th 1351, 1358-1359.) The Fact Sheet demonstrates that numerous activities contribute to the pollutant loading in the MS4. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc., v. City of Los Angeles* (2001(24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The authority and ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*Clovis Unified School Dist. V. Chiang* (2010) 188 Cal.App.4th 794, 812, citing *Connell v. Sup. Ct.* (1997) 59 Cal.App.4th 382, 401; *County of Fresno v. State of California* (1991) 53 Cal. 3d. 482, 487-488.)

VIII. PROVISIONS

The provisions (i.e. NPDES permit requirements) of the Order are discussed below.

A. Prohibitions and Limitations

Purpose: Provision A includes the prohibitions and limitations requirements that are the foundation of all the subsequent requirements included in the Order. Compliance with the prohibitions and limitations will restore and protect receiving waters from impacts that may be caused by discharges into and from the Copermittees' MS4s and ultimately achieve the objective of the CWA.

In meeting the requirements set forth in the Order, the Copermittees must be cognizant that the prohibitions and limitations exist and will be the standard by which the San Diego Water Board will be measuring the progress and success of their implementation of the NPDES permit requirements.

***Discussion*:** The objective of the CWA is to "*restore and maintain the chemical, physical, and biological integrity of the Nation's waters*." The CWA requires the implementation of NPDES permit programs to regulate discharges of pollutants and dredged or fill material to the navigable waters of the U.S. For discharges into and from MS4s, the CWA requires the NPDES permits to "*effectively prohibit non-stormwater discharges into the storm sewers*" and "*require controls to reduce the discharge of pollutants* [in storm water] *to the maximum extent practicable.*"

Provision A includes limitations, consistent with the requirements of the CWA for discharges from MS4s. Provision A expresses these limitations as discharge prohibitions, receiving water limitations, and effluent limitations. Compliance with the discharge prohibitions and receiving water limitations is also explicitly described, in conformance with precedential State Water Board Orders.

More specific and detailed discussions of the requirements of Provision A are provided below.

Provision A.1 (Discharge Prohibitions) prohibits the discharge of specific types of waste into and/or from the Copermittees' MS4s.

Provision A.1.a restates and reiterates Basin Plan Waste Discharge Prohibition 1, by prohibiting discharges into and from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance in receiving waters of the

state. The terms pollution,[15] contamination,[16] and nuisance[17] are defined under CWC 13050. Provision A.1.c incorporates all the waste discharge prohibitions of the Basin Plan into the requirements of the Order. The waste discharge prohibitions from the Basin Plan have been reproduced and provided in Attachment A to the Order.

Provision A.1.b requires non-storm water discharges into the MS4s to be effectively prohibited, consistent with the requirements of the CWA for MS4 permits to "*effectively prohibit non-stormwater discharges into the storm sewers*." The effective prohibition is required to be implemented by each Copermittee within its jurisdiction through the illicit discharge detection and elimination requirements under Provision E.2. The prohibition does not apply to NPDES permitted discharges into the Copermittees' MS4s.

The CWA employs the strategy of prohibiting the discharge of any pollutant from a point source into waters of the United States unless the discharger of the pollutant(s) obtains an NPDES permit pursuant to CWA Section 402. The 1987 amendment to the CWA includes provision 402(p) that specifically addresses NPDES permitting requirements for storm water discharges from MS4s. CWA section 402(p) prohibits the discharge of pollutants from specified MS4s to waters of the U.S. except as authorized by an NPDES permit and identifies two substantive standards for MS4 storm water permits. MS4 permits (1) "*shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers*" and (2) "*shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or State determines appropriate for the control of such pollutants*." (CWA section 402(p)(3)(B)(ii)-(iii).)

In November 1990, the USEPA published regulations addressing storm water discharges from MS4s (55 FR 47990 and following (Nov. 16, 1990) (Phase I Final Rule)). The regulations establish minimum requirements for MS4 permits, and generally focus on the requirement that MS4s implement programs to reduce the amount of pollutants found in storm water discharges to the MEP. The CWA's municipal storm water MEP standard does not require storm water discharges to strictly meet water quality standards, as is required for other NPDES permitted

[15] CWC 13050(l): "(1) 'Pollution' means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) 'Pollution' may include 'contamination.'

[16] CWC 13050(k): "Contamination' means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected."

[17] CWC 13050(m): 'Nuisance' means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes."

discharges. Compliance is achieved through an iterative approach of continuous implementation of improved BMPs. This distinction reflects Congress's recognition that variability in flow and intensity of storm events render difficult strict compliance with water quality standards by MS4 permittees. In describing the controls that permits must include to reduce pollutants in storm water discharges to the MEP, the statute (CWA section 402(p)(3)(B)(iii)) states that the controls shall include: "*management practices, control techniques and system, design and engineering methods, and such other provisions as the [permit writer] determines appropriate for the control of such pollutants*."

In contrast, non-storm water discharges from the MS4 that are not authorized by separate NPDES permits are subject to requirements under the NPDES program, including discharge prohibitions, technology based effluent limitations and water quality-based effluent limitations (40 CFR 122.44). The regulations also require the Copermittee's program to include an element to detect and remove illicit discharges and improper disposal into the storm sewer (40 CFR 122.26(d)(2)(iv)(B)).

While "non-storm water" is not defined in the CWA or federal regulations, the federal regulations (at 40 CFR 122.26(b)(2)) define "*illicit discharge*" as *"any discharge to a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer and discharges resulting from fire fighting activities)*." This definition is the most closely applicable definition of "non-storm water" contained in federal law. As stated in the Phase I Final Rule, USEPA added the illicit discharge program requirement to begin implementation of the 'effective prohibition' requirement to detect and control non-storm water discharges to their municipal system.

Thus, federal law mandates that permits issued to MS4s must require management practices that will result in reducing storm water pollutants to the MEP yet at the same time requires that non-storm water discharges be effectively prohibited from entering the MS4. "Effectively" prohibit does not mean that non-storm water discharges are authorized to be discharged into and from the Copermittees' MS4s. The Phase I Final Rule clarifies what "effectively prohibit" means (55 FR 47995):

> "*Section 402(p)(3)(B) requires that permits for discharges from municipal separate storm sewers require the municipality to "effectively prohibit" non-storm water discharges from the municipal separate storm sewer…<u>Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit</u> (other than the permit for the discharge from the municipal separate storm sewer)*" [Emphasis added].

Consistent with federal law, unless non-storm water discharges to the MS4 are authorized by a separate NPDES permit, non-storm water discharges are

appropriately subject to the effective prohibition requirement in the CWA and Regional Water Boards are not limited by the iterative MEP approach to storm water regulation in crafting appropriate regulations for non-storm water discharges.

The federal regulations (40CFR122.26(d)(2)(i)(B)) require the Copermittees to establish the legal authority which authorizes or enables the Copermittees to prohibit illicit discharges to the MS4s. The federal regulations (40 CFR 122.26(d)(2)(vi)(B)(1)) require the Copermittees to "*implement and enforce an ordinance, order or similar means*" to prevent non-storm water discharges to their MS4s. Thus, the Copermittees are required to "*effectively*" prohibit non-storm water discharges to their MS4s through enforcing their legal authority established under "*ordinance, order or similar mean*s" and either remove those discharges to their MS4s, or require those discharges to obtain coverage under a separate NPDES permit. More detail about the program that must be implemented to "*effectively*" prohibit non-storm water discharges to the Copermittees' MS4s is provided under the discussion for Provision E.2.

Provision A.1.d was included to be consistent with Resolution No. 2012-0012, adopted by the State Water Board on March 20, 2012. Provision A.1.d prohibits discharges from MS4s to Areas of Special Biological Significance (ASBS), except for storm water discharges from the City of San Diego's MS4 to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach to the Heisler Park ASBS subject to the Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012. The pertinent Special Protections contained in Attachment B to State Water Board Resolution No. 2012-0012 are provided in Attachment A to the Order.

Provision A.2 (Receiving Water Limitations) specifies the condition of the receiving waters that must be achieved when there are discharges from the Copermittees' MS4s. Receiving water limitations are included in all NPDES permits issued pursuant to the CWA section 402. CWA section 402(p)(3)(B)(iii) authorizes the inclusion of "*such other provisions as the Administrator or the State determines appropriate for the control of such pollutants*." This requirement gives USEPA or the State permitting authority, in this case the San Diego Water Board, discretion to determine what permit conditions are necessary to control pollutants.

In its Phase I Final Rule (see 55 FR 47990, 47994 (Nov. 16, 1990)), USEPA elaborated on these requirements, stating that, "*permits for discharges from municipal separate storm sewer systems must require controls to reduce the discharge of pollutants to the maximum extent practicable, and where necessary water quality-based controls*." USEPA reiterated in its Phase II Final Rule (64 FR 68722, 68737), that MS4 "*permit conditions must provide for attainment of applicable water quality standards (including designated uses), allocations of pollutant loads established by a TMDL, and timing requirements for implementation of a TMDL*." CWC section 13377 also requires that NPDES permits include limitations necessary to implement water quality control plans. Both the State Water Board and the San Diego Water Board have previously concluded that discharges from the MS4 contain pollutants that have

the reasonable potential to cause or contribute to excursions above water quality standards. As such, inclusion of receiving water limitations is appropriate to control MS4 discharges.

The inclusion of receiving water limitations is also consistent with the Ninth Circuit Court of Appeals' ruling in *Defenders of Wildlife v. Browner* (191 F.3d 1159, 1166 (1999)) that the permitting authority has discretion regarding the nature and timing of requirements that it includes as MS4 permit conditions to attain water quality standards. The Ninth Circuit Court of Appeals recently explained that, "*[w]ater quality standards are used as a supplementary basis for effluent limitations [guidelines] so that numerous dischargers, despite their individual compliance with technology based effluent limitations, can be regulated to prevent water quality from falling below acceptable levels.*" (*Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2011) 673 F.3d 880, 886 (revd. On other grounds and remanded by *Los Angeles County Flood Control District v. Natural Resources Defense Council* (133 S.Ct. 710 (2013)))

The receiving water limitations included in this Order consist of all applicable numeric or narrative water quality objectives or criteria, or limitations to implement the applicable water quality objectives or criteria, for receiving waters as contained in the Basin Plan or in water quality control plans or policies adopted by the State Water Board, including State Water Board Resolution No. 68-16, or in federal regulations, including but not limited to 40 CFR 131.12 and 131.38. The water quality objectives in the Basin Plan and other State Water Board plans and policies have been approved by USEPA and combined with designated beneficial uses constitute the water quality standards required under federal law.

Provision A.2.a requires that discharges from the Copermittees' MS4s must not cause or contribute to the violation of water quality standards in receiving waters. The water quality standards of the receiving waters must be protected from the impacts that may be caused by the Copermittees' MS4 discharges. Water quality standards applicable to the surface waters in the San Diego Region must be achieved through meeting the technology based standard of MEP through an iterative process of improved management actions. Provision A.2.a is also consistent with State Water Board Order WQ 99-05 precedent-setting language requiring discharges from MS4s to attain receiving water quality standards. The water quality control plans and policies with water quality standards applicable to the waters in the San Diego Region are included under Provision A.2.a.

Provisions A.2.b was included to be consistent with the requirements of State Water Board Resolution No. 2012-0012, adopted on March 20, 2012.

Provision A.3 (Effluent Limitations) specifies the condition of the discharges from the Copermittees' MS4s that must be achieved if and when there are discharges.

Consistent with CWA section 301(b)(1)(A) and 40 CFR 122.44(a), Provision A.3.a includes the technology-based effluent limitations that must be included in the Order. The technology-based effluent limits, representing the minimum level of control that must be imposed in a permit under CWA section 402, requires that pollutants in discharges of storm water from the Copermittees' MS4s be reduced to the MEP. This provision applies specifically to storm water discharges. Non-storm water discharges must be effectively prohibited, as required under Provision A.1.b. Non-storm water (dry weather) discharges from the MS4 are not considered storm water (wet weather) discharges and therefore are not subject to the MEP standard.

The technology-based MEP standard is an ever-evolving, flexible, and advancing concept. Neither Congress nor USEPA has specifically defined the term "maximum extent practicable." Congress established this flexible MEP standard so that the administrative bodies would have "*the tools to meet the fundamental goals of the Clean Water Act in the context of storm water pollution*." (*Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 884.) As knowledge about controlling storm water runoff and discharges continues to evolve, so does the knowledge which constitutes MEP. Reducing the discharge of pollutants in storm water from the MS4 to the MEP requires the Copermittees to assess each program component and revise activities, control measures, BMPs, and measurable goals, as necessary to meet MEP.

The San Diego Water Board or the State Water Board ultimately define MEP, and may include requirements that provide specific guidance on what is expected to demonstrate MEP. It is the responsibility of the Copermittees to propose actions that implement BMPs to reduce storm water pollution to the MEP. In other words, the Copermittees' runoff management programs developed and implemented under the Order are the Copermittees' proposals for achieving MEP. Their total collective and individual activities conducted pursuant to their runoff management programs become their proposal for achieving MEP as it applies both to their overall effort, as well as to specific activities. Provisions B through E of the Order provides a minimum framework to guide the Copermittees in achieving the MEP standard for discharges of pollutants in storm water.

Provision A.3.b incorporates any water quality based effluent limitations (WQBELs) applicable to the MS4s established for TMDLs adopted and approved for the San Diego Region and requires the Copermittees to comply with those WQBELs. This is consistent with 40 CFR 122.44(d)(1)(vii)(B), which requires that NPDES permits to incorporate WQBELs "*developed to protect a narrative water quality criterion, a numeric water quality criterion, or both…consistent with the assumptions and requirements of any available wasteload allocation for the discharge...*"

Pursuant to CWA section 303(d), for surface water bodies identified as impaired by one or more pollutants, the San Diego Water Board is required to establish TMDLs "*at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge*

concerning the relationship between effluent limitations and water quality." The TMDLs identify sources of the pollutants causing the impairments and assign portions of the TMDL as WLAs to point sources, which include MS4s.

WLAs must be expressed in NPDES permits as WQBELs, which may include one or more numeric components such as numeric effluent limits, and/or receiving water limitations, and/or BMP requirements. Because numeric targets for TMDLs typically include a component that will be protective of water quality standards, a TMDL will likely include one or more numeric receiving water limitations and/or effluent limitations as part of the assumptions or requirements of the TMDL. Any numeric receiving water limitations and/or effluent limitations developed as part of the assumptions or requirements of a TMDL must be incorporated and included as part of WQBELs for the MS4s.

Because the development and approval of new TMDLs, or modification of existing TMDLs, may occur during the term of this Order, the specific provisions of those TMDLs, including effluent limitations applicable to MS4s are provided within Attachment E to the Order. Attachment E will be updated with new TMDLs and modifications to existing TMDLs in a timely manner as they occur.

Provision A.4 (Compliance with Discharge Prohibitions and Receiving Water Limitations) describes the process required to be implemented by the Copermittees if compliance with the discharge prohibitions of Provisions A.1.a and A.1.c and receiving water limitations of Provision A.2.a are not being achieved under current conditions.

In its Phase II Stormwater Regulations, Final Rule, USEPA states that MS4 "*permit conditions must provide for attainment of applicable water quality standards (including designated uses), allocations of pollutant loads established by a TMDL, and timing requirements for implementation of a TMDL.*"[18] In a series of comment letters on MS4 permits issued by various Regional Water Boards, USEPA has also reiterated that MS4 discharges must meet water quality standards.[19] In addition, the Ninth Circuit Court of Appeals explained in a recent ruling that, *"[w]ater quality standards are used as a supplementary basis for effluent limitations [guidelines] so that numerous dischargers, despite their individual compliance with technology based effluent limitations, can be regulated to prevent water quality from falling below acceptable levels.*"[20]

[18] Phase II Stormwater Regulations, Final Rule, 64 Fed. Reg. 68722, 68737.
[19] Letter from Alexis Strauss, Acting Director, Water Division, USEPA Region IX, to Walt Pettit, Executive Director, State Water Board, re: SWRCB/OCC File A-1041 for Orange County, dated January 21, 1998.
[20] NRDC v. County of Los Angeles (9th Cir. 2011), 673 F.3d 880, 886 (revd. on other grounds and remanded by *Los Angeles County Flood Control District v. Natural Resources Defense Council* (133 S.Ct. 710 (2013))). See also, *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 884-886, citing *Defenders of Wildlife v. Browning,* (9th Cir. 1999) 191 F.3d 1159.)

Water quality standards for the San Diego Region are established in the Basin Plan. The water quality standards of the Basin Plan are incorporated into this Order as the discharge prohibitions under Provisions A.1.a and A.1.c and receiving water limitations under Provision A.2.a. The discharge prohibitions and receiving water limitations in this Order consist of all applicable numeric or narrative water quality objectives or criteria, or limitations or prohibitions to implement the applicable water quality objectives or criteria, for receiving waters as contained in the Basin Plan, water quality control plans or policies adopted by the State Water Board, including Resolution No. 68-16, or federal regulations, including but not limited to, 40 CFR 131.12 and 131.38. The waste discharge prohibitions and water quality objectives in the Basin Plan have been approved by USEPA and combined with the designated beneficial uses constitute the water quality standards required under federal law.

Under federal law (CWA section 402(p)(3)(B)(iii)), an MS4 permit must include "*controls to reduce the discharge of pollutants to the maximum extent practicable...and such other provision as...the State determines appropriate for control of such pollutants*." The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.) This Order prohibits discharges that cause or contribute to violations of water quality standards.

The discharge prohibitions under Provisions A.1.a and A.1.c and receiving water limitations under Provision A.2.a are included in this Order to ensure that discharges from the MS4s do not cause or contribute to exceedances of water quality objectives necessary to protect the beneficial uses of the receiving waters.

Provision A.4 is consistent with the precedent-setting language in State Water Board Order WQ 99-05 required to be included in municipal storm water permits. State Water Board Order WQ 2001-15 refined Order WQ 99-05 by requiring an iterative approach to compliance with water quality standards involving ongoing assessments and revisions, referred to as the "iterative process." The "iterative process" is a fundamental NPDES requirement for municipal storm water permits to achieve the objectives of the CWA.

The State Water Board and Regional Water Boards have stated that the provisions under Provisions A.1.a, A.1.c, A.2.a, and A.4 are independently applicable, meaning that compliance with one provision does not provide a "safe harbor" where there is non-compliance with another provision (i.e., compliance with the Provision A.4 does not shield a Copermittee who may have violated Provision A.1.a, A.1.c, or A.2.a from an enforcement action). The intent of Provision A.4 is to ensure that the Copermittees have the necessary storm water management programs and controls in place, and that they are modified by the Copermittees in a timely fashion when necessary, so that compliance with Provisions A.1.a, A.1.c, and/or A.2.a is achieved as soon as possible. USEPA expressed the importance of this independent applicability in a series of

comment letters on MS4 permits proposed by various Regional Water Boards. At that time, USEPA expressly objected to certain MS4 permits that included language stating, *"permittees will not be in violation of this [receiving water limitation] provision … [if certain steps are taken to evaluate and improve the effectiveness of the jurisdictional runoff management programs],"* concluding that this phrase would not comply with the CWA.[21]

The Ninth Circuit held in *Natural Resources Defense Council v. County of Los Angeles* (2011) 673 F3d. 880, 886 (revd. on other grounds and remanded by *Los Angeles County Flood Control District v. Natural Resources Defense Council* (133 S.Ct. 710 (2013))) that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State and Regional Water Boards that exceedances of water quality standards in an MS4 permit constitute violations of permit terms subject to enforcement by the Water Boards or through a citizen suit. While the Water Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the San Diego Water Board retains the discretion to take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits under the CWA.

The requirements of Provision A.4, therefore, are required to be implemented until the water quality standards expressed under Provisions A.1.a, A.1.c, and A.2.a are achieved. The CWA requires MS4 permits to "*require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants*." The requirements of this Order have been deemed or determined to be "appropriate" to achieve water quality standards in receiving waters.

Part of the "*controls*" required by the Order is the process described in Provision A.4. Provision A.4 includes the process that is ultimately expected to achieve compliance with the requirement that discharges from the MS4 do not cause or contribute to violations of water quality standards in the receiving waters. The implementation of Provision A.4 is required when the Copermittees or the San Diego Water Board have determined that discharges from the MS4 are causing or contributing to violations of water quality standards in the receiving waters.

The Copermittees must effectively prohibit non-storm water discharges into the MS4s, reduce the discharge of pollutants in storm water from the MS4s to the MEP, and ensure that their MS4 discharges do not cause or contribute to violations of water quality standards. If the Copermittees have effectively prohibited non-storm water

[21] Letter from Alexis Strauss, Acting Director, Water Division, USEPA Region IX, to Walt Pettit, Executive Director, State Water Board, re: SWRCB/OCC File A-1041 for Orange County, dated January 21, 1998.

discharges and reduced storm water pollutant discharges to the MEP, but their discharges are still causing or contributing to violations of water quality standards, Provision A.4 provides a clear "iterative process" for the Copermittees to follow.

Provision A.4 essentially requires the Copermittees to implement additional BMPs until MS4 discharges no longer cause or contribute to a violation of water quality standards.

In assessing compliance and potential enforcement actions, the San Diego Water Board looks at the Copermittees' efforts in total to meet the requirements of Provisions A.1.a, A.1.c, A.2.a and Provision A.4. The Copermittees need to demonstrate that they are making improvements to their programs and making progress toward achieving the discharge prohibitions and receiving water limitations in Provisions A.1.a, A.1.c, and A.2.a by implementing the requirements of Provision A.4. The San Diego Water Board would consider these efforts prior to strictly enforcing the requirements of Provisions A.1.a, A.1.c, and A.2.a. Causes of exceedances of the receiving water limitations can often be more difficult to identify and attribute solely to the Copermittees' MS4s. The intent of the Order is to provide the Copermittees more clarity and flexibility in addressing these exceedances through the iterative approach and adaptive management process until the requirements under Provisions A.1.a, A.1.c, and A.2.a are fully achieved.

An exception to the iterative approach and adaptive management process would be in receiving waters subject to adopted and approved TMDLs. For TMDLs that are incorporated into the Order, there is a specific date for compliance to be achieved, after which the iterative approach and adaptive management process required under Provision A.4 no longer provides the flexibility to achieve compliance. Where compliance dates for a TMDL have passed, compliance with the WQBELs incorporated into the Order established by a TMDL in Attachment E to protect water quality standards is required. Thus, after the interim or final compliance dates for a TMDL have passed, if the discharges from the Copermittees' MS4s are causing or contributing to a violation of WQBELs, exceedances of WQBELs must be strictly enforced by the San Diego Water Board. In the meantime, however, the Copermittees are in compliance with the interim or final TMDL requirements in Attachment E as long as the interim or final WQBELs are being achieved in accordance with the interim or final compliance dates.

In addition, this Order includes an optional pathway that incorporates the requirements of Provision A.4 and would allow a Copermittee to be deemed in compliance with the requirements under Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b during implementation of a Water Quality Improvement Plan that incorporates specific additional requirements. This alternative compliance pathway and the additional specific requirements are described below under the discussion for Provision B.3.c.

B. Water Quality Improvement Plans

Purpose: Since 1990, the Copermittees have been developing and implementing programs and BMPs intended to effectively prohibit non-storm water discharges to the MS4s and control pollutants in storm water discharges from the MS4s to receiving waters. As a result, several water body / pollutant combinations have been de-listed from the CWA Section 303(d) List, beach closures have been significantly reduced, and public awareness of water quality issues has increased. The Copermittees have been able to achieve improvements in water quality in some respects, but significant improvements to the quality of receiving waters and discharges from the MS4s are still necessary to meet the requirements and objectives of the Clean Water Act.

Provision B includes requirements for the Copermittees to develop and implement Water Quality Improvement Plans to ultimately comply with the prohibitions and limitations under Provision A. The Water Quality Improvement Plans will provide the Copermittees a comprehensive program that can achieve the requirements and further the objectives of the CWA. Implementation of the Water Quality Improvement Plans will also improve the quality of the receiving waters in the San Diego Region.

The Water Quality Improvement Plan is the backbone of the Regional MS4 Permit requirements. Provision B provides the guidance, criteria, and minimum expectations and requirements for the elements of the Water Quality Improvement Plan to be developed and implemented by the Copermittees. The Water Quality Improvement Plans will be implemented in the Watershed Management Area by the Copermittees within their jurisdictions through their jurisdictional runoff management programs.

The Water Quality Improvement Plan also incorporates a program to monitor and assess the progress of the Copermittees' jurisdictional runoff management programs toward improving the quality of discharges from the MS4s, as well as tracking improvements to the quality of receiving waters. A process to adapt and improve the effectiveness of the Water Quality Improvement Plans has also been incorporated into the requirements of Provision B to be consistent with the "iterative approach" required to achieve compliance with discharge prohibitions of Provisions A.1.a and A.1.c and receiving water limitations of Provision A.2.a, pursuant to the requirements of Provision A.4.

The Water Quality Improvement Plans have also been structured to incorporate the requirements of any TMDLs that have been adopted for the San Diego Region. Incorporating the requirements of the TMDLs into the requirements of Provision B allows the Copermittees to develop a single plan, instead of separate plans, to coordinate their non-storm water and storm water runoff management programs. The Water Quality Improvement Plans allow the Copermittees to meet the requirements of this Order, as well as fulfill the requirements of the TMDLs.

As an added benefit, if the Copermittees demonstrate that impaired water bodies within the Watershed Management Area listed on the 303(d) List will be addressed with their Water Quality Improvement Plans in a reasonable period of time, the San Diego Water Board may be able to remove the water bodies from the 303(d) List, which would greatly reduce the need for the San Diego Water Board to develop additional TMDLs that would have to be incorporated into the Order and implemented by the Copermittees.

***Discussion*:** The federal NPDES regulations require the Copermittees to develop a proposed management program (40 CFR 122.26(d)(2)(iv)). The proposed management program must include "*a comprehensive planning process*" and "*where necessary intergovernmental coordination*" for the "*duration of the permit*." The Water Quality Improvement Plan is the Copermittees' "*comprehensive planning process*" document for the proposed management program that will be implemented within a Watershed Management Area. Implementation of the Water Quality Improvement Plan requires "*intergovernmental coordination*" among the Copermittees for at least the "*duration of the permit*," and likely into and beyond the next iteration of the permit.

Developing Water Quality Improvement Plans based upon watersheds is consistent with federal regulations that support the development of permit conditions, as well as implementation of storm water management programs, at a watershed scale (40 CFR 122.26(a)(3)(ii), 122.26(a)(3)(v), and 122.26(d)(2)(iv)). In 2003, USEPA issued a Watershed-Based NPDES Permitting Policy Statement (USEPA, 2003) that defines watershed-based permitting as an approach that produces NPDES permits that are issued to point sources on a geographic or watershed basis. In this policy statement, USEPA explains that "*[t]he utility of this tool relies heavily on a detailed, integrated, and inclusive watershed planning process*." USEPA identifies a number of important benefits of watershed permitting, including more environmentally effective results, the ability to emphasize measuring the effectiveness of targeted actions on improvements in water quality, reduced cost of improving the quality of the nation's waters and more effective implementation of watershed plans, including TMDLs, among others.

An emphasis on watersheds is appropriate at this stage in the San Diego Region's MS4 program to shift the focus to more targeted, water quality driven planning and implementation. Addressing discharges on a watershed scale focuses on water quality results by emphasizing the receiving waters in the watershed. The conditions of the receiving waters drive management actions, which in turn focus measures to address pollutant contributions from MS4 discharges.

The Water Quality Improvement Plan gives the Copermittees the responsibility of developing a comprehensive plan to coordinate the efforts of their jurisdictional runoff management programs for addressing the problems related to MS4 discharges causing impacts to water quality in the Watershed Management Area. The development of the plan provides the Copermittees the opportunity to provide

significant input on how to implement their jurisdictional runoff management programs, and how to best utilize their available resources in addressing a focused set of priorities that they believe will result in measureable improvements to water quality within the Watershed Management Area.

The Copermittees are encouraged to separate the Watershed Management Area into subwatersheds, as appropriate. This allows the Copermittees to identify priorities applicable to a subset of the Copermittees or specific water bodies or areas within the Watershed Management Area.

Included in the requirements for the elements to be included in the Water Quality Improvement Plan are monitoring and assessment requirements that are necessary to implement, as well as ensure the Copermittees are in compliance with, the requirements of the Order. In addition to the federal requirements of the CWA section 308(a) and 40 CFR 122.26(d), the San Diego Water Board has the authority to establish monitoring, reporting, and recordkeeping requirements for NPDES permits under CWC 13383.

More specific and detailed discussions of the requirements of Provision B are provided below.

Provision B.1 (Watershed Management Areas) requires the Copermittees to develop a Water Quality Improvement Plan for each of the Watershed Management Areas defined by the San Diego Water Board.

Pursuant to 40 CFR 122.26(d)(2)(iv), proposed management programs "*may impose controls on a…watershed basis…*" The Water Quality Improvement Plan is the Copermittees' proposed management program. A Water Quality Improvement Plan must be developed for each Watershed Management Area identified in the Order.

The Watershed Management Areas are identified in Table B-1. Table B-1 establishes ten (10) Watershed Management Areas, and identifies the Copermittees that are responsible for developing and implementing the Water Quality Improvement Plan for each Watershed Management Area.

The Copermittees from each of the three counties within the San Diego Region were phased in as their respective NPDES municipal storm water permits expired. Order No. R9-2007-0001 expired in January 2012, and the San Diego County Copermittees became covered under the Regional MS4 Permit on June 27, 2013, the effective date of the Order. Order No. R9-2009-0002 expired in December 2014, and the Orange County Copermittees became covered under the Regional MS4 Permit on April 1, 2015, the effective date of Order No. R9-2013-0001 as amended by Order No. R9-2015-0001. Order No. R9-2010-0016 expired in November 2015, and the Riverside County Copermittees became covered under the Regional MS4 Permit on January 7, 2016, the effective date of Order No. R9-2013-0001 as amended by Order No. R9-2015-0100.

The Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar are located partially within the jurisdictions of both the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board) and the San Diego Water Board. Written requests for designation of a single Regional Water Board to regulate matters pertaining to permitting of Phase I MS4 discharges were submitted to the San Diego Water Board and the Santa Ana Water Board by the City of Laguna Woods by letter dated September 8, 2014, the City of Laguna Hills by letter dated March 12, 2014, the City of Murrieta by letter dated June 22, 2015, and the City of Wildomar by letter dated June 23, 2015. The Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar requested designation of the San Diego Water Board pursuant to CWC section 13228.

The Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar reported that management and implementation of municipal programs to comply with two different Phase I MS4 permits creates a significant administrative and financial burden and inhibits their ability to contribute to greater overall water quality improvements in either Region. In an effort to address these concerns, the San Diego Water Board and the Santa Ana Water Board have entered into written agreements, whereby the San Diego Water Board is designated to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar including the portions of the jurisdictions within the Santa Ana Region. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated February 10, 2015 to designate the San Diego Water Board to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Laguna Woods and Laguna Hills, including the portions of the jurisdictions within the Santa Ana Region, upon the later effective date of Order No. R9-2015-0001 or Santa Ana Water Board Tentative Order No. R8-2015-0001. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated October 26, 2015 to designate the San Diego Water Board to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Murrieta and Wildomar, including the portions of the jurisdictions within the Santa Ana Region upon the effective date of Order R9-2015-0100.

Under the terms of the agreements, each Regional Water Board retains the authority to enforce provisions of the Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee (Water Code section 13228 (b)). Also under the terms of the agreements, any TMDL and associated MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Laguna Woods, Laguna Hills, Murrieta, or Wildomar as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement of the applicable TMDL would remain with the Regional Water Board which has jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's San Diego Creek/Newport Bay TMDL and Lake Elsinore/Canyon Lake Nutrient TMDLs, and the San Diego Water Board's Indicator Bacteria Project I Beaches and Creeks TMDL.

In conformance with the agreements, footnotes to Table B-1 are included to specify coverage under Order No. R9-2013-0001 for those Phase I MS4 discharges within the jurisdictional boundaries of the Cities of Laguna Woods, Laguna Hills, Murrieta, and Wildomar within the Santa Ana Region. Footnote 1 to Table B-1 specifies that the Cities of Laguna Woods and Laguna Hills are identified as responsible Copermittees in the San Diego Creek/Newport Bay TMDL in the Santa Ana Region and remain obligated to comply with the San Diego Creek/Newport Bay TMDL pursuant to section XVIII of Tentative Order No. R8-2015-0001 (NPDES No. CAS618030) and any reissuance thereof. Footnote 4 to Table B-1 specifies that the Cities of Murrieta and Wildomar are identified as responsible Copermittees in the Lake Elsinore/Canyon Lake Nutrient TMDLs in the Santa Ana Region and remain obligated to comply with the Lake Elsinore/Canyon Lake Nutrient TMDLs pursuant to section VI.D.2 of Order No. R8-2010-0033 (NPDES No. CAS618030) or corresponding section as it may be amended or reissued.

The Cities of Lake Forest and Menifee are located partially within the jurisdictions of both the Santa Ana Water Board and the San Diego Water Board. Written requests for designation of a single Regional Water Board to regulate matters pertaining to permitting of Phase I MS4 discharges were submitted to the San Diego Water Board and the Santa Ana Water Board by the City of Lake Forest by letters dated January 14, 2013 and April 4, 2014, and the City of Menifee by letter dated June 25, 2015. The Cities of Lake Forest and Menifee requested designation of the San Ana Water Board pursuant to CWC section 13228.

The Cities of Lake Forest and Menifee reported that management and implementation of municipal programs to comply with two different Phase I MS4 permits creates a significant administrative and financial burden and inhibits their ability to contribute to greater overall water quality improvements in either Region. In an effort to address these concerns, the San Diego Water Board and the Santa Ana Water Board have entered into written agreements, whereby the Santa Ana Water Board is designated to regulate Phase I MS4 discharges within the jurisdictions of the Cities of Lake Forest and Menifee including the portions of the jurisdictions within the San Diego Region. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated February 10, 2015 to designate the San Ana Water Board to regulate Phase I MS4 discharges within the jurisdiction of the City of Lake Forest, including portions of the jurisdiction within the Santa Diego Region, upon the later date of Order No. R9-2015-0001 or Santa Ana Water Board Tentative Order No. R8-2015-0001. The San Diego Water Board and the Santa Ana Water Board entered into an agreement dated October 26, 2015 to designate the San Ana Water Board to regulate Phase I MS4 discharges within the jurisdiction of the City of Menifee, including portions of the jurisdiction within the San Diego Region, under Order No. R8-2010-0033 (NPDES No. CAS618030) as it may be amended or reissued upon the effective date of Order No. R9-2015-0100.

Under the terms of the agreements, each Regional Water Board retains the authority to enforce provisions of the Phase I MS4 permits issued to each city but compliance will be determined based upon the Phase I MS4 permit in which a particular city is regulated as a Copermittee (Water Code section 13228 (b)). Also under the terms of the agreements, any TMDL and associated Phase I MS4 permit requirements issued by the San Diego Water Board or the Santa Ana Water Board which include the Cities of Lake Forest or Menifee as a responsible party, will be incorporated into the appropriate Phase I MS4 permit by reference. Enforcement authority for the applicable TMDL would remain with the Regional Water Board which has the jurisdiction over the targeted impaired water body. Applicable TMDLs subject to the terms of the agreement include, but are not limited to, the Santa Ana Water Board's San Diego Creek/Newport Bay TMDL and Lake Elsinore/Canyon Lake Nutrient TMDLs, and the San Diego Water Board's Indicator Bacteria Project I Beaches and Creeks TMDL.

In conformance with the agreements, Footnote 2 to Table B-1 has been included to specify that Phase I MS4 discharges within the jurisdictional boundaries of the City of Lake Forest located within the San Diego Region will be regulated under Santa Ana Water Board Order No. R8-2015-0001 (NPDES No. CAS618030) and any reissuance thereof. The footnote specifies that the City of Lake Forest is an identified responsible Copermittee in the Indicator Bacteria Project I Beaches and Creeks TMDL (Bacteria TMDL) in the San Diego Region and remains obligated to comply with the Bacteria TMDL pursuant to Attachment E of Order No. R9-2013-0001 and any reissuance thereto. The City of Lake Forest is also identified as a responsible Copermittee in the San Diego Creek/Newport Bay TMDL established by the Santa Ana Water Board. The City remains obligated to comply with the San Diego Creek/New Port Bay TMDL pursuant to the Santa Ana Water Board's Phase I MS4 Permit (Tentative Order No. R8-2015-0001 (NPDES No. CAS618030), as it may be amended or reissued). Under the terms of the agreement, the City of Lake Forest must retain and continue implementation of the over irrigation prohibition in Title 15, Chapter 15, Section 14.030, List (b) of the City Municipal Code throughout its jurisdiction. Also under the terms of the agreement, the City of Lake Forest must actively participate in the development and implementation of the South Orange County Watershed Management Area Water Quality Improvement Plan required pursuant to Order No. R9-2013-0001, and any reissuance thereof.

Footnote 3 to Table B-1 has been included to specify that Phase I MS4 discharges within the jurisdictional boundaries of the City of Menifee located within the San Diego Region will be regulated under Santa Ana Water Board Order No. R8-2010-0033 (NPDES No. CAS618033) and any reissuance thereof. At this time, the City of Menifee is not identified as a responsible Copermittee for any TMDLs established by the San Diego Water Board. Under the terms of the agreement, the City of Menifee must actively participate in the development and implementation of the Santa Margarita River Watershed Management Area Water Quality Improvement Plan required pursuant to Order No. R9-2013-0001, and any reissuance thereof.

The basis supporting the Cities of Laguna Woods, Laguna Hills, Lake Forest, Menifee, Murrieta, and Wildomar requests to designate a specific Regional Water Board for regulatory oversight of Phase I MS4 discharges may change under future conditions and circumstances, therefore the San Diego Water Board will periodically review the effectiveness of the agreements during each MS4 permit reissuance. Based on this periodic review the San Diego Water Board may terminate one or both of the agreements with the Santa Ana Water Board or otherwise modify the agreements subject to the approval of the Santa Ana Water Board.

Provision B.2 (Priority Water Quality Conditions) requires the Copermittees in each Watershed Management Area to identify the highest priority water quality conditions which will be the focus of the Water Quality Improvement Plan implementation.

Provisions B.2.a and B.2.b provide the criteria that must be assessed when characterizing the receiving water quality and potential impacts from MS4 discharges of the receiving waters within the Watershed Management Area. The criteria are based primarily on the requirements in 40 CFR 122.26(d)(1)(iv)(C) and (C)(1)-(9). Characterizing the receiving water quality and identifying the potential impacts caused by MS4 discharges to receiving waters in the Watershed Management Area is necessary to identify the impacts to receiving waters associated with MS4 discharges that are of the most concern to the Copermittees.

Based on the information required to be considered under Provisions B.2.a and B.2.b, Provision B.2.c requires to Copermittees to identify the highest priority water quality conditions related to discharges from the MS4s that will be the primary focus of the Water Quality Improvement Plan in the Watershed Management Area. Addressing and improving these highest priority water quality conditions will become the focus of each Copermittee's jurisdictional runoff management program as the Water Quality Improvement Plan is implemented in the Watershed Management Area. The highest priority water quality conditions are expected to include sources of pollutants and/or stressors, and/or receiving water conditions, that the Copermittees consider the highest threats or most likely to have adverse impacts on the physical, chemical, and biological integrity of receiving waters. Addressing these threats and/or adverse impacts should restore the physical, chemical, and biological integrity of receiving waters, and result in the restoration and protection of the beneficial uses of the receiving waters in the Watershed Management Area.

Provision B.2.d requires the Copermittees to identify known and suspected sources of pollutants and/or stressors contributing to the highest priority water quality conditions. The requirements of Provision B.2.d are based primarily on the requirements in 40 CFR 122.26(d)(1)(iii)(B)(1)-(6). The Copermittees are required to evaluate several factors in the identification of those sources. The Copermittees must consider and evaluate the following: (1) the land uses that may contribute toward impacts to receiving waters, (2) the locations of the Copermittees' MS4s that can convey and discharge runoff and pollutants to receiving waters, (3) other sources that discharge

into the Copermittees' MS4s and receiving waters, and (4) other information and data that can help the Copermittees to evaluate the relative importance of or contribution from those sources toward the highest priority water quality conditions. Identifying the known and suspected sources, and their relative contribution toward the highest priority water quality conditions, will help the Copermittees to focus, direct, and prioritize their resources and implementation efforts within their jurisdictions.

Provision B.2.e requires the Copermittees to identify potential strategies that can result in improvements to water quality in MS4 discharges and/or receiving waters within the Watershed Management Area. Potential water quality improvement strategies will not necessarily be implemented by the Copermittees, but provide a "menu" of options that the Copermittees will consider for implementation. The public participation process that will be implemented during the development of the Water Quality Improvement Plan is where the potential water quality improvement strategies will be identified.

Provision B.3 (Water Quality Improvement Goals, Strategies and Schedules) requires the Copermittees in each Watershed Management Area to identify the goals that the Copermittees' jurisdictional runoff management programs will work toward achieving to address and improve the highest priority water quality conditions identified under Provision B.2.c; the strategies that will be implemented by the Copermittees within their jurisdictions and the Watershed Management Area to achieve the goals; and, the schedules for implementing the strategies and achieving the goals. The element of the Water Quality Improvement Plan required under Provision B.3 is where the "*comprehensive planning*" and "*intergovernmental coordination*" [40 CFR 122.26(d)(2)(iv)] of the Copermittees' actions for the proposed management programs within the Watershed Management Area is required to be described.

Provision B.3.a requires the Copermittees to identify interim and final numeric goals, and schedules to achieve those goals as part of the Water Quality Improvement Plans. Provision B.3.a.(1) requires the Copermittees to identify two types of numeric goals to be achieved:

(1) Final numeric goals in the receiving waters and/or MS4 discharges that will result in the protection of the water quality standards of the receiving waters for the highest priority water quality conditions identified by the Copermittees for Provision B.2.c. These final numeric goals are the ultimate goals for the Water Quality Improvement Plan, and the achievement and maintenance of these final numeric goals will indicate that one or more beneficial uses have been successfully restored and/or protected from MS4 discharges.

(2) Interim numeric goals that can be used by the Copermittees to demonstrate progress toward achieving the final numeric goals in the receiving waters and/or MS4 discharges for the highest priority water quality conditions in the Watershed Management Area. Achievement of the interim numeric goals will demonstrate to the San Diego Water Board that the Copermittees' implementation efforts are progressing toward achieving the final numeric goals.

Provision B.3.a.(1) does not specify what the interim and final numeric goals must be based on, but they essentially must be designed to achieve compliance with water quality standards in the receiving waters. To that end, the interim goals must be based on measureable criteria or indicators capable of demonstrating progress toward achieving the numeric goals.

The interim and final numeric goals can be based on the water quality objectives in the Basin Plan. The water quality objectives in the Basin Plan, however, consist of numeric and narrative water quality objectives. Numeric water quality objectives can be directly used as numeric goals. Narrative water quality objectives, on the other hand, will require some interpretation to identify numeric goals. The achievement of multiple numeric goals based on the water quality objectives, used in combination, may be necessary to demonstrate that beneficial uses have been restored and/or protected.

The Copermittees could also propose other numeric goals that are not necessarily water quality objectives from the Basin Plan. For example, the Copermittees could propose a numeric goal that consists of achieving some percent improvement of a measureable indicator, such as acreage of a specific habitat or increase in a specific plant or animal species population. Other examples may include pollutant load reductions, number of impaired waterbodies delisted from the List of Water Quality Impaired Segments, Index of Biological Integrity (IBI) scores, etc.

The Copermittees may choose to develop interim numeric goals based on the final numeric goals they develop, such as incremental steps toward ultimately achieving the final numeric goals. The Copermittees may also choose to develop interim numeric goals that are based on other measureable indicators that can indirectly indicate improvements and progress toward the final numeric goals.

There are no limits to the types of interim numeric goals that could be proposed by the Copermittees, other than the goals must be based on measureable criteria or indicators capable of demonstrating progress toward achieving the numeric goals. Likewise, there are no limits to the types of final numeric goals that could be proposed by the Copermittees, other than the goals must "*restore and protect the water quality standards of the receiving waters.*"

Finally, Provision B.3.a.(2) also requires the Copermittees to develop schedules for measuring progress and achieving the interim and final numeric goals. Several criteria are included for the development of the schedules, but the Copermittees are required to achieve the numeric goals as soon as possible, consistent with federal NPDES regulations (40 CFR 122.47(a)(1)).

The Copermittees are also required to incorporate any compliance schedules for applicable ASBS or TMDL requirements. Applicable ASBS and TMDL compliance schedules are set forth in Attachment A and Attachment E to the Order, respectively.

The information provided by the Copermittees under Provision B.3.a.(2) will be used by the Copermittees and the San Diego Water Board to gauge and track the progress of the Copermittees' efforts in addressing the highest priority water quality conditions identified in the Water Quality Improvement Plan.

Provision B.3.b requires the Copermittees to identify the strategies and schedules to implement those strategies as part of the Water Quality Improvement Plans. Provision B.3.b requires the Copermittees to identify the water quality improvement strategies that will be and may be implemented within the Watershed Management Area to 1) reduce pollutants in storm water discharged from the MS4 to the MEP, 2) effectively prohibit non-storm water discharges from entering the MS4, 3) protect water quality standards in receiving waters by controlling MS4 discharges so that they do not cause or contribute to exceedances of receiving water limitations, and 4) achieve applicable WQBELs that implement TMDLs. The Copermittees will select the strategies to be implemented based on the likely effectiveness and efficiency of the potential water quality improvement strategies identified under Provision B.2.e to effectively prohibit non-storm water discharges to the MS4, reduce pollutants in storm water discharges from the MS4 to the MEP, and/or achieve the interim and final numeric goals identified under Provision B.3.a.

Provision B.3.b.(1) requires each Copermittee to identify the strategies that will be or may be implemented within its jurisdiction. Each Copermittee is required to describe the strategies it is committed to implementing as part of its jurisdictional runoff management requirements under Provisions E.2 through E.7, and the optional jurisdictional strategies that the Copermittee will implement, as necessary, to achieve the numeric goals.

Each Copermittee is expected to implement the optional jurisdictional strategies identified under Provisions B.3.b.(1)(b) when the jurisdictional strategies it has committed to implement under Provision B.3.b.(1)(a) are not making adequate progress toward the interim and final numeric goals in accordance with the schedules established under Provision B.3.a. Provision B.3.b.(1)(b)(v) requires each Copermittee to describe the circumstances necessary to trigger implementation of the optional jurisdictional strategies, in addition to the requirements of Provisions B.3.b.(1)(a).

The San Diego Water Board recognizes that there may be optional jurisdictional strategies that will likely require funding and/or resources for planning, permitting, procurement of labor and materials, and implementation. Thus, Provision B.3.b.(1)(b)(iv) requires each Copermittee to describe the funding and/or resources that are necessary to implement these optional jurisdictional strategies. This information may provide interested groups and members of the public an understanding of the resources that they could provide or assist in obtaining to implement these optional jurisdictional strategies.

Provision B.3.b.(2) requires the Copermittees in the Watershed Management Area to identify the regional or multi-jurisdictional strategies that may be implemented, as necessary, to achieve the numeric goals. Similar to the requirements of Provision B.3.b.(1)(b), these regional or multi-jurisdictional strategies will likely require funding and/or resources for planning, permitting, procurement of labor and materials, and implementation, and San Diego Water Board recognizes that these strategies may be difficult to implement with only Copermittee resources. Thus, Provision B.3.b.(2)(d) requires the Copermittees to describe the funding and/or resources necessary to implement these optional regional or multi-jurisdictional strategies. This information may provide interested groups and members of the public an understanding of the resources that they could provide or assist in obtaining to implement these optional regional or multi-jurisdictional strategies.

Provision B.3.b.(3) requires the Copermittees to develop and include schedules in the Water Quality Improvement Plan for implementing the water quality improvement strategies identified under Provisions B.3.b.(1) and B.3.b.(2). The schedule for implementing the water quality improvement strategies will be used by the Copermittees and San Diego Water Board to measure and demonstrate the progress of the Copermittees' implementation efforts toward reducing pollutants in storm water discharged from the MS4 to the MEP, and eliminating illicit non-storm water discharges from entering the MS4.

Provision B.3.b.(4) provides the Copermittees in each Watershed Management Area the option of implementing watershed-specific structural BMP requirements for Priority Development Projects. Historically, storm water permits have included very specific performance standards for permanent, structural BMPs. These standards describe the expectation for the capture or treatment of pollutants and control of excessive flow before storm water is discharged from a site. The Copermittees were also allowed to develop waiver programs for Priority Development Projects to avoid implementing the structural BMPs; however, the waiver programs were not necessarily tied into any sort of holistic watershed strategy. The result is that implementation of BMP requirements is largely done on a site-by-site basis. This requires proper design on the part of the Priority Development Project and strict oversight on the part of the Copermittee.

Provision B.3.b.(4) promotes the evaluation of multiple strategies for water quality improvement, in addition to the implementation of permanent structural BMPs, on a watershed-scale versus the site-by-site approach. In a report issued by the Southern California Coastal Water Research Project (SCCWRP) and several other research institutions, the report emphasized that a successful hydromodification management program will involve watershed analysis as a first step, and that integrating multiple watershed-based strategies is preferable over a site-by-site approach. Indeed, the report states that the watershed analysis "…*should lead to identification of existing opportunities and constraints that can be used to help prioritize areas of greater concern, areas of restoration potential, infrastructure constraints, and pathways for*

potential cumulative effects."[22] Provision B.3.b.(4) promotes the findings and recommendations of the report by providing a pathway for Copermittees to develop an integrated approach to their land development programs.

Under Provision B.3.b.(4), the Copermittees in a Watershed Management Area must first perform an analysis by gathering as much information pertaining to the physical characteristics of the Watershed Management Area as possible. This includes, for example, identifying potential areas of coarse sediment supply, present and anticipated future land uses, and locations of physical structures within receiving streams and upland areas that affect the watershed hydrology (such as bridges, culverts, and flood management basins). Once this information is collected, the Copermittees must produce GIS layers (maps) that include this information.

From there, the Copermittees must use the results of the Watershed Management Area Analysis to identify and compile a list of candidate projects that could potentially be used as alternative compliance options for Priority Development Projects. Such projects include, for example, opportunities for stream or riparian area rehabilitation, opportunities for retrofitting existing infrastructure to incorporate storm water retention or treatment, and opportunities for regional BMPs, among others. Once these candidate projects are identified, Copermittees may allow Priority Development Projects to fund, partially fund, or completely implement these candidate projects. The Copermittees must first find that implementing such a candidate project would provide greater overall benefit to the watershed than requiring implementation of the structural BMPs onsite, and also enter into a voluntary agreement with the Priority Development Project that authorizes this arrangement. The Copermittees may use Provision B.3.b.(4) as both 1) a mechanism to reach their stated goals of the Water Quality Improvement Plan by using Priority Development Projects to either fund or implement projects that will provide water quality benefit, and 2) an alternative to requiring strict adherence to the structural BMP design standards.

Additionally, Provision B.3.b.(4) allows the Copermittees to use the results of the Watershed Management Area Analysis to identify areas within the Watershed Management Area where it is appropriate to allow Priority Development Projects to be exempt from the hydromodification management BMP performance requirements. Provision E.3.c.(2) already allows exemptions for Priority Development Projects that discharge to a conveyance channel whose bed and bank are concrete lined from the point of discharge to an enclosed embayment or the Pacific Ocean. However, there may be cases where further exemptions are warranted. The Copermittees may identify such cases on a watershed basis and include them in the Watershed Management Area Analysis; however, they must provide the supporting rationale to support all claims for exemptions.

[22] 2012. ED Stein, F Federico, DB Booth, BP Bledsoe, C Bowles, Z Rubin, GM Kondolf, A Sengupta. Technical Report 667. Southern California Coastal Water Research Project. Costa Mesa, CA.

Provision B.3.b.(4) provides an innovative pathway for Copermittees to regulate their land development programs by allowing alternative compliance in lieu of implementing structural BMPs on each and every Priority Development Project. This approach facilitates the integration of watershed-scale solutions for improving overall water quality and assisting Copermittees to achieve their stated goals of the Water Quality Improvement Plan. The San Diego Water Board understands, however, that undertaking this approach, which involves extensive planning, could be resource intensive for the Copermittees. Therefore, the Watershed Management Area Analysis is optional and not a requirement. The Copermittees can choose not to perform the watershed planning and mapping exercise described in Provision B.3.b.(4), and instead choose to require strict implementation of the structural BMPs onsite, pursuant to Provision E.3.c.

Provision B.3.c is included to provide the Copermittees an option that allows the Copermittees to be deemed in compliance with the prohibitions and limitations (receiving water limitations) of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b. One or more Copermittees within a Watershed Management Area can choose to implement this option. This option is only expected to be utilized by a Copermittee that wishes to be deemed in compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b.

The alternative compliance pathway option included in Provision B.3.c is consistent with the approach described in Order WQ 2015-0075, *In the Matter of Review of Order No. R4-2012-0175, NPDES Permit No. CAS004001, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4,* adopted by the State Water Board on June 16, 2015. State Water Board Order WQ 2015-0075 directs the Regional Water Boards to consider a watershed-based planning and implementation approach to compliance with receiving water limitations when issuing Phase I MS4 permits going forward. Order WQ 2015-0075 included seven principles that the Regional Water Boards are expected to follow when incorporating an alternative compliance pathway into a MS4 permit. The San Diego Water Board incorporated the seven principles stipulated in State Water Board Order WQ 2015-0075 into the Regional MS4 Permit as follows:

1. Provision A of this Order continues to require compliance with water quality standards in the receiving water and does not deem good faith engagement in the iterative process to constitute compliance with receiving water limitations. Provision A of this Order continues to be consistent with the receiving water limitations provisions from State Water Board Order WQ 99-05.

2. Compliance with Provision B.3.c constitutes compliance with the requirements of the Provision A.3.b, which requires compliance with the WQBELs of the TMDLs in Attachment E to the Order, and is considered compliance with receiving water limitations for those TMDL water body-pollutant combinations.

3. Provision B.3.c is an ambitious, rigorous, and transparent alternative compliance pathway that allows a Copermittee appropriate time to come into compliance with receiving water limitations without being in violation of the receiving water limitations during implementation of the compliance alternative.

4. Provision B.3.c requirements are incorporated into a Water Quality Improvement Plan. Water Quality Improvement Plans are a watershed-based planning and implementation approach, which address multiple contaminants, and incorporate TMDL requirements.

5. The strategies required to be included in the Water Quality Improvement Plans promote and incentivize the use of green infrastructure and requires the implementation of low impact development principles.

6. The strategies required to be included in the Water Quality Improvement Plans encourage multi-benefit regional projects that capture, infiltrate, and reuse storm water and support a local sustainable water supply.

7. The alternative compliance pathway of Provision B.3.c includes rigor and accountability. The Copermittee is required, through a transparent public process, to demonstrate that water quality issues in the watershed have been analyzed and prioritized, and that appropriate solutions are proposed. The Copermittee is also required, through a transparent process, to monitor the results and return to their analysis to verify assumptions and update the solutions. The Copermittee is required to conduct this type of adaptive management on its own initiative without waiting for direction from the San Diego Water Board.

In order for a Copermittee to utilize this option, the Copermittee is required to include three components in the Water Quality Improvement Plan. The first component is a comprehensive set of numeric goals and schedules that will demonstrate the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b will be achieved within a specified period of time. The criteria provided in the Order will require the Copermittee to demonstrate that the discharges from its MS4s will not cause or contribute to exceedances of water quality objectives in the receiving waters, and/or the receiving waters will be adequately protected from adverse impacts attributable to the Copermittee's MS4 discharges. The Copermittee is also required to specify annual milestones to be achieved each year, which adds rigor, accountability, and transparency to the process. The annual milestones may consist of water quality improvement strategy implementation phases, interim numeric goals, and other acceptable metrics, which are expected to build upon previous milestones and lead to the achievement of the final numeric goals.

The second component is an analysis to demonstrate that implementation of the water quality improvement strategies required under Provision B.3.b will achieve the numeric goals within the established schedules required under Provisions B.3.a and B.3.c.(1).

Because the development of the analysis may require significant resources, the Order allows the Copermittees in each Watershed Management Area that choose to implement this option to perform the analysis individually, or pool their resources for the analysis collectively.

The analysis must "reasonably" and "quantitatively" demonstrate that the implementation of the water quality improvement strategies can achieve the numeric goals within the established schedules. However, as more data and information are collected during implementation of the Water Quality Improvement Plan to demonstrate progress toward achieving the numeric goals, the numeric goals, water quality improvement strategies and schedules may need to be modified. If the data and information indicate that modification is needed, the Copermittee must also update the analysis. With the exception of numeric goals and schedules associated with TMDLs from Attachment E to the Order, the modification to the analysis would be allowed as part of the adaptive management process of the Water Quality Improvement Plan. For TMDLs, modification of numeric goals or schedules would likely require an amendment to the Basin Plan and Attachment E to the Order before the analysis and Water Quality Improvement Plan could include such modifications.

Thus, the third component is the key component that allows a Copermittee to demonstrate the implementation of the water quality improvement strategies within its jurisdiction is making progress toward achieving the final numeric goals. Each Copermittee must specify the monitoring and assessments that will be performed to confirm that implementation of the water quality improvement strategies are making progress toward achieving the numeric goals within the established schedules, and whether the interim and final numeric goals have been achieved.

These three components must then be reviewed by the Water Quality Improvement Consultation Panel. The Water Quality Improvement Consultation Panel is required to be formed as part of the public participation process for the development of the Water Quality Improvement Plans. The Water Quality Improvement Consultation Panel is described under Provision F.1.a.(1)(b). Review by the Water Quality Improvement Consultation Panel is included to provide an additional layer of input, support, and accountability for the implementation of this option.

Compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b begins when the Water Quality Improvement Plan, incorporating the requirements of Provision B.3.c.(1), is accepted by the San Diego Water Board. Each Copermittee that chooses to implement and continues to implement this option will be deemed in compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b as long as the Copermittee continues to implement the strategies, monitoring and assessments as incorporated in the Water Quality Improvement Plan in accordance with Provision B.3.c.(1), and the Copermittee reports the achievement of the annual milestones each year, or provides acceptable rationale and recommends appropriate modifications to the interim numeric goals, and/or water quality improvement

strategies, and/or schedules to improve the rate of progress toward achieving the final numeric goals. The Copermittee continues to be deemed in compliance with the requirements of Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b during the time the San Diego Water Board reviews the rationale and recommended modifications to the interim numeric goals, and/or water quality improvement strategies, and/or schedules. If and when the San Diego Water Board determines that it does not accept the rationale or recommendations, the Copermittee will be notified they are no longer deemed in compliance with Provisions A.1.a, A.1.c, A.1.d, A.2, and A.3.b.

Provision B.4 (Water Quality Improvement Monitoring and Assessment) requires the Copermittees to develop an integrated monitoring and assessment program to track the progress of the Water Quality Improvement Plan toward meeting the implementation goals and schedules, and improving the water quality of the Watershed Management Area. Provision B.4 is the part of the Water Quality Improvement Plan where the Copermittees describe the monitoring data that will be collected, which is not only necessary to implement the "iterative approach" required by Provision A.4, but inform the adaptive management and "*comprehensive planning process*" that allows the Copermittees to make adjustments and modifications to the Water Quality Improvement Plans and the jurisdictional runoff management programs.

Provision B.4 requires the Copermittees, at a minimum, to include the requirements of Provision D as part of the water quality improvement monitoring and assessment program for the Water Quality Improvement Plan. The Copermittees, however, are not limited to the requirements of Provision D and may include additional monitoring and assessment methods to track progress toward improving water quality in the Watershed Management Area.

In addition to incorporating the requirements of Provision D, the water quality improvement monitoring and assessment program must incorporate any monitoring and assessment requirements specified for any applicable TMDLs included in Attachment E to the Order, and the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012 for Watershed Management Areas with ASBS.

The monitoring and assessments required to be incorporated into the Water Quality Improvement Plan are necessary to implement, as well as ensure the Copermittees are in compliance with, the requirements of the Order.

Provision B.5 (Iterative Approach and Adaptive Management Process) requires the Copermittees to implement the iterative approach pursuant to Provision A.4 to adapt the Water Quality Improvement Plan, monitoring and assessment program, and jurisdictional runoff management programs to become more effective toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a.

Provision B.5 requires the Copermittees in each Watershed Management Area to re-evaluate the highest priority water quality conditions and potential water quality

improvement strategies, the water quality improvement goals, strategies and schedules, and the water quality improvement monitoring and assessment program and provide recommendations for modifying those elements to improve the effectiveness of the Water Quality Improvement Plan. The re-evaluation of the Water Quality Improvement Plan is part of the assessment requirements of Provision D.

Provision B.6 (Water Quality Improvement Plan Submittal, Updates, and Implementation) requires to Copermittees to submit, update, and implement the Water Quality Improvement Plans.

The requirements for the process to develop and submit the Water Quality Improvement Plans is described in more detail under the discussion for Provision F.1. The process will include several opportunities for the public to provide input during the development of the Water Quality Improvement Plans. The process for updating the Water Quality Improvement Plans is described in more detail under the discussion for Provision F.3.c. Upon acceptance of the Water Quality Improvement Plan and updates, the Copermittees are required to immediately begin implementing the Water Quality Improvement Plan and subsequent updates.

The Water Quality Improvement Plan is expected to be a dynamic document that will evolve over time. The Water Quality Improvement Plan is also expected to be a long term plan that focuses the Copermittees' efforts and resources on a limited set of priority water quality conditions, with the ultimate goal of protecting all the beneficial uses of the receiving waters within the Watershed Management Area from impacts that may be caused or contributed to by MS4 discharges. As the Copermittees collect data, implement their jurisdictional runoff management programs, and review the results from their water quality improvement monitoring and assessment program, the Water Quality Improvement Plan is expected to be continually reviewed and updated until compliance with Provisions A.1.a, A.1.b, and A.2.a is achieved.

However, in specific cases supported by robust analytical documentation the implementation of the Water Quality Improvement Plans may demonstrate that TMDLs are not necessary for identified impaired water bodies within the Watershed Management Area if the analytical record demonstrates that technology-based effluent limitations required by the CWA, more stringent effluent limitations required by state, local, or federal authority, and/or other pollution control requirements (e.g., best management practices) required by local, state or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time.[23]

The San Diego Water Board submits an Integrated Report to USEPA to comply with the reporting requirements of CWA sections 303(d), 305(b) and 314, which lists the attainment status of water quality standards for water bodies in the San Diego Region.

[23] 40 CFR 130.7(b)(1)

According to USEPA guidance for the Integrated Report,[24] water bodies are placed in one of five categories. Water bodies included in Category 5 in the Integrated Report indicate at least one beneficial use is not being supported or is threatened, and a TMDL is required. Water bodies included in Category 5 are placed on the 303(d) List.

Category 4 in the Integrated Report is for water bodies where available data and/or information indicate that at least one beneficial use is not being supported or is threatened, but a TMDL is not needed.[25] Impaired surface water bodies may be included in Category 4 if a TMDL has been adopted and approved (Category 4a); if other pollution control requirements required by a local, state or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time (Category 4b); or, if the failure to meet an applicable water quality standard is not caused by a pollutant, but caused by other types of pollution (Category 4c).

Impaired water bodies can be included in Category 4a if a TMDL has been adopted and approved. The TMDLs in Attachment E to the Order implement the requirements of the TMDLs adopted by the San Diego Water Board, and approved by the State Water Board and USEPA. The water bodies in Attachment E will be included in Category 4a in the Integrated Report and removed from the 303(d) List.

Impaired water bodies can be included in Category 4b if there are *acceptable* "pollution control requirements" required by a local, state or federal authority stringent enough to implement applicable water quality standards within a reasonable period of time (e.g., a compliance date is set). When evaluating whether a particular set of pollution controls are "requirements," the USEPA considers a number of factors, including: (1) the authority (local, state, federal) under which the controls are required and will be implemented with respect to sources contributing to the water quality impairment (examples may include: self-executing state or local regulations, permits, and contracts and grant/funding agreements that require implementation of necessary controls), (2) existing commitments made by the sources and completion or soon to be completed implementation of the controls (including an analysis of the amount of actual implementation that has already occurred), (3) the certainty of dedicated funding for the implementation of the controls, and (4) other relevant factors as determined by USEPA depending on case-specific circumstances.[26]

Impaired water bodies can be included in Category 4c if the failure to meet an applicable water quality standard is not caused by a pollutant, but caused by other types of pollution. Pollution, as defined by the CWA is "the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water."[27] In

[24] USEPA, 2005. Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act
[25] Ibid
[26] Ibid
[27] CWA section 502(19)

other cases, pollution does not result from a pollutant and a TMDL is not required. Examples of circumstances where an impaired segment may be placed in Category 4c include segments impaired solely due to lack of adequate flow, stream channelization, or hydromodification. In these situations, there may be water quality management actions that can address the cause(s) of the impairment, but a TMDL may not be required to implement the actions.

The Water Quality Improvement Plans will require the implementation of pollution controls and water quality management actions (i.e. water quality improvement strategies) which can result in the attainment of water quality standards in water bodies impaired by discharges from the Copermittees' MS4s. The Water Quality Improvement Plans also include requirements that are expected to attain water quality standards in a reasonable period of time. The San Diego Water Board considers the Water Quality Improvement Plans to be a commitment by the Copermittees to develop, plan, budget for, and implement pollution controls that will attain water quality standards in receiving waters in a reasonable period of time, or as soon as possible. The results of the Copermittees' efforts in implementing the Water Quality Improvement Plans can be used to re-evaluate the condition of the impaired water bodies during the next update to the 303(d) List.

After the Copermittees submit the Water Quality Improvement Plans and demonstrate that water quality standards are being attained or will be attained in a reasonable period of time, the San Diego Water Board may re-evaluate the water bodies on the 303(d) List. These water bodies on the 303(d) List may be re-evaluated and placed into Category 4b or Category 4c in the Integrated Report. The water bodies placed in Category 4b or Category 4c in the Integrated Report must show a record that the water bodies are attaining water quality standards or supporting the identified beneficial uses, or will attain water quality standards or support identified beneficial uses in a reasonable period of time, in order for the water bodies to be appropriately removed from the 303(d) List.

C. Action Levels

Purpose: Provision C includes requirements for the Copermittees to identify and include numeric action levels in the Water Quality Improvement Plan to direct and focus the Copermittees' jurisdictional runoff management program implementation efforts for controlling MS4 discharges to receiving waters.

***Discussion*:** Under Provision C, the numeric action levels required are for non-storm water discharges and storm water discharges. The non-storm water action levels (NALs) are applicable to non-storm water discharges from the Copermittees' MS4s, which can occur year-round. The storm water action levels (SALs) are applicable to storm water discharges from the Copermittees' MS4s, which occur during the rainy season defined as the period between October 1 and April 30.

The action levels required by Provision C are based on the action level requirements that were developed and incorporated into Order Nos. R9-2009-0002 and R9-2010-0016, the Orange County and Riverside County MS4 Permits, respectively. The Fact Sheets for these Orders provide detailed discussions about the development of the numeric NALs and SALs included in this Order.

Order Nos. R9-2009-0002 and R9-2010-0016 required the Copermittees to perform prescribed actions if the NALs or SALs are exceeded. The actions required under Order Nos. R9-2009-0002 and R9-2010-0016 generally included conducting additional monitoring and source investigations when a discharge from the MS4 is observed to exceed one or more NALs and/or SALs.

For this Order, however, the action levels of Provision C are to be used by the Copermittees to prioritize the actions to be implemented as part of the Water Quality Improvement Plan. Monitoring data collected by the Copermittees from MS4 outfalls will be compared with the NALs and SALs. Exceedances of the NALs and SALs will not require the Copermittees to immediately identify sources causing exceedances, but will provide some numeric indicator levels that can give the Copermittees a way to measure the relative severity of a pollutant contributing to receiving water quality impacts.

NALs and SALs must be included in the Water Quality Improvement Plans to be used by the Copermittees in directing and focusing their water quality improvement strategies. The Copermittees are expected to utilize the NALs and SALs to help focus their implementation efforts on addressing pollutants that have the most significant potential or observed impacts to receiving waters. The NALs and SALs will be used as part of the MS4 discharges assessments required under Provision D.4.b. The NALs and SALs may also be used by the Copermittees as the numeric goals to be achieved in MS4 discharges and/or receiving waters as the Water Quality Improvement Plans are implemented.

More specific and detailed discussions of the requirements of Provision C are provided below.

Provision C.1 (Non-storm Water Action Levels) requires the Copermittees to incorporate NALs into the Water Quality Improvement Plan for pollutants and/or constituents that are causing or contributing, or may be causing or contributing, to the highest priority water quality conditions identified in the Water Quality Improvement Plan related to non-storm water discharges from the MS4s. NALs generally must be consistent with the water quality objectives found within the Basin Plan.

The NALs have been included to ensure that the Copermittees are implementing and complying with several requirements of the MS4 permit. The federal CWA requires permits for municipal storm sewer systems to "*effectively prohibit non-storm water discharges into the storm sewers*." The federal NPDES regulations, which were promulgated to implement the CWA requirements for discharges from municipal storm sewers, require a program to address illicit discharges, which are non-storm water discharges. Provision A.1.b prohibits "*[n]on-storm water discharges into MS4s*" unless the non-storm water discharge authorized by a separate NPDES permit. The NALs will be used as part of the illicit discharge detection and elimination program required pursuant to Provision E.2, as well as part of the MS4 discharges assessments required pursuant to Provision D.4.b.

Provision A.1.a prohibits non-storm water discharges from the MS4 from "*causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state.*" In addition, pursuant to Provision A.2.a, non-storm water discharges "*must not cause or contribute to the violation of water quality standards in any receiving waters*."

Ideally, the Copermittees' jurisdictional runoff management programs will eliminate all non-storm water discharges entering the MS4s within their jurisdictions. The complete elimination of non-storm water discharges to the Copermittees' MS4s would be in compliance with the CWA requirements for non-storm water discharges, as well as the prohibitions and limitations of Provisions A.1.a and A.2.a.

The federal regulations, however, also refer to several non-storm water discharge categories that must be addressed as illicit discharges if they are found to be a source of pollutants. The federal regulations thus identify some non-storm water discharges that are not required to be addressed as illicit discharges if they are not a source of pollutants (e.g. non-storm water discharges specified in Provisions E.2.a.(1)-(5)). Thus, these regulations imply that some non-storm water discharges into and from the MS4 may occur even if non-storm water discharges are "effectively" prohibited by the Copermittees.

If the source of a non-storm water discharge is identified as a category of non-storm water specified in Provisions E.2.a.(1)-(5), the NALs can be used to determine if the category of non-storm water discharges is a source of pollutants. For other non-storm water discharges not specified in Provisions E.2.a.(1)-(5), the CWA requires those discharges to be "*effectively"* prohibited by removing the discharge to the MS4 through enforcement of the Copermittees' legal authority established under "*ordinance, order or similar means*" to prohibit illicit discharges to the MS4s.

If there are non-storm water discharges that are not required to be addressed as illicit discharges, those discharges must comply, at a minimum, with the discharge prohibitions and receiving water limitations of Provision A. Thus, the non-storm water discharges from the MS4 must be at levels that will not cause or contribute to a condition of pollution, contamination, or nuisance (Provision A.1.a), and must not cause or contribute to a violation of water quality standards in receiving waters (Provision A.2.a) to be consistent with the discharge prohibitions and receiving water limitations of Provisions A.1.a and A.2.a.

Furthermore, the San Diego Region has predominantly intermittent and ephemeral rivers and streams which vary in flow volume and duration at spatial and temporal scales. For most of these river and stream systems, non-storm water discharges from the MS4 are likely to be the most significant or the only source contributing to surface flows present within the receiving water, especially during the dry season.

Therefore, because of the prohibitions and limitations of Provision A.1.a and A.2.a, and the likelihood that non-storm water discharges from the MS4 are the most significant or only source contributing to surface flows present within the receiving water, NALs generally must be consistent with the water quality objectives found within the Basin Plan. Non-storm water discharges that are meeting the NALs would not be expected to cause or contribute to an exceedance of water quality objectives in receiving waters, which would be consistent with the discharge prohibitions and receiving water limitations of Provisions A.1.a and A.2.a.

Exceedances of the NALs would then provide an indication of the relative severity of a pollutant in non-storm water discharges from the MS4 contributing to potential or observed receiving water quality impacts. The relative severity or significance of a pollutant in non-storm water discharges from the MS4 will provide the Copermittees a valuable source of information that can be used to identify priority water quality conditions within a Watershed Management Area and within each Copermittee's jurisdiction.

Tables C-1 through C-4 under Provision C.1.a specify numeric NALs for several parameters or pollutant constituents for non-storm water discharges from the MS4 to several water body types. The NALs for MS4 discharges given under Provision C.1.a are based on the water quality objectives for inland surface waters in the Basin Plan, and the water quality objectives for ocean waters in the Ocean Plan. The NALs for

most of the metals were calculated based on the State Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The NALs provided in Tables C-1 through C-4 must be included in the Water Quality Improvement Plans required to be developed pursuant to Provision B.

Provision C.1.b requires the Copermittees to identify NALs for pollutants and/or constituents, not specified in Provision C.1.a, which are causing or contributing, or may be causing or contributing, to the highest priority water quality conditions of the Watershed Management Area related to non-storm water discharges from the MS4s. The NALs must be based on the water quality objectives in the Basin Plan. The NALs identified under Provision C.1.b must be included in the Water Quality Improvement Plan.

The San Diego Water Board recognizes that some of the NALs required pursuant to Provisions C.1.a and C.1.b may be exceeded more frequently than not. Thus, Provision C.1.c has been included in the Order to provide the Copermittees the option to develop secondary NALs that are set at levels greater than the levels required pursuant to Provisions C.1.a and C.1.b to further refine the prioritization and assessment of water quality improvement strategies for addressing non-storm water discharges to and from the MS4s, as well as the detection and elimination of non-storm water and illicit discharges to and from the MS4.

Provision C.2 (Storm Water Action Levels) requires the Copermittees to incorporate SALs into the Water Quality Improvement Plan for pollutants and/or constituents causing or contributing, or may be causing or contributing, to the highest priority water quality conditions identified in the Water Quality Improvement Plan related to storm water discharges from the MS4s.

The SALs have been included to ensure that the Copermittees are implementing and complying with several requirements of the MS4 permit. Provision A.1.a prohibits storm water discharges from the MS4 from "*causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state*." In addition, pursuant to Provision A.2.a, storm water discharges "*must not cause or contribute to the violation of water quality standards in any receiving waters*."

Provision A.3.a, however, implicitly acknowledges that compliance with Provisions A.1.a and A.2.a cannot be achieved immediately for discharges of storm water from the MS4 by applying the MEP standard. Thus, Provision A.4 requires the Copermittees to implement an iterative approach to demonstrate that MEP is being achieved. This approach is supported by USEPA.

The federal CWA requires permits for municipal storm sewer systems to "*require controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable*, *including management practices, control techniques and system, design*

and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is an ever-evolving, flexible, and advancing concept. As knowledge about controlling storm water runoff and discharges evolves, so does the knowledge which constitutes MEP. Reducing the discharge of storm water pollutants from the MS4 to the MEP requires the Copermittees to assess their jurisdictional runoff management programs and revise activities, control measures, BMPs, and measurable goals, as necessary to meet MEP. The SALs provide the Copermittees measureable goals that may be used to demonstrate the achievement of MEP for reducing pollutants in storm water discharges from the MS4. The SALs will be used as part of the MS4 discharges assessments required under Provision D.4.a.

In June of 2006, the State Water Board's Blue Ribbon Storm Water Panel released its report titled "*The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities*." In the recommendations, the Blue Ribbon panel proposed storm water effluent limitations which are computed using statistical based population approaches. The SALs specified in Table C-5 under Provision C.2.a were developed from a regional subset of nationwide Phase I MS4 data by using USEPA Rain Zone 6 (arid west) data.[28] Additionally, utilization of regional data is appropriate due to the addition of data into the nationwide Phase I MS4 monitoring dataset in February 2008. This additional data increased the number of USEPA Rain Zone 6 samples to more than 400, and included additional monitoring events within Southern California.

Utilizing data from USEPA Rain Zone 6 resulted in SALs which closely reflect the environmental conditions experienced in the San Diego Region. The localized subset of data includes sampling events from multiple Southern California locations including Orange, San Diego, Riverside, Los Angeles, and San Bernardino Counties. The dataset includes samples taken from highly built-out impervious areas and from storm events representative of Southern California conditions.

The SALs for cadmium, copper, lead and zinc require the measurement of hardness and to provide more specificity in the assessment of samples with SALs for total metal concentrations. While USEPA Rain Zone 6 data include a large sample size for concentrations of total metals, the impact the concentration will have on receiving waters will vary with receiving water hardness. Since it is the goal of the SALs, through the iterative process and MEP standard, to have MS4 storm water discharges meet all applicable water quality objectives, the hardness of the receiving water should be used when assessing the total metal concentration of a sample.

Thus, when there is an exceedance of a SAL for a metal, the Copermittee must determine if that exceedance is above the existing applicable water quality objectives based upon the hardness of the receiving water. The water quality objectives

[28] Data used to develop SAL were obtained from http://rpitt.eng.ua.edu/Research/ms4/mainms4.shtml

Copermittees must use to assess total metal SAL exceedances are the California Toxic Rule (CTR) and USEPA National Recommended Water Quality Criteria for Freshwater Aquatic Life 1 hour maximum concentrations. The 1-hour maximum concentration is to be used for comparison since it is expected to most replicate the impacts to waters of the State from the first flush following a precipitation event.

The statistically calculated SALs given in Table C-5 are at levels greater than the water quality objectives in the Basin Plan or Ocean Plan. Because the objective of the CWA is to "*to restore and maintain the chemical, physical, and biological integrity of the Nation's waters*", meaning eventually pollutants in storm water discharges must be reduced to a level that cannot cause or contribute to an exceedance of water quality objectives in receiving waters, over time the SALs are expected to be reduced to a level that is based on the water quality objectives rather than statistical calculations. The San Diego Water Board will review the SALs as more data for discharges of storm water from the MS4s are collected, and revise them as conditions improve and the MEP standard advances. For the Water Quality Improvement Plans required under this Order, the SALs identified under Provision C.2.a must be included.

Provision C.2.b requires the Copermittees to identify SALs for pollutants and/or constituents, not specified in Provision C.2.a, which are causing or contributing, or may be causing or contributing, to the highest priority water quality conditions of the Watershed Management Area related to storm water discharges from the MS4s. The SALs identified under Provision C.2.b must be included in the Water Quality Improvement Plan.

The San Diego Water Board recognizes that some of the SALs required pursuant to Provisions C.2.a and C.2.b may be exceeded more frequently than not. Thus, Provision C.2.c has been included in the Order to provide the Copermittees the option to develop secondary SALs that are set at levels greater than the levels required pursuant to Provisions C.2.a and C.2.b to further refine the prioritization and assessment of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s.

D. Monitoring and Assessment Program Requirements

Purpose: Provision D includes minimum monitoring and assessment requirements that must be developed and implemented by the Copermittees as part of the Water Quality Improvement Plans. Implementation of the monitoring and assessment requirements of Provision D will allow the Copermittees to demonstrate that the requirements of the CWA to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP are being achieved. Implementation of the monitoring and assessment requirements of Provision D will also allow the Copermittees and the San Diego Water Board to track improvements to the water quality in the San Diego Region. The monitoring and assessment program requirements are necessary to implement, as well as ensure the Copermittees are in compliance with, the requirements of the Order.

***Discussion*:** The San Diego Water Board recognized that changes to the monitoring and assessment requirements of the Fourth Term Permit were necessary to improve the usefulness and usability of monitoring data collected by the Copermittees to support their jurisdictional storm water programs more efficiently and with increased effectiveness. The data collected are needed to better inform the Copermittees' understanding of the physical, chemical, and biological condition of the receiving waters and the quality of the MS4 discharges. The monitoring program needs to provide opportunities for the Copermittees to integrate regional monitoring efforts into municipal storm water monitoring requirements to provide a cost-effective approach to monitoring and avoid duplication of efforts.

The requirements in Provision D were largely recommended by the Copermittees as an outcome of the San Diego Water Boards Focused Meeting process. The monitoring and assessment program requirements now require collection of more specific information necessary for each Copermittee to adapt its jurisdictional runoff management program in such a way that focuses resources on a watershed's highest priority water quality conditions. The monitoring and assessment program will require the Copermittees to collect data that can be utilized to answer both watershed level management questions (e.g. Are the chemical, physical, and biological conditions of a receiving water protective, or likely protective of beneficial uses?), and specific jurisdictional runoff management program activity questions (e.g. Are the water quality improvement strategies of the jurisdictional program effectively eliminating non-storm water discharges to the MS4?).

The monitoring data collected and assessment information that will be reported to the San Diego Water Board are necessary to determine if the Copermittees are complying with the prohibitions and limitations of Provision A. The required monitoring and assessments that must be reported to the San Diego Water Board will be utilized for three purposes:

(1) Inform the Copermittees, San Diego Water Board, and the public on the progress of the Copermittees' efforts to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP;

(2) Inform the Copermittees, San Diego Water Board, and the public on the condition of water bodies receiving discharges from the Copermittees' MS4, and the progress of the Copermittees' water quality improvement implementation efforts toward improving the receiving water quality; and

(3) Inform the Copermittees, the San Diego Water Board, and the public on the effectiveness of the Water Quality Improvement Plan toward achieving (1) and (2).

The monitoring and assessment information reported pursuant to Provision F is also expected to be key to the iterative approach and adaptive management process required under Provision A.4 and implemented through the Water Quality Improvement Plan required under Provision B. As required by Provision A.4, the iterative approach and adaptive management process is required if the Copermittees cannot meet the discharge prohibitions and receiving water limitations of Provisions A.1.a, A.1.c, and/or A.2.a under the present conditions.

Provision D provides the minimum monitoring and assessment requirements that must be included in each Water Quality Improvement Plan to be developed and implemented by the Copermittees. The Copermittees, however, are not limited to the requirements of Provision D and may include additional methods to track progress toward improving water quality in a Watershed Management Area.

More specific and detailed discussions of the requirements of Provision D are provided below.

Provision D.1 (Receiving Water Monitoring Requirements) specifies the minimum receiving water monitoring that the Copermittees must conduct within the Watershed Management Area and include as part of the Water Quality Improvement Plan.

Provision D.1 establishes minimum monitoring requirements that must be conducted by the Copermittees within each Watershed Management Area. Provision D.1 requires the Copermittees to collect and develop the data and information necessary to determine potential impacts to the beneficial uses in the receiving waters due to discharges from the MS4s. The monitoring required under Provision D.1 will also provide the data that will allow the Copermittees to gauge the effectiveness and progress of its Water Quality Improvement Plan implementation efforts toward improving the quality of receiving waters.

The receiving water monitoring requirements of Provision D.1 are focused primarily on monitoring the conditions and response of the receiving waters to the Copermittees'

collective implementation efforts to reduce receiving water impacts that may be caused by the discharges from the MS4s. The preference of the San Diego Water Board is for the Copermittees to spend their resources achieving tangible and observable improvements in receiving water conditions instead of collecting samples and analyzing data that has consistently indicated that receiving water conditions are degraded and require improvement. In general, the ability to measure potential improvements in receiving water conditions due to any actions implemented by the Copermittees as part of the Water Quality Improvement Plan may require several years before a response can be observed. Thus, the frequency of collecting receiving water monitoring data has been kept to a minimum.

During the transitional period between adoption of this Order and San Diego Water Board acceptance of a Water Quality Improvement Plan, the Copermittees must conduct receiving water monitoring in accordance with Provision D.1.a. This approach to collecting receiving water data is different from what was required in the Fourth Term Permits, but one that truly embraces the concept of an integrated, cost-effective, streamlined receiving water monitoring approach.

Provision D.1.a requires Copermittees to continue performing the receiving water monitoring programs required in Order Nos. R-2007-0001, R9-2009-002, and R9-2010-0016; plus participation in: hydromodification management plan monitoring approved by the San Diego Water Board, monitoring plans as part of load reduction plans (either Bacteria Load Reduction Plans or Comprehensive Load Reduction Plans) for TMDLs in Attachment E of the Order, Storm Water Monitoring Coalition Regional Monitoring, Southern California Bight Regional Monitoring, Sediment Quality Monitoring, and ASBS Monitoring as applicable to a Watershed Management Area.

Provision D.1.a also provides an opportunity for the Copermittees to use third party data to meet receiving water monitoring requirements where feasible. Allowing the Copermittees to use the data currently collected through its participation in existing regional receiving water programs and that of third parties provides an efficiency of resources in obtaining the data necessary to inform the Copermittees and the San Diego Water Board about the physical, chemical, and biological conditions of the receiving waters, which can also help to focus the receiving water monitoring during the implementation of the Water Quality Improvement Plan. Once a Water Quality Improvement Plan is developed for a Watershed Management Area in compliance with Provision B of this Order, the transitional period is over and Copermittees are required to conduct receiving water monitoring according to the requirements of Provisions D.1.b-e.

Provision D.1.b requires each Copermittee to identify at least one long term receiving water monitoring station to be representative of receiving water quality within each Watershed Management Area. Long term receiving water monitoring stations can be located at any existing mass loading stations, temporary watershed assessment stations, bioassessment stations, and stream assessment stations previously established by the Copermittees. The requirements under Provision D.1.b. are

consistent with 40 CFR 122.26(d)(2)(iii)(D), which specifies that a "*monitoring program for representative data collection for the term of the permit*" may include "*instream locations.*" For each Watershed Management Area, at least one long term watershed monitoring station is required to be established and monitored. The Copermittees may choose to establish additional long term monitoring stations where necessary to support the implementation and adaptation of the Water Quality Improvement Plan.

Provision D.1.b. requires the Copermittees to locate the long term receiving water monitoring station at one of these existing receiving water monitoring stations to provide the Copermittees an opportunity to experience monitoring cost savings while continuing to collect the necessary data to assess the status and trends of receiving water quality conditions in 1) coastal water, 2) enclosed bays, harbors, estuaries, and lagoons, and 3) streams under both dry weather and wet weather conditions. Ideally these stations will continue to be monitored as part of the receiving water monitoring for each Watershed Management Area to maintain a consistent set of locations and a period of data that can be built upon with the monitoring required under this Order.

The receiving water monitoring requirements are separated into monitoring required during dry weather conditions pursuant to Provision D.1.c, and wet weather conditions pursuant to Provision D.1.d.

At each long term monitoring station the Copermittees must conduct at least three dry weather monitoring events as required pursuant to Provision D.1.c and at least three wet weather monitoring events as required pursuant to Provision D.1.d per permit term. Provisions D.1.c and D.1.d require the Copermittees to monitor priority water quality conditions identified in the Water Quality Improvement Plan, constituents listed as causing impairment of receiving waters in the Watershed Management Area, applicable NALs, toxicity, constituents listed in Tables D-2 and D-3, and constituents for implementation plans (e.g. Bacteria Load Reduction Plans and Comprehensive Load Reduction Plans). Required toxicity monitoring was changed to reflect an updated understanding of the unique challenges associated with sampling storm water for toxicity. Copermittees are required to sample receiving water for toxicity during each dry weather and each wet weather event pursuant to Provision D.1.c.(4) and D.1.d.(4). Required toxicity monitoring is now consistent with the State Water Resources Control Board Policy for Toxicity Assessment and Control (Draft June 2012) and recently adopted MS4 permits for Caltrans and Los Angeles Water Board. Receiving water monitoring efforts in this Order have been streamlined to redirect resources to monitoring efforts that better support pollutant reduction solutions with an increasing emphasis on MS4 outfall monitoring, source identification, and source abatement activities.

In addition to the receiving water monitoring requirements under Provisions D.1.b-d, Provision D.1.e requires the Copermittees participate in and/or conduct other types of receiving water monitoring. As recommended and requested by the Copermittees, Provision D.1.e.(1) requires the Copermittees to participate in existing regional monitoring, as applicable to each Watershed Management Area. Existing regional

monitoring includes monitoring conducted by the Storm Water Monitoring Coalition and for the Southern California Bight. Participation in and use of monitoring data collected from these existing regional water quality monitoring programs provide the Copermittees a greater opportunity for efficiency in the use of their resources to manage their storm water programs and those controllable discharges under their authority.

Provision D.1.e.(1)(c) requires the south Orange County MS4 Copermittees to participate in "unified regional beach water quality monitoring." This monitoring replaces requirements to conduct "core monitoring" of beach water quality, as provided for in Appendix III of the Ocean Plan.

Several different public agencies currently conduct routine, ongoing beach water quality monitoring in south Orange County in accordance with several different sets of requirements. The monitoring programs implemented to meet those requirements overlap temporally and spatially. These monitoring programs are partially but not fully integrated. In November 2010, the State Water Board adopted Resolution No. 2010-0053, which directed Regional Water Boards to work with dischargers to modify beach water quality monitoring programs required by Regional Water Board-issued permits in order to eliminate redundancies and incorporate beach water quality monitoring required by beach water quality statutes, where appropriate.

In April 2012, the San Diego Water Board requested that its staff review beach water quality monitoring conducted in south Orange County. To assist in responding to that request, staff of the Board convened a workgroup that included representatives of the three public agencies that currently conduct almost all of the routine, ongoing beach water quality monitoring in south Orange County, i.e., South Orange County Wastewater Authority (SOCWA), Orange County Public Works, and Orange County Health Care Agency (OCHCA). The workgroup also included other interested parties, including representatives of the Sierra Club and Surfrider Foundation. In December 2012, the San Diego Water Board adopted Resolution No. R9-2012-0069, which endorsed the San Diego Water Board staff report entitled "A Framework for Monitoring and Assessment in the San Diego Region," dated November 2012.

The unified program is consistent with and will meet or exceed the minimum requirements for beach water quality monitoring and related public notification and reporting established by State law, including the Ocean Plan. The unified program is consistent with State Water Board Resolution No. 2010-0053. The unified program is also consistent with and will help implement, "A Framework for Monitoring and Assessment in the San Diego Region," which emphasizes the need for question-driven, beneficial use-oriented monitoring and assessment. The primary purpose of the unified program will be to answer the question "Does beach water quality meet standards for the beneficial use of water contact recreation?"

The unified program is intended to be protective; it will help protect the health of swimmers, surfers, and others who use south Orange County beach waters for water

contact recreational activities. The unified program is also intended to be reasonable; it will eliminate duplicative monitoring and will include triggers for public notification and additional sampling at all sampling stations year-round. The unified program is intended to be equitable; responsibility for implementation of the unified program will be shared and the responsible agencies will jointly make arrangements to implement the program and will have the flexibility to jointly make short and/or long term changes in those arrangements.

The San Diego Water Board Executive Officer issued a written directive on December 5, 2014, pursuant to California Water Code section 13383, for SOCWA and the south Orange County MS4 Copermittees to implement the unified program in cooperation with OCHCA. The Executive Officer may make revisions to the unified program, provided that the unified program, as revised, continues to be consistent with and meet the requirements of State law, including the Ocean Plan, for beach water quality monitoring and related public notification and reporting. Following a thirty day public comment period, and subject to a request for a hearing before the San Diego Water Board, any such revision shall take effect as specified in a written directive issued by the Executive Officer pursuant to CWC section 13383. The program and any Executive Officer issued revisions to the program are subject to CWC section 13320 right of review from the date of issuance.

The unified program will supersede the existing routine, ongoing, beach water quality monitoring programs in south Orange County that are conducted in accordance with the existing requirements of the NPDES permits for discharges from the SOCWA ocean outfalls and the south Orange County MS4s. The requirement to participate in "regional monitoring" of beach water quality replaces requirements to conduct "core monitoring" of beach water quality, as provided for in Appendix III of the Ocean Plan.

The State Water Resources Control Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries of California – Part 1 Sediment Quality which became effective August 25, 2009 (Sediment Quality Monitoring Policy). Provision D.1.e.(2) requires any Copermittees with MS4 discharges to an enclosed bay or estuary to monitoring the sediments in the enclosed bay or estuary receiving water in accordance with the sediment quality monitoring procedures as prescribed in the Sediment Quality Monitoring Policy.

The State Water Board adopted Resolution No. 2012-0012 which approved exceptions to the California Ocean Plan for selected discharges into Areas of Special Biological Significance (ASBS), including special protections for beneficial uses. State Board Resolution No. 2012-0012 became effective on March 20, 2012, and Attachment B to the Resolution established limitations on point source storm water discharges to ASBS. Copermittees with MS4s that discharge to an ASBS must monitor its discharge to assure compliance with State Board Resolution No. 2012-0012 as required pursuant to Provision D.1.e.(3).

The San Diego Water Board is developing a regional monitoring strategy to assess the conditions of receiving waters in the San Diego Region. The monitoring requirements of Provision D.1 are expected to be incorporated or serve as a foundation of this regional monitoring strategy, but may require some modifications. When the San Diego Water Board develops an alternative regional monitoring strategy, the Copermittees will be required to participate in the development and implementation of the alternative regional monitoring program pursuant to Provision D.1.f.

Provision D.2 (MS4 Outfall Discharge Monitoring Requirements) specifies the minimum MS4 outfall discharge monitoring requirements that the Copermittees must incorporate and implement as part of the Water Quality Improvement Plan.

The dry weather MS4 outfall discharge monitoring requirements are included under Provisions D.2.a.(2) and D.2.b. The dry weather MS4 outfall discharge monitoring requirements are part of the "*program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer*" required by 40 CFR 122.26(d)(2)(iv)(B), which is expected to achieve compliance with the CWA section 402(p)(3)(B)(ii) statutory requirement for municipal storm water permits to require the Copermittees to "*effectively prohibit non-storm water discharges into the storm sewers*." The dry weather MS4 outfall discharge monitoring data collection requirements are based on requirements under 40 CFR 122.26(d)(1)(iv)(D) and 122.26(d)(2)(iv)(B)(3).

The dry weather MS4 outfall discharge monitoring requirements are designed to provide wide spatial and temporal coverage of each jurisdiction to better understand the extent and magnitude of non-storm water discharges to receiving waters, and make a distinction between persistent and transient non-storm water flows. This information is expected to allow each Copermittee to focus its resources on eliminating and controlling the highest priority threats to receiving water quality, as well as integrating other elements of the storm water programs (e.g. complaint call response) and third party data to efficiently and effectively assist in efforts to eliminate non-storm water discharges.

The dry weather MS4 outfall discharge monitoring requirements of Provision D.2.a.(2) and D.2.b are separated into monitoring required before and after the San Diego Water Board accepts the Copermittees' Water Quality Improvement Plan. Outfall monitoring conducted prior to acceptance of the Water Quality Improvement Plan is referred to in the Order as Transitional MS4 Outfall Discharge Monitoring. Provision D.2.a.(2) includes the transitional dry weather MS4 outfall discharge monitoring requirements.

The requirements under Provision D.2.a.(2) are based on the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B), which include the requirements for a monitoring program to identify, detect, and eliminate illicit connections and illegal discharges to the MS4s. The federal regulations (40 CFR 122.26(d)(1)(iv)(D)) require

the monitoring program to include "*a field screening analysis for illicit connections and illegal dumping [that]…[a]t a minimum, include[s] a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods.*" The federal regulations (40 CFR 122.26(d)(1)(v)(B)) require the monitoring program to include "*inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.*" Furthermore, the monitoring program is required by federal regulations (40 CFR 122.26(d)(2)(iv)(B)) to include "*a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.*"

Dry weather transitional MS4 outfall discharge monitoring requires each Copermittee to field screen (inspect) its major MS4 outfalls to classify the MS4 outfall locations as having persistent dry weather flows, transient dry weather flows, or no dry weather flows. To account for the variance in size of the 39 jurisdictions covered under this Order, the Copermittees recommended a tiered approach to the number of major MS4 outfalls that must be inspected. Provision D.2.a.(2)(a) provides a tiered approach to the number of major MS4 outfalls that must be visually inspected per jurisdiction as well as a minimum frequency each Copermittee must inspect each major MS4 outfall per year. This tiered approach is based on the total number of major MS4 outfalls within a Copermittees jurisdiction within each Watershed Management Area.

Based on the field screening, each Copermittee is required to make a determination whether any observed flowing, pooled, or ponded waters are transient or persistent flows. Based on this field screening information, other jurisdictional program information, and third party information, each Copermittee is required to prioritize the MS4 outfalls within its jurisdiction for follow up investigation and elimination of the non-storm water discharge, as part of its illicit discharge detection and elimination program required pursuant to Provision E.2. In accordance with the requirements of Provision E.2, each Copermittee is required to immediately investigate obvious illicit discharges (e.g. outfall discharges with unusual color, unusual odor, or high flows).

This approach allows a Copermittee to use all of its resources, as well as leverage resources and information provided by third parties, to effectively eliminate non-storm water discharges from its MS4 outfalls. If the source of the non-storm water discharge cannot be immediately eliminated, the Copermittee uses the persistent flow or transient flow classification along with other programmatic implementation data to prioritize the MS4 outfalls for future investigation. In accordance with the adaptive management approach deployed throughout this Order, Provision D.2.a.(2)(c) requires each Copermittee to update its MS4 outfall discharge monitoring station inventory, compiled pursuant to Provision D.2.a.(1), with any new information on the classification of whether the MS4 outfall produces persistent flow, transient flow, or no dry weather flow. The requirement of Provision D.2.a.(2)(c) assures that each Copermittee is collecting data that can be used to demonstrate compliance with the CWA requirement that each Copermittee must implement a program to "*effectively*

prohibit non-storm water discharges into the [MS4]" and with the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B).

Provision D.2.b describes the dry weather MS4 outfall discharge monitoring required to be incorporated and implemented as part of the Water Quality Improvement Plan. Dry weather MS4 outfall discharge monitoring must be performed by each Copermittee to identify non-storm water and illicit discharges within its jurisdiction pursuant to Provision E.2.c, and to prioritize the dry weather MS4 discharges that will be investigated and eliminated pursuant to Provision E.2.d. The emphasis of the dry weather MS4 outfall discharge monitoring required pursuant to Provision D.2.b is consistent with the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B).

Provision D.2.b.(1) requires each Copermittee to continue field screening its major MS4 outfalls and identifying those with persistent flows and transient flows, as conducted during the transitional period (i.e. before the Water Quality Improvement Plan was developed). However, each Copermittee now has the flexibility to adjust the field screening monitoring frequencies and locations for the MS4 outfalls in its inventory, as needed, to identify and eliminate sources of non-storm water persistent flow discharges in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan. In order to ensure a minimum number of outfalls are inspected, Provision D.2.b.(1) requires the number of visual inspections be equal to the number of visual inspections required in the tiered inspection program pursuant to Provision D.2.a.(2)(a).

Provision D.2.b.(2)(b) requires each Copermittee to monitor a minimum of 5 major MS4 outfalls with persistent flows identified as the highest priorities within a Copermittee's jurisdiction, within each Watershed Management Area. In other words, Copermittees located in more than one Watershed Management Area must identify at least 5 major MS4 outfalls with persistent flows in its jurisdiction in each Watershed Management Area. If a Copermittee is located in more than one Watershed Management Area, and they have less than 5 major MS4 outfalls with persistent flows per jurisdictional area per Watershed Management Area, all of the major MS4 outfalls must be identified as high priority dry weather persistent flow MS4 outfalls. The Copermittees identified as Responsible Copermittees by a TMDL in Attachment E of the Order may need to monitor more than 5 dry weather major MS4 outfall locations to determine compliance with the requirements of the TMDL(s).

Monitoring must occur at the highest priority outfall locations at least semi-annually until the non-storm water discharges have been eliminated for three consecutive dry weather monitoring events; identified to be authorized by a separate NPDES Permit; or reprioritized to a lower priority. Persistent flow MS4 outfall monitoring stations that have been removed must be replaced with the next highest prioritized MS4 major outfall in the Copermittee's jurisdiction within the Watershed Management Area, unless there are no remaining qualifying major MS4 outfalls within the Copermittees jurisdiction. The Copermittees must continually update their dry weather persistent

flow MS4 outfall discharge monitoring locations with the next highest priority non-storm water flow that have yet to be eliminated until all persistent and transient flows are eliminated or its threat reduced.

Non-storm water persistent flow MS4 outfall discharge monitoring data collected during each semi-annual monitoring event, must be collected and analyzed according to the requirements of Provision D.2.b.(2)(b)-(e). These monitoring requirements are consistent with the requirements under 40 CFR 122.26(d)(1)(iv)(D), (d)(1)(v)(B) and (d)(2)(iv)(B).

The wet weather MS4 outfall discharge monitoring requirements are included under Provisions D.2.a.(3) and D.2.c. The wet weather MS4 outfall discharge monitoring requirements are necessary for the Copermittees to implement a "*management program…to reduce the discharge of pollutants to the maximum extent practicable, using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate*" required by 40CFR 122.26(d)(2)(iv), which is expected to achieve compliance with the CWA section 402(p)(3)(B)(iii) statutory requirement for municipal storm water permits to require "*controls to reduce the discharge of pollutants [in storm water] to the maximum extent practicable*." The wet weather MS4 outfall discharge monitoring data collection requirements are based on requirements under 40 CFR 122.26(d)(2)(iii), 122.26(d)(2)(iii)(A) and 122.26(d)(2)(iii)(A)(1)-(4), and 40 CFR 122.21(g)(7)(i)-(ii).

The wet weather MS4 outfall discharge monitoring requirements of Provision D.2.a.(3) and D.2.c are separated into monitoring required before and after the San Diego Water Board accepts the Copermittees' Water Quality Improvement Plan. Outfall monitoring conducted prior to acceptance of the Water Quality Improvement Plan is referred to in the Order as Transitional MS4 Outfall Discharge Monitoring. Provision D.2.a.(3) includes the transitional wet weather MS4 outfall discharge monitoring requirements.

Until the wet weather MS4 outfall discharge monitoring requirements of Provision D.2.c are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board, the Copermittees must comply with the requirements of transitional wet weather MS4 outfall monitoring requirements pursuant to Provision D.2.a.(3). Provision D.2.a.(3) requires the Copermittees in each Watershed Management Area to sample, at least five of the major MS4 outfalls inventoried pursuant to Provision D.2.a.(1) once per wet season for the monitoring data required to be collected pursuant to Provision D.2.a.(3)(c)-(e). Provision D.2.a.(3) further requires at least one major MS4 outfall monitoring station be located in each Copermittee's jurisdiction within the Watershed Management Area.

At a minimum, the five sampling locations chosen must be representative of storm water discharges from residential, commercial, industrial, and typical mixed-use land uses present within a Watershed Management Area. The San Diego Water Board expects the Copermittees to extrapolate from these data to similar land uses

throughout the Watershed Management Area to better inform the Water Quality Improvement Plan development process by prioritizing drainages for implementation of storm water control efforts required pursuant to Provision E.

Provision D.2.c describes the wet weather MS4 outfall discharge monitoring required to be included and implemented as part of the Water Quality Improvement Plan. Provision D.2.c provides the Copermittees the flexibility to adjust the wet weather MS4 outfall discharge monitoring locations and frequencies in the Watershed Management Area, as needed, to identify sources of pollutants in storm water discharges from MS4s in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan.

Although Provision D.2.c.(1) allows the Copermittees to adaptively manage the wet weather MS4 outfall discharge monitoring locations and frequencies, the provision requires a minimum of at least five wet weather outfall stations to be monitored. Provision D.2.c.(2) further allows the Copermittees to modify the monitoring frequency at each wet weather MS4 outfall station to meet the goals of the Water Quality Improvement Plan as long as the monitoring frequency occurs at least once per year and is at an appropriate frequency to identify sources of pollutants in storm water discharges, guide pollutant source identification efforts, or determine compliance with the requirements of the applicable TMDLs in Attachment E to the Order.

The wet weather MS4 outfall discharge monitoring requirements of Provisions D.2.c.(3) and D.2.c.(4) are the same as the transitional wet weather MS4 outfall discharge monitoring. In contrast, the requirements of Provision D.2.c.(5) are focused on collecting analytical data specific to the highest priority water quality conditions in the Watershed Management Area identified in the Water Quality Improvement Plan. The wet weather MS4 outfall discharge monitoring data collection requirements are consistent with the requirements under 40 CFR 122.26(d)(2)(iii), 122.26(d)(2)(iii)(A) and 122.26(d)(2)(iii)(A)(1)-(4), and 40 CFR 122.21(g)(7)(i)-(ii).

Provision D.3 (Special Studies) requires the Copermittees to develop special studies that will be conducted for each Watershed Management Area and the entire San Diego Region. Data collected pursuant to Provision D.3 is to be used by the Copermittees to improve the effectiveness of the strategies implemented by the jurisdictional runoff management programs toward achieving the numeric goals identified in the Water Quality Improvement Plans and ultimately achieve compliance with the discharge prohibitions and receiving water limitations of Provisions A.1.a, A.1.c, and A.2.a, which is consistent with the requirements of Provision A.4.

Special studies are often necessary to fill data gaps or provide more refined information that allow the Copermittees to better manage the generation or elimination of pollutants and discharges to and from the MS4. In the Fourth Term Permits, the Copermittees have been required to implement special studies as directed by the San Diego Water Board. The special studies required by this Order provide the Copermittees more flexibility to identify and implement special studies that will be most

useful to improving the effectiveness of their jurisdictional runoff management programs.

Provision D.3.a.(1) requires the Copermittees to develop and conduct at least two special studies per Watershed Management Area, to be determined by the Copermittees. One of the two special studies may be accomplished through participation in a Regional Special Study required under Provision D.3.a.(2). The requirements provide the Copermittees great latitude in identifying and developing the special studies. Watershed Management Area special studies are required, at a minimum, to: (a) relate in some way to the highest water quality priorities identified by the Copermittees in the Water Quality Improvement Plan, (b) be conducted within the Watershed Management Area, and (c) include some form of participation (e.g. contribution of funds, personnel services, project management) by all the responsible Copermittees within the Watershed Management Area.

Examples of Watershed Management Area special studies might include, but are not limited to: (1) focused pollutant source identification studies, (2) BMP effectiveness and/or comparison studies, (3) pilot tests for new or emerging pollutant control methods, (4) receiving water pollutant or stressor source identification and/or mitigation studies, or (5) pollutant fate and transport studies. The Watershed Management Area special studies are expected to provide data that can be utilized by the Copermittees to improve the Water Quality Improvement Plan or implementation of the Copermittees' jurisdictional runoff management programs to address the highest priority water quality conditions.

Provision D.3.a.(2) requires the Copermittees to develop at least one special study that will be conducted for the entire San Diego region. The regional special study is expected to provide data that can be utilized by the Copermittees to improve the Water Quality Improvement Plan or implementation of the Copermittees' jurisdictional runoff management programs to identify or address regional water quality concerns and priorities.

An example of a regional special study would be to develop and establish allowable exceedance frequencies of the bacteria water quality objectives for several types of water bodies, during different wet and dry weather conditions the San Diego region. The special study would be related to bacteria, which is a priority for the San Diego region due to the adoption of "*Bacteria TMDL Project I – Beaches and Creeks in the San Diego Region*." The study results could be used to inform the Copermittees and the San Diego Water Board about the indictor bacteria water quality objective exceedance frequencies that occur in natural or reference watersheds.

Provision D.4 (Assessment Requirements) specifies the assessments that the Copermittees are required to perform, based on the monitoring data collected, and will be reported as part of the Annual Report for the Water Quality Improvement Plan implementation. Provision D.4 requires the Copermittees assess the progress of the

water quality improvement strategies in the Water Quality Improvement Plan toward achieving compliance with Provisions A.1.a, A.1.c, and A.2.a.

Provision D.4 specifies the assessments that Copermittees must perform for each Watershed Management Area to assess the effectiveness of each Copermittee's jurisdictional runoff management program and the Water Quality Improvement Plan. The effectiveness of each Copermittee's jurisdictional runoff management program and Water Quality Improvement Plan is measured through these types of assessments: (a) Receiving Waters Assessments (b) MS4 Outfall Discharges Assessments, (c) Special Studies Assessments, and (d) Integrated Assessment of Water Quality Improvement Plan.

Provision D.4.a requires the Copermittees to assess the status of receiving water conditions annually during the transitional monitoring period (during development of the Water Quality Improvement Plan) and after acceptance of the Water Quality Improvement Plan. The monitoring data collected pursuant to Provision D.1 will be evaluated, among other information, to assess the condition of a Watershed Management Area's streams, coastal waters, enclosed bays, harbors, estuaries, and lagoons. The focus of the receiving waters assessments is to measure progress toward the objective of the CWA to "*restore and maintain the chemical, physical, and biological integrity of the Nation's waters*" as the Water Quality Improvement Plan and each Copermittee's jurisdictional runoff management program are implemented within a Watershed Management Area. Provision D.4.a is consistent with 40 CFR 122.42(c)(7) which requires the Copermittees to annually report the *"[i]dentification of water quality improvements or degradation."*

Provision D.4.b includes the MS4 outfall discharges assessment requirements. The focus of MS4 outfall discharges assessments is to determine if the Copermittees' are implementing programs that comply with the requirements of the CWA for MS4 permits to "*effectively prohibit non-stormwater discharges into the storm sewers*" and "*require controls to reduce the discharge of pollutants* [in storm water] *to the maximum extent practicable.*" The monitoring data collected pursuant to Provisions D.2 will be evaluated, among other information, to assess the effectiveness of the transitional MS4 outfall field screening monitoring, the implementation of the Water Quality Improvement Plan and each Copermittee's jurisdictional runoff management program. The MS4 outfall discharge assessments consist of Non-Storm Water Discharges Reduction Assessments and Storm Water Pollutant Discharges Reduction Assessments.

The Non-Storm Water Discharges Reduction Assessments are how each Copermittee will demonstrate that its jurisdictional runoff management program implementation efforts are achieving the CWA requirement to "*effectively prohibit non-stormwater discharges into the storm sewers.*" Provision D.4.b.(1) requires each Copermittee to assess and report on its illicit discharge detection and elimination program required pursuant to Provision E.2 to reduce and effectively prohibit non-storm water and illicit discharges into the MS4 within its jurisdiction. The Non-Storm Water Discharges

Reduction Assessments include specific assessment requirements applicable to each Copermittee.

As each Copermittee collects and analyzes the data collected pursuant to dry weather MS4 outfall discharges monitoring requirements of Provisions D.2.a.(2) and D.2.b, Provision D.4.b.(1) requires each Copermittee to assess the progress, assess the effectiveness of its current actions, and identify modifications necessary to increase the effectiveness of its actions toward reducing and eliminating non-storm water and illicit discharges to its MS4. The findings from these assessments are expected to be utilized by the Copermittee as part of its procedures to prioritize the non-storm water discharges that will be addressed by its Illicit Discharge Detection and Elimination program required pursuant to Provision E.2.

The assessment requirements of Provision D.4.a.(1) are consistent with 40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(3) which require "*procedures…to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information [emphasis added], indicate a reasonable potential of contain illicit discharges or other sources of non-storm water*" as part of a "*program…to detect and remove…illicit discharges and improper disposal into the storm sewer.*" The assessment requirements of Provision D.4.a.(1) are also consistent with 40 CFR122.42(c)(1) requires the Copermittees to annually report the "*status of implementing the components of the storm water management program that are established as permit conditions.*"

The Storm Water Pollutant Discharges Reduction Assessment is how the Copermittees in each Watershed Management Area will demonstrate that their jurisdictional runoff management program implementation efforts are achieving the CWA requirement to "*reduce the discharge of pollutants* [in storm water] *to the maximum extent practicable*." Provision D.4.b.(2) requires the Copermittees in each Watershed Management Area to assess and report the progress of the Copermittees' efforts to reduce pollutants in storm water discharges from the MS4s to the MEP. The Storm Water Pollutant Discharges Reduction Assessments include specific assessment requirements during both the transitional monitoring period and after acceptance of the Water Quality Improvement Plan applicable to the Watershed Management Area and each Copermittee.

As the Copermittees collect and analyze the data collected pursuant to wet weather MS4 outfall discharges monitoring requirements of Provisions D.2.a.(3) and D.2.c, Provision D.4.b.(2) requires the Copermittees to assess runoff conditions during the transitional period, and the progress of the Water Quality Improvement Plan strategies toward reducing pollutants in storm water from the MS4 to the MEP. The findings from these assessments are expected to be utilized by the Copermittees to identify any modifications to the wet weather MS4 outfall discharge monitoring locations and frequencies necessary to identify sources of pollutants in storm water discharges from the MS4s, as well as focus, modify, and improve the water quality improvement

strategies implemented by each Copermittee within its jurisdiction to reduce pollutants in storm water discharges to the MEP.

The assessment requirements of Provision D.4.b.(2) are consistent with 40 CFR 122.26(d)(2)(iii)(B) which requires "*[e]stimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls…during a storm event…accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modeling, data analysis, and calculation methods.*" The assessment requirements of Provision D.4.a.(2) are consistent with 40 CFR 122.26(d)(2)(v) which requires that each Copermittee assesses the *"estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program."* The assessment requirements of Provision D.4.b.(2) are also consistent with 40 CFR122.42(c)(1) requires the Copermittees to annually report the "*status of implementing the components of the storm water management program that are established as permit conditions.*"

Provision D.4.c includes the special studies assessment requirements. Performing special studies are how the Copermittees will address data gaps identified during the development of and updates to the Water Quality Improvement Plan. The relevant findings from the special studies assessments are expected to be incorporated as part of the applicable receiving water assessments, MS4 outfall discharge assessments, and integrated water quality improvement assessments required in Provision D.4.a, D.4.b, and D.4.d, respectively.

The assessment requirements in Provision D.4.d are part of the iterative approach and adaptive management process required by Provision A.4. The Copermittees are required to integrate the data collected pursuant to Provisions D.4.a-c, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E to re-evaluate the Water Quality Improvement Plan.

The monitoring data collected pursuant to Provisions D.1 and D.2, and the results of the assessment required pursuant to Provisions D.4.a-c, will be used to determine whether the Water Quality Improvement Plan and each Copermittee's jurisdictional runoff management program are effective, or require modifications or improvements to become more effective to achieve the requirements of the CWA. The assessments required by Provision D.4.d are consistent with 40 CFR 122.42(c)(1) which requires that the Copermittees to report the *"[t]he status of implementing the components of the storm water management program that are established as permit conditions."*

E. Jurisdictional Runoff Management Programs

Purpose: Provision E includes the requirements for the jurisdictional runoff management programs to be implemented by each of the Copermittees. Compliance with the requirements for the jurisdictional runoff management programs will allow the Copermittees to demonstrate that they are implementing programs to effectively prohibit non-storm water discharges to the MS4 and reduce pollutants in storm water discharges from the MS4 to the MEP. The jurisdictional runoff management program document prepared by each Copermittee will also provide the details for implementing the water quality improvement strategies identified in the Water Quality Improvement Plan specifically within its jurisdiction.

***Discussion*:** Implementation of the jurisdictional runoff management program requirements under Provision E is how the Copermittees "*effectively prohibit non-stormwater discharges into the storm sewer,*" and outlines the "*controls to reduce the discharge of pollutants to the maximum extent practicable"* consistent with the federal regulations under 40 CFR 122.26. The jurisdictional runoff management program is part of the "*comprehensive planning process*" that is required pursuant to 40 CFR 122.26(d)(2)(iv). Where the Water Quality Improvement Plan is the "*comprehensive planning process*" on a Watershed Management Area scale, requiring "*intergovernmental coordination,*" the jurisdictional runoff management program document is the "*comprehensive planning process*" on a jurisdictional scale that should be coordinated with the other Copermittees in the Watershed Management Area to achieve the goals of the Water Quality Improvement Plan.

The jurisdictional runoff management program requirements are included to provide each Copermittee criteria that can be used to demonstrate that its storm water management program is implementing the "*comprehensive planning process*" within its jurisdiction to "*effectively prohibit non-stormwater discharges into the storm sewers,*" and to identify and implement the most effective "*controls to reduce the discharge of pollutants to the maximum extent practicable"* in accordance with the performance standards given in the CWA.

Provision E includes the requirements for each of the components that must be included in the Copermittee's jurisdictional runoff management program document that will be implemented by the Copermittee within its jurisdiction. Implementation of the components of each Copermittee's jurisdictional runoff management program must incorporate the water quality improvement strategies identified by each Copermittee in the Water Quality Improvement Plans, described pursuant to Provision B.3.b.(1)(a).

More specific and detailed discussions of the requirements of Provision E are provided below.

Provision E.1 (Legal Authority Establishment and Enforcement) requires each Copermittee to establish and enforce sufficient legal authority to control discharges to the MS4 within its jurisdiction.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system*" and be able to demonstrate that it can "*operate pursuant to legal authority established by statute, ordinance or series of contracts.*" Provision E.1.a describes the minimum legal authorities each Copermittee must establish for itself within its jurisdiction to control discharges to its MS4. The requirements of Provision E.1.a are consistent with the requirements set forth in 40 CFR 122.26(d)(2)(i)(A)-(F).

The certification statement required from each Copermittee by Provision E.1.b is included to provide the San Diego Water Board additional documentation that each Copermittee has established the legal authorities consistent with Provision E.1.a and 40 CFR 122.26(d)(2)(i)(A)-(F), and the Copermittee can "*operate pursuant to legal authority established by statute, ordinance or series of contracts.*"

Provision E.2 (Illicit Discharge Detection and Elimination) requires each Copermittee to implement an illicit discharge detection and elimination program to effectively prohibit non-storm water discharges to the MS4 by actively detecting and eliminating illicit discharges and disposal into its MS4. If the San Diego Water Board finds that a Copermittee is fully implementing the requirements of Provision E.2, then the Copermittee is deemed in compliance with the effective prohibition of non-storm water discharges to the MS4 required under Provision A.1.b.

Provision E.2 establishes the minimum requirements that each Copermittee must implement within its jurisdiction to effectively prohibit non-storm water discharges from entering its MS4. The federal CWA requires permits for municipal storm sewer systems to "*effectively prohibit non-storm water discharges into the storm sewers*." The federal regulations (40CFR122.26(d)(2)(i)(B)) require each Copermittee to establish the legal authority to prohibit illicit discharges to its MS4s. Under 40 CFR 122.26(d)(2)(iv)(B), each Copermittee must implement a "*program…to detect and remove…illicit discharges and improper disposal into the storm sewer.*" The federal NPDES regulations, under 40 CFR 122.26(b)(2), define illicit discharges as "*any discharge to a municipal separate storm sewer that is not composed entirely of storm water*." Thus, non-storm water discharges are not authorized to enter the MS4 and are considered to be illicit discharges, unless authorized by a separate NPDES permit.

The Phase I Final Rule clarifies that non-storm water discharges through an MS4 are not authorized under the CWA (55 FR 47995):

> "*Today's rule defines the term "illicit discharge" to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not*

> *authorized under the Clean Water Act. Section 402(p)(3)(B) requires that permits for discharges from municipal separate storm sewers require the municipality to "effectively prohibit" non-storm water discharges from the municipal separate storm sewer…Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit*."

The federal NPDES requirements for the program to address illicit discharges must include "*inspections, to implement and enforce an ordinance, orders, or other similar means to prevent illicit discharges to the MS4*." The federal NPDES regulations also reference several categories of "*non-storm water discharges or flows* [which] *shall be addressed where such discharges are identified…as sources of pollutants to waters of the United States*." The Phase I Final Rule (55 FR 48037) further clarified the requirements of 40 CFR 122.26(d)(2)(iv)(B)(1) as follows:

> "*EPA is clarifying that section 402(p)(3)(B) of the CWA (which requires permits for municipal separate storm sewers to 'effectively' prohibit non-storm water discharges) does not require permits for municipalities to prohibit certain discharges or flows of nonstorm water to waters of the United States through municipal separate storm sewers in all cases*."

In previous iterations of the municipal storm water permits for the San Diego Region, these categories were simply listed and referred to as categories of non-storm water discharges "not prohibited" unless identified as a source of pollutants. The Copermittees have often referred to these categories as "exempt" discharges. In both cases, however, the language is inconsistent with the federal CWA and NPDES regulations. And, the clarification provided in the Phase I Final Rule does not specifically state that such discharges are "not prohibited" or "exempt" or in any way authorized. The federal NPDES regulations do, however, state that specific categories of non-storm water discharges must be "*addressed*" if identified as "*sources of pollutants to waters of the United States*."

The language of Provision E.2.a has been revised to be fully consistent with the language of the CWA and the requirements of the federal regulations under 40 CFR 122.26(d)(2)(iv)(B)(1). Provision E.2.a requires each Copermittee to address <u>all</u> types of non-storm water discharges into its MS4 as illicit discharges, <u>unless</u> the discharge is authorized by a separate NPDES permit, or identified as a category of non-storm water discharges or flows that must be addressed pursuant to Provisions E.2.a.(1) through E.2.a.(5). Only non-NPDES-permitted non-storm water discharges identified as a category of non-storm water discharges under Provisions E.2.a.(1) through E.2.a.(5) <u>and</u> *not identified as a source of pollutants* do not have to be addressed as illicit discharges. Categories of non-storm water discharges that meet the requirements of Provisions E.2.a.(1) through E.2.a.(5) do not have to be addressed by the Copermittee as illicit discharges.

Several of the non-storm water categories listed in 40 CFR 122.26(d)(2)(iv)(B)(1) have not been included in Provisions E.2.a.(1) through E.2.a.(5), including: street wash water, landscape irrigation, irrigation water, and lawn watering. Because these are no longer included within the categories listed under Provisions E.2.a.(1) through E.2.a.(5), the Copermittees must prohibit these types of non-storm water discharges from entering the MS4. This is consistent with the clarification of 40 CFR 122.26(d)(2)(iv)(B)(1) in the Phase I Final Rule (55 FR 48037), which states:

> "*[T]he Director may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate*."

Street wash water is a category of non-storm water discharges that was removed when the Third Term Permits were issued. Street wash water is a source of several pollutants (e.g., metals, oil and grease, petroleum hydrocarbons, chlorinated solvents, sediment) which are generated during the street washing process. The removal of this category requires the Copermittees to prohibit this type of non-storm water discharge from entering the MS4.

The landscape irrigation, irrigation water, and lawn watering categories, collectively referred to hereafter as "over-irrigation" discharges, were removed from the list of non-storm water discharge categories in the Fourth Term Orange County and Riverside County Permits. Non-storm water discharges resulting from over-irrigation have been found to be a source of several types of pollutants (e.g., nutrients, bacteria, pesticides, sediment) in receiving waters. The San Diego Water Board and the Copermittees have identified categories of non-storm water discharges associated with over-irrigation as a source of pollutants and conveyance of pollutants to the MS4 and waters of the United States in the following documents:

- **SmartTimer/Edgescape Evaluation Program (SEEP) Grant Application**

  The State Water Board allocated grant funding to the SEEP project grant application submitted in 2006, which targeted irrigation runoff by retrofitting areas of existing development and documenting the conservation and runoff improvements. The basis of this grant project is that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 is a source and conveyance of pollutants. In addition, the grant application indicated that this alteration of natural flows is impacting the beneficial uses of waters of the state and U.S. Results from the study indicate that that over-irrigation (landscape irrigation, irrigation water and lawn watering) into the MS4 *is* a source and conveyance of pollutants. The results of this study can be applied broadly to any area where over-irrigation takes place. The grant application included the following statements:

  > "*Irrigation runoff contributes flow & pollutant loads to creeks and beaches that are 303(d) listed for bacteria indicators.*"

"*Regional program managers agree that the reduction and/or elimination of irrigation-related urban flows and associated pollutant loads may be key to successful attainment of water quality and beneficial use goals as outlined in the San Diego Basin Plan and Bacteria TMDL over the long term.*"

"*Elevated dry-weather storm drain flows, composed primarily … of landscape irrigation water wasted as runoff, carry pollutants that impair recreational use and aquatic habitats all along Southern California's urbanized coastline. Storm drain systems carry the wasted water, along with landscape derived pollutants such as bacteria, nutrients and pesticides, to local creeks and the ocean. Given the local Mediterranean climate, excessive perennial dry season stream flows are an unnatural hydrologic pattern, causing species shifts in local riparian communities and warm, unseasonal contaminated freshwater plumes in the near-shore marine environment.*"

- **2006-2007 Orange County Watershed Action Plan Annual Reports**

  The Watershed Action Plan Annual Reports for the 2006-2007 reporting period were submitted by the County of Orange, Orange County Flood Control District and Copermittees within the San Juan Creek, Laguna Coastal Streams, Aliso Creek, and Dana Point Coastal Streams Watersheds. San Juan Creek, Laguna Coastal Streams, Aliso Creek and Dana Point Coastal Streams are all currently 303(d) listed as impaired for indicator bacteria within their watersheds and/or in the Pacific Ocean at the discharge points of their watersheds. The Orange County Copermittees, within their Watershed Action Strategy Table for fecal indicator bacteria included the following:

  "*Support programs to reduce or eliminate the discharge of anthropogenic dry weather nuisance flow throughout the…watershed. Dry weather flow is the transport medium for bacteria and other 303(d) constituents of concern.*"

  Additionally, they state that "*conditions in the MS4 contribute to high seasonal bacteria propagation in-pipe during warm weather. Landscape irrigation is a major contributor to dry weather flow, both as surface runoff due to over-irrigation and overspray onto pavements; and as subsurface seepage that finds its way into the MS4*."

- **Fiscal Year 2008 Carlsbad Watershed Urban Runoff Management Program Annual Report**

  The Carlsbad Watershed Urban Runoff Management Program Annual Report for Fiscal Year 2008 was submitted by the Carlsbad Watershed Copermittees (Cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista, and the County of San Diego). In the Annual Report, the Carlsbad Watershed Copermittees stated the following:

"The Carlsbad Watershed Management Area (WMA) collective watershed strategy identifies bacteria, sediment, and nutrients as high priority water quality pollutants in the Agua Hedionda (904.3 – bacteria and sediment), Buena Vista (904.2 – bacteria), and San Marcos Creek (904.5 – nutrients) Hydrologic Areas. Bacteria, sediment, and nutrients have been identified as potential discharges from over-irrigation."

- **2007-2008 San Diego Bay Watershed Urban Runoff Management Program Annual Report**

  The San Diego Bay Watershed Urban Runoff Management Program 2007-2008 Annual Report was submitted by the San Diego Bay Watershed Copermittees (Cities of Chula Vista, Coronado, Imperial Beach, La Mesa, Lemon Grove, National City, and San Diego, the County of San Diego, the Port of San Diego, and the San Diego County Airport Authority). In Appendix D of the Annual Report, titled "Likely Sources of Pollutants," the San Diego Bay Watershed Copermittees identified over-irrigation of lawns as a pollutant generating activity from business and/or residential land uses for bacteria, pesticides, and sediment.

- **Copermittee Public Education Materials**

  The Orange County Public Works *Tips for Landscape & Gardening* public education brochure states: "*Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into storm drains that flow to the ocean. Overwatering lawns can also send materials into storm drains*."

  The Riverside County Flood Control and Water Conservation District *Landscape and Garden* public education brochure states: *"Soil, yard wastes, over-watering and garden chemicals become part of the urban runoff mix that winds its way through streets, gutters and storm drains before entering lakes, rivers, streams, etc. Urban runoff pollution contaminates water and harms aquatic life!"*

- **Los Peñasquitos Lagoon Sedimentation/Siltation TMDL Technical Report**

  The Los Peñasquitos Lagoon Sedimentation/Siltation TMDL technical report was prepared for the City of San Diego and USEPA in October 2010. The technical report was included as a technical supporting document attached to the Sediment TMDL for Los Peñasquitos Lagoon staff report prepared by the San Diego Water Board, dated June 13, 2012. Under the Source Assessment section, the technical report states the following:

  "*Dry weather loading is dominated by nuisance flows from urban land use activities such as car washing, sidewalk washing, and lawn over-irrigation, which pick up and transport sediment into receiving waters.*"

These documents confirm that non-storm water discharges associated with over-irrigation are a source of pollutants and should be addressed as illicit discharges to the MS4. Prohibiting non-storm water discharges associated with over-irrigation, however, is not a new requirement for the Copermittees because it is also consistent with and required by the Water Conservation in Landscaping Act (AB 1881, Laird).

The Water Conservation in Landscaping Act required the Department of Water Resources (DWR) to prepare a Model Water Efficient Landscape Ordinance for use by local agencies (e.g. the Copermittees). All local agencies were required to adopt a water efficient landscape ordinance by January 1, 2010. Local agencies could adopt the Water Efficient Landscape Ordinance developed by DWR, or an ordinance considered at least as effective as the Model Ordinance. The Water Efficient Landscape Ordinance includes a requirement that local agencies prohibit runoff from irrigation (§ 493.2):

> "*Local agencies shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff from leaving the target landscape [emphasis added] due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. Penalties for violation of these prohibitions shall be established locally*."

Furthermore, non-storm water discharges from over-irrigation not only transport and discharge pollutants to receiving waters, but are also a likely source of the dry weather flows causing changes to habitat within and along the receiving water bodies. Examples of habitat changes from the dry weather flows include perennialization of ephemeral streams, and conversion of saltwater and brackish water marsh habitats to freshwater marsh habitats (e.g. Los Peñasquitos Lagoon). Both of these examples have resulted in the promotion of invasive species in several areas of the San Diego Region.

The removal of the over-irrigation discharges categories does not require the Copermittees to strictly prohibit lawn and landscape irrigation, but does require the prohibition of excessive irrigation water that results in non-storm water discharges to the MS4. Non-storm water discharges to the MS4 from over-irrigation must be addressed as illicit discharges by the Copermittees pursuant to the requirements of Provision E.2.

The remaining non-storm water categories listed in 40 CFR 122.26(d)(2)(iv)(B)(1) are listed under Provisions E.2.a.(1) through E.2.a.(5) and generally fall into four categories: (1) non-storm water discharges subject to existing San Diego Water Board waste discharge requirements and NPDES permits; (2) non-storm water discharges generally not expected to be a source of pollutants to receiving waters; (3) non-storm water discharges likely to contain pollutants requiring some form of control to address

the pollutants prior to discharging to the MS4; and (4) non-storm water discharges or flows associated with firefighting.

Provisions E.2.a.(1) and E.2.a.(2) include several categories of non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) for which the San Diego Water Board already has developed general waste discharge requirements and NPDES permits to address the discharges. The Copermittees are only required to address these types of non-storm water discharges as illicit discharges if the Copermittees or the San Diego Water Board identifies these non-storm water discharges not having coverage under the applicable NPDES permit.

Provision E.2.a.(3) includes several categories of non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) which are generally not expected to be a source of pollutants to receiving waters, many of which originate from what are typically natural, uncontrollable sources. The Copermittees are only required to address these types of non-storm water discharges as illicit discharges if the Copermittees or the San Diego Water Board identifies these non-storm water discharges as a source of pollutants to receiving waters. Because many of these sources are generally uncontrollable, enforcing a prohibition may not be a possibility for the Copermittees. The Copermittees would be able to address these non-storm water discharges by preventing these non-storm water discharges from entering the MS4. This could potentially be achieved by sealing their MS4 structures so the discharges cannot enter the MS4.

Provision E.2.a.(4) includes several categories of non-storm water discharges listed in 40 CFR 122.26(d)(2)(iv)(B)(1) that are likely to contain pollutants requiring some form of control to address the pollutants prior to discharging to the MS4. At this time, an outright prohibition of these types of non-storm water discharges does not yet appear to be warranted. Thus, Provision E.2.a.(4) includes several requirements for the Copermittees to control the pollutants from these types of non-storm water discharges. This is consistent with the clarification of the federal regulations in the Phase I Final Rule (55 FR 48037), which states the San Diego Water Board has the authority to require the Copermittees to "*control any of these types of discharges where appropriate*."

Unlike non-storm water discharges from over-irrigation, these types of non-storm water discharges are not expected to occur in close proximity to each other or very frequently. Provided these types of non-storm water discharges are controlled as required in Provision E.2.a.(4), the Copermittees would only be required to address these types of non-storm water discharges as illicit discharges if the Copermittee or the San Diego Water Board identifies these non-storm water discharges as a source of pollutants to receiving waters.

Provision E.2.a.(5) includes specific requirements for fire fighting discharges and flows. The requirements for non-storm water discharges and flows associated with fire

fighting have been separated into requirements for: a) non-emergency fire fighting discharges and flows, and b) emergency fire fighting discharges and flows.

The San Diego Water Board has found that discharges from building fire suppression system maintenance (e.g. fire sprinklers) contain waste and potentially a significant source of pollutants to receiving waters. As such, the San Diego Water Board is requiring these discharges be addressed as illicit discharges by the Copermittees. Thus, the discharges to the MS4 are to be prohibited via ordinance, order or similar means. For other non-emergency firefighting discharges and flows (i.e. flows from controlled or practice blazes, firefighting training, and maintenance activities not associated with building fire suppression systems), the Copermittees are required to develop and implement a program to address pollutants in these non-storm water discharges and flows. This is consistent with the clarification of the federal regulations in the Phase I Final Rule (55 FR 48037), which states the San Diego Water Board has the authority to require the Copermittees to "*control any of these types of discharges where appropriate*."

For emergency firefighting discharges and flows, the Phase I Final Rule (55 FR 48037) has clarified the requirements of 40 CFR 122.26(d)(2)(iv)(B)(1) pertaining to emergency firefighting flows and discharges, which states:

> "*In the case of firefighting it is not the intention of these rules to prohibit in any circumstances the protection of life and public or private property through the use of water or other fire retardants that flow into separate storm sewers*."

Thus, the requirements have been made to be consistent with the guidance provided by the Phase I Final Rule. The Order recommends that the Copermittees develop and encourage implementation of BMPs to reduce or eliminate the discharge of pollutants from emergency firefighting flows to the MS4s and receiving waters. The Order does not include any requirements that should be interpreted as requiring the implementation of BMPs for emergency firefighting flows to the MS4s and receiving waters.

The Copermittees are expected to review the dry weather MS4 outfall discharge monitoring data they collect to determine if and when there are non-storm water discharges to or from their MS4s that are a source of pollutants to receiving waters. If the Copermittees identify one of the types of non-storm water discharges listed in Provisions E.2.a.(1) through E.2.a.(4) as a source of pollutants to receiving waters based on the review and evaluation of monitoring data, Provision E.2.a.(6) requires the Copermittees to prohibit those categories of discharges from entering the MS4 through ordinance, order or similar means. In addition, Provision E.2.a.(6) clarifies that the San Diego Water Board may identify categories of non-storm water discharges or flows listed under Provisions E.2.a.(1) through E.2.a.(4) that must be prohibited.

Provision E.2.a.(6) also provides the Copermittees an option to propose controls to be implemented for the category of non-storm water discharges as part of the Water Quality Improvement Plan instead of prohibiting the category of non-storm water discharges. If the Water Quality Improvement Plan is accepted by the San Diego Water Board with the proposed controls, the Copermittees will not be required to prohibit the category of non-storm water discharges to their MS4s as long as the controls are implemented. This is consistent with the clarification of 40 CFR 122.26(d)(2)(iv)(B)(1) in the Phase I Final Rule (55 FR 48037), which states the San Diego Water Board may "*require municipalities to prohibit or otherwise control any of these types of discharges where appropriate*."

Finally, Provision E.2.a.(7) has been included in the requirements for non-storm water discharges to clarify that any non-storm water discharges to the Copermittee's MS4, even those identified pursuant to Provisions E.2.a.(1) through E.2.a.(4), must be reduced or eliminated, unless a non-storm water discharge is identified as a discharge authorized by a separate NPDES permit. Provision E.2.a.(7) is consistent with the requirements of CWA section 402(p)(3)(B)(ii) and 40 CFR 122.26(d)(1)(v)(B), as clarified in the Phase I Final Rule (55 FR 47995) that "*[u]ltimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit*." However, the reduction or elimination of those non-storm water discharges are expected to be achieved as feasible, in accordance with the priorities in the Water Quality Improvement Plan and when the resources are available to the Copermittee.

Consistent with 40 CFR 122.26(d)(2)(iv)(B) and 122.26(d)(2)(iv)(B)(1), each Copermittee must implement a "*program…to prevent illicit discharges to the municipal storm sewer system*" and "*detect…illicit discharges and improper disposal into the storm sewer.*" Provision E.2.b requires each Copermittee to implement measures to prevent and detect illicit discharges and connections to its MS4 as part of its illicit discharge detection and elimination program.

As part of the program to prevent and detect illicit discharges to the MS4, 40 CFR 122.26(d)(2)(iv)(B)(2) requires "*procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens*." As part of the procedures, each Copermittee is required to maintain an updated map of its entire MS4 and the corresponding drainage areas within its jurisdiction. Having knowledge about where inlets, access points, connections with other MS4s, and outfalls are located is necessary for each Copermittee to track, identify, and eliminate illicit discharges and connections. Thus, Provision E.2.b.(1) of the Order specifies that the map must include the segments of the storm sewer system owned, operated, and maintained by the Copermittee, and include locations of all known inlets, connections with other MS4s, and outfalls to the Copermittee's MS4. The remaining requirements of Provision E.2.b are consistent with the requirements of 40 CFR 122.26(d)(2)(iv)(B)(3)-(7) related to implementing measures to prevent and detect illicit discharges and connections to the MS4.

Provision E.2.c requires each Copermittee to conduct field screening and monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect non-storm water and illicit discharges and connections to the MS4. Field screening is a required element of the program to detect and eliminate illicit discharges and connections to the MS4, pursuant to 40 CFR 122.26(d)(2)(iv)(B)(2). The field screening requirement will be implemented through the dry weather MS4 outfall discharge monitoring required under Provisions D.2.a.(2) and D.2.b.(1).

Provision E.2.d specifies the measures each Copermittee must implement to eliminate illicit discharges and connections to its MS4. Elimination of illicit discharges and connections to the MS4 is consistent with the requirement of 40 CFR 122.26(d)(2)(iv)(B) "*to detect and remove [emphasis added]…illicit discharges and improper disposal into the storm sewer*" and will achieve the CWA requirement for MS4 permits to "*effectively prohibit non-storm water discharges into the storm sewers*."

Generally, each Copermittee is responsible for prioritizing its efforts to eliminate non-storm water and illicit discharges or connections to its MS4 based on field screening and monitoring data, NALs, illicit discharge investigation records, and the known or suspected sources. Sources of non-storm water and illicit discharges or connections must be eliminated by enforcing the legal authority established by each Copermittee pursuant to Provision E.1.

Provision E.3 (Development Planning) requires each Copermittee to use its land use and planning authority to implement a development planning program to control and reduce the discharge of pollutants in storm water from new development and significant redevelopment to the MEP. Proper implementation of the development planning program will also contribute toward effectively prohibiting non-storm water discharges from development projects to the MS4.

Pursuant to 40 CFR 122.26(d)(2)(iv), each Copermittee is required to implement a "*management program…to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and other such provisions where applicable*." As part of the management program, 40 CFR 122.26(d)(2)(iv)(A)(2) requires "*planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal storm sewers which receive discharges from areas of new development and significant redevelopment*."

Land development generally alters the natural conditions of the land by removing vegetative cover, compacting soil, and/or placement of concrete, asphalt, or other impervious surfaces. These impervious surfaces concentrate urban pollutants (such as pesticides, petroleum hydrocarbons, heavy metals, and pathogens) that are otherwise not found in high concentrations in the natural environment. Pollutants that

accumulate on impervious surfaces are not easily biodegraded nor subject to natural treatment processes.

Impervious surfaces greatly affect the natural hydrology of the land because they do not allow natural infiltration and treatment of storm water runoff to take place. Instead, storm water runoff from impervious surfaces is typically directed through pipes, curbs, gutters, and other hardscape into receiving waters, with little treatment, at significantly increased volumes and accelerated flow rates over what would occur naturally. The increased pollutant loads, storm water volume, discharge rates and velocities, and discharge durations from the MS4 adversely impact stream habitat by causing accelerated, unnatural erosion and scouring within creek bed and banks. Placement of impervious surfaces also encapsulates "good" sediment (such as sand, gravel, rocks and cobbles) that would normally replenish creek beds and banks to help stabilize them. Collectively, these changes to natural hydrologic processes are termed hydrograph modification, or hydromodification.

Hydromodification, which is caused by both altered storm water flow and altered sediment flow regimes, is largely responsible for degradation of creeks, streams, and associated habitats in the San Diego Region. In an ongoing study by the Stormwater Monitoring Coalition to assess the health of streams throughout Southern California, researchers found that three of the four highest risk stressors to creeks (percent sands and fines present, channel alteration, and riparian disturbance) were related to physical habitat.[29] Researchers studying flood frequencies in Riverside County have found that increases in watershed imperviousness of only 9-22 percent can result in increases in peak flow rates for the two-year storm event of up to 100 percent.[30] Such changes in runoff have significant impacts on channel morphology.

In addition, a technical report issued by the Southern California Coastal Water Research Project (SCCWRP) stated that "*[r]ecent studies indicate that California's intermittent and ephemeral streams are more susceptible to the effects of hydromodification than streams from other parts of the United States. Physical degradation of stream channels in the central and eastern United States can initially be detected when watershed impervious cover approaches 10 percent, although biological effects (which may be more difficult to detect) may occur at lower levels. In contrast, initial response of streams in the semi-arid portions of California appears to occur between 3 and 5 percent impervious cover*."[31] These studies highlight the extent to which impacts originating from impervious surfaces created by land development are responsible for the degradation of creek and stream habitat.

[29] Assessing the Health of Southern California Streams, Stormwater Monitoring Coalition, Fact Sheet
[30] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.
[31] Stein, E. and Zaleski, S., 2005. Technical Report 475, Managing Runoff to Protect Natural Streams: The Latest Development on Investigation and Management of Hydromodification in California. December 30, 2005.

This is consistent with what USEPA has noted, that "*[m]ost stormwater runoff is the result of the man-made hydrologic modifications that normally accompany development. The addition of impervious surfaces, soil compaction, and tree and vegetation removal result in alterations to the movement of water through the environment. As interception, evapotranspiration, and infiltration are reduced and precipitation is converted to overland flow, these modifications affect not only the characteristics of the developed site but also the watershed in which the development is located. Stormwater has been identified as one of the leading sources of pollution for all waterbody types in the United States. Furthermore, the impacts of stormwater pollution are not static; they usually increase with more development and urbanization*."[32]

Reducing the impact from the increased pollutant loads and flows generated by impervious surfaces within a watershed is essential to protecting and restoring the integrity of the receiving waters. Provision E.3 includes the minimum "*management practices, control techniques and system, design and engineering methods, and other such provisions where applicable"* to be included in the "*planning procedures…to reduce the discharge of pollutants…from areas of new development and significant redevelopment*." The requirements of Provision E.3 will 1) minimize the generation and discharge of pollutants in storm water from the MS4, and 2) minimize the potential of storm water discharges from the MS4 from causing altered flow regimes and excessive downstream erosion in receiving waters.

The requirements of Provision E.3.a include the minimum "*management practices, control techniques and system, design and engineering methods, and other such provisions where applicable"* to be included in the "*planning procedures…to reduce the discharge of pollutants…from areas of new development and significant redevelopment*" applicable to all development projects, regardless of size or purpose of development. In general, all development projects must implement onsite BMPs to remove pollutants from runoff prior to its discharge to any receiving waters, as close to the pollutant generating source as possible, and structural BMPs must not be constructed within waters of the U.S.

Furthermore, the onsite BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors (e.g. mosquitos, rodents, and flies). If not properly designed or maintained, certain BMPs implemented or required by municipalities may create a habitat for vectors. Monitoring studies conducted by the California Department of Public Health (CDPH) have documented that mosquitoes opportunistically breed in structural storm water BMPs, particularly those that hold standing water for over 96 hours. Certain site design features that hold standing water may similarly produce mosquitoes.

[32] USEPA, 2007. Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices, December 2007.

Structural BMPs and site design features should incorporate design, construction, and maintenance principles to promote drainage within 96 hours to minimize standing water available to mosquitoes. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities and local vector control agencies and the CDPH during the development and implementation of storm water runoff management programs. The CDPH also has issued guidance for BMP implementation that will minimize potential nuisances and public health impacts resulting from vector breeding.[33]

All development projects are required to implement source control BMPs that will minimize the generation of pollutants. Additionally, each development project must implement, where applicable and feasible, low impact development (LID) BMPs to mimic the natural hydrology of the site and retain and/or treat pollutants in storm water runoff prior to discharging to and from the MS4.

The LID Center defines LID as "*a comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds.*"[34] LID designs seek to control storm water at the source, using small-scale integrated site design and management practices to mimic the natural hydrology of a site, retain storm water runoff by minimizing soil compaction and impervious surfaces, and disconnect storm water runoff from conveyances to the storm drain system.

LID BMPs may utilize interception, storage, evaporation, evapotranspiration, infiltration, and filtration processes to retain and/or treat pollutants in storm water before it is discharged from a site. Because of these numerous options, the San Diego Water Board expects that every development project will be able to implement some form of LID BMPs. Examples of LID BMPs include using permeable pavements, rain gardens, rain barrels, grassy swales, soil amendments, and native plants.

Provision E.3.a also includes requirements for all development projects to, where feasible, landscape with native and/or low water use plants to minimize the discharge of non-storm water discharges associated with excessive irrigation, as well as harvest (i.e., storage) and use precipitation to promote the concept of utilizing storm water as a resource.

While all development projects are subject to the requirements of Provision E.3.a, Provision E.3.b identifies Priority Development Projects that exceed given size thresholds and/or fit under specific use categories. Priority Development Projects are required to incorporate specific performance criteria for structural BMPs into the

[33] California Department of Public Health, 2012. Best Management Practices for Mosquito Control in California. (http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf)
[34] www.lowimpactdevelopment.org

project plan to reduce the generation of pollutants, and address potential impacts from hydromodification.

The Priority Development Project categories are based on the requirements of the Fourth Term Permits for Orange County and Riverside County (Order Nos. R9-2009-0002 and R9-2010-0016, respectively), and do not differ significantly from the Fourth Term Permit for San Diego County. Furthermore, the Priority Development Project categories are consistent with Santa Ana Water Board Order Nos. R8-2009-0030 and R8-2010-0033 (Orange County and Riverside County MS4 Permits, respectively), and Los Angeles Water Board Order No. R4-2010-0108 (Ventura County MS4 Permit).

Because of the impact of relatively small increases in watershed impervious surfaces to receiving waters, Provision E.3.b.(1)(c)(iv) has been updated to include large driveways that are 5,000 square feet or more. The San Diego Water Board finds that large driveways can exacerbate altered flow regimes if not properly controlled.

Provision E.3.b.(3) describes projects that are exempt from Priority Development Project status. These include new or retrofit paved sidewalks, bicycle lanes, or trails that are designed and constructed to direct runoff to vegetated areas or be hydraulically disconnected from paved areas. The exemptions have been provided to encourage these types of projects because they provide multiple environmental benefits, such as promoting walking rather than driving, which will in turn improve air quality. Additionally, retrofitting of existing alleys, streets, or roads are exempt from Priority Development Project status if they are constructed using USEPA Green Streets guidance.[35] By doing so, retrofitting of these types of projects is encouraged. The San Diego Water Board recognizes that there are spatial constraints associated with these projects, and implementation of structural BMPs are not always feasible.

For development projects identified as Priority Development Projects, the requirements of Provision E.3.c are the minimum "*management practices, control techniques and system, design and engineering methods, and other such provisions where applicable"* to be included in the "*planning procedures…to reduce the discharge of pollutants…from areas of new development and significant redevelopment.*" Provisions E.3.c.(1)-(3) describe the performance criteria for the structural BMPs that must be implemented for each Priority Development Project defined by Provision E.3.b.

Provision E.3.c.(1) describes the storm water pollutant control BMP requirements that must be implemented by all Priority Development Projects. The purpose of Provision E.3.c.(1) is to reduce pollutants in storm water runoff to the MEP from Priority Development Projects before it is discharged to the MS4. Of all the available treatment processes available, retention of storm water, and therefore capture of the

[35] "Managing Wet Weather with Green Infrastructure – Municipal Handbook: Green Streets" (USEPA, 2008).

pollutants in the storm water, will achieve 100 percent pollutant removal efficiency for the volume of storm water retained. No other method of treatment can achieve 100 percent pollutant removal efficiency. Thus, retention of as much storm water onsite is the most effective way to reduce pollutants in storm water discharges to, and consequently from the MS4, and controls pollutants in storm water discharges from a site to the MEP.

Under Provision E.3.c.(1)(a), retention of the pollutants in the runoff produced from the 85th percentile storm event ("design capture volume") is the design standard to which Priority Development Projects must comply. Since the 85th percentile storm event has previously been used as the numeric design standard for treatment control BMPs, this same size storm event is used as the numeric design standard for storm water retention. This is the MEP standard recognized by the San Diego Water Board and is consistent with the Fourth Term Permits for Orange County and Riverside County (Order Nos. R9-2009-0002 and R9-2010-0016, respectively), as well as Santa Ana Water Board Order Nos. R8-2009-0030 and R8-2010-0033 (Orange County and Riverside County MS4 Permits, respectively), Los Angeles Water Board Order No. R4-2010-0108 (Ventura County MS4 Permit), and Los Angeles Water Board Order No. R4-2012-0175 (Los Angeles County MS4 Permit).

The 85th percentile storm event is the event that has a precipitation total greater than or equal to 85 percent of all storm events over a given period of record in a specific area or location. For example, to determine what the 85th percentile storm event is in a specific location, all 24 hour storms that have recorded values over a 30 year period would be tabulated and a 85th percentile storm would be determined from this record (i.e. 15 percent of the storms would be greater than the number determined to be the 85th percentile storm). Most jurisdictions in the San Diego Region have already developed isopluvial maps that can provide this type of information. The 85th percentile storm might be determined to be a number such as 1.0 inch, and this would be multiplied by the total area of the project footprint producing runoff to calculate the design capture volume. The Priority Development Project designer would then select a system of BMPs that would retain (i.e. intercept, store, infiltrate, evaporate, or evapotranspire) the pollutants contained in the design capture volume onsite.

Retention BMPs are necessary to capture and retain pollutants generated from a Priority Development Project. In a recent study performed by SCCWRP in the Los Angeles Region, they found "*that the magnitude of constituent load associated with storm water runoff depends, at least in part, on the amount of time available for pollutant build-up on land surfaces. The extended dry period that typically occurs in arid climates such as southern California maximizes the time for constituents to build-up on land surfaces, resulting in proportionally higher concentrations and loads during*

initial storms of the season."[36] This implies that the "first flush" of a rainy season and the first storm events after long antecedent dry periods tend to have the highest pollutant loads. Capturing and retaining the pollutant loads of the "first flush" of a rainy season and the first storm events after long antecedent dry periods will reduce a significant portion of the pollutants in storm water discharged to and from the MS4.

The San Diego Water Board, however, acknowledges that in some situations retention of the full design capture volume onsite may not be technically feasible. In this event, the Copermittee may allow the Priority Development Project to use biofiltration BMPs to treat 1.5 times the design capture volume not reliably retained onsite, or biofiltration BMPs with a flow-thru design that has a total volume, including pore spaces and pre-filter detention volume, sized to hold at least 0.75 times the portion of the design capture volume not reliably retained onsite.

The 1.5 multiplier is based on the finding in the Ventura County Technical Guidance Manual that biofiltration of 1.5 times the design capture volume not retained onsite will provide approximately the same pollutant removal as retention of the design capture volume on an annual basis.[37] This standard is consistent with the Los Angeles Water Board's Los Angeles County and Ventura County municipal storm water permits (Order Nos. R4-2012-0175 and R4-2010-0108, respectively). The flow-thru design of 0.75 times the portion of the design capture volume not reliably retained onsite is consistent with the San Diego Water Board's Fourth Term Permits for Orange County and Riverside County (Order Nos. R9-2009-0002 and R9-2010-0016, respectively). In either case, the biofiltration BMPs must be designed with an appropriate hydraulic loading rate to maximize storm water retention and pollutant removal, as well as to prevent erosion, scour, and channeling within the BMP. Each Copermittee is required to update its BMP Design Manual to provide guidance for hydraulic loading rates and other biofiltration design criteria necessary to maximize storm water retention and pollutant removal.

The San Diego Water Board further recognizes that, in addition to not being technically feasible, retention of the full design capture storm onsite may be cost prohibitive, or may not provide as much water quality benefit to the Watershed Management Area as would implementing BMPs elsewhere in the watershed. Thus, Provision E.3.c.(1)(b) allows for the use of a combination of onsite retention BMPs, and the implementation of an Alternative Compliance Program described in Provision E.3.c.(3). Provision E.3.c.(3) is discussed in more detail below.

If the full design capture volume is not retained onsite either because biofiltration is not technically feasible, or a Copermittee grants a Priority Development Project permission

[36] Stein, E.D., Tiefenthaler, L.L., and Schiff, K.C., 2007. Technical Report 510, Sources, Patterns and Mechanisms of Storm Water Pollutant Loading from Watershed and Land Uses of the Greater Los Angeles Area, California, USA. March 20, 2007.
[37] Ventura Countywide Stormwater Management Program. 2011. Ventura Technical Guidance Manual, Manual Update, 2011.

to utilize the Alternative Compliance Program, then the pollutants in the portion of the design capture volume that are not reliably retained onsite must still be reduced to the MEP. Thus, flow-thru treatment control BMPs are required to be implemented on Priority Development Projects in addition to the retention BMPs. The requirements of Provisions E.3.c.(1)(a)(ii)[a]-[c] include the performance standards for flow-thru treatment control BMPs, consistent with the Fourth Term Permits in the San Diego Region.

Whereas the purpose of the requirements under Provision E.3.c.(1) is to reduce pollutants in storm water runoff to the MEP, the purpose of the requirements under Provision E.3.c.(2) is to maintain or restore more natural hydrologic flow regimes to prevent accelerated, unnatural erosion in downstream receiving waters, also to the MEP standard. Provision E.3.c.(2) describes hydromodification management BMP requirements that must be implemented by all Priority Development Projects.

The performance criteria for the implementation of hydromodification management BMPs on Priority Development Projects are consistent with the requirements in the Fourth Term Permits for Orange and Riverside Counties (Order Nos. R9-2009-0002 and R9-2010-0016, respectively). Modifications to the Orange County and Riverside County Hydromodification Management Plans (HMPs) will likely be minor, or may not be necessary. The HMP for San Diego County will likely require some minor modifications to incorporate the requirements of Provision E.3.c.(2) and become consistent with the Orange County and Riverside County HMPs. The San Diego Water Board does not, however, expect that it will be necessary for the San Diego County Copermittees to develop a new approach or significantly re-write the San Diego County HMP. This is because the premise of the hydromodification management BMP requirements, which are to control storm water runoff conditions (flow rates and durations) for Copermittee-defined range of flows, is unchanged from all Fourth Term Permits in the San Diego Region.

Provision E.3.c.(2)(a) requires that post-project runoff conditions mimic the *pre-development* runoff conditions, and not the *pre-project* runoff conditions. Fundamentally, the San Diego Water Board believes that using a hydrology baseline that approximates that of an undeveloped, natural watershed is the only way to facilitate the return of more natural hydrological conditions to already built-out watersheds, and ultimately improved stream health. On the other hand, using the *pre-project* hydrology as a baseline for redevelopment projects results in propagating the unnatural hydrology of urbanized areas. Propagating the urbanized flow regime does not support conditions for restoring degraded or channelized stream segments, and would forever sentence such streams to the degraded state. Furthermore, reducing the volume of storm water runoff associated with the urbanized flow regime will also result in reducing the discharge of pollutants into receiving waters, since storm water runoff from impervious surfaces contains untreated pollutants.

The San Diego Water Board understands that approximating the pre-development runoff condition associated with a redevelopment site is not necessarily straightforward because factors such as natural grade and native vegetation for the site cannot be precisely known. Therefore, the San Diego Water Board does not expect project designers to estimate historical conditions associated with redevelopment sites. Rather, the San Diego Water Board expects project designers and the Copermittees to approximate pre-development runoff conditions using the parameters of a *pervious* area rather than an *impervious* area. This means that for redevelopment sites, approximating pre-development runoff conditions equates to using existing onsite grade and assuming the infiltration characteristics of the underlying soil. A redevelopment Priority Development Project must not use runoff coefficients of concrete or asphalt to estimate pre-development runoff conditions. Rather, redevelopment projects must use available information pertaining to existing underlying soil type (such as soil maps published by the National Resource Conservation Service), onsite existing grade, and any other readily available pertinent information to estimate pre-development runoff conditions.

The San Diego Water Board understands, indeed asserts, that the pre-development hydrology of an area in question can only be roughly estimated and cannot be precisely known. However, using the hydrology of a natural condition, even if not precisely known, will provide significant benefit to receiving waters over using the hydrology associated with impervious (developed) surfaces. Therefore in order to achieve the goals of the Clean Water Act, which are to "*restore and maintain the chemical, physical, and biological integrity of the nation's waters* [emphasis added]," the most appropriate standard to use for hydromodification management is the standard associated with the pre-development condition.

Provision E.3.c.(2)(b) requires Priority Development Projects to avoid known critical sediment yield areas or implement measures that would allow coarse sediment to be discharged to receiving waters, such that the natural sediment supply is unaffected by the project. This is necessary because the availability of coarse sediment supply is as much an issue for causing erosive conditions to receiving streams as are accelerated flows.

The San Diego Water Board recognizes that in some situations implementing the hydromodification management BMP requirements for flow control fully onsite may not be technically feasible, may be cost prohibitive, or may not provide any overall water quality benefits to the Watershed Management Area. Thus, Provision E.3.c.(2)(c) allows for the use of a combination of onsite hydromodification management BMPs for flow control and alternative compliance options described in Provision E.3.c.(3).

Provision E.3.c.(3) allows for alternative compliance in instances where the Copermittee determines that offsite measures will have a greater overall water quality benefit for the Watershed Management Area than if the Priority Development Project were to implement structural BMPs onsite. Consequently, watershed-specific

structural BMP requirements are present in this Order in the form of allowable compliance offsite. The Alternative Compliance Program to Onsite Structural BMP Implementation Provision is intended to integrate with the Copermittees' planning efforts in the Water Quality Improvement Plans.

The Alternative Compliance Program is an option for Priority Development Projects where the governing Copermittee has participated in the development of a Watershed Management Area Analysis as part of the Water Quality Improvement Plan (described in Provision B.3.b.(4)). Such an approach is consistent with the latest findings in hydromodification management by the scientific community. In a Technical Report entitled *Hydromodification Assessment and Management in California,*[38] the report states:

> *"An effective [hydromodification] management program will likely include combinations of on-site measures (e.g., low-impact development techniques, flow-control basins), in-stream measures (e.g., stream habitat restoration), floodplain and riparian zone actions, and off-site measures. Off-site measures may include compensatory mitigation measures at upstream locations that are designed to help restore and manage flow and sediment yield in the watershed."*

Consistent with the ideas brought forth in the report, in the Watershed Management Area Analysis of Provision B.3.b.(4), which is optional, the Copermittees will develop watershed maps that include as much detail about factors that affect the hydrology of the watershed as is available. Such factors included identification of areas suitable for infiltration, coarse sediment supply areas, and locating stream channel structures and constrictions. Once these factors are mapped and studied, the Copermittees can identify areas in the watershed where candidate projects may be implemented that are expected to improve water quality in the watershed by providing more opportunity for infiltration, slowing down storm water flows, or attenuation of pollutants naturally via healthy stream habitat. These candidate projects may be in the form of retrofitting existing development, rehabilitating degraded stream segments, identifying regional BMPs, purchasing land to preserve valuable floodplain functions, and any other project(s) that the Copermittees identify.

Under the Alternative Compliance Program, Priority Development Projects may be allowed to fund, partially fund, or implement a candidate project, in lieu of implementing structural BMPs onsite, if they enter into a voluntary agreement with the governing Copermittee permitting this arrangement. Project proponents may also propose an alternative project not previously identified by the Copermittees. In either case, whether a project proponent implements a candidate project identified by the Copermittees or a separate alternative compliance project, the governing Copermittee must determine that implementation of the project will have a greater overall water

[38] 2012. ED Stein, F Federico, DB Booth, BP Bledsoe, C Bowles, Z Rubin, GM Kondolf, A Sengupta. Technical Report 667. Southern California Coastal Water Research Project. Costa Mesa, CA.

quality benefit for the Watershed Management Area than fully implementing structural BMPs onsite. Determination of greater overall water quality benefits associated with alternative compliance projects would be accomplished by utilizing Water Quality Equivalency calculations developed pursuant to Provision E.3.c.(3)(a). Water Quality Equivalency calculations are necessary to establish a regional and technical basis for determining water quality benefits associated with alternative compliance projects, which can be consistently used by all Copermittees in the San Diego Region. Finally, if ~~I~~f alternative compliance involves funding or implementing a project that is outside the jurisdiction of the governing Copermittee, then that Copermittee may enter into an inter-agency agreement with the appropriate jurisdiction.

Finally, Provision E.3.c.(2)(d) allows Priority Development Projects to be exempt from the hydromodification management BMP requirements if there is no threat of erosion to downstream receiving waters (i.e. the receiving stream is concrete lined from the point of discharge all the way to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean). If the Copermittees believe that more exemptions are warranted, then they must perform the optional Watershed Management Area Analysis of Provision B.3.b.(4). Additional exemptions other than those specified in this Order may be established on a watershed basis, provided the Copermittees perform the analysis, provide supporting rationale for the exemptions, and complete the Water Quality Improvement Plan approval process pursuant to Provision F.1.

To facilitate the transition to this Order from the Fourth Term Permits for Orange and Riverside County Copermittees, Provision E.3.c.(2)(e) allows two additional temporary exemptions from hydromodification management BMP implementation. The first temporary exemption allows relief from hydromodification management BMP implementation for Priority Development Projects discharging directly to an engineered channel conveyance system with a capacity to convey peak flows generated by the 10-year storm event all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean. Similar to the exemption allowed for concrete-lined channels, this exemption is premised on the concept that there is little threat of erosion to these types of engineered channel systems.

The second temporary exemption allows relief from hydromodification management BMP implementation for Priority Development Projects discharging directly to large river reaches with drainage areas larger than 100 square miles and a 100-year flow capacity in excess of 20,000 cubic feet per second. If this exemption is claimed, then properly sized energy dissipation is required at all discharge points associated with the Priority Development Project. This exemption is premised on the concept that large river reaches can essentially assimilate the accelerated flow rates associated with individual Priority Development Projects because they are inconsequential compared

to the flow rate in the large river reach. Both of these exemptions are included in the Hydromodification Management Plan for San Diego County[39].

These temporary exemptions are allowed as a means to facilitate Orange and Riverside County Copermittees' transition to this Order from the Fourth Term Permits and are not meant to reside as permanent exemptions without additional rigorous technical analyses specific to each County. Therefore, these exemptions will no longer apply once the Copermittees' land development programs are fully updated to reflect the requirements of this Order, i.e., upon implementation of the BMP Design Manual pursuant to Provision F.2.b. If the Copermittees believe that these or other exemptions are warranted in the context of water quality improvement and stream restoration opportunities, then the Copermittees must perform the optional Watershed Management Area Analysis of Provision B.3.b.(4) and provide supporting rationale for the exemptions. The San Diego County Copermittees are also required to perform the optional Watershed Management Area Analysis to provide supporting rationale to justify use of these and other exemptions. Updated BMP Design Manuals including rationale to justify use of exemptions will be reviewed by the San Diego Water Board pursuant to Provision F.2.b.

Provisions E.3.c.(4) and E.3.c.(5) were included under the BMP requirements applicable to all development projects in the Fourth Term Permits for San Diego, Orange, and Riverside Counties (Order Nos. R9-2007-0001, R9-2009-0002, and R9-2010-0016, respectively). In this Order, the long-term BMP maintenance and infiltration and groundwater protection requirements apply to structural BMPs implemented by Priority Development Projects only.

Provision E.3.d requires the Copermittees to update their BMP Design Manual as needed to incorporate the requirements of Provision E.3. The BMP Design Manual is formerly known as the Standard Storm Water Mitigation Plan, or SSMP, and was renamed so that the title has a more accurate description of the document content. The contents of the BMP Design Manual are largely unchanged from the previous Standard Storm Water Mitigation Plans required under the Fourth Term Permits. The BMP Design Manual fulfills the 40 CFR 122.26(d)(2)(iv)(A)(2) requirement that the Copermittee's development planning program includes "*a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal storm sewers which receive discharges from areas of new development and significant redevelopment*."

As part of the "*planning procedures,*" 40 CFR 122.26(d)(2)(iv)(A)(2) requires the procedures to "*address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed*." The requirements applicable to the implementation and oversight of structural BMPs at Priority Development Projects are provided under Provision E.3.e.

[39] Final Hydromodification Management Plan Prepared for County of San Diego, March 2011

Proper installation of the structural BMPs approved for a Priority Development Project is necessary to ensure that pollutants in storm water discharges will be reduced to the MEP after the project is completed. In addition to the proper installation of structural BMPs, the maintenance of structural BMPs on Priority Development Projects is necessary to ensure that pollutants in storm water discharges will continue to be reduced to the MEP. Provision E.3.e.(1) includes the minimum requirements that each Copermittee must implement to ensure structural BMPs are properly installed and will be properly maintained.

Provisions E.3.e.(1)(a)(i)-(ii) have been included to provide additional clarification regarding when a Copermittee may allow land development requirements from earlier MS4 permits to apply to a Priority Development Project. Since the MS4 permits issued from 2001 to the adoption of Order No. R9-2015-0001 amending Order No. R9-2013-0001 (Regional MS4 Permit), a Copermittee could allow development projects with "prior lawful approval" to be "grandfathered" into implementing BMP requirements from previous MS4 permits. The Copermittees were given the discretion to use their land use authority to determine when it was appropriate to allow a development project with prior lawful approval to implement BMP requirements from the previous MS4 permits, and when the most recent BMP requirements should be required to achieve the reduction of pollutants in storm water runoff from development projects to the MEP. However, the San Diego Water Board has found that the Copermittees and the development community frequently disagree about when a development project has prior lawful approval and what is necessary to reduce pollutants in storm water runoff from development projects to the MEP.

Therefore, Provisions E.3.e.(1)(a)(i)-(ii) were included to provide more clarity and certainty for the Copermittees, the land development community, and the general public about when the structural BMP performance standards of earlier MS4 permits may be allowed to be implemented. A Copermittee may allow a Priority Development Project to implement BMP requirements of the previous MS4 permit only if all requirements of Provisions E.3.e.(1)(a)(i)[a]-[d] have been met. Otherwise, the Copermittees must require all Priority Development Projects to incorporate the BMP requirements of Provision E.3 into the project to reduce pollutants in storm water runoff from development projects to the MEP.

Provisions E.3.e.(1)(a)(i)[a]-[d] are dependent upon the effective date of the BMP Design Manual. Unless otherwise directed by the San Diego Water Board, the effective date of the BMP Design Manual is December 24, 2015 for the San Diego County Copermittees, September 28, 2017 for the Orange County Copermittees, and July 5, 2018 for the Riverside County Copermittees.

Alternatively, if the Copermittee can demonstrate a lack of land use authority or legal authority to require a Priority Development Project to implement the requirements of Provision E.3, the Copermittee may allow land development requirements from the previous MS4 permits to apply. However, under these circumstances the San Diego

Water Board expects the Copermittee to utilize its available land use authority or legal authority to require the implementation of as much of Provision E.3 as possible to reduce the discharge of pollutants in storm water from development and redevelopment projects within its jurisdiction to the MEP.

In cases where BMP requirements from the earlier MS4 permits govern the structural BMP design requirements of a Priority Development Project, the San Diego Water Board expects the Copermittees to be able to demonstrate, in a programmatic audit or other means, that a Priority Development Project met all the requirements listed under Provisions E.3.e.(1)(a)(i)[a]-[d], or have evidence that the Copermittee did not have the land use or legal authority to require the implementation of Provision E.3 for a Priority Development Project.

The requirements under Provision E.3.e.(2)-(3) are necessary to demonstrate each Copermittee is implementing a program that complies with Provisions E.3.b-c and E.3.e.(1), and ensure structural BMPs at Priority Development Project will continue to be able to reduce pollutants in storm water discharges to the MEP.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system.*" Where enforcement is necessary for any development projects to compel compliance with the requirements of Provision E.3 and ensure the pollutants in storm water discharges from the MS4 are reduced and continue to be reduced to the MEP, Provision E.3.f requires each Copermittee to enforce its legal authority established pursuant to Provision E.1, and in accordance with its Enforcement Response Plan required to be developed pursuant to Provision E.6.

Provision E.4 (Construction Management) requires each Copermittee to implement a construction management program to control and reduce the discharge of pollutants in storm water from construction sites to the MEP. Proper implementation of the construction management program will also contribute toward effectively prohibiting non-storm water discharges from construction sites to the MS4.

Pursuant to 40 CFR 122.26(d)(2)(iv), each Copermittee is required to implement a "*management program…to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and other such provisions where applicable*." As part of the management program, 40 CFR 122.26(d)(2)(iv)(D) requires "*a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system.*"

Construction sites can be significant sources of sediment, trash, and other pollutants to receiving waters. Although sediment is naturally occurring in the natural environment, the discharge of sediment under unnatural conditions is problematic to receiving waters. Fine sediment in creeks causes high turbidity that interferes with the

functionality of native flora and fauna in local creeks. For example, turbidity interferes with both photosynthesis of water-philic plants, as well as successful foraging and reproduction of benthic macroinvertebrates. Sediment can also make it difficult for fish to breathe because it clogs fish gills. Other pollutants such as heavy metals or pesticides can adhere to sediment and are transported to receiving waters during storm events, where they dissolve in the water column and become bioavailable to aquatic organisms. Sediment is recognized as a major stressor to surface waters and is responsible for the impairment of several lagoons and creeks in the San Diego Region.

Provision E.4 includes requirements that each Copermittee must implement to minimize the discharge of sediment and other pollutants from construction sites to the MS4 within its jurisdiction. The requirements under Provision E.4 are consistent with the Fourth Term Permits for San Diego, Orange, and Riverside Counties. Therefore, Copermittees are expected to implement the requirements seamlessly, with minimal changes to their existing construction management programs. The Copermittees, however, are given more flexibility to run their programs as needed to maximize efficiency, and also to be consistent with the Water Quality Improvement Plan for the Watershed Management Area.

As part of the construction management program, 40 CFR 122.26(d)(2)(iv)(D)(1) requires "*procedures for site planning which incorporate consideration of potential water quality impacts.*" Provision E.4.a describes the minimum elements each Copermittee is required to include as part of the construction site planning and project approval process. The construction site planning and approval process is based primarily on ensuring each project had an adequate site-specific pollution control, construction BMP, and/or erosion and sediment control plan that will be implemented to minimize the discharge of pollutants in storm water to the MEP, and minimize impacts to receiving waters.

The requirements under Provision E.4.b provide the data and information necessary to identify "*priorities for inspecting sites and enforcing control measures*" required pursuant to 40 CFR 122.26(d)(2)(iv)(D)(3). Under Provision E.4.b, each Copermittee must identify construction sites that are considered a high threat to downstream surface waters. Designation of "high threat to water quality" construction sites will necessitate the Copermittees to develop criteria to identify such sites. Provision E.4.b.(2) describes a list of factors that must be considered when the Copermittee considers threat to water quality. For example, a Copermittee must identify sites as "high threat to water quality" if it is located within a hydrologic subarea where sediment is known or suspected to contribute to the highest priority water quality conditions, according to the Water Quality Improvement Plan. This ensures that construction management program implementation is compatible with the Copermittee's identified highest priority water quality conditions.

Pursuant to 40 CFR 122.26(d)(2)(iv)(D)(2) each Copermittee is required describe "*requirements for nonstructural and structural best management practices*" at

construction sites. Provision E.4.c includes the types of construction site BMPs that the Copermittees must implement, or require the implementation of, at each construction site to reduce pollutants in storm water discharges to the MEP.

Each Copermittee is expected to require the implementation of appropriate BMPs given specific site conditions, the season and likelihood of rain events, and construction phase (i.e. grading vs. vertical construction). This means that throughout the life of the project construction, the appropriate BMPs will vary, especially if the construction of the project spans multiple wet seasons. As opposed to describing specific minimum BMPs that must be implemented, the Order describes major BMP categories that should be considered for each site.

Each Copermittee is expected to use its 20 years of storm water experience and knowledge to require implementation of appropriate BMPs from the various categories at each construction site within its jurisdiction. For example, the San Diego Water Board expects that each site will be required to implement erosion control and sediment control. The San Diego Water Board also expects each Copermittee to require implementation of active/passive sediment treatment systems at sites where other BMPs have been tried and are known to be inadequate, and discharges of sediment are causing or contributing to water quality impairment downstream. Each Copermittee is granted flexibility in specifying the minimum level of BMP requirements at each site, but the San Diego Water Board expects each site to be capable of controlling pollutants in storm water discharges to the MEP and preventing illicit discharges.

The requirements under Provision E.4.d are necessary to demonstrate that each Copermittee is implementing a program that complies with Provisions E.4.a and E.4.c and ensure BMPs at construction sites will reduce pollutants in storm water discharges to the MEP.

Provision E.4.d does not include minimum required inspection frequencies for construction sites. Each Copermittee must use its experience and knowledge to specify an appropriate inspection frequency for both high priority and lower priority sites in their jurisdictional runoff management program documents, and in accordance with the Water Quality Improvement Plan. Appropriate inspection frequencies may vary by Copermittee, but the San Diego Water Board expects that the stated frequency will be adequate for each Copermittee to properly oversee the construction sites within its jurisdiction, confirm BMPs are implemented to reduce pollutants in storm water discharges from constructions sites to the MEP, and make needed changes to its program on an ongoing basis as necessary.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system.*" Where enforcement is necessary for any development projects to compel compliance with the requirements of Provision E.4 and ensure the pollutants in storm water discharges from the MS4 are reduced and continue to be reduced to

the MEP, Provision E.4.e requires each Copermittee to enforce its legal authority established pursuant to Provision E.1, and in accordance with its Enforcement Response Plan required to be developed pursuant to Provision E.6.

Provision E.5 (Existing Development Management) requires each Copermittee to implement an existing development management program to control and reduce the discharge of pollutants in storm water from areas of existing development to the MEP. Proper implementation of the existing development management program will also contribute toward effectively prohibiting non-storm water discharges from areas of existing development to the MS4.

Pursuant to 40 CFR 122.26(d)(2)(iv), each Copermittee is required to implement a "*management program…to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and other such provisions where applicable*." Within 40 CFR 122.26(d)(2)(iv)(A) and (C), the management program is required to reduce impacts on receiving waters and reduce pollutants in storm water discharges to the MEP from commercial and residential areas, industrial facilities, and municipal facilities.

Commercial and residential areas, industrial facilities, and municipal facilities must be addressed by each Copermittee with the existing development management program required under Provision E.5. All other areas within each Copermittee's jurisdiction should be either undeveloped open space, or areas that are being developed or under construction. Areas being developed or under construction will be addressed by the Copermittee under the requirements of Provision E.3 (Development Planning) or Provision E.4 (Construction Management).

Areas of existing development typically include impervious surfaces such as sidewalks, driveways, roads, and rooftops, which generate and concentrate pollutants (such as pesticides, petroleum hydrocarbons, heavy metals, and pathogens) that are otherwise not found in high concentrations in the natural environment. Pollutants that accumulate on impervious surfaces are not easily biodegraded or not subject to natural treatment processes. When it rains, these pollutants are transported in storm water runoff from these impervious surfaces into receiving waters, resulting in poor water quality and degradation of beneficial uses.

In addition to the generation of pollutants, areas of existing development have generally altered the natural conditions of the land and removed vegetative cover, reduced the perviousness of the surface, and reduced the capacity of storm water that can be intercepted, captured, stored, infiltrated, evaporated, and/or evapotranspired. The alteration of the natural conditions and the impervious surfaces associated with areas of existing development causes water quality problems due to the alteration of natural flow regimes within the watersheds; resulting in hydromodification of channels, streams, and habitats that exist within or adjacent to the areas of existing development.

Thus, storm water discharges from areas of existing development are responsible for poor water quality, degraded habitats, and hydromodified channels throughout the developed portions of the watersheds in the San Diego Region. To improve the health and functionality of the receiving waters in a Watershed Management Area, land use practices and the amount of impervious surfaces in areas of existing development must change to reduce the various impacts caused by hydromodification and pollutants from storm water runoff generated in developed areas. Each Copermittee must be aggressive to address pollutant sources and runoff from areas of existing development to be able to reduce pollutants in storm water discharges from the MS4 to the MEP.

There is some overlap in the requirements under Provision E.5 with the requirements under Provisions E.2 (Illicit Discharge Detection and Elimination), E.3 (Development Planning), and E.4 (Construction Management). Illicit discharges frequently originate from areas of existing development. New development projects, when completed will become some type of residential, commercial, industrial or municipal existing development. Redevelopment projects are, by definition, redeveloping areas of existing development. And, redevelopment projects become construction sites located in areas of existing development. Much of the data and information collected, inspections performed, and enforcement actions taken for the requirements under Provisions E.2 to E.4 may also be utilized by the existing development management program. The requirements under Provision E.5, however, are focused primarily on reducing pollutants generated in areas of existing development that can be transported in storm water runoff and discharged to and from the MS4.

The requirements under Provision E.5 build upon existing program elements being implemented by the Copermittees. Provision E.5 is generally consistent with the existing development requirements of the Fourth Term Permits for Orange and Riverside Counties (Order Nos. R9-2009-0002 and R9-2010-0016, respectively), but modified to provide more flexibility to implement the programs so resources can be better focused toward addressing the highest priority water quality conditions identified in the Water Quality Improvement Plans.

For a Copermittee to properly manage areas of existing development, having knowledge of what development exists within its jurisdiction is essential. Provision E.5.a requires each Copermittee to maintain a watershed-based inventory of all the existing development within its jurisdiction. This requirement is necessary for each Copermittee to implement the requirements of Provision E.5.b-e.

As opposed to just maintaining separate inventories based on the type of site, each Copermittee must maintain a watershed-based inventory that includes all types of existing development within its jurisdiction. By utilizing a watershed-based inventory, the Copermittees within a Watershed Management Area can combine their inventories and review the inventories by watershed in addition to by jurisdiction. Pollutant

sources and strategies for abatement can then be evaluated on a watershed level, as opposed to evaluating sources and strategies strictly by type of site.

Provision E.5.a includes the information that must be included in the inventory. Provision E.5.a.(1) specifies what facilities or areas must be included in the inventory. A commercial type of existing development may be identified in the inventory as a facility (e.g. individual building, individual business) or an area (e.g. shopping center, commercial zone). An industrial type of existing development must be identified in the inventory by facility (e.g. individual industrial entity). A municipal type of existing development must be identified in the inventory by facility, with a list of specific municipal facilities that must be included in the inventory. A residential type of existing development must be identified by areas to be designated by the Copermittee. For each of the facilities and areas identified in the Copermittee's inventory developed pursuant to Provision E.5.a.(1), Provision E.5.a.(2) specifies the information that must be included in the description for the facility or area.

Provision E.5.a.(3) requires each Copermittee to maintain an updated map showing the location of inventoried existing development, watershed boundaries, and water bodies. This requirement was included because this information is expected to help the Copermittees in a Watershed Management Area identify and prioritize sources of pollutants and/or stressors in areas of existing development that contribute toward the highest priority water quality conditions identified in the Water Quality Improvement Plans.

Knowledge of the existing development that are likely to be sources of pollutants contributing to the highest priority water quality conditions is expected to be a key element in the Copermittees' development of the water quality improvement strategies that will be included in the Water Quality Improvement Plans. The strategies described in the Water Quality Improvement Plans will direct efforts within the existing development management programs implemented by each Copermittee.

Pursuant to 40 CFR 122.26(d)(2)(iv)(A) each Copermittee is required describe "*structural and source control measures to reduce pollutants*" in storm water runoff discharged from areas of existing development. Provision E.5.b includes the BMP implementation and maintenance requirements that the each Copermittee must require at areas of existing development to reduce pollutants in storm water discharges to the MEP. The San Diego Water Board, however, recognizes that BMP implementation and maintenance for residential areas will require much more education and encouragement through less authoritative measures than for commercial, industrial and municipal facilities and areas. Thus, the BMP implementation and maintenance requirements have been separated between requirements under Provision E.5.b.(1) for commercial, industrial and municipal facilities and areas, and Provision E.5.b.(2) for residential areas.

Most of the requirements in Provision E.5.b are consistent with the related requirements in the Fourth Term Permits. The level of specificity, however, has been changed to allow each Copermittee the flexibility to implement its program to achieve maximum efficiency, and to perform functions that will address the highest priority water quality conditions identified in the Water Quality Improvement Plans.

Each Copermittee is expected to require the implementation of appropriate BMPs to address the expected pollutants from each facility or area. The Third and Fourth Term Permits described specific minimum BMPs that must be implemented at various sites. This Order, however, requires each Copermittee to designate minimum BMPs themselves and require implementation. Consistent with the Fourth Term Permits, each Copermittee is required to maintain, or require the maintenance of, all BMPs as needed.

The BMP implementation and maintenance requirements include a schedule of operation and maintenance activities for the MS4 and related structures (such as catch basins, storm drain inlets, and detention basins), as well as public streets and roads. Public streets and roads specifically include public unpaved roads. The San Diego Water Board identified, through investigations and complaints, sediment discharges from unpaved roads as a significant source of water quality problems in the San Diego Region. Inspection activities conducted by the San Diego Water Board since the Third Term Permits have found a lack of source control for many unpaved roads within the jurisdiction of the Copermittees.

Unpaved roads are a source of sediment that can be discharged in runoff to receiving waters, especially during storm events. Erosion of unpaved roadways occurs when soil particles are loosened and carried away from the roadway base, ditch, or road bank by water, wind, traffic, or other transport means. Exposed soils, high runoff velocities and volumes, sandy or silty soil types, and poor compaction increase the potential for erosion.

Road construction, culvert installation, and other maintenance activities can disturb the soil and drainage patterns to streams in undeveloped areas, causing excess runoff and thereby erosion and the release of sediment. Poorly designed unpaved roads can act as preferential drainage pathways that carry runoff and sediment into natural streams, impacting water quality. In addition, other public works activities along unpaved roads have the potential to significantly affect sediment discharge and transport within streams and other waterways, which can degrade the beneficial uses of those waterways.

USEPA also recognizes that discharges from unpaved roads pose a significant potential threat to water quality. USEPA guidance[40] emphasizes the threat of unpaved roads to water quality:

[40] USEPA, 2006. Environmentally Sensitive Maintenance for Dirt and Gravel Roads. Gesford and Anderson, USEPA-PA-2005.

> "*Dirt and gravel roads are a major potential source of these pollutants [sediment] and pollutants that bind to sediment such as oils, nutrients, pesticides, herbicides, and other toxic substances. Many roads have unstable surfaces and bases. Roads act like dams, concentrating flows that accelerate erosion of road materials and roadsides. Both unstable surfaces and accelerated erosion then lead to sediment and dust.*"

There are several guidance documents, developed by the USEPA,[41] the US Forest Service,[42] the University of California,[43] and others, that include design and construction specifications and BMPs that are readily available for implementation by public entities. Implementing design and other source control BMPs for unpaved roads in the region is necessary to reduce and minimize the impacts of sediment discharged during storm events from unpaved roads to the MS4s and receiving waters.

Provision E.5.c describes existing development site inspection frequency, content, and tracking that each Copermittee must incorporate into their existing development management programs. The requirements under Provision E.5.c are necessary to demonstrate each Copermittee is implementing a program that complies with Provision E.5.b and ensure BMPs implemented in areas of existing development will reduce pollutants in storm water discharges to the MEP. Provision E.5.c has been modified to include a minimum of once every 5 years for all inventoried facilities and areas of existing development, utilizing one or more methods of inspection.

In addition to onsite inspections, the methods of inspection have been expanded to include drive-by inspections. Inspections may be performed by the Copermittee's municipal and contract staff, or by volunteer monitoring or patrol programs. Volunteer monitoring or patrol programs are not expected to enforce the Copermittee's ordinances, or to inspect areas or facilities where members of the public are not allowed access. Volunteer monitoring or patrol programs must be trained by the Copermittee, and are only expected to collect visual observations. By utilizing drive-by inspections and volunteer monitoring or patrol programs, the Copermittees will be able to maximize and efficiently use their resources to identify and address sources of pollutants in areas of existing development.

The municipal and contract staff of each Copermittee must annually perform onsite inspections of an equivalent of at least 20 percent of the commercial, industrial, and municipal facilities and areas in its inventoried existing development pursuant to Provision E.5.c.(1)(a)(iv). An "equivalent" of at least 20 percent means if any commercial, industrial, or municipal facilities or areas require multiple onsite

[41] Ibid
[42] US Forest Service, 1996. Forest Service Specifications for Construction of Roads & Bridges. EM-7720-100. Revised August 1996.
[43] University of California Division of Agriculture and Natural Resources, 2007. Rural Roads: A Construction and Maintenance Guide of California Landowners. Publication 8262.

inspections during any given year, those additional inspections may count toward the total annual inspection requirement. Linear municipal facilities (i.e. MS4 linear channels, sanitary sewer collection systems, streets, roads and highways) in the Copermittee's existing development inventory are not subject to the inspection frequency requirement of Provision E.5.c.(1)(a)(iv).

The inspection content specified in Provision E.5.c.(2)(a) includes the information required to be collected during an inspection by any method. The inspection content specified in Provision E.5.c.(2)(b) includes additional information that must be collected when a Copermittee's municipal or contract staff perform an onsite inspection. Provision E.5.c.(3) specifies the information that each Copermittee must maintain in its existing development inspection records.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system.*" Where enforcement is necessary to compel compliance with the requirements of Provision E.5 and ensure the pollutants in storm water discharges from the MS4 are reduced and continue to be reduced to the MEP, Provision E.5.d requires each Copermittee to enforce its legal authority established pursuant to Provision E.1, and in accordance with its Enforcement Response Plan required to be developed pursuant to Provision E.6.

Provisions E.5.e.(1)-(2) specifically require the Copermittee to identify areas of existing development as candidates for retrofitting, and streams, channels, and/or habitats as candidates for rehabilitation. Provisions E.5.e.(1)-(2) are based on the retrofitting requirements of the Fourth Term Permits for Orange and Riverside Counties, but modified to also include identifying projects to rehabilitate channels within areas of existing development. The requirements have also been modified to be more focused on utilizing these types of projects for addressing the highest priority water quality conditions identified in the Water Quality Improvement Plans.

Interest and opportunity to retrofit areas of existing development and rehabilitate channels located in areas of existing development has been observed in several programs the San Diego Water Board oversees (e.g., CWA Section 401 Water Quality Certification program, supplemental environmental projects, and grant programs). Each jurisdiction has miles and miles of streets that could be retrofitted to become green streets. Reshaping landscaped areas from convex to concave configurations can detain storm water instead of directing runoff as quickly as possible to the MS4. Retrofit projects could also include simply replacing impervious surfaces with permeable surfaces.

Retrofitting projects do not necessarily have to be expensive. Retrofitting projects could be as simple as redirecting downspouts from roofs to pervious or landscaped areas instead of to hardscaped areas discharging directly to the MS4, providing rain barrels to harvest storm water from downspouts for use at a later time, or planting more trees in areas with little vegetation to provide canopy that can intercept storm

water. The San Diego Water Board encourages the Copermittees to identify simple, low-cost retrofitting opportunities that can be easily implemented, in addition to other more expensive retrofitting and channel rehabilitation projects.

Rehabilitation of channels, streams, and/or habitat will require more significant planning and resources to implement. There are, however, also abundant opportunities to rehabilitate channels, streams and/or habitats in or adjacent to areas of existing development. Each Watershed Management Area likely has several creeks and stream reaches that have been undergrounded, artificially hardened, or hydromodified that could be rehabilitated to be more sustainably configured, which would slow down storm water flows and potentially have more assimilative capacity for pollutants while still being supportive of designated beneficial uses.

The San Diego Water Board recognizes that it may be infeasible to implement retrofitting or channel rehabilitation projects within certain areas of a Copermittee's jurisdictions. For such areas, the Copermittee must instead identify, develop, and implement regional retrofitting and channel rehabilitation projects (i.e. projects that can retain and/or treat storm water from one or more areas of existing development) adjacent to and/or downstream of the areas of existing development.

Provisions E.5.e.(1)-(2) do not require the implementation of retrofitting and rehabilitation projects, but do require the Copermittee to develop a program with strategies to facilitate the implementation of these types of projects in areas of existing development. The strategies are expected to include allowing and encouraging Priority Development Projects to implement retrofitting types of projects as a means of compliance with the structural BMP performance criteria requirements of Provisions E.3.c.(1) and E.3.c.(2).

Provision E.6 (Enforcement Response Plans) requires each Copermittee to develop an Enforcement Response Plan as part of its jurisdictional runoff management program document. Proper implementation of the Enforcement Response Plans is necessary to effectively prohibit non-storm water discharges to the MS4, and reduce the discharge of pollutants in storm water from the MS4 to the MEP.

Pursuant to 40 CFR 122.26(d)(1)(ii) and 40 CFR 122.26(d)(2)(i), each Copermittee must have sufficient "*legal authority to control discharges to the municipal separate storm sewer system*" and be able to demonstrate that it can "*operate pursuant to legal authority established by statute, ordinance or series of contracts*" to control the discharge of non-storm water and pollutants in storm water to and from its MS4. Pursuant to 40 CFR 122.26(d)(2)(i)(E) each Copermittee is specifically required to have the legal authority to "*[r]equire compliance with conditions in ordinances, permits, contracts or order*s."

The requirements under Provision E.6 are necessary to demonstrate that each Copermittee can enforce its legal authority to *"effectively prohibit non-stormwater discharges"* and "*reduce the discharge of pollutants to the maximum extent*

practicable" as well as "*[r]equire compliance with conditions in ordinances, permits, contracts or order*."

The Enforcement Response Plan required under Provision E.6 will serve as a reference for the Copermittee and the San Diego Water Board to determine if consistent enforcement actions are being implemented to achieve timely and effective compliance from all public and private entities that are not in compliance with the Copermittee's ordinances, permits, or other requirements. The Enforcement Response Plan must contain clear direction for the Copermittee to take immediate enforcement action, when appropriate and necessary, in their illicit discharge detection and elimination, development planning, construction management, and existing development management programs.

If the entities subject to the Copermittee's legal authority do not implement appropriate corrective actions in a timely manner, or if violations repeat, the Copermittee must take progressively stricter responses to enforce its legal authority and achieve compliance with its ordinances, permits, or other requirements to *"effectively prohibit non-stormwater discharges"* and "*reduce the discharge of pollutants to the maximum extent practicable.*"

Provision E.7 (Public Education and Participation) requires each Copermittee to implement a public education and participation program. Proper implementation of the public education and participation program as part of its jurisdictional runoff management program will contribute toward effectively prohibiting non-storm water discharges to the MS4, and toward the reduction of pollutants in storm water from the MS4 to the MEP.

Provision E.7 establishes the minimum requirements that each Copermittee must implement to engage members of the public as part of its jurisdictional runoff management program. In the Fourth Term Permits, the public education program requirements and the public participation requirements were included as separate jurisdictional runoff management program components. In this Order, the public education requirements have been consolidated with the public participation requirements, as both sets of requirements are related to the engagement of the public by each Copermittee. Engagement of the public is critical for the success of each Copermittee's jurisdictional runoff management program.

The Copermittees have been implementing public education programs for the last 20 years, which are now well established. The specificity of expected public education program elements of the Fourth Term Permits has been removed. For the most part, the public education program requirements in Provision E.7.a have been reduced to a set of requirements that are specifically included in the federal regulations under 40 CFR 122.26(d)(2)(iv)(A)(6), 122.26(d)(2)(B)(6) and 122.26(d)(2)(D)(4), which should already be incorporated into each Copermittee's existing public education program. Each Copermittee is expected to utilize the information and data collected from the monitoring and assessments conducted within the Watershed Management Area, and

from its inventories and inspections to best direct its public education program resources toward addressing the highest priority water quality conditions identified within the Water Quality Improvement Plan.

According to 40 CFR 122.26(d)(2)(iv), public participation is required to be included as part of the "*comprehensive planning process*", which includes the development and implementation of the Water Quality Improvement Plan and jurisdictional runoff management programs. The requirements under Provision E.7.b specify the opportunities that the public must be provided to be involved in the "*comprehensive planning process*", as required by to 40 CFR 122.26(d)(2)(iv).

Provision E.8 (Fiscal Analysis) requires each Copermittee to secure the resources and provide an analysis of the resources that will be necessary to implement the requirements of the Order. Adequate fiscal resources are necessary for a jurisdictional runoff management program to effectively prohibit non-storm water discharges to the MS4, and reduce pollutants in storm water from the MS4 to the MEP.

According to 40 CFR 122.26(d)(2)(vi), each Copermittee is responsible for providing "*a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities*" required by this Order, including "*a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.*" The fiscal analysis requirements of Provision E.8 are consistent with 40 CFR 122.26(d)(2)(vi).

The San Diego Water Board has chosen not to require a description of fiscal benefits realized from implementation of the jurisdictional runoff management programs. This is a recommendation from the National Association of Flood and Stormwater Management Agencies.[44] For instance, the fiscal analysis requirements do not address city-wide fiscal benefits of protection (e.g., public health, tourism, property values, economic activity, beneficial uses, etc.), even though many costs currently reported to the San Diego Water Board are for related activities. This type of assessment may help Copermittees improve the allocation of resources and it may help the Copermittees secure adequate funding for the program. Qualitative assessments, however, could be overly subjective and most Copermittees likely lack the ability to provide accurate quantitative assessments. The San Diego Water Board encourages the Copermittees to consider means for conducting assessments of fiscal benefits derived from the programs. Such assessments could be conducted on a regional scale similar to studies of program costs conducted by the State Water Board.[45]

[44] National Association of Flood and Stormwater Management Agencies. 2006. *Guidance for Municipal Stormwater Funding.* Prepared under a grant provided by the USEPA.
[45] State Water Board, 2005. NPDES Stormwater Cost Survey.

F. Reporting

Purpose: Provision F includes the requirements for the documents and reports that the Copermittees must prepare and provide to the San Diego Water Board. The documents prepared by the Copermittees and provided to the San Diego Water Board and made available to the public will provide the documentation that the Copermittees are complying with the requirements of the Order.

***Discussion*:** Provision F requires the Copermittees to prepare several documents and reports that must be provided to the San Diego Water Board and made available to the public. The reporting requirements have been significantly reduced compared to the Fourth Term Permit reporting requirements. The reduction in reporting requirements was recommended by the San Diego County Copermittees in the Report of Water Discharge submitted in June 2011.

More specific and detailed discussions of the requirements of Provision F are provided below.

Provision F.1 (Water Quality Improvement Plans) requires the Copermittees in each Watershed Management Area to develop and submit a Water Quality Improvement Plan in accordance with the requirements of Provision B.

Of all the requirements of Provision F, the Water Quality Improvement Plans will likely be the documents requiring the most significant effort to develop. The content of the Water Quality Improvement Plans, however, is expected to include content that should already have been developed for the Watershed Plans and several elements that are included in the Monitoring and Reporting Programs required under the Fourth Term Permits.

Because the Water Quality Improvement Plan is part of the "*comprehensive planning process which involves public participation*," Provision F.1 includes requirements to give multiple opportunities to the public to provide input on the content of the plans.

Provision F.1.a.(1) specifies the elements that the Copermittees must include in the public participation process for the development of the Water Quality Improvement Plans. In order for the public to be aware of the opportunities to provide input, Provision F.1.a.(1)(a) requires the Copermittees to develop a publicly available and noticed schedule of the opportunities for the public to participate and provide comments during the development of the Water Quality Improvement Plan. These opportunities are when the public can provide the data, information, and recommendations that the Copermittees can consider during the development of the Water Quality Improvement Plans.

The San Diego Water Board recognizes, however, that the Copermittees cannot be expected to incorporate all the data, information, and recommendations that the public may provide into the Water Quality Improvement Plans. The Copermittees will have to

review the data, information, and recommendations received and make some decisions on what to incorporate into the Water Quality Improvement Plans. Before the Copermittees finalize their decisions, members of the public should be allowed to review the Copermittees' decisions. Thus, Provision F.1.a.(1)(b) requires the Copermittees to form a Water Quality Improvement Consultation Panel (Panel).

The Panel will consist of a member from the environmental community and a member from the development community familiar with the Watershed Management Area. A representative from the San Diego Water Board staff will also be part of the Panel. The Copermittees may choose to include additional members, but the Panel is only required to include three panel members.

The Panel will serve as an additional public participation and input mechanism during the development of the Water Quality Improvement Plans. The knowledge and expertise from these Panel members are expected to provide the Copermittees valuable direction during their decision-making process. The Copermittees will review the content of their planned submittals with the Panel members to receive recommendations. If the Panel provides recommendations, the Copermittees must consider revisions to the Water Quality Improvement Plan submittals.

The San Diego Water Board recognizes that the development of multiple Water Quality Improvement Plans concurrently may limit the ability of the public to review and provide comments to the Copermittees. Thus, Provision F.1.a.(1)(c) requires the Copermittees to coordinate the schedules for the public participation process among the Watershed Management Areas to provide the public time and opportunity to participate during the development of the Water Quality Improvement Plans.

Provision F.1.a.(2) requires the Copermittees to develop and submit the first Water Quality Improvement Plan component, in accordance with the requirements of Provision B.2, which includes the identification of the priority water quality conditions and potential water quality improvement strategies. The public must be provided an opportunity to provide data, information and recommendations to be utilized in the development and identification of the priority water quality conditions and potential water quality improvement strategies for the Watershed Management Area. The Copermittees must consult with the Panel and consider making revisions. The Copermittees may submit the requirements of Provision B.2 as early as 6 months and no later than 12 months after the commencement of coverage under this Order. After the requirements of Provision B.2 are submitted to the San Diego Water Board, the public will be provided another opportunity to provide comments.

Provision F.1.a.(3) requires the Copermittees to develop and submit the second Water Quality Improvement Plan component, in accordance with the requirements of Provision B.3, which includes the identification of the numeric goals for the highest priority water quality conditions identified for the Watershed Management Area, and the strategies that will be implemented to achieve the potential numeric goals. The Copermittees may also develop the Optional Watershed Management Area Analysis, in accordance with the requirements of Provision B.3.b.(4), as part of this submittal.

The public must be provided an opportunity to provide data, information and recommendations to be utilized in the development and identification of the numeric goals and water quality improvement strategies for the Watershed Management Area. The Copermittees must consult with the Panel and consider making revisions. The Copermittees may submit the requirements of Provision B.3 as early as 9 months and no later than 18 months after the commencement of coverage under this Order. After the requirements of Provision B.3 are submitted to the San Diego Water Board, the public will be provided another opportunity to provide comments.

Finally, Provision F.1.b describes the process for the submittal and implementation of the Water Quality Improvement Plans. The complete Water Quality Improvement Plans are required to be submitted by the Copermittees within 24 months after the commencement of coverage under this Order. The San Diego Water Board will provide the public an opportunity to provide comments on each complete Water Quality Improvement Plan.

The San Diego Water Board will review each Water Quality Improvement Plan and the public comments received to determine if the Copermittees have submitted a Water Quality Improvement Plan that meets the requirements of Provision B. If a Water Quality Improvement Plan does not meet the requirements of Provision B, the Copermittees will be considered out of compliance and directed in writing by the San Diego Water Board Executive Officer to correct the deficiencies.

When a Water Quality Improvement Plan meets the requirements of Provision B, the San Diego Water Board will determine whether to hold a public hearing or to limit public input to submittal of written comments before accepting the Water Quality Improvement Plan. Implementation of the Water Quality Improvement Plan must begin within 30 days of acceptance.

The San Diego Water Board expects that any deficiencies in the Water Quality Improvement Plan will be identified either in the public comments or during the review by the San Diego Water Board before implementation begins. In the event any deficiencies are identified after the implementation of the Water Quality Improvement Plan, Provision F.1.b.(7) clarifies that the San Diego Water Board maintains the right to require the Copermittees to correct any deficiencies that may be identified.

Provision F.2 (Updates) requires the Copermittees to update specific documents that the Copermittees will utilize to implement the requirements of this Order.

Each Copermittee is required to continue implementing a jurisdictional runoff management program, as required under Provision E. Implementation of each Copermittee's jurisdictional runoff management program is directed by its jurisdictional runoff management program document. Provision F.2.a requires each Copermittee to update its jurisdictional runoff management program document to be consistent with the requirements of Provision E concurrent with the submittal of the Water Quality Improvement Plan.

Likewise, each Copermittee must continue to require new development and redevelopment projects to implement BMPs to control pollutants in storm water runoff. The control of pollutants in storm water runoff from development and redevelopment projects within each Copermittee's jurisdiction is guided and directed by its BMP Design Manual, formerly known as a Standard Storm Water Mitigation Plan (SSMP). Provision F.2.b requires each Copermittee to update its BMP Design Manual to be consistent with the requirements of Provision E.3 concurrent with the submittal of the Water Quality Improvement Plan.

For situations where the San Diego Water Board may amend the requirements of Provisions E.3.a-d after a Copermittee has updated its BMP Design Manual pursuant to Provision F.2.b.(1), Provision F.2.b.(4) gives the Copermittee up to 90 days to incorporate the amended requirements of Provision E.3.a-d into its BMP Design Manual. The San Diego Water Board Executive Officer has discretion to modify the 90-day time period depending on the complexity of the amendments or other information that warrants a change in the 90-day time period.

In general, the requirements of the Order should not necessitate a complete rewrite of each Copermittee's jurisdictional runoff management program document or BMP Design Manual, as was required by the Third Term Permits. The jurisdictional runoff management program and BMP Design Manual requirements of this Order are not significantly different than the requirements of the Fourth Term Permits. Thus, only sections of the Order which are new or have been significantly changed should warrant revisions to specific sections of the Copermittee's jurisdictional runoff management program document and BMP Design Manual.

Finally, the Water Quality Improvement Plans are expected to require updates as the iterative approach and adaptive management process included in the Water Quality Improvement Plan, as required under Provision B.5, is implemented by the Copermittees. Provision F.2.c.(1) requires the Copermittees to implement a public participation process for the proposed updates, review the proposed updates with the Panel, and submit the updates to the Water Quality Improvement Plan as part of the Annual Reports required under Provision F.3.b.

Also, because TMDLs are likely to be developed, adopted and approved during the term of the Order, Provision F.2.c.(2) has been included to expedite the incorporation of TMDLs into the Copermittees' Water Quality Improvement Plans as part of the update process, potentially before the Order is re-opened to incorporated the requirements of the new TMDLs.

Provision F.3 (Progress Reporting) requires the Copermittees to report on the progress of implementing the Water Quality Improvement Plans.

The requirements of Provision F.3 are to report the progress toward improving water quality that the Copermittees are achieving with the implementation of the Water Quality Improvement Plans and each Copermittee's jurisdictional runoff management program. The Progress Report Presentations required under Provision F.3.a are

included to provide the Copermittees an opportunity to communicate directly with the San Diego Water Board and the public. The Progress Report Presentations will also provide the members of the San Diego Water Board and members of the public an opportunity to become more acquainted with the Copermittees and their projects and programs to address non-storm water and storm water discharges into and from their MS4s.

The Annual Report requirements of Provision F.3.b are a consolidation of several reporting requirements from the Fourth Term Permits, including the Jurisdictional Runoff Management Program Annual Reports, the Watershed Annual Reports, and the Monitoring and Reporting Program Annual Reports. Furthermore, the Annual Report requirements are consistent with the requirements under 40 CFR 122.42(c).

Pursuant to 40 CFR 122.42(c), "*[t]he operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director…must submit an annual report*", which must include the following:

(1) *The status of implementing the components of the storm water management program that are established as permit conditions* [40 CFR 122.42(c)(1)];

(2) *Proposed changes to the storm water management programs that are established as permit conditions* [40 CFR 122.42(c)(2)];

(3) *Revisions, if necessary, to the assessment of controls and fiscal analysis* [40 CFR 122.42(c)(3)];

(4) *A summary of data, including monitoring data, that is accumulated throughout the reporting year* [40 CFR 122.42(c)(4)];

(5) *Annual expenditures and budget for year following each annual report* [40 CFR 122.42(c)(5)];

(6) *A summary describing the number and nature of enforcement actions, inspections, and public education programs* [40 CFR 122.42(c)(6)];

(7) *Identification of water quality improvements or degradation* [40 CFR 122.42(c)(7)].

Under the Fourth Term Permits, each Copermittee is responsible for submitting a Jurisdictional Runoff Management Program Annual Report; the Copermittees in each designated watershed are responsible for submitting a Watershed Annual Report; and the Copermittees from each county are responsible for submitting a Monitoring and Reporting Program Annual Report.

There are 39 Copermittees in the San Diego Region, each required to prepare and submit a Jurisdictional Runoff Management Program Annual Report. There are 9 designated watersheds in San Diego County, 6 designated watersheds in Orange County, and 1 designated watershed in Riverside County for a total of 16 designated watersheds, each requiring a Watershed Annual Report. There are 3 sets of

Copermittees in 3 counties in the San Diego Region, requiring Copermittees from each county to prepare and submit a Monitoring and Reporting Program Annual Report. Thus each Copermittee is currently required to prepare, or participate in the preparation of at least 3 annual reports. In addition, the San Diego County Copermittees are required to prepare and submit a Regional Urban Runoff Management Plan Annual Report.

In total, there are 59 annual reports that are prepared by the Copermittees and submitted to the San Diego Water Board for the Fourth Term Permits. The preparation of these annual reports requires significant time and resources from each Copermittee, which could otherwise be expended on actions that could improve water quality within its jurisdiction. In turn, significant time and resources are required from the San Diego Water Board staff to review these reports, which could otherwise be expended on working directly with the Copermittees to improve their implementation efforts toward restoring and protecting water quality.

Until the Water Quality Improvement Plans are developed, there will be a transitional period during which the Copermittees will continue to implement their existing jurisdictional runoff management programs. There will also be a transitional period during which the Copermittees will implement the transitional monitoring and assessment requirements of Provision D. During the transitional period, the Copermittees will submit annual reports pursuant to the requirements of Provisions F.3.b.(1) and F.3.b.(2).

Provision F.3.b.(1) includes the transitional annual reporting requirements for each Copermittee's jurisdictional runoff management program. The reporting of the jurisdictional runoff management program implementation efforts have been reduced to a single 2-page form. Each Copermittee is required to complete and submit a Jurisdictional Runoff Management Program Annual Report Form (contained in Attachment D or a revised form accepted by the San Diego Water Board) no later than October 31 of each year for each jurisdictional runoff management program reporting period (i.e. July 1 to June 30) during the transitional period, until the first Water Quality Improvement Plan Annual Reports are required to be submitted. The Jurisdictional Runoff Management Program Annual Report Form will certify that each Copermittee has implemented its jurisdictional runoff management program in accordance with the requirements of Provision E. Each Copermittee may choose to continue to utilize and submit the jurisdictional runoff management program annual reporting format of its current Order until the first Water Quality Improvement Plan Annual Report is required to be submitted.

Provision F.3.b.(2) includes the transitional annual reporting requirements for the transitional monitoring and assessment program for each Watershed Management Area. The Copermittees in the Watershed Management Area are required to submit a Transitional Monitoring and Assessment Program Annual Report no later than January 31 for each complete transitional monitoring and assessment program reporting period (i.e. October 1 to September 30) during the transitional period, until the first Water

Quality Improvement Plan Annual Reports are required to be submitted. The Transitional Monitoring and Assessment Program Annual Report is required to include the transitional period monitoring data collected pursuant to Provisions D.1.a and D.2.a, and the findings from the transitional period findings from the assessments required pursuant to Provisions D.4.a.(1)(a), D.4.b.(1)(a)(i), D.4.b.(2)(a)(i).

Provision F.3.b.(3) includes the Water Quality Improvement Plan Annual Report requirements. Only one Water Quality Improvement Plan Annual Report is required for each of the ten (10) Watershed Management Areas designated under Provision B.1, which is a significant reduction in the number of annual reports required to be prepared and submitted by the Copermittees. The Water Quality Improvement Plan Annual Report will document the Copermittees' efforts to implement the Water Quality Improvement Plan. Each Water Quality Improvement Plan Annual Report will be focused primarily on reporting the analysis of the monitoring data collected pursuant to Provisions D.1-D.3 during the reporting period, and the assessments that are required pursuant to Provision D.4 based on the data. The monitoring data analyses and the assessments that are provided in the Water Quality Improvement Plan Annual Report will be the core of the report. The reporting of the jurisdictional runoff management program implementation efforts have been reduced to a single 2-page form, and will no longer be the primary focus of the reporting requirements as in the Third and Fourth Term Permits.

Each Copermittee will continue to prepare and submit a Jurisdictional Runoff Management Program Annual Report Form as part of the Water Quality Improvement Plan Annual Report to certify that each Copermittee has implemented its jurisdictional runoff management program in accordance with the requirements of Provision E. Instead of reviewing a voluminous report from each Copermittee, as was required under the Third and Fourth Term Permits, the San Diego Water Board will conduct audits of each Copermittee's jurisdictional runoff management program to investigate and confirm the information provided by each Copermittee on its Jurisdictional Runoff Management Program Annual Report Form. The audits will allow the San Diego Water Board to become more familiar with the each Copermittee's jurisdictional runoff management program, and each Copermittee will become more informed about the expectations of the San Diego Water Board.

The reduction in the number and content of the Water Quality Improvement Plan Annual Reports should result in significant time, cost and resource savings for the Copermittees, as well as the San Diego Water Board. Those savings should offset a significant portion of any additional costs that may be incurred to develop the Water Quality Improvement Plans and to implement the monitoring and assessment program requirements of Provision D.

The reporting period for the Water Quality Improvement Plan Annual Reports consists of two periods. Because the jurisdictional runoff management programs are typically budgeted and implemented during a fiscal year, the information provided on the

Jurisdictional Runoff Management Program Annual Report Forms will cover the period from July 1 to June 30 of the following year.

The Water Quality Improvement Plan Annual Reports, however, are focused primarily on the monitoring data and the assessments based on the monitoring data. The monitoring data is collected during the monitoring year, which begins October 1 and ends September 30 of the following year. The monitoring year begins after the beginning of the fiscal year and ends after the end of the fiscal year. Therefore, to accommodate and capture the information collected during the fiscal year and the monitoring year, the Annual Report reporting period incorporates both periods.

Finally, Provision F.3.c requires the Copermittees to develop and submit a Regional Monitoring and Assessment Report. The Regional Monitoring and Assessment Report is similar to the Long Term Effectiveness Assessment required under the Fourth Term San Diego County Permit. The Regional Monitoring and Assessment Report is expected to utilize the entire body of data and information collected by the Copermittees during the term of this Order to assess improvements to water quality on a regional scale.

Provision F.4 (Regional Clearinghouse) requires the Copermittees to develop, update, and maintain an internet-based Regional Clearinghouse that can be used to store, disseminate, and share the Copermittees' documents, monitoring data, special studies, and any other data or information.

Most of the documents and data that are generated by the Copermittees can be provided in electronic format, and made available to the San Diego Water Board and the public on the internet. The San Diego Water Board has been gradually transitioning its document submittal requirements to electronic submittals. Provision F.4 has been included to further these efforts.

Provision F.4 has also been included to improve the exchange and availability of information among the Copermittees, as well as between the Copermittees and the San Diego Water Board. Provision F.4 will also make the information generated during the implementation of the Order more accessible to the public.

Provision F.5 (Report of Waste Discharge) requires the Copermittees to submit a Report of Waste Discharge to reapply for renewal of the Order prior to its expiration, in accordance with 40 CFR 122.21(d)(2) and CWC section 13376.

Provision F.5 requires the Copermittees to submit a Report of Waste Discharge 180 days in advance of the expiration of this Order. Provision F.5 also describes the minimum information to be included in the Report of Waste Discharge, based on USEPA guidance "Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems," dated May 17, 1996.

G. Principal Watershed Copermittee Responsibilities

Purpose: Provision G includes the requirements for the Principal Watershed Copermittee designated by the Copermittees in each Watershed Management Area.

***Discussion*:** Unlike previous NPDES requirements, there will no longer be a single Principal Copermittee. Provision G.1 requires the Copermittees to designate a Principal Watershed Copermittee for each Watershed Management Area. There are ten (10) Watershed Management Areas in the San Diego Region, as defined in Table B-1 under Provision B.1 of the Order. An individual Copermittee should not be the Principal Watershed Copermittee for more than two (2) Watershed Management Areas. There could be up to ten (10) Principal Water Copermittees designated for the Watershed Management Areas in the San Diego Region.

Provision G.2 describes the minimum responsibilities of each Principal Watershed Copermittee. The primary responsibility of the Principal Watershed Copermittees is to serve as the liaison between the Copermittees in the Watershed Management Area and the San Diego Water Board on general permit issues. Ideally, the Principal Watershed Copermittee can represent the interests of all the Copermittees within a Watershed Management Area during discussions or meetings to facilitate communication with the San Diego Water Board. The Principal Watershed Copermittees are also responsible for facilitating and coordinating the implementation efforts of the Copermittees and submittals of required documents and reports.

The Principal Watershed Copermittee is responsible for facilitating the efforts of the Copermittees within the Watershed Management Area to develop the Water Quality Improvement Plan required under Provision B, and submit it for approval in accordance with Provision F.1. The Principal Watershed Copermittee is also responsible for coordinating the submittal of the document updates, Progress Report Presentations, and Annual Reports required from the Copermittees within each Watershed Management Area under Provisions F.2, F.3.a, and F.3.b. The Principal Watershed Copermittees are responsible for coordinating with each other to develop and submit the Regional Clearinghouse, Regional Monitoring and Assessment Report, and the Report of Waste Discharge required under Provisions F.3.c, F.4, and F.5.

The designated Principal Watershed Copermittee for each Watershed Management Area does not necessarily have to serve as the Principal Watershed Copermittee for the entire term of the Order. If the Copermittees in a Watershed Management Area choose to designate a new Principal Watershed Copermittee, the change may be submitted as part of the Annual Report required under Provision F.3.b, with an update to the Water Quality Improvement Plan in accordance with Provision F.2.c.

Provision G.3 specifies that the Principal Watershed Copermittee is not responsible for ensuring that the other Copermittees within the Watershed Management Area are in compliance with the requirements of this Order

H. Modification of Order

Purpose: Provision H provides the conditions under which modifications to Order No. R9-2013-0001, as amended, may occur.

***Discussion*:** Provision H allows for modifications to Order No. R9-2013-0001, as amended, for bases in addition to modifications (minor and major) allowed under the federal regulations at 40 CFR 122.62 and 122.63.

Modifications to the Order require re-opening the Order (see Water Code section 13223), subject to the requirements of 40 CFR 122.44, 122.62 to 122.64, and 124.5, but only for the specific provisions subject to the modification. Proposed modifications of the Order will be made available for public review, a public notice and comment period, and a public hearing if requested. Comments on the provisions not subject to the proposed modifications are not required to be considered in the San Diego Water Board's responses to comments or during the public hearing.

Provision H.4 was included to specify that the Order will be re-opened for modifications if the Basin Plan is amended to modify an existing TMDL or incorporate a new TMDL, or the monitoring and assessment program requirements need to be updated or revised.

I. Standard Permit Provisions and General Provisions

Purpose: Provision I incorporates the standard permit provisions required to be included in all NPDES permits, as well as several other general provisions.

***Discussion*:** Provision I refers to Attachment B to the Order. Attachment B expressly incorporates the conditions applicable to all NPDES permits as provided under 40 CFR 122.41(a)-(n), as well as the applicable conditions for MS4s and storm water discharges provided under 40 CFR 122.42(c) and 40 CFR 122.42(d), respectively. Attachment B also includes several general provisions that are typically included in or applicable to waste discharge requirements issued by the San Diego Water Board.

IX. ATTACHMENTS

The attachments to the Order are discussed below. The discussions describe the content of the attachments.

Attachment A – Discharge Prohibitions and Special Protections

Section 1 of Attachment A includes the Waste Discharge Prohibitions from the Basin Plan. They have been provided verbatim in their entirety.

Section 2 of Attachment A includes the "*Special Protections for Areas of Special Biological Significance, Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges*" applicable to permitted point source discharges of storm water, adopted under State Water Board Resolution No. 2012-0012, as amended by Resolution No. 2012-0031. The terms, prohibitions, and special conditions (collectively referred to as special conditions) are established as limitations on point source storm water discharges. These special conditions provide Special Protections for marine aquatic life and natural water quality in ASBS, as required for State Water Quality Protection Areas pursuant to California Public Resources Code sections 36700(f) and 36710(f). These Special Protections were adopted by the State Water Board as part of the Ocean Plan General Exception.

Attachment B – Standard Permit Provisions and General Provisions

Conditions applicable to all NPDES permits, as required under 40 CFR 122.41, and conditions applicable to MS4s and storm water discharges, as required under 40 CFR 122.42(c) and 122.42(d), respectively are provided in Attachment B to the Order. They have been provided expressly in their entirety.

In addition to the standard provisions required to be incorporated into the Order and NPDES permit pursuant to 40 CFR 122.41 and 40 CFR 122.42, several other general provisions apply to this Order. These general provisions are typically included in or applicable to waste discharge requirements issued by the San Diego Water Board. Many of the general provisions were developed by the State Water Board. Where a general provision is derived from statute or regulation, a citation of the statute or regulation section is provided. General provisions that do not provide a citation are included under the authority provided CWC 13377.

Attachment C – Acronyms, Abbreviations and Definitions

The acronyms and abbreviations that are used in the Order are provided in Attachment C. Attachment C also includes definitions that may provide an explanation or description of the meaning or intent of specific terms or phrases included in the Order.

Attachment D – Jurisdictional Runoff Management Program Annual Report Form

An example of the Jurisdictional Runoff Management Program Annual Report Form required to be submitted by each Copermittee as part of the Annual Reports required under Provision F.3.b.(1)(e) is provided as Attachment D to the Order. An electronic version of the form will be available from the San Diego Water Board after the adoption of the Order.

The Jurisdictional Runoff Management Program Annual Report Form includes the minimum information necessary to demonstrate that the Copermittee is implementing and in compliance with the requirements of Provision E, and includes much of the information required to be reported pursuant to 40 CFR 122.42(c).

The information that must be provided on the Jurisdictional Runoff Management Program Annual Report Form is limited to the fiscal year, which begins July 1 and ends June 30 of the following year. The information expected to be provided by the Copermittees in each section of the Jurisdictional Runoff Management Program Annual Report Form is discussed below.

I. COPERMITTEE INFORMATION

The name of the Copermittee (e.g. name of city, county, or special district) and the contact information for the storm water program manager are provided under this section.

II. LEGAL AUTHORITY

The Copermittee must confirm whether or not the legal authorities under Provision E.1.a have been established for itself within its jurisdiction.

The Copermittee must also confirm whether or not a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative has certified that the Copermittee obtained and maintains adequate legal authority, as required under Provision E.1.b. The certification statement required by Provision E.1.b is only required to be submitted with the first Annual Report required under Provision F.3.b.

III. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM DOCUMENT UPDATE

The Copermittee must inform the San Diego Water Board whether or not an update to its jurisdictional runoff management program document was required or recommended by the San Diego Water Board during the reporting period. An update to the jurisdictional runoff management program is required under Provision F.2.a. The San Diego Water Board may recommend modifications to the jurisdictional runoff management program as part of the iterative approach and adaptive management process required under Provision B.5, which may result in an update that is necessary for the Copermittee's jurisdictional runoff management document.

If an update was required or recommended, the Copermittee must confirm whether or not the update was completed and made available on the Regional Clearinghouse within the reporting period. If no update was required or recommended, an answer is not required. If the answer is NO, meaning the required or recommended update was not completed and/or made available on the Regional Clearinghouse, the Copermittee must attach a

schedule for the completion of the update and/or posting of the updated document on the Regional Clearinghouse.

IV. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

The Copermittee must confirm whether or not a program was implemented during the fiscal year to actively detect and eliminate illicit discharges and connections in accordance with the requirements under Provision E.2.

In addition to confirming that a program to detect and eliminate illicit discharges was implemented during the reporting period, the Copermittee is also required to report on several items related to the program. The information that must be reported is limited to the fiscal year for the Annual Report.

All non-storm water discharges are considered illicit discharges unless the source is identified as one of the categories on non-storm water discharges under Provisions E.2.a.(1)-(5). If a non-storm water discharge is identified as one of the categories on non-storm water discharges under Provisions E.2.a.(1)-(5), the discharge is a non-storm water discharge, but not an illicit discharge. If a non-storm water discharge is identified but not in one of the categories on non-storm water discharges under Provisions E.2.a.(1)-(5), the discharge is both a non-storm water discharge and an illicit discharge.

V. DEVELOPMENT PLANNING PROGRAM

The Copermittee must confirm whether or not a development planning program was implemented during the fiscal year in accordance with the requirements under Provision E.3.

The Copermittee must also inform the San Diego Water Board whether or not an update to its BMP Design Manual was required or recommended by the San Diego Water Board during the fiscal year. An update to the BMP Design Manual is required under Provision F.2.b. The San Diego Water Board may recommend modifications to the BMP Design Manual, which may result in an update that is necessary for Copermittee's the BMP Design Manual.

If an update was required or recommended, the Copermittee must confirm whether or not the update was completed and made available on the Regional Clearinghouse within the reporting period. If no update was required or recommended, an answer is not required. If the answer is NO, meaning the required or recommended update was not completed and/or made available on the Regional Clearinghouse, the Copermittee must attach a schedule for the completion of the update and/or posting of the updated document on the Regional Clearinghouse.

The Copermittee is also required to report on several items related to the program. For the development and redevelopment projects that are reviewed under the program, the Copermittee must report the total number projects submitted for review during the fiscal year. Of those projects, the Copermittee must report the number that are Priority Development Projects, as defined under Provision E.3.b.(1). The Copermittee must also report the number of Priority Development Projects that were approved and/or granted occupancy during the fiscal year, regardless of when the project was originally submitted for review. Any projects that were approved during the fiscal year and granted any

exemptions from the BMP Design Manual requirements and/or allowed to implement alternative compliance options in accordance with Provision E.3.c.(3) must be reported.

Finally, the Copermittee must also report on several items related to its oversight of permanent BMPs on Priority Development Projects within its jurisdiction, as required under Provision E.3.e. The information that must be reported is limited to the fiscal year for the Annual Report.

VI. CONSTRUCTION MANAGEMENT PROGRAM

The Copermittee must confirm whether or not a construction management program was implemented during the fiscal year in accordance with the requirements under Provision E.4.

The Copermittee is also required to report on several items related to its oversight construction projects within its jurisdiction. The information that must be reported is limited to the fiscal year for the Annual Report.

VII. EXISTING DEVELOPMENT MANAGEMENT PROGRAM

The Copermittee must confirm whether or not an existing development management program was implemented during the fiscal year in accordance with the requirements under Provision E.5.

The Copermittee is also required to report on several items related to its oversight in areas of existing development within its jurisdiction. The information that must be reported is limited to the fiscal year for the Annual Report. The information must also be separated into four categories of existing development: municipal, commercial, industrial, and residential.

VIII. PUBLIC EDUCATION AND PARTICIPATION

The Copermittee must confirm whether or not a public education program component was implemented during the fiscal year in accordance with the requirements under Provision E.7.a.

The Copermittee must also confirm whether or not a public participation program component was implemented during the fiscal year in accordance with the requirements under Provision E.7.b.

IX. FISCAL ANALYSIS

The Copermittee must confirm a summary of its fiscal analysis, conducted in accordance with the requirements under Provision E.8, has been attached to the form.

X. CERTIFICATION

A Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative must sign and certify the Jurisdictional Runoff Management Program Annual Report Form. The appropriate box must be checked to indicate the whether a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative is signing the form.

Attachment E – Specific Provisions for Total Maximum Daily Loads

Attachment E provides specific provisions for implementing the load allocations (LAs) and wasteload allocations (WLAs) of Total Maximum Daily Loads (TMDLs) adopted by the San Diego Water Board and approved by USEPA in which the Copermittees are identified as responsible for discharges subject to the requirements of the TMDLs. Federal regulations require that NPDES requirements incorporate water quality based effluent limitations (WQBELs) that must be consistent with the requirements and assumptions of any available WLAs,[46] which may be expressed as numeric effluent limitations, when feasible, and/or as a best management practice (BMP) program of expanded or better-tailored BMPs.[47] Where the TMDL includes WLAs that provide numeric pollutant load or pollutant parameter objectives, the WLA has been, where feasible, translated into numeric WQBELs.[48]

For each TMDL in Attachment E, four sections are included:

a. Applicability: This section provides the resolution under which the TMDL Basin Plan amendment was adopted and approved, with the applicable adoption and approval dates. This section also gives the effective date of the TMDL and where the TMDL is applicable (i.e. Watershed Management Area and water body). The Copermittees that are responsible for implementing the specific provisions are also given in this section.

b. Final TMDL Compliance Requirements: For each TMDL, the final TMDL compliance requirements consist of the final TMDL compliance date(s), the final WQBELs, and the final TMDL compliance determination requirements. The final WQBELs are expressed in terms of receiving water limitations, effluent limitations, and/or best management practices (BMPs). The final WQBELs for the TMDLs are incorporated by reference into Provision A of the Order. The final WQBELs become enforceable when the final TMDL compliance dates have passed. Applicable BMPs within the final WQBELs must be incorporated into the Water Quality Improvement Plans. Compliance with the final WQBELs will be determined in accordance with the options provided under the final TMDL compliance determination requirements.

c. Interim TMDL Compliance Requirements: If the final TMDL compliance date has not passed and there are interim TMDL compliance requirements, they are included in this section. If there are interim WQBELs with interim compliance dates, the interim WQBELs become enforceable when the corresponding interim compliance dates have passed. Compliance with the interim WQBELs will be determined in accordance with the options provided under the interim TMDL compliance determination requirements.

d. Specific Monitoring and Assessment Requirements: If there are specific monitoring and assessment requirements that cannot be met with the monitoring and assessment program

[46] 40 CFR 122.44(d)(1)(vii)(B)
[47] 40 CFR 122.44(k)(2) and 40 CFR 122.44(k)(3)
[48] November 26, 2014 Memorandum from the USEPA, Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLA""

requirements under Provision D of the Order, the additional requirements are included in this section.

The requirements of the TMDLs are based on and consistent with the assumptions and requirements of any available adopted and approved TMDLs that have been incorporated into the Basin Plan. Modifications to the requirements for the TMDLs in Attachment E cannot be made unless the TMDLs are modified in the Basin Plan.

A modification to any aspect of a TMDL in the Basin Plan requires a Basin Plan amendment. A Basin Plan amendment to modify a TMDL will require the San Diego Water Board to adopt a resolution to amend the Basin Plan, which includes a separate public process. When the San Diego Water Board adopts a Basin Plan amendment, it subsequently requires approval from the State Water Board, the Office of Administrative Law, and the USEPA before it becomes effective.

If and when the TMDLs are a modified in the Basin Plan, the San Diego Water Board will revise the requirements of the Order in accordance with the Basin Plan amendment. When a Basin Plan amendment to modify a TMDL becomes effective, the San Diego Water Board will modify the requirements of the Order pursuant to the requirements of Provision H.4 of the Order as soon as possible.

ATTACHMENT H-5

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CODE: 10-7000.03

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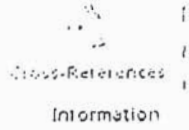
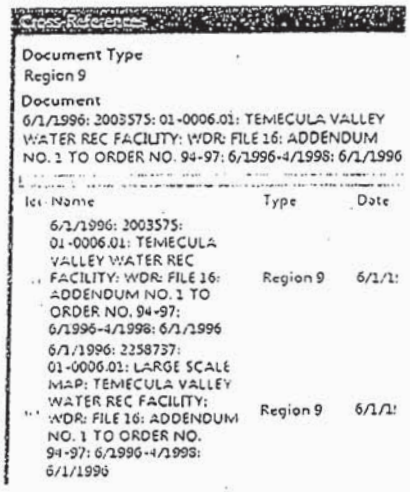
The following is also available for your review:

- [x] Large Scale Maps (See Note Below) (1-4)
- [ ] Diskettes
- [ ] Microfiche
- [ ] Cassettes
- [ ] Other

*Large Scale Maps **will be uploaded** to ECM and linked to original document. To view maps please open the original document and select the cross-reference icon



The document handle number for the map along with the original document will appear on a panel for you to click on and review.



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SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

May 30, 2003

Mr. John H. Robertus, Executive Officer
California Regional Water Quality
Control Board – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Dear Mr. Robertus:

Re: Report of Waste Discharge for Santa Margarita Watershed Municipal Separate Storm Sewer System NPDES Permit No. CAS0108766, Board Order No. 98-02

This letter and the enclosure serve as the Report of Waste Discharge (ROWD) for renewal of NPDES Permit No. CAS0108766 (Permit) issued by Region IX of the United States Environmental Protection Agency (USEPA). The Permit was issued for stormwater discharges from the municipal separate storm sewer system (MS4) operated by the Riverside County Flood Control and Water Conservation District (District), the County of Riverside (County), and the Cities of Temecula and Murrieta (collectively referred to herein as "Permittees") in the Santa Margarita Region, which consists of the Santa Margarita River watershed within Riverside County.

The San Diego Regional Water Quality Control Board (San Diego Regional Board) adopted Order 98-02 on May 13, 1998 to renew the first-term areawide MS4 NPDES permit for the Santa Margarita Region. Due to concerns pertaining to receiving water limitations developed by the State Water Resources Control Board and specified in Order No. 98-02[1], on September 18, 1998 USEPA Region IX assumed responsibility for the Permit and requested MS4 permit reapplication from the Permittees. USEPA Region IX reviewed the permit reapplication submitted by the Permittees and determined that the proposals for the stormwater management program, monitoring program and other program requirements, including those for new development and significant redevelopment, were appropriate "with certain relatively minor exceptions" for the Permittees' MS4s and consistent with the MEP standard.[2]

On April 27, 1999 USEPA Region IX issued the Permit, which became effective on May 30, 1999 and which expires on November 30, 2003. On June 25, 1999 USEPA Region IX returned the Permit to the San Diego Regional Board for implementation and administration. On November 8, 2000 the San Diego Regional Board adopted Addendum No. 1 to Order No. 98-02 which adopted the text of the Permit issued by USEPA in its entirety.

Since March 2003 the Permittees have met monthly with San Diego Regional Board staff - and will continue to meet at least monthly - to jointly revise and develop the MS4 program components and

[1] The receiving water limitations in Order No. 98-02 were consistent with existing State Water Resources Control Board (SWRCB) policy as expressed in its Order WQ 98-01 adopted on January 22, 1998. The SWRCB subsequently modified its policy to conform with USEPA's receiving water policy by adopting Order WQ 99-05 on June 17, 1999.

[2] USEPA, Fact Sheet, NPDES Permit No. CAS0108766 – Riverside County Flood Control and Water Conservation District, Riverside County, Cities of Temecula and Murrieta, April 21, 1999, p. 2 and 10.

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monitoring plan for the Santa Margarita Region in a manner that is appropriate to the land use, hydrologic, geographic and water quality conditions of the Santa Margarita Region. The Santa Margarita Region is unique in a number of respects relative to other entities regulated as Phase I MS4s. Some of those unique characteristics are:

- Although portions of the Santa Margarita Region are experiencing rapid growth, 94 percent of the watershed is comprised of non-urban (rural residential, agriculture, State lands, Federal lands and tribal lands) land uses.[3] It is projected that the population of Riverside County will increase approximately 20 percent by 2010.[4] Assuming that the urbanized area increases proportional to population, 93 percent of the watershed would remain in non-urban land uses in 2010.

- Almost one-third of the Santa Margarita River watershed consists of Federal, State and tribal lands[5] that are not under the jurisdiction of the Permittees' MS4 programs.

- The population of the Santa Margarita Region supporting the compliance activities for the MS4 Permit is significantly smaller (approximately 168,400[6]) than the other Phase I MS4s in Southern California. For example, the populations for the portion of Riverside County and Orange County under the jurisdiction of the Santa Ana Regional Board are 1,004,705 and 2,422,550, respectively. In the San Diego Region, Orange County has a population of approximately 556,000 and San Diego County has a population of approximately 2.9 million. Los Angeles County has a population of almost 10 million[7].

- The stream system within the urbanized area of the Santa Margarita Region is ephemeral, and there is essentially no non-storm flow to either Temecula or Murrieta Creeks. For example, in recent field investigations of the watershed conducted by District staff, only three non-storm discharges were identified in the urbanized area. The first was a discharge to Murrieta Creek originating from a broken Caltrans irrigation line on I-15. This discharge was reported to and repaired by Caltrans. The second was a discharge of reclaimed water to Temecula Creek resulting from excess irrigation in the Redhawk development. This discharge was reported to San Diego Regional Board staff as the regulatory authority permitting this use of reclaimed water. It is our understanding that control of this discharge is being discussed with the Rancho California Water District. The third discharge was identified as irrigation runoff to the Santa Gertrudis Channel, a tributary to Murrieta Creek. Although this discharge was minor (approximately two gallons per minute) and is exempted under the existing MS4 Permit, the City of Temecula is working with the City of Murrieta to determine in whose jurisdiction the discharge originates, and work with the landowner to eliminate this discharge.

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[3] County of Riverside Assessor, 2002.
[4] Southern California Association of Governments, May 2003.
[5] County of Riverside Assessor, 2002.
[6] California Department of Finance at www.dof.ca.gov/HTML/DEMOGRAP/NewHist_E-4.xls
[7] California Department of Finance, 2003.

- The current and projected storm flows in the Santa Margarita River are less than under natural conditions due to the construction and operation of Diamond Valley Reservoir, Lake Skinner and Vail Lake.[7]
- Over 50% of the Santa Margarita River watershed has been controlled by the construction of Vail Dam in 1949 and Skinner Reservoir in 1974, which created significant storage capacity in the upper watershed.[8] Due to this storage capacity, peak flow rates during major flow events for both existing and future land use conditions will be lower than under natural conditions (assuming average storage conditions in the reservoirs).[9]
- For the average annual event, it is estimated that approximately 89 percent of the volume of runoff is due to non-urban land uses not regulated under the Federal stormwater program. For the 100-year 24-hour event, 93 percent of the volume of runoff will be due to non-urban land uses. These estimates are based on the assumption that precipitation is constant across the watershed. However, precipitation (and resultant runoff volumes) in the non-urbanized upland areas is as much as four times greater than that from the urbanized valley areas.[10]
- Temecula Creek is not listed as an impaired water body. The State Water Resources Control Board included 12 miles of Murrieta Creek on the 2002 303(d) list for phosphorous. Development of a TMDL for this impairment is identified by the State Water Resources Control Board as a low priority. Murrieta Creek is also included on the SWRCB Monitoring List for iron, manganese and TDS. There are no impairments in the Santa Margarita Region related to toxicity. As previously noted, there is no urban runoff in Murrieta Creek during non-storm conditions. The perennial flows in the lower reach of Murrieta Creek consist entirely of rising groundwater. Therefore, contributions to the phosphorous impairment by urban runoff must occur during storm conditions. Also as previously noted, urban runoff constitutes a minor percentage of the total flow under storm conditions.
- No groundwater basins that may be recharged by urban runoff from the Permittees' MS4s are listed as impaired by urban runoff.
- Coastal receiving waters are approximately 27 miles distant from the nearest urbanized area of the Santa Margarita Region.

In summary, with implementation of the current Santa Margarita Region Drainage Area Management Plan (DAMP) there are no significant water quality problems associated with discharges of urban runoff from the Permittees' MS4s.

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[8] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 14.

[9] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 20.

[10] Bulletin No. 57, Santa Margarita River Investigation, Vol. I, State of California Department of Public Works, Division of Water Resources, June 1956, p 11

Mr. John H. Robertus
California Regional Water Quality
Control Board – San Diego Region
Re: Report of Waste Discharge for Santa Margarita Watershed Municipal Separate Storm Sewer System NPDES Permit No. CAS0108766, Board Order No. 98-02

Provision II.F.30 of Order 98-02 specifies that the ROWD shall, at a minimum, include the following:

a. Any revisions to the DAMP including, but not limited to, all the activities the Permittees propose to undertake during the next permit term, goals and objectives of such activities, and evaluation of the need for additional source control and/or structural BMPs, any proposed pilot studies, etc.;

b. Changes in land use and/or population including map updates; and

c. Any significant changes to the storm drain systems, outfalls, detention or retention basins or dams, and other controls, including map updates of the storm drain system (MS4).

The enclosed ROWD generally addresses the July 19, 2002 guidance provided by the San Diego Regional Board staff.[11] Information regarding population estimates and projections as well as current land use and anticipated significant changes in land use is provided in the ROWD. Information and/or maps of the Permittees' existing MS4 facilities and planned additions are also included in the ROWD.

To cost-effectively facilitate consistency and coordination in implementing a stormwater management program in Riverside County and to realize economies of scale, the Permittees propose implementation of a stormwater management program parallel to the DAMP required in the Santa Ana Region by the Santa Ana Regional Board. The proposed enhancements to the stormwater management program are described in the enclosed ROWD, which is also an initial step in preparing a comprehensive (all-in-one document) revision to the Santa Margarita Region DAMP.

The enhancements described in the ROWD include expansion of the Management Steering Committee and Technical Advisory Committee (and associated subcommittees) to formally include the Permittees. The Management Steering Committee consists of City Manager or equivalent representatives of each Permittee to facilitate coordination of policy and funding issues. The Technical Advisory Committee replaces the previous Santa Ana/Santa Margarita Combined NPDES Advisory Committee and facilitates coordination of program development and implementation. The Santa Ana Region MS4 Permit requires each Permittee to formally designate representatives to each committee and requires regular attendance and participation in subcommittees. The Santa Margarita Region Permittees have also designated representatives and are participating in these committees.

In our April 23rd coordination meeting in Temecula, it was agreed that the Permittees and San Diego Regional Board staff would work cooperatively in developing revisions to the Riverside County Consolidated Monitoring Program (CMP) to address the Santa Margarita Region. Based on this agreement, the Permittees have not included a revised monitoring program as an element of the ROWD. The Permittees seek to coordinate the CMP monitoring activities in the Santa Margarita River watershed with those conducted by San Diego County, Camp Pendleton and other interests. In addition, the District, County and the Cities of Murrieta and Hemet are currently working with Santa

[11] John H. Robertus, Executive Officer, San Diego Regional Water Quality Control Board, Letter to MS4 NPDES No. CAS0108766 Permittees, Application for Renewal of MS4 Permit, July 19, 2002.

Mr. John H. Robertus
California Regional Water Quality
Control Board – San Diego Region

May 30, 2003

Re: Report of Waste Discharge for Santa Margarita Watershed Municipal Separate Storm Sewer System NPDES Permit No. CAS0108766, Board Order No. 98-02

Ana Regional Board staff to develop revisions to the CMP for that area of Riverside County. It may be beneficial to conduct joint meetings with representatives of both Regional Boards to coordinate these efforts.

Lastly, the City of Hemet has applied to the Local Agency Formation Commission (LAFCO) to annex a portion of an unincorporated area of Riverside County under the jurisdiction of the San Diego Regional Board. Although this annexation has not been approved, it is requested that the City of Hemet be included in communications related to the renewal of the Permit.

The Permittees look forward to working with Regional Board staff in the development of cost effective stormwater management programs and revisions to the CMP that recognize the unique conditions in the Santa Margarita Region. Please contact Jason Uhley (909.955.1273; juhley@co.riverside.ca.us) or Linda Garcia (909.955.1248; lcgarcia@co.riverside.ca.us) of our Regulatory staff if you have any questions.

Very truly yours,

WARREN D. WILLIAMS
General Manager-Chief Engineer

Enclosure

c: Alex Gann, Riverside County Executive Office
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BK:bjp
URS

SAN DIEGO REGIONAL
WATER QUALITY
CONTROL BOARD

2003 JUN -2 A 10: 16

REPORT OF WASTE DISCHARGE

Submitted To

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD
(Order No. 98-02)

and

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION IX
(NPDES No. CAS0108766)

MAY 30, 2003

SANTA MARGARITA RIVER REGION
RIVERSIDE COUNTY

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
COUNTY OF RIVERSIDE
CITY OF HEMET, CITY OF MURRIETA, and CITY OF TEMECULA

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RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

REPORT OF WASTE DISCHARGE

for

MUNICIPAL SEPARATE STORM SEWER SYSTEM
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

SANTA MARGARITA RIVER REGION
RIVERSIDE COUNTY

Submitted to

San Diego Regional Water Quality Control Board
and
United States Environmental Protection Agency – Region IX
(Order No. 98-02, NPDES No. CAS0108766)

May 30, 2003

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: Warren D. Williams

Title: General Manager–Chief Engineer

Date: May 30, 2003

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1.0 INTRODUCTION TO THE SANTA MARGARITA REGIONAL DRAINAGE AREA MANAGEMENT PLAN

The Santa Margarita Regional Drainage Area Management Plan (DAMP) is a programmatic document developed by the Permittees and approved by the Executive Officer of the San Diego Regional Water Quality Control Board (Regional Board). The Santa Margarita Region is that portion of Riverside County within the jurisdiction of the San Diego Regional Board. The April 1996 Santa Margarita Regional DAMP (subsequently referred to as 1996 DAMP) was prepared in compliance with the requirements of the 1993 Municipal Separate Storm Sewer System (MS4) National Pollution Discharge Elimination System (NPDES) Permit. A glossary of terms relevant to Santa Margarita River Region MS4 NPDES program is included as Appendix A.

This updated DAMP outlines the major programs and policies that the Permittees will individually and/or collectively develop and implement to manage Urban Runoff in compliance with the 2003 MS4 Permit. The Permittees of the 2003 MS4 Permit are:

- Riverside County Flood Control and Water Conservation District (District)
- County of Riverside (County)
- City of Hemet
- City of Murrieta
- City of Temecula

The District has been designated Principal Permittee and the three cities and the County are considered Co-Permittees.

1.1 REGULATORY FRAMEWORK

The Urban Runoff pollution control effort, of which this DAMP is a part, is the result of thirty years of legislative effort beginning with the Federal Water Pollution Control Act, which is also referred to the Clean Water Act (CWA). The CWA was amended in 1972 to provide that the discharge of pollutants to Waters of the United States is effectively prohibited unless the discharge is in compliance with a NPDES permit. In 1987 Congress enacted the Water Quality Control Act that amended portions of the CWA and included Section 402(p), which set requirements for permitting stormwater discharges. Section 402(p) of the CWA required that the United States Environmental Protection Agency (USEPA) establish regulations setting forth a program of NPDES applications and corresponding permits for stormwater discharges associated with industrial activities and for stormwater discharges from MS4s. Section 402(p) of the CWA also requires that MS4 NPDES permits include:

1. A requirement to effectively prohibit non-stormwater discharges into the storm sewer; and
2. Controls to reduce the discharge of pollutants in stormwater discharges to the maximum extent practicable (MEP), including management practices, control techniques and systems, design and engineering methods and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

USEPA's Final Rule for NPDES Permit Application Regulations for Stormwater Discharges became effective December 17, 1990 and is often referred to as the "Phase I stormwater regulations." The Phase I stormwater regulations are administered nationwide through the USEPA's NPDES program. The Phase I

stormwater regulations require that the management program for an MS4 includes a comprehensive planning process which involves public participation and, where necessary, inter-governmental coordination, to reduce the discharge of pollutants to the MEP using management practices, control techniques and systems, design and engineering methods, and such other provisions which are appropriate. The Phase I stormwater regulations also specify who is covered; prescribes a variety of required information-gathering, planning, and reporting activities; and sets forth a schedule for compliance. The Phase I stormwater regulations also set forth requirements for specific industrial activities.

In response to the Phase I stormwater regulations, the District, the County and the City of Temecula obtained an "Early" MS4 permit[1] (NPDES No. CA0108766, Order No. 90-46) in July of 1990. Subsequently this "Early" permit was referred to as the 1990 MS4 Permit. On May 18, 1992 the City of Murrieta was added to that permit. In compliance with the 1990 MS4 Permit, the Permittees submitted an application for renewal of their area-wide MS4 permit in January 1995. The District, the County and the cities of Murrieta and Temecula were included as co-applicants. On May 13, 1998 the Regional Board adopted Order No. 98-02 establishing Waste Discharge Requirements for Urban Runoff from MS4s owned and operated by the Permittees. Order No. 98-02 was intended to serve as the Permittee's "second round" MS4 permit pursuant to Section 402(p) of the CWA. However, the USEPA Region IX (Region IX) objected[2] to the Order as adopted and assumed responsibility for re-issuing the MS4 permit. Region IX subsequently issued a final MS4 permit (Permit No. CAS0108766) on April 27, 1999. Permit No. CAS0108766 became effective on May 30, 1999. On June 25, 1999 Region IX "returned" Permit No. CAS0108766 to the Regional Board for implementation. On November 8, 2000, the Regional Board issued Addendum No. 1 to Order No. 98-02 that incorporated, by reference, Permit No. CAS0108766 into their Order.[3] Appendix B includes a copy of Permit No. CAS0108766 and Order No. 98-02.

1.2 Permit Area

The Permit Area is defined as the area delineated by the County boundary line on the south and the San Diego Regional Board boundary line on the north, east, and west. Further, the entire Permit Area lies within the Murrieta Creek and Temecula Creek watersheds. It is important to recognize that of the Santa Margarita Region, agricultural activities are exempt from regulation under the MS4 NPDES permit and the Permittees do not have legal jurisdiction over storm water discharges into their respective MS4s from:

- California and federal facilities,
- Utilities and special districts, and
- Native American tribal lands.

[1] Some municipalities applied for and received stormwater discharge permits prior to the USEPA promulgation of the "Final Rule for NPDES Permit Application for Storm Water Discharges." Such permits have been referred to as "Early" permits.

[2] USEPA objected to the Receiving Water Limitations (RWL) in Order No. 98-02. The RWL in Order 98-02 were consistent with existing State Water Resources Control Board (SWRCB) policy as expressed in its Order WQ 98-01 adopted on January 22, 1998. SWRCB has subsequently modified its RWL policy to conform with USEPA Region IX's RWL policy by adopting Order WQ 99-05 on June 17, 1999.

[3] San Diego Regional Water Quality Control Board, Addendum 1 to Order No. 98-02, NPDES Permit No. CAS0108766, November 8, 2000.

These areas are not included in the Permit Area. In addition, other point and non-point source discharges otherwise permitted by or under the jurisdiction of the San Diego Regional Board may affect water quality in the Murrieta and Temecula Creek watersheds.

The area of Riverside County under the jurisdiction of the San Diego Regional Board is approximately 548 square miles, which is less than 8 percent of the 7,300 square miles within Riverside County. Only three[4] of the 24 municipalities within Riverside County are under the jurisdiction of the San Diego Regional Board.

1.3 POPULATION AND LAND USE

1.3.1 Population

The California Department of Finance estimates that as of January 1, 2003, the total population of Riverside County was about 1,705,500. Of the 1.7 million people, approximately 168,400 persons (or 10 percent) reside within the portion of Riverside County under the jurisdiction of the San Diego Regional Board. Approximately 36,400 persons[5] reside in the unincorporated area while approximately 132,000 persons reside within the Cities of Murrieta and Temecula.

Over the period 1998 to 2003, population growth in Riverside County has been significantly higher than neighboring counties and has also been greater than the average percent change in population in the entire State (8.98%).[6] Table 1-1 shows the population data and the percent change for the neighboring counties and for each of the Permittees for the years 1998 – 2003.

Table 1-1. Population Estimates 1998 – 2003 [(a)]

Area	Year						% Change
	1-1-98	1-1-99	1-1-00	1-1-01	1-1-02	1-1-03	1998 - 2003
State	32,657,000	33,140,000	33,753,000	34,367,000	35,000,000	35,591,000	9.0
Los Angeles County	9,225,800	9,330,100	9,487,400	9,646,300	9,817,400	9,979,600	8.2
Orange County	2,724,500	2,776,100	2,829,800	2,880,600	2,930,500	2,978,800	9.3
San Bernardino County	1,637,900	1,666,600	1,701,700	1,741,400	1,788,500	1,833,000	11.9
San Diego County	2,702,800	2,751,000	2,805,900	2,856,000	2,908,500	2,961,600	9.6
Riverside County	1,451,400	1,490,500	1,533,800	1,584,300	1,645,300	1,705,500	17.5
Unincorporated Area	ND[(b)]	ND	36,400[(c)]	ND	ND	ND	ND
Murrieta	38,950	41,650	43,850	46,300	51,700	57,000	46.3
Temecula	48,900	51,600	56,600	61,600	72,800	75,000	53.4

(a) Population estimates obtained from California Department of Finance at www.dof.ca.gov/HTML/DEMOGRAP/NewHist_E-4.xls
(b) ND = No data
(c) Population estimate for the portion of unincorporated Riverside County within the Santa Margarita River watershed developed by the County Administrative Office based on the 2000 Census. This estimate would include the population of the area proposed to be annexed by the City of Hemet.

[4] The City of Hemet has not completed annexation of a portion of the Permit Area that is currently part of unincorporated Riverside County.

[5] Population estimate for the portion of unincorporated Riverside County within the Santa Margarita River watershed developed by the County Administrative Office based on the 2000 Census.

[6] California Department of Finance, May 2003.

Although population growth in the Permit Area will continue to be greater than surrounding counties, the percent increase will decline. Table 1-2 shows population projections for neighboring counties and the Permittees in the year 2010[7].

Table 1-2. Projected Population for 2010

Area	2003	2010	% Change
Los Angeles County	9,979,600	10,767,297	7.9
Orange County	2,978,800	3,160,512	6.1
San Bernardino County	1,833,000	2,042,914	11.5
San Diego County	2,961,600	3,235,675	9.3
Riverside County	1,705,500	2,037,483	19.5
Unincorporated Area	36,400 (a)	ND (b)	--
Murrieta	57,000	68,071	19.4
Temecula	75,000	77,581	3.4

(a) Estimate of population for the portion of unincorporated Riverside County within the Santa Margarita River watershed as developed by the County Administrative Office is based on the 2000 Census.

(b) ND = No data. Where ND is noted, there is no comparable data available for that portion of the Unincorporated County within the Santa Margarita River watershed.

1.3.2 Land Use

In 1956, only 0.3 percent of the watershed (less than two square miles) was urbanized.[8] Although there has been a significant rate of growth in population relative to the State and neighboring counties, almost half a century later, 94 percent of the Santa Margarita Region remains as non-urban land uses (rural residential, agriculture, preserves and open space, state lands, federal lands, and tribal lands). Further, almost one-third of the Santa Margarita Region consists of federal, state, and tribal lands[9] that are not under the jurisdiction of the Permittees' MS4 programs. It is projected that the population of Riverside County will increase approximately 20 percent by 2010.[10] Assuming that the urbanized area increases proportional to population, 93 percent of the Santa Margarita Region would remain in non-urban land uses in 2010.

General land uses within the Santa Margarita Region are shown in Figure 1-1 for 2003 and in Figure 1-2 for 1998. The land uses depicted in both figures are based on the Riverside County Assessor Parcel Data, Close of Roll 2002. The change in land uses from 1998 to 2003 is shown in Table 1-3.

Proposed New Development

To the extent possible, the Permittees have identified significant new development projects that, if constructed, will result in the conversion of primarily undeveloped land to developed land. In some cases, because these projects are constructed in phases, completion of these new developments will occur beyond the term of the 2003 MS4 Permit (after 2008).

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[7] Southern California Association of Governments, May 2003, and San Diego Association of Governments, May 2003.

[8] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956.

[9] Riverside County Assessor Parcel Data, Close of Roll 2002.

[10] Southern California Association of Governments, May 2003.

City of Murrieta

- Jefferson Avenue Business Corridor Master Plan – 826 acres of varying land use and improvements.
- Greer Ranch – 688 residential units on 333 acres; 197 acres will be maintained as open space.
- Murrieta Highlands (Tract 28533) – 1,167 residential units per specific plan.
- The Vineyard (Tract 28903) – 1000 residential units on approximately 300 acres.
- Murrieta Oaks (Tract 29448) – 543 residential units on 260 acres.
- Murrieta Springs 309 – 768 residential units on approximately 200 acres.
- Tract 29757 – 324 multi-family units and & 40,000 square feet of commercial facilities on approximately 28 acres

City of Temecula

Harveston – Mixed-use development that will be completed in three phases. Project will be comprised of:

- 306 acres residential (about 1,920 units),
- 112 acres service commercial (phase 3),
- 34 acres open space (park),
- 17 acres lake surface, and
- 12 acres for school site.

Wolf Creek – Mixed-use development that will be comprised of:

- 380 acres residential (about 1,880 to 2,020 units),
- 40 acres of sports park,
- 33 acres of school site,
- 25 acres of drainage/greenbelt,
- 20 acres of neighborhood/community commercial,
- 8 acres of neighborhood park,
- 7 acres of linear park, and
- 5 acres of roadway paseos.

Roripaugh Ranch – Mixed-use development that will be comprised of (subject to revision):

- 413 acres residential use (about 2,000 units),
- 202 acres dedicated to habitat preservation,
- 39 acres drainage and flood control facilities,
- 34 acres parks and recreational areas,
- 32 acres for school site,
- 21 acres landscaped slopes,
- 15 acres neighborhood/community commercial, and
- 2 acres for fire station.

Table 1-3. Change in Land Use – 1998 to 2003[a]

Land Use	1998 (Acres)				% of Total	2003 (Acres)				% of Total	Change 1998 to 2003	
	Uninc[b]	Murrieta	Temecula	Total		Uninc[b]	Murrieta	Temecula	Total		(Acres)	%
Commercial	1,642	343	876	2,861	0.8	866	634	1,115	2,614	0.7	(247)	(8.6)
Industrial	970	68	398	1,435	0.4	1,100	120	566	1,786	0.5	351	24.4
Urban Residential (< 1 acre)	1,821	2,450	3,035	7,305	2.1	2,200	3,881	4,095	10,176	2.9	2,871	39.3
Parks & Recreation Facilities	36	104	235	375	0.1	1,147	517	404	2,068	0.6	1,693	451.5
Streets & Roads	--	2,115	2,262	4,377	1.2	--	2,595	2,115	4,710	1.3	333	7.6
Subtotal – Urban Land Use	**4,469**	**5,080**	**6,804**	**16,353**	**4.7**	**5,312**	**7,747**	**8,294**	**21,353**	**6.1**	**5,000**	**30.6**
Preserves & Open Space	53,721	3,802	4,094	61,617	17.6	50,934	5,426	3,824	60,183	17.2	(1,434)	(2.3)
Rural Residential (> 1 acre)	120,423	6,714	4,790	131,927	37.6	106,646	5,969	3,772	116,386	33.2	(15,540)	(11.8)
Agriculture	33,621	1,254	797	35,672	10.2	36,157	1,553	853	38,563	11.0	2,891	8.1
Highways & Roads	8,003	--	--	8,003	2.3	7,382	--	--	7,382	2.1	(621)	(7.8)
Federal/State/Tribal Lands/Non-County Jurisdiction	94,421	--	--	94,421	26.9	98,709	394	210	99,312	28.3	4,891	5.2
No Land Use Designation	2,043	215	161	2,419	0.7	6,695	425	111	7,232	2.1	4,813	199.0
Total	**316,699**	**17,065**	**16,646**	**350,411**	**100.0**	**311,835**	**21,513**	**17,063**	**350,411**	**100.0**	**0**	**0.0**

(a) Based upon Riverside County Assessor Parcel Data, Close of Roll 2002.

(b) Uninc = Unincorporated County

1.4 Other Watershed Characteristics

Storm water discharges from urbanized areas consist mainly of surface runoff from development consisting of urban residential, commercial, industrial, parks and recreation facilities, and streets and roads. In addition, the Permittees' MS4s receive storm water discharges from agricultural and open space land uses (areas that are not under the jurisdiction of the Permittees) and other wastewater discharges permitted or exempted by the San Diego Regional Board.

1.4.1 Surface Water Bodies

Approximately 8 percent of Riverside County drains into surface water bodies within the jurisdiction of the San Diego Regional Board. Those inland surface waters (or portions thereof) are:

Inland Surface Waters

Santa Margarita River (Hydrologic Unit Basin Number 2.22)
- Murrieta Creek
  - Slaughterhouse Canyon
- Cole Canyon
  - Warm Springs Creek
    - Diamond Valley Reservoir
- Santa Gertrudis Creek
  - Tucalota Creek
  - Lake Skinner
- Temecula Creek (Hydrologic Unit Basin Number 2.92)
  - Iron Spring Canyon
- Temecula Creek (Hydrologic Unit Basin Number 2.84)
  - Tule Creek
    - Million Dollar Canyon
  - Cottonwood Creek
- Vail Lake
  - Wilson Creek
    - Cahuilla Creek (Hydrologic Unit Basin Number 2.73)
      - Hamilton Creek
    - Cahuilla Creek (Hydrologic Unit Basin Number 2.71)
      - Elder Creek
  - Arroyo Seco Creek
  - Kolb Creek
- Temecula Creek (Hydrologic Unit Basin Number 2.52)
  - Pechanga Creek

Santa Margarita River (Hydrologic Unit Basin Number 2.21)
- DeLuz Creek

1.4.2 Beneficial Uses

The beneficial uses of these inland surface water bodies include: municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply, groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat and preservation of rare and endangered species. The ultimate goal of the Santa

Margarita Regional DAMP is to manage Urban Runoff in a manner protective of the beneficial uses of these receiving waters.

1.4.3 Watershed Characteristics

The Upper Santa Margarita watershed is defined as that portion of the Santa Margarita watershed above the confluence of Murrieta and Temecula Creeks. The Upper Santa Margarita watershed includes areas in Riverside and San Diego Counties and encompasses approximately 580 square miles. It includes the Cities of Murrieta, Temecula, portions of the Cleveland and San Bernardino National Forests, and the Cahuilla, Ramona, Pauma, and Pechanga Indian Reservations. Over 50% of the Santa Margarita watershed has been controlled by the construction of Vail Dam in 1949 and Skinner Reservoir in 1974, which created a significant storage capacity in the upper watershed.[11] Due to this storage capacity, peak flow rates during major flow events for both existing and future land use conditions will be lower than under natural conditions (assuming average storage conditions in the reservoirs).[12]

Temecula Creek, which drains the Palomar Mountains (366 square mile watershed), and Murrieta Creek, which drains the Santa Ana Mountains (222 square mile watershed), join to form the Santa Margarita River, near the City of Temecula. The river then flows into Temecula Gorge and crosses the San Diego County line just north of Fallbrook. The Santa Margarita River flows approximately 27 miles, through unincorporated San Diego County, the City of Fallbrook and Camp Pendleton and terminates at the Santa Margarita Lagoon and Pacific Ocean. The expansive coastal lagoon/estuary at the mouth of the river is normally closed off from the ocean by a sandbar.

The Murrieta Creek drainage area is largely comprised of valley and mesa lands that, for the most part, lie at elevations between 1,000 and 1,500 feet above sea level.[13] Murrieta Creek is approximately 13.5 miles long with a mean slope of approximately 110 feet/mile. It is bordered by gentle slopes that rise to the steep foothills of the Elsinore Mountains on the southwest and on the northeast to a wide area of rolling hills. The extreme elevations of the watershed are approximately 960 feet at the confluence of Murrieta and Temecula Creeks and the Santa Margarita River and 4,570 feet at the peak of Red Mountain, which forms part of the eastern boundary of the watershed. Tributaries to Murrieta Creek include Warm Springs Creek and Santa Gertrudis Creek.[14] The tributaries have relatively steep slopes; however, Murrieta Creek is relatively flat.[15]

Warm Springs Creek has a drainage area of approximately 55.6 square miles, a mean slope of approximately 50 feet/mile, and a length of approximately 18.7 miles. Santa Gertrudis Creek has a drainage area of approximately 85.4 square miles, a mean slope of approximately 80 feet/mile, and a length of approximately 26 miles. In 1974 the Metropolitan Water District of Southern California completed Auld Valley Dam, a dam on Tucalota Creek (a tributary to Santa Gertrudis Creek) creating

[11] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 14.

[12] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 20.

[13] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956.

[14] Riverside County Flood Hazard Investigation – Murrieta Creek, SWR Bulletin No. 183-2, May 1975, p. 5.

[15] Riverside County Flood Hazard Investigation – Murrieta Creek, SWR Bulletin No. 183-2, May 1975, p. 6

Lake Skinner, which is a water supply and regulatory reservoir with a capacity of 42,000 acre-feet. The drainage area for Lake Skinner is approximately 51 square miles, which constitutes approximately 60% of the entire Santa Gertrudis Creek watershed.[16]

Temecula Creek drains the relatively high lands north of Palomar Mountain, which comprise 85 percent mountains and foothills and 15 percent valley and mesa lands lying largely more than 1,500 feet above sea level.[17] Tributaries to Temecula Creek include Pechanga, Arroyo Seco, Smith, Lancaster, and Chihuahua Creeks, together with numerous smaller streams. The upper 316 square miles of the Temecula Creek watershed is controlled by Vail Lake, which was completed in 1949.

1.4.4 Streamflow Characteristics

Murrieta and Temecula Creeks are perennial interrupted streams, i.e., they include reaches in which the flow is continuous and others where flow is ephemeral. The areas of perennial flow are located in mountain area tributaries. The perennial flows disappear by seepage into the sands and gravels and resurface upstream of the confluence of Murrieta and Temecula Creeks. The creeks in the urbanized areas of the watershed, located primarily in the valley, are ephemeral and flows are only observed during and immediately after significant storm events. During major storms, after initial wetting, periods of intense rainfall result in rapid increases in streamflow in steep foothill and mountain areas.[18] " Runoff in streams in the watershed is derived primarily from rainfall, and as a result, stream flows exhibit monthly and seasonal variations similar to those shown by the precipitation records. Absence of snow pack in the tributary watershed results in a rapid decrease in flow of streams at the conclusion of the winter precipitation season. Following severe storms, discharge in the larger streams often increases in a few hours time from practically no flow to a rate of thousands of cubic feet per second. Stream flows vary greatly from month to month and from season to season."[19]

Rising groundwater is currently observed in Murrieta Creek below its confluence with the San Gertrudis Channel. This is consistent with the observations with the rising groundwater conditions observed by the State of California in 1956.[20] Rising groundwater is also observed in Temecula Creek approximately one-quarter mile upstream of the Interstate 15 bridge. In 1956, the State of California observed more extensive rising groundwater conditions occurring as far upstream as the Highway 74 bridge. Based on the virtual absence of non-storm water flows and the rising groundwater conditions in lower Murrieta and Temecula Creeks observed prior to development of the watershed, there is no evidence that the rising groundwater is due to Urban Runoff nor that Urban Runoff has affected the quality of rising groundwater. However, use and disposal of reclaimed water and agricultural and landscape irrigation in the watershed may affect groundwater quality. Until October 2002, the Rancho California Water District augmented the flow of the Santa Margarita River with reclaimed water at a point about five miles upstream from the

[16] Riverside County Flood Hazard Investigation – Murrieta Creek, SWR Bulletin No. 183-2, May 1975, p. 5.

[17] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, pp. 10 & 11.

[18] Riverside Flood Control and Water Conservation District, "Hydrologic Data for 1975-76 Season," March 1982, p. 49.

[19] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 48.

[20] State of California Department of Public Works Division of Water Resources, Bulletin No. 57, "Santa Margarita River Investigation," Volume I, June 1956, p. 48.

Temecula gaging station. Since that time, the Rancho California Water District has discharged imported water downstream of the confluence of Murrieta and Temecula Creeks.

For the average annual event, it is estimated that approximately 89 percent of the volume of runoff in the Santa Margarita Region is due to non-urban land uses not regulated under the federal storm water program. For the 100-year 24-hour event, 93 percent of the volume of runoff will be due to non-urban land uses. These estimates are based on the assumption that precipitation is constant across the watershed. However, precipitation (and resultant runoff volumes) in the non-urbanized upland areas is as much as four times greater than that from the urbanized valley areas.[21]

1.4.5 Municipal Separate Storm Sewer Systems

Existing MS4 Facilities

Within the Santa Margarita Region the District's MS4 consists of an estimated 71 miles of open and closed storm drains. The City of Murrieta's MS4 includes approximately 18 miles of open and closed storm drains. Maps depicting the District's MS4 and the City of Murrieta's MS4 are provided as Figures 1-3 and 1-4, respectively. The total length of the City of Temecula's MS4 is not currently available. Temecula's MS4 has yet to be mapped; thus an inventory (listing) of their facilities is provided in Appendix C. However, as part of the City of Temecula's 5-Year Capital Improvement Plan it is seeking funding to map its MS4 as part of a city-wide Master Drainage Plan.

Each year, the Permittees report additions to their respective MS4s to the District. These new facilities are then added to the updated facilities maps that are included in the Annual Report the San Diego Regional Board. Table 1-4 provides a listing of MS4 facilities completed by the District during the term of Order No. 98-02 and Permit No. CAS0108766.

Planned Additions to MS4 Facilities

The Permittees have identified planned facility additions or modifications to their respective MS4s for the next 5 years as shown in Table 1-5.

1.4.6 Climate

"The climate of the Santa Margarita River watershed is typically Mediterranean, being characterized by warm dry summers and cool rainy winters. About 75% of the precipitation occurs during the four-month period from December through March. Mean seasonal depth of precipitation ranges from less than 10" near Vail Reservoir to over 40" west of Palomar Observatory, varying with elevation and topographic influences."[22] Precipitation increases with increases in elevation to the summit of the Coastal range. Shading effects of the Coastal range lead to a marked decrease of precipitation throughout the lower

[21] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 11

[22] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 11.

portions of the Inland area. Precipitation increases again farther away from the Coastal range in the northeastern area of the Inland area.[23]

Table 1-4. District MS4 Facilities Completed Between August 1998 and April 2003

Project Name/Description	Project Type or Types	Project Size and/or Length
Murrieta Creek ADP Line E / Parcels 2 & 4 of LLA 94-063	RCP	506 feet
Murrieta Creek Line D1 / Murrieta Hot Springs Rd - Madison Ave	RCB, ROCK	835 feet
Santa Gertrudis Line 600D / Calistoga Dr	CIP, RCP	1,417 feet
Santa Gertrudis Lines 600 Stg1, 200 / Murrieta Hot Springs Rd	RCP	4,133 feet
Santa Gertrudis Ln 1100, 1200 Stg1 / Townview Ave-Willows Ave	RCP, ROCK, CONC, CP	3,234 feet
Santa Gertrudis Tucalota Crk Stg1 / Winchester Ranch	CONC, RCP, ROCK	2,309 feet
Santa Gertrudis Winchester Rd Stg2	RCP	56 feet
Temecula Creek Lines B, VV Stg3 / Stg2 to Margarita-Deportola	RCP, CONC, CMP, BASN	1,092 feet; 1.1 acre basin
Temecula Creek Lines V, VV Stg2 / Margarita at Hwy 79	RCP	434 feet
Temecula Valley Butterfield Stg Rd SD / South of Rancho Rd	RCP	1,558 feet
Temecula Valley Butterfield Stg Rd Stg2	RCP	3,222 feet
Temecula Valley El Chimisal Storm Drain	RCP	5,096 feet
Warm Springs Hunter Rd Storm Drain Stg4	RCP	3,782 feet
Warm Springs Valley Line B 1999 Improvement / Thompson Rd	RCP	1,129 feet
Warm Springs Valley Torrey Pines Rd Storm Drain	RCP	2,021 feet
Wildomar Valley Quartz-Grand	RCP, ROCK	1,299 feet

Abbreviations:
RCP = Reinforced Concrete Pipe; RCB = Reinforced Concrete Box; ROCK = Earthen-Filled, Rock-Filled, Rip-Rap Loaded
CONC = Concrete; CIP = Cast-in-Place Pipe; CP = Concrete Pipe
CMP = Corrugated Metal Pipe; BASN = Basin

[23] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 38.

Table 1-5. Planned Additions or Modifications to Permittee MS4s

Capital Improvement Project	Description
District	
Murrieta Creek Channel (7-8-0021 00)	Corps of Engineers Murrieta Creek Flood Control Project from Old Town Temecula to Tenaja Road in Murrieta. Includes soft channelization from the USGS stream gage southerly of Old-Town Temecula, upstream to Tenaja Road in the City of Murrieta. To provide 100-year flood protection the plan provides a 240-acre detention basin, on District property bounded roughly by Santa Gertrudis Channel, Murrieta Creek, Elm Street and Jefferson Avenue. The entire basin site will provide flood attenuation benefits, while approximately 160 acres of the site will be planted for environmental restoration. Approximately 50 acres of the basin site will be set aside as a community park.
Wildomar MDP Lateral C (7-8-0075 03)	From existing improved channel near Pasadena Street, upstream to Central Street. Proposes construction of a 10-foot wide by 7-foot deep channel conveying approximately 2,200 cubic feet per second (cfs). Ultimately outlets into Temecula Creek.
Murrieta Creek MDP Line E (7-8-0130 00)	From Murrieta Creek to Madison Avenue aligned primarily within Ivy Street. Also includes Line E-2 in Adams Avenue, from Line E (Ivy Street) to Juniper. 8-foot by 6-foot box and RCP conveying approximately 1,000 cfs to Murrieta Creek.
Murrieta Creek MDP Line D & D-1 (7-8-0135 03)	7,000 feet of gabion, riprap, earthen and concrete channel, including riparian strip, from Murrieta Creek to Madison Avenue, will convey approximately 3,500 cfs.
Murrieta Creek MDP Line A (7-8-0133 01)	From Del Rio Road to Front Street. A 20-foot wide by 10-foot deep channel conveying approximately 3,000 cfs to Murrieta Creek. Project does not include upgrade of the two undersized street crossings.
Tuculota Creek-Sage Road (7-8-0190 01)	A short section of 15-foot wide by 12-foot deep channel conveying approximately 8,200 cfs and bridge crossing for Sage Road (State Route 3) at Tucalota Creek.
Warm Springs Channel (7-8-0760 03)	Stage 3 of the Warm Springs Channel Project. From Madison Avenue westerly about 500 feet to existing Stage 2 Channel near Jefferson Avenue. 40-foot wide by 11-foot deep channel conveying approximately 8,100 cfs.
Murrieta	
8344 Flood (Priority A)	Line G culvert at Washington
8157 Flood (Priority C)	Line D – Madison to Adams

Table 1-5. Planned Additions or Modifications to Permittee MS4s (Continued)

Capital Improvement Project	Description
Temecula [A]	
City-wide Master Drainage Plan	Identify and plot all existing drainage facilities constructed within the City of Temecula and plot them on RCFC orthotopography map. Identify drainage patterns; calculate the 10-year and 100-year cfs at various points along the drainage course.
John Warner/Santiago Road Assessment District Improvement Project	Complete asphalt concrete paving of rural dirt roads including Santiago Road, John Warner Road from Santiago Road to Jeramie Drive, Lolita Road, Paulita Road, La Presa Loop, and Clover Court. Project includes desiltation basins, drainage culverts, inlet and outlet structures, asphalt pavement, and asphalt/concrete berm.
Vail Ranch Paseo Park Improvements	Add various park amenities to existing park, which includes installation of a drainage system.
Desiltation Pond/Park Site Improvements	Design and construct a passive, interpretive recreational area surrounding the existing desiltation pond. Project will include stabilizing the banks of the pond, removing the silt and improving water quality.
Murrieta Creek Improvements	Design and construct improvements to Murrieta Creek, which will direct floodwater through the creek basin to minimize the impact of floodwater to adjacent areas. Project will require permission and cooperation from private landowners, the State of California, and the Army Corps of Engineers.
Localized Storm Drain Improvements	The City has several streets and intersections that flood during each storm event. Project will focus on improvements that correct localized flooding problems.
Pechanga Parkway Improvements – Phase II	Design and construct full-width street improvements of Pechanga Parkway from south of Pechanga Parkway Bridge to Via Eduardo. Project includes the design and construction of road improvements to include storm drain facilities, curb, gutters, pavement, and sound wall.
Pauba Road Improvements – Phase II	Design and construct partial improvements on Pauba Road from Margarita Road to west of Showalter Road. Project includes drainage facilities, asphalt pavement, asphalt/concrete berm, and striping.
Replace Main Street Bridge over Murrieta Creek	Project will include the design and construction of a bridge and approach roadways including bridge removal, storm drain facilities, curb, gutter, pavement, and sidewalk.
La Paz Street Widening from Ynez Road to State Route 79 South	Project includes drainage facilities, curb, gutter, sidewalks, and streetlights.
Butterfield Stage Road Extension Beltway Project	Complete approximately 4.2 miles of roadway improvements on Butterfield Stage Road, Murrieta Hot Springs Road, and Nicholas Road. Project includes drainage facilities, curb, gutter, sidewalks, and streetlights.
Diaz Road Extension to Cherry Street	Design and construct storm drain and street improvements from Dendy Parkway to the City limits.

[a] Funding sources have not been identified for all projects.

1.5 CURRENT WATER QUALITY CONCERNS AND ISSUES

Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop a list of impaired water bodies that is typically referred to as the "303(d) List." The 303(d) List is updated every other year. In developing the 303(d) List "all existing and readily available water quality-related information" must be utilized. The listed waters are considered impaired because they do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The CWA requires that priority rankings be established for impaired waters and Total Maximum Daily Loads[24] (TMDLs) be developed taking into account the severity of pollution and the beneficial uses of the water (fishing, swimming, municipal water supply, etc.). A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings among point and non-point pollutant sources.

At this time, no TMDLs have been established for water bodies in the Santa Margarita Region. A 12-mile reach of Murrieta Creek is included in the 303(d) List of impaired waterbodies approved by the SWRCB on February 4, 2003. Phosphorous is identified as the pollutant causing the impairments and urban runoff and unknown point and non-point sources are identified as potential sources. The 303(d) List further identifies this impairment as low priority for TMDL development. Murrieta Creek is also included on the SWRCB Monitoring List for iron, manganese and TDS.

Because the Santa Margarita Region is large and has many land uses, the water quality concerns in sub-watersheds vary. However, each land use can potentially cause pollution in nearby streams, rivers, and lakes. The infrastructure that supports people's activities (e.g., roads, parks, storm drainage system, and wastewater collection and treatment facilities) may contribute to water quality concerns. Other sources of stormwater runoff, including agricultural areas, are exempt from the requirements of the NPDES permitting program established under the CWA. In addition, some pollutants, such as total suspended solids, may be found at elevated levels in runoff from non-urban land uses.

Similarly, certain activities that generate pollutants present in Urban Runoff are beyond the ability of the Permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from lawful application of pesticides, nutrient runoff from agricultural activities, and leaching of naturally occurring minerals from local geography. (Source: Order No. 98-02 Fact Sheet, pg. 6 &7 & 2001-2002 Annual Progress Report, pgs. I-4 & I-5)

[24] On December 20, 2002 the USEPA proposed to withdraw the July 2000 Final Rule that revised the USEPA's TMDL program under the CWA. The TMDL July 2000 Final Rule was determined to be unworkable based on reasons described by thousands of comments and was challenged in court by some two dozen parties. Congress passed a law prohibiting USEPA from implementing the TMDL July 2000 Final Rule. In addition, the National Academy of Sciences' National Research Council (NRC) issued a report with numerous recommendations for improving the TMDL July 2000 Final Rule and the associated program. The USEPA has already conducted several public meetings and is also reviewing the current implementation of the existing program in light of stakeholder input and the NRC recommendations.

2.0 PROGRAM MANAGEMENT

2.1 PRINCIPAL PERMITTEE AND PERMITTEE RESPONSIBILITIES

2.1.1 Implementation Agreement

The purpose of an Implementation Agreement is to set forth the responsibilities of the Principal Permittee and the Co-Permittees and to provide for funding of "umbrella" activities. In August 1991 the District, Riverside County, and the City of Temecula entered into a formal NPDES Stormwater Discharge Permit Implementation Agreement for the Santa Margarita Region. In an amendment effective in July 1992, the City of Murrieta also became a party to the Implementation Agreement. Currently, the Principal Permittee and the Co-Permittees operate under the Implementation Agreement that was executed in November 1998 (see Appendix D). This Implementation Agreement will be amended to add the City of Hemet and to set forth the responsibilities of the Permittees as defined in the 2003 MS4 Permit.

Under the terms of the current Implementation Agreement, the Principal Permittee is required to:

- Comply with Section II.B (Responsibilities of the Principal Permittee) of the Order No. 98-02.
- Comply with Section II.D (Discharge Limitations), Section II.E (Receiving Water Limitations), and Section II.F (Provisions) of the Order No. 98-02 as they pertain to District facilities and operations.
- Perform all the sampling data collections and assessment requirements described in the Monitoring and Reporting Program of the Order No. 98-02. Specifically, the District will prepare the required narrative for all reports and will provide the Co-Permittees an opportunity to review and comment on any such narrative.

Also under terms of the current Implementation Agreement, each Permittee is required to:

- Comply with Section II.C (Responsibilities of the Co-Permittees) of the Order No. 98-02.
- Comply with Section II.D (Discharge Limitations), Section II.E (Receiving Water Limitations), and Section II.F (Provisions) of the 1998 MS4 Permit as they pertain to each Permittee's facilities and operations.
- Demonstrate compliance with all requirements of Order No. 98-02 through timely implementation of the approved Santa Margarita Regional DAMP and any approved modifications, revisions, or amendments.
- Provide the District all information needed to satisfy the reporting requirements described in the Monitoring and Reporting Program of Order No. 98-02. Specifically, the Co-Permittees will provide information on stormwater facilities and/or other data when requested by the District, and will submit the requested information to the District for inclusion in the Annual Report due to the Regional Board no later than September 15 of each year. The Co-Permittees must provide this information on District-approved forms.

In accordance with the November 1998 Implementation Agreement, in the event that the District requires the services of a consultant (or consultants) to prepare manuals, develop program components or perform studies relevant to the Permit Area, the cost of the consultant services will be shared by the District and

the Co-Permittees. The shared costs shall be allocated as a 50% contribution from the District and a 50% contribution from the Co-Permittees, with the percentage contribution from each Co-Permittee a function of population.

2.1.2 Management Steering Committee

A Management Steering Committee was established under the Santa Ana Region MS4 permit to address overall policy for municipal stormwater management, review and approve a revised Santa Ana Regional DAMP, and to revise the Implementation Agreement. To facilitate consistency and coordination in implementing the stormwater management program in Riverside County and to realize economies of scale, the Management Steering Committee has been expanded to include the Santa Margarita Region. In addition, the Management Steering Committee facilitates coordination with related water quality management programs and monitoring and responds to new legislative and regulatory initiatives.

The Management Steering Committee, which meets at least quarterly or as determined by the Chair, consists of city managers or equivalent representatives from the Co-Permittees and an executive-level representative from the County. The District's General Manager-Chief Engineer Chairs the Management Steering Committee and the District also provides staff support.

2.1.3 Technical Committee and Work Groups

The Technical Committee established in the Santa Ana Region has been expanded to include the Santa Margarita Region. The Technical Committee consists of representatives formally appointed by the city manager or equivalent for each Permittee. The purpose of the Technical Committee is to direct the development or revisions of the program elements comprising the Santa Ana and Santa Margarita Regional DAMPs and to coordinate the implementation of the overall municipal stormwater programs in these regions. The Technical Committee members also provide technical assistance and support to facilitate coordination with related water quality management programs and monitoring and to respond to new legislative and regulatory initiatives. A District representative chairs and provides staff reports to the Technical Committee.

Work Groups have been established by the Technical Committee to oversee the development and implementation of the program components of the Santa Ana and Santa Margarita Regional DAMPs. The Work Groups include Permittee representatives, industry representatives, environmental advocacy groups, and other stakeholders as appropriate. A Permittee representative chairs each Work Group. Initially, Work Groups have been established to guide the following program elements:

- Program Implementation / Public Education
- New Development/Redevelopment
- Construction
- Industrial and Commercial Facility Compliance
- Monitoring

2.2 INTERAGENCY AGREEMENTS

The District, in its role as Principal Permittee, administers several area-wide programs in consultation with the other Permittees. Copies of the interagency agreements supporting these area-wide programs are provided in Appendix E.

These area-wide programs include:

- Hazardous Materials Emergency Response,
- Household Hazardous Waste Collection/ Antifreeze, Battery, Oil and Latex Paint (ABOP) Program,
- Commercial/Industrial Compliance Assistance Program, and
- Public Education and Outreach.

In August 1999, the District and the County's Department of Environmental Health executed an agreement that provides the framework for an area-wide Commercial/Industrial Compliance Assistance Program. Subsequently, the County's Department of Environmental Health was certified by the State as the sole Certified Unified Program Agency (CUPA) for Riverside County. With that certification, the oversight of hazardous materials management within Riverside County falls under the responsibility of the Department of Environmental Health as a single administrative unit to reduce the fragmentation of programs and to help businesses gain access to needed services.

2.3 FUNDING SOURCES

The costs incurred by the Permittees in implementing the Santa Margarita Regional DAMP fall into two broad categories:

- **Shared Costs.** These are costs that fund activities performed mostly by the District under the Implementation Agreement. These activities include: overall storm water program coordination; interagency agreements; representation at the California Stormwater Quality Association, meetings of the San Diego Regional Board or State Water Resources Control Board and other public forums; preparation and submittal of compliance reports and other reports required under the MS4 NPDES permits, Water Code Section 13267 requests, budget and other program documentation; and coordination of consultant studies, Permittee meetings and training seminars.
- **Individual Permittee Costs for DAMP Implementation.** These are costs incurred by each Permittee for implementing within its jurisdiction the BMPs (drainage facility inspections for illicit connections/illegal discharges, drainage facility maintenance, drain inlet/catch basin stenciling, emergency spill response, street sweeping, litter control, public education, etc.) comprising the Santa Margarita Regional DAMP.

Historically, the Permittees have employed four funding methods to finance their MS4 NPDES permit compliance activities. Further, many Permittees utilize a combination of these funding sources. The different methods include:

- **Santa Margarita Watershed Benefit Assessment Area.** In May 1991 the District established the Santa Margarita Watershed Benefit Assessment Area to fund: (1) its MS4 NPDES permit

compliance activities as a Permittee and (2) area-wide, or "umbrella" MS4 NPDES permit program activities conducted or performed on behalf of all of the Phase I MS4 Permittees within the county.

- **County Service Area 152.** In December 1991, the County of Riverside formed County Service Area 152 (CSA 152) to provide funding for compliance activities associated with the MS4 NPDES permit. Under the laws that govern CSAs, sub-areas may be established within the overall CSA area with different assessment rates set within each sub-area. The cities of Hemet and Murrieta participate in CSA 152.
- **Utility Charge.** The City of Hemet funds a portion of its NPDES program activities through a utility charge.
- **Street Sweeping Assessment.** The County utilizes a street sweeping assessment to replace funds previously generated by CSA 152.
- **General Fund /Other Revenues.** The City of Temecula utilizes general fund revenue to finance its MS4 NPDES permit compliance activities.

2.4 LEGAL AUTHORITY AND ENFORCEMENT

2.4.1 Legal Authority

The Phase I stormwater regulations [40 CFR §122.26(d)(2)(i)(A-F)] require operators of MS4s to demonstrate that they have adequate legal authority to:

- Prohibit illicit discharges to the MS4;
- Prohibit spills, dumping or disposal of materials other than stormwater to the MS4;
- Control pollutants associated with Urban Runoff through interagency agreements;
- Control the contribution of pollutants to the MS4 by Urban Runoff associated with industrial activity within their jurisdiction;
- Require compliance with stormwater ordinances; and
- Conduct inspections, surveillance and monitoring necessary to determine compliance and noncompliance with permit conditions.

Adequate legal authority is a prerequisite for Permittees to effectively implement compliance programs to reduce pollutants in Urban Runoff to the MEP. The legal authority necessary to implement compliance programs and pursue enforcement is provided to the Permittees through local stormwater and erosion control ordinances. All Permittees (excluding the District[25]) have adopted a comprehensive stormwater ordinance based on a model developed and adopted by the County of Riverside. The ordinances provide the Permittees with the legal authority to implement the requirements of Order No. 98-02. The Permittees have also provided certification of adequate legal authority to implement the Santa Margarita Regional DAMP to the San Diego Regional Board.

[25] The District already had the authority needed to implement the requirements of the enforcement/compliance programs and as such did not need to adopt the model stormwater ordinance.

The management and discharge controls addressed by the Permittees' local stormwater and erosion control ordinances may be summarized as follows:

- The disposal of pollutants onto public or private land is prohibited;
- Construction activities are required to comply with the local stormwater ordinance and applicable erosion and sediment control ordinances;
- New development and redevelopment projects are required to implement BMPs to prevent deterioration of receiving water quality that could impair subsequent or competing beneficial uses of the water;
- Illicit connections or discharges to the MS4 are prohibited;
- Non-stormwater discharges, with the exception of discharges permitted by the San Diego Regional Board and those discharges listed in the ordinance, are prohibited. Non-stormwater discharges are any discharges to the MS4 or receiving waters that are not entirely composed of stormwater. Non-stormwater discharges are illegal with the exception of those discharges that are specifically exempted in Order No. 98-02.

The Permittees do not have legal authority over stormwater discharges into their respective MS4s from agricultural activities, state and federal facilities, utilities and special districts, Native American tribal lands, wastewater management agencies and other point and non-point source discharges otherwise permitted by, or under the jurisdiction of, the San Diego Regional Board. Additionally, Permittees do not have the authority to enforce the provisions of California's General Permit for Stormwater Discharges Associated with Industrial Activities or California's General Permit for Stormwater Discharges Associated with Construction Activity. The State Water Resources Control Board issues these NPDES permits and neither the State Water Resources Control Board nor the San Diego Regional Board can delegate that responsibility to the Permittees. However, local stormwater and erosion control ordinances may address items similar to those identified in these statewide permits.

2.4.2 Enforcement/Compliance Strategy

An Enforcement/Compliance Strategy for ensuring that construction sites, commercial establishments, and industrial facilities operate in compliance with the local stormwater and urban runoff ordinances and local erosion control ordinances was developed jointly by the Phase I MS4 Permittees in the Santa Margarita River Region and the Santa Ana River Region. The Enforcement/Compliance Strategy has been incorporated as an element of the Santa Margarita DAMP. The goal of the Enforcement/Compliance Strategy is to enforce stormwater ordinances fairly and consistently throughout the Permit Area. However, there is no clear, standard approach to handling all of the enforcement situations that may be encountered. Generally, the professional judgement of code enforcement staff will guide the appropriate level of response. The Sections 2.4.2.1 through 2.4.2.3 provide guidelines for Permittees in implementing enforcement actions appropriate for a given violation. Appendix F contains information regarding which department will be responsible for implementing the various aspects of the Enforcement/Compliance Strategy for each Permittee.

2.4.2.1 Prioritize Violations

The local stormwater and erosion control ordinances cover a wide range of prohibited activities with varying magnitudes of potential impact on the beneficial uses of receiving waters. For example, discharges of either hazardous materials (e.g., solvents and pesticides) or non-hazardous materials (e.g., food wastes, trash, and debris) into the MS4 are violations of stormwater ordinances subject to enforcement. Similarly, an accidental spill into a catch basin inlet and an intentional discharge from an illicit connection are both violations. Prioritizing violations is important in focusing local resources on those violations that may have the greatest potential impact on receiving water quality.

It is not feasible to quantify the magnitude of violations of the stormwater and erosion control ordinances. Instead, prioritizing violations is based on many factors, including the experience and professional judgment of code enforcement staff. The factors that should be considered in prioritizing violations of local stormwater and erosion control ordinances are presented in Table 2-1.

Table 2-2 has been developed to facilitate some level of consistency in enforcement actions by the Permittees across the Permit Area. Table 2-2 categorizes the severity of violations based on the factors and/or circumstances associated with a violation and also describes the criteria chosen to characterize the severity of a violation as "high", "medium", or "low." For example, using Table 2-2, the accidental dumping of 20 gallons of trash several hundred yards away from an ephemeral stream would be considered a "low" priority violation. However, the intentional discharge of 2,000 gallons of pesticide directly into aquatic wildlife habitat would be a "high" priority violation.

However, violations may not clearly fall into any single severity priority level described in Table 2-2. It is more likely that a violation would be characterized by factors representing more than one of the priority levels described in Table 2-2. In this case, a subjective evaluation of the violation would be required to select the priority level most representative of the characteristics and circumstances surrounding the violation.

Table 2-1. Prioritization Factors for Violations

Prioritization Factor	Description
Characteristics of the potential pollutant	Based on chemical characteristics and potential to impact beneficial uses of receiving waters. The more toxic, hazardous, or detrimental a pollutant is to the beneficial uses of the receiving waters, the higher priority the discharge should be.
Sensitivity of the affected receiving waters	The priority of the violation should be considered directly proportional to the sensitivity of the affected receiving waters because, for example, a more sensitive receiving water may suffer severe adverse effects from the discharge of a particular pollutant whereas a less sensitive receiving water may suffer no adverse effects from the same pollutant discharge. It is also important to consider that a receiving water may be highly sensitive to one potential pollutant discharge while, at the same time, completely insensitive to another potential pollutant. Examples of receiving waters that may be particularly sensitive include those designated with municipal supply or wildlife habitat beneficial uses.
Proximity of receiving waters	The closer a receiving water is to the discharge, the less chance there is for dispersion, dilution, or degradation of the potential pollutant. Therefore, the closer the discharge is to receiving waters, the higher is the priority of the violation.
Magnitude of discharge (volume and mass)	A larger illegal discharge should be of a higher priority than a smaller illegal discharge because an increase in the magnitude of the pollutant discharge increases the extent of impact of the discharge on the environment.
Responsiveness of the discharger in taking corrective actions	A discharger who is responsive and implements a good faith effort to correct a violation is more likely to minimize adverse impacts to surface water quality than a discharger who takes no action to correct a violation. Therefore, the priority of a violation should decrease as the responsiveness of the discharger increases.
Intent of the discharger	Is the violation accidental or the result of an accident or is it a deliberate attempt to circumvent regulations?
Frequency of the violation	Continuous or recurring violations of local stormwater and erosion control ordinances should be of a higher priority than isolated occurrences of violations. The more frequent a violation, the more likely that the discharge will impact surface water quality.
Previous history of non-compliance of the responsible party	Subsequent violations from a discharger with a history of non-compliance should result in a higher priority compared to a discharger with a good history of compliance because a history of non-compliance is evidence of a discharger's lack of concern for complying with local stormwater and erosion control ordinances.

Table 2-2. Severity of Violations

Factors Affecting the Severity of Violations	Severity Priority Level		
	High	Medium	Low
Pollutant Characteristics	Hazardous Materials (e.g., pesticides and solvents)	Metals, Nutrients, Sediment, other Non-Hazardous Materials	Trash and Debris
Sensitivity of Receiving Waters	Drinking Water Source, Wildlife Refuge	Recreational reservoir, riparian habitat	Dry, ephemeral stream
Proximity of Receiving Waters	Adjacent	Several hundred feet away	Several hundred yards away
Discharge Magnitude	1000's Gallons	100's Gallons	10's Gallons
Responsiveness of Discharger	No action to contain or mitigate discharge	Reactive to control discharge when requested (i.e., cooperative)	Implements spill control plan at own initiative or shows good faith effort to respond
Intent of Violation	Intentional	Discharge due to lack of controls or negligence	Implemented and maintained controls that failed (i.e., accident)
Frequency of Violation	Continuous	Intermittent	Isolated incident
Previous History of Discharger	Enforcement and cleanup historically resisted and more than one previous violation	Enforcement and cleanup performed when threatened and one or less previous violations	Enforcement and cleanup performed when requested and no previous violations

2.4.2.2 Enforcement and Compliance Responses

The enforcement/compliance response should be based on the severity of the violation. The hierarchy for the types of enforcement/compliance responses available, in order of increasing severity, is:

1. Education and information,
2. Verbal warning,
3. Written warning,
4. Notice of non-compliance,
5. Administrative compliance order,
6. Stop work order or cease and desist order,
7. Misdemeanor,
8. Infraction,
9. Citation, and
10. Referral to the Environmental Crimes Strike Force.

Administrative Remedies

Notice of Noncompliance. The Notice of Noncompliance constitutes a basic request that the property owner or facility operator rectify the condition causing or threatening to cause noncompliance with the stormwater or erosion control ordinance. The Notice of Noncompliance is generally issued when one or more of the following circumstances exist:

- The violation or threat is not significant and has been short in duration,

- The responsible party is cooperative and has indicated a willingness to remedy the conditions,
- The violation or threat is an isolated incident, and
- The violation or threat does not affect and will not harm human health or the environment.

Administrative Compliance Orders. The Administrative Compliance Order is generally an appropriate enforcement tool in the following circumstances:

- An actual condition of noncompliance exists, but the condition cannot be remedied within a relatively short period of time.
- The owner of the property or facility operator has indicated willingness to come into compliance by meeting milestones established in a reasonable schedule.
- The violation does not pose an immediate threat to human health or the environment.

Stop Work Order or Cease and Desist Order. The Stop Work Order or Cease and Desist Order is appropriate when the immediate action of the owner of property or operator of a facility is necessary to stop an existing discharge, which is occurring in violation of an ordinance. The Cease and Desist Order may also be appropriately issued as a first step in ordering the removal of nuisance conditions, which threaten to cause an unauthorized discharge of pollutants if exposed to rain or surface water runoff. The Cease and Desist Order is generally issued when one or more of the following circumstances exist:

- The violation or threat is immediate in nature and may require an emergency spill response or immediate nuisance abatement if left unattended.
- The violation or threat exhibits a potential situation that may harm human health or the environment.
- The inspector's contacts with the property owner or facility operator indicate that further authority of the Permittee may need to be demonstrated before remedial action is forthcoming.
- The inspector's prior Notices of Noncompliance have not obtained a favorable response.

Prior to issuance of any Administrative Compliance Order, Cease and Desist Order or commencement of other civil or criminal enforcement action against any person, the Permittee should deliver to the person a written Notice of Noncompliance, which states the act or acts constituting the violation and directs that the violation be corrected. The Notice of Noncompliance should provide the person with a reasonable time period to correct the violation before further proceedings are brought against the person. However, a Notice of Noncompliance should not be the first enforcement method used if egregious or unusual circumstances indicate that a stronger enforcement method is appropriate.

Criminal Enforcement

Misdemeanors. Criminal enforcement is appropriate when evidence of noncompliance indicates that the violator of the Ordinance has acted willfully with intent to cause, allow continuing or concealing a discharge in violation of the Ordinance.

Infractions. At the discretion of the Permittees' attorneys, misdemeanor acts may be treated as infractions. Factors that the attorney may use in determining whether the misdemeanor is more appropriately treated as an infraction may include:

- The duration of the violation or threatened violation.
- The compliance history of the person, business or entity.
- The effort made to comply with an established compliance schedule.
- The existence of prior enforcement actions.
- The actual harm to human health or the environment from the violation.

Issuance of Citation. Where criminal enforcement is indicated, the inspector will issue a citation including:

- The name and address of the violator,
- The provisions of the Ordinance violated,
- The time and place of required appearance before a magistrate.

The offending party must sign the citation thereby promising to appear. If the cited party refuses to sign the citation, the inspector may cause the arrest of the discharger, or may refer the matter to the municipal attorney for issuance of a warrant for arrest. Inspectors should be aware that cited parties have the right to demand the immediate review by a magistrate, and such a request must be granted. Inspectors should respond to such a request by referring the request to the Permittee's police department.

Referral to Environmental Crimes Strike Force

The Riverside County Environmental Crimes Strike Force is a committee designed to pursue enforcement of serious environmental crimes. Referral of a case to the Environmental Crimes Strike Force would occur after repeated attempts at obtaining compliance have failed.

Appropriate Enforcement/Compliance Responses

Permittees will emphasize and encourage voluntary compliance with stormwater and erosion control ordinances to the maximum extent practicable, and will initiate enforcement/compliance actions within 60 days from the date the violation was identified. Table 2-3 lists appropriate enforcement responses that correspond to the severity priority level of a violation as determined from Table 2-2. Permittees and the San Diego Regional Board will work cooperatively in implementing enforcement/compliance responses according to Table 2-3 unless there is justification for implementing alternate actions. In general, the Regional Board will take the lead in initiating enforcement actions related to high-priority incidents and the Permittees will take the lead in initiating enforcement actions related to medium and low-priority incidents. Finally, the San Diego Regional Board will take all enforcement actions related to compliance with the State General Permits.

Table 2-3. Enforcement Responses to Respond to Violations

Incident Severity Priority Level	Appropriate Enforcement Responses[a]	Lead Enforcement Agency	
		Permittee	Regional Board
High	Referral to Environmental Crimes Strike Force		✓
	Citation		✓
	Infraction		✓
	Misdemeanor		✓
Medium	Infraction	✓	✓
	Misdemeanor	✓	✓
	Stop work order or cease and desist order	✓	
	Administrative compliance order	✓	
	Notice of non-compliance	✓	
Low	Administrative compliance order	✓	
	Notice of non-compliance	✓	
	Written warning	✓	
	Verbal warning	✓	
	Education and information	✓	

[a] Education and information should be incorporated into all enforcement responses.

Coordination of Enforcement/Compliance Activities with Other Permittees

Coordination with other Permittees and government agencies, including the San Diego Regional Board, is essential for successful implementation of an enforcement/compliance program. A single Permittee does not control the entire MS4, nor does any single Permittee have authority to take enforcement action for violations occurring outside of its jurisdiction. Further, other governmental agencies may have additional enforcement authorities that are appropriate to the situation. Each Permittee will coordinate its enforcement activities, as practicable, with the appropriate Permittees and agencies in accordance with the following guidelines:

- Enforcement will be coordinated when multiple agencies have jurisdiction and an agency has not been able to obtain compliance by the discharger.
- Unless otherwise agreed to in writing, the lead enforcement agency role will be assigned on the basis of the origin of the discharge.
- The San Diego Regional Board will be the lead enforcement agency for higher priority discharges.
- Investigation and other relevant information will be shared among the participating agencies in a timely fashion.

Lead Enforcement Agency Responsibilities. The lead enforcement agency will assume the following responsibilities:

- Coordinating activities and assigning responsibilities (e.g., investigations, site visits, etc.) among participating agencies;

- Maintaining communication and information exchange among participating agencies; and
- Ensuring that follow-up actions are implemented.

Enforcement Activities Directory. A list of contact names identifying who should be contacted to coordinate enforcement activities for each Permittee, as well as the San Diego Regional Board and other potentially interested agencies will be developed as part of the enforcement/compliance strategy. This list will be maintained and distributed to the Permittees and others as appropriate by the District to facilitate coordination of enforcement activities.

Coordination with the San Diego Regional Board

Under the Porter-Cologne Water Quality Control Act, the State has provided the Regional Water Quality Control Boards with overriding authority to manage water quality and administer compliance with state and federal water quality law. This authority includes the ability to impose more significant fines and other sanctions than the Permittees. With this authority, the San Diego Regional Board may be more effective in obtaining the cooperation and compliance from those who violate stormwater ordinances or regulations. The San Diego Regional Board will be notified by Permittees when findings of potential non-compliance with the State General Permits have been identified or when Permittees have been unable to obtain the compliance of a party responsible for violating local stormwater or erosion control ordinances. The list of contact names maintained by the District will identify the appropriate San Diego Regional Board staff to contact to initiate coordination of enforcement activities or to notify the San Diego Regional Board of potential findings of non-compliance. Where appropriate, notifications of potential non-compliance should be forwarded to the designated San Diego Regional Board contact person by the Permittee's stormwater compliance coordinator.

Coordination with Other Agencies

In addition to the San Diego Regional Board, Permittees may also find it useful or necessary to coordinate or report findings of potential non-compliance to other government agencies with jurisdiction over water quality issues including the California Department of Fish and Game, the United States Fish and Wildlife Service, and the USEPA. The list of contact names maintained by the District will identify the appropriate staff at these agencies to contact to initiate coordination of enforcement activities or to notify of potential findings of non-compliance.

2.4.2.3 Recordkeeping and Reporting

Minimum Guidelines for Recordkeeping

Information to be retained regarding the Enforcement/Compliance Strategy includes the following materials:

- Documentation of staff training;
- Inspection notes or reports;
- Copies of warning letters, violation notices, etc.;
- Documentation of follow-up actions;

- Contact reports from meetings or conversations with violators, Permittees, or other agencies; and
- Copies of notifications of potential non-compliance.

Annual Summary of Enforcement Actions

Each Permittee will complete an annual summary of enforcement actions to document implementation of the Enforcement/Compliance Strategy, which will be included in the Annual Report. The summary will document the responsible party, address, type of facility, description of violation, date of initial violation, and enforcement/compliance actions implemented for violations identified by a Permittee.

2.4.3 Commercial/Industrial Compliance Assistance Program

In August 1999, the District and the County's Department of Environmental Health executed an agreement that provides the framework for an area-wide Commercial/Industrial Compliance Assistance Program[26]. The initial phase of the Commercial/Industrial Compliance Assistance Program consisted primarily of educational outreach to the inspected facilities regarding the fundamentals of stormwater pollution and California's General Permit for Stormwater Discharges Associated with Industrial Activities. Now, the second phase of the Commercial/Industrial Compliance Assistance Program involves a detailed storm water compliance survey for:

1. Facilities that must secure a hazardous materials permit for storing, handling or generating such materials, and
2. Retail food facilities.

2.4.4 Training for Enforcement

Training is necessary for successfully implementing the Enforcement/Compliance Strategy so that staff can continue to recognize and respond to violations in an appropriate manner. Therefore, staff involved in implementing a Permittee's Enforcement/Compliance Strategy are made aware of the local, state, and federal stormwater regulations and the procedures developed to enforce these regulations.

Permittees provide stormwater training to staff that are involved in inspections of industrial facilities and construction sites, enforcement of stormwater and erosion control ordinances, administration of the Enforcement/Compliance Strategy, and other staff as appropriate.

Staff training addresses the following areas:

- Requirements of the local stormwater and erosion control ordinances;
- Requirements of the 2003 MS4 Permit and Santa Margarita Regional DAMP, which incorporates the Enforcement/Compliance Strategy and the Municipal Facilities Strategy; and
- Requirements of California's General Permit for Stormwater Discharges Associated with Industrial Activities and General Permit for Stormwater Discharges Associated with Construction Activity.

[26] Subsequently, the County's Department of Environmental Health was certified by the State as the sole Certified Unified Program Agency (CUPA) for Riverside County.

Industrial facility and construction site inspectors also receive training regarding stormwater pollution prevention plans (SWPPPs) for construction sites, and selection of appropriate BMPs for industrial facilities and construction sites. Knowledge of the applicable requirements and the overall stormwater program will help inspectors and other staff recognize potential violations, respond with appropriate levels of enforcement, and effectively coordinate with other agencies.

2.5 PROPOSED PROGRAM COMMITMENTS

To support a comprehensive, countywide MS4 program the Permittees propose the following actions:

- The Permittees shall continue to maintain adequate legal authority to control the contribution of pollutants to the MS4s by Urban Runoff and enforce those authorities.
- The Permittees shall continue to take appropriate enforcement actions against violators of local stormwater and erosion control ordinances, in accordance with the Phase I stormwater regulations and the guidelines and procedures described in the Enforcement/Compliance Strategy.
- The Permittees shall continue to provide notification to San Diego Regional Board staff regarding information gathered during site inspections of construction sites and commercial/industrial facilities. The notification will include observed potential violations of California's General Permit for Stormwater Discharges Associated with Industrial Activities, California's General Permit for Stormwater Discharges Associated with Construction Activity, prior history of violations, enforcement actions taken by the Permittee, and other relevant information.
- Within 6 months of permit adoption the Permittees shall evaluate their ordinances, regulations, rules and codes to determine if it has provided its staff authority to impose administrative fines for violations of local stormwater or erosion control ordinances.
- Within 6 months of permit adoption, the Permittees shall review their litter/trash control ordinances to determine the need for revision to improve the effectiveness of these ordinances. The findings of this review shall be included in that year's Annual Progress Report.
- Local ordinances shall include sanctions to ensure compliance. Sanctions shall include but shall not be limited to: verbal and/or written warnings, notice of violation or non-compliance, obtaining an administrative compliance, stop work or cease and desist order, a civil citation or injunction, the imposition of monetary penalties or criminal prosecution (infraction or misdemeanor). If the current ordinances or codes do not provide for the imposition of these civil or criminal penalties for violations of local stormwater or erosion control ordinances, the Permittee shall enact such ordinances within 18 months of permit adoption.
- Within 18 months, the Permittees shall review and revise its grading/erosion control ordinances in order to reduce erosion caused by New Development and Significant Redevelopment (§ VIII.A.10).
- Within 18 months each Permittee shall submit a statement (signed by its legal counsel) that the Permittee has obtained all necessary legal authority to comply with the 2003 MS4 Permit through adoption of ordinances and/or municipal code modifications.
- Within 18 months the Permittees shall modify the Santa Margarita Regional DAMP to incorporate new and/or revised program elements.

3.0 ELIMINATION OF ILLICIT CONNECTIONS AND ILLEGAL DISCHARGES

3.1 DISCHARGE LIMITATIONS

Order No. 98-02 requires the Permittees to comply with the following Discharge Limitations:

1. The Permittees shall prohibit illicit discharges from entering into the MS4s and require controls to reduce the discharge of pollutants to the applicable performance standard, as described in Table 3-1.
2. The Permittees shall implement the BMPs (structural and/or non-structural control measures) necessary to reduce the pollutants in the discharge to the applicable performance standard, as described in Table 3-1. All other discharges are prohibited except those listed under Item 3, below, those for which the San Diego Regional Board has issued individual permits or waived waste discharge requirements, and those discharges which are in accordance with Item 5 below.
3. The Permittees need not prohibit the following discharges unless identified by the Permittees or the San Diego Regional Board as sources of pollutants to the waters of the United States.
   a. Discharges authorized by a NPDES permit, or for which an approval has been issued by the San Diego Regional Board or State Board office;
   b. Discharges from potable water line flushing and other potable water sources;
   c. Discharges from fire fighting and fire hydrant testing and flushing;
   d. Discharges from landscape irrigation, lawn watering and other irrigation waters;
   e. Diverted stream flows;
   f. Rising ground waters and natural springs;
   g. Uncontaminated groundwater infiltration (as defined in 40 CFR 35.2005(20)) and uncontaminated pumped groundwater.
   h. Passive foundation drains;
   i. Air conditioning condensate;
   j. Water from crawl space pumps;
   k. Passive footing drains;
   l. Discharges from individual residential vehicle washing (not including discharges from mobile sources such as automobile/equipment detailing or washing);
   m. Flows from riparian habitats and wetlands;
   n. Dechlorinated swimming pool discharges;
   o. Street wash water and runoff from fire fighting (program descriptions shall address discharges or flows from fire fighting only where such discharges are identified as significant sources of pollutants to waters of the United States),
   p. Waters not otherwise containing wastes as defined in Water Code Section 13050 (d); and
   q. Other types of discharges identified and recommended by the Permittees and approved by the Regional Board.

For purposes of Order No. 98-02, a discharge may include storm water and other types of discharges as indicated above.

4. The Permittees shall take necessary steps as required under Item 1, above, to ensure that non-storm water discharges to their MS4s do not cause or contribute to violations of water quality objectives or discharge pollutants to waters of the Untied States.
5. Non-storm water discharges from Permittees' activities into waters of the state are prohibited unless the non-storm water discharges are permitted by an NPDES permit or are included in Item 3., above. If permitting or immediate elimination of the non-storm water discharges is impractical, the Permittees shall include in the municipal activities pollution prevention strategy a proposed plan to address the non-storm water discharges.
6. The discharge of storm water and non-storm water shall not cause or contribute to degradation of groundwaters.
7. Pollutants in storm water discharges from the Permittees' MS4s shall be reduced to the applicable performance standard, as shown in Table 3-1 (Order No. 98-02, Finding No. 9).

Table 3-1. Performance Standards

Storm Water and Non-Storm Water Runoff from	Maximum Extent Practicable (MEP) [for Municipal Discharges as defined in CWA Section 402 (p)(3)(B)]	Best Available Technology (BAT) / Best Conventional Technology (BCT) [for Industrial Discharges as defined in CWA Section 402 (p)(3)(A)]
All Permittee-Owned MS4s unless specified below	X	
Permittee-Owned Industrial Facilities	X [If the activity at the facility is not one of the 11 categories listed in 40 CFR 122.26 (b)(14)(I-xi)]	X [If the activity at the facility is one of the 11 categories listed in 40 CFR 122.26 (b)(14)(I-xi)]
Permittee-Owned Construction Sites	X [Sites that disturb less than 5 acres]	X [Sites that disturb 5 acres or more, or less than 5 acres but are part of a larger common plan of development or sale]

3.2 Detection and Elimination of Illicit Connections

The Permittees have programs in place to identify and eliminate illicit connections. Some of the Permittees conduct this aspect of their stormwater program as a part of the routine maintenance of their MS4s. The Permittees have also surveyed their MS4s to identify illicit connections. Any illicit connections identified during these surveys were documented and removed where necessary in order to comply with the stormwater permit requirements.

3.3 Illegal Discharges Response and Reporting

The Permittees have programs in place to respond to illegal discharges. Predominantly, illegal discharges are reported by the public or by Permittee field personnel. As part of the area-wide program, the District continues to provide financial support to the County's Hazardous Materials Emergency Response Team to ensure that hazardous materials from spills or dumping have minimal impact on MS4s and receiving

waters. The District also provides funding to support the County Department of Environmental Health's Household Hazardous Waste collection program.

3.4 Enforcement for Illicit Connections and Illegal Discharges

Enforcement programs for the identification and removal of illicit connections and discharges are complaint driven for general activities. The District currently operates a toll-free number (800.506.2555) that receives complaints regarding discharges to the MS4s and routes these complaints to the appropriate agency within the Santa Margarita Region. This phone number will continue as part of the enforcement effort addressing general illicit connections and illegal discharges.

Investigations are performed by each Permittee in response to reports of illicit connections or illegal discharges received from the public, staff, or other agencies within their jurisdictions. The sources of these discharges may include residential, commercial, industrial and construction activities and other sources.

Permittees meet the following minimum guidelines when responding to reports of illicit connections or illegal discharges:

- If the reported incident is outside of a Permittee's jurisdiction, referral to the appropriate agency and/or the San Diego Regional Board will be made within two (2) business days;
- Permittees will respond to reports of illicit connections or illegal discharges within their jurisdiction within ten (10) business days;
- Inspections performed in response to a report will be documented appropriately; and
- When appropriate, samples of illegal discharges will be collected.

Construction site inspectors will also report potential illicit connections and illegal discharges discovered during the source of existing routine inspection to the San Diego Regional Board. Although construction site violations may be enforced initially through local stormwater and erosion control ordinances, referrals will be made to the San Diego Regional Board if compliance is not achieved.

Existing inspection programs for industrial and commercial facilities will also be utilized to identify illicit connections or discharges. Industrial facility inspectors will report potential illicit connections and illegal discharges discovered during the course of existing routine inspection to the San Diego Regional Board. Although these violations may be initially enforced through local stormwater ordinances, referrals will be made to the San Diego Regional Board if compliance is not obtained. Referrals to the San Diego Regional Board will be made for facilities where potential illicit connections and illegal discharges are noted. In all cases, the notification of potential non-compliance should be routed through the Permittee's stormwater compliance coordinator before notifying San Diego Regional Board staff.

3.5 PROPOSED PROGRAM COMMITMENTS

To support a comprehensive, countywide MS4 program the Permittees propose the following actions:

- The Permittees shall continue to eliminate and prohibit illicit connections and illegal discharges to the MS4s. In addition, the Permittees shall continue to implement and improve routine inspection and monitoring and reporting programs for their MS4s. If routine inspections or dry weather monitoring indicate illicit connections or illegal discharges, they shall be investigated and eliminated or permitted within sixty (60) calendar days of receipt of notice by its staff or from a third party. A summary of these actions shall be submitted with each Annual Progress Report.

- The Permittees shall continue to implement control measures to reduce and/or to eliminate the discharge of pollutants, including trash and debris, from MS4s to receiving waters. These control measures shall be reported in each Annual Progress Report.

- The Permittees upon being notified shall immediately investigate the circumstances of all spills, leaks, illegal discharges and/or illicit connections to their MS4.

- The Permittees shall report all discharges that endanger human health or the environment.

- Within 6 months the Permittees shall modify their policies and procedures, if necessary, to incorporate the following notification and reporting steps :

  1. By phone to the Office of Emergency Services (OES) at 800.852.7550 and to the Executive Officer at (619-467-2952). Alternatively, the report to the Executive Officer may be done by e-mail at sw@rb9swrcb.ca.gov.

  2. At a minimum, any sewage spill above 1,000 gallons or that could impact water contact recreation, any oil spill that could impact wildlife, any hazardous material spill where residents are evacuated, any spill of reportable quantities of hazardous waste (as defined in 40CFR 117 and 40 CFR 302), or any other spill or discharge that is reportable to the OES (collectively, an "Emergency Situation") shall be reported within twenty-four (24) hours of Permittee staff becoming aware of the circumstances.

  3. Other spill incidents, including any unauthorized discharge, that are not incidents reportable to the OES shall be reported to the Executive Officer within two (2) business days of becoming aware of the circumstances.

  4. A written report of the discharge or incident described in this subsection shall be submitted to the Executive Officer within ten (10) calendar days of becoming aware of the circumstances.

- Within 12 months the Permittees will develop, jointly with other agencies such as the County Health Department, a standardized reporting program, including reportable incidents and quantities.

- Within 18 months the Permittees shall modify the Santa Margarita Regional DAMP to incorporate new and/or revised program elements.

4.0 MUNICIPAL FACILITIES AND ACTIVITIES

4.1 MUNICIPAL FACILITIES STRATEGY

Order No. 98-02 required that the Permittees develop a Municipal Facilities Strategy to identify BMPs for activities conducted at municipal facilities. The municipal facilities of concern identified by the Permittees included maintenance yards, vehicle and equipment maintenance areas, waste transfer stations, corporation and storage yards, and parks and recreational facilities. In addition, the Permittees identified BMPs for street sweeping, catch basin cleaning, landscape and swimming pool maintenance activities, MS4 maintenance activities, and the application of pesticides.

As part of the development of the Municipal Facilities Strategy, the Permittees identified the types of municipal facilities they operate. During this process, the types of municipal facilities and the activities conducted at those facilities were identified as having the potential to contribute pollutants to Urban Runoff as shown in Table 4-1. Table 4-2 lists the types and numbers of municipal facilities operated by the Permittees.

No waste transfer stations were identified as being operated by the Permittees and facilities that consisted of only administrative buildings and parking areas were not identified to be of concern regarding Urban Runoff pollution. Antifreeze, battery, oil, and paint collection centers (ABOPs) were also not identified as facilities of concern as they are otherwise regulated under the Resource Conservation and Recovery Act (RCRA). Permittee facilities such as water treatment plants, airports, and landfills have coverage under California's General Permit for Stormwater Discharges Associated with Industrial Activities or under an individual NPDES permit.

Identification of the potential pollutants at each Permittee's municipal facilities was necessary in order to select appropriate candidate BMPs that will adequately address potential pollutants to Urban Runoff. The Permittees were surveyed to identify the potential pollutants of concern typically associated with the activities performed at the identified facilities of concern. Table 4-3 identifies pollutants of concern associated with activities conducted at Permittees' municipal facilities.

During the development of the facility specific strategies, the Permittees identified existing non-stormwater discharges and characterized the discharges with respect to frequency, volume, flow, and duration. The Permittees eliminated or permitted such discharges.

Based on the facilities, associated activities, and the pollutants of concern identified for each Permittee, a list of potential source control BMPs has been developed for the Permittees. This list references BMPs identified in the *1993 California Stormwater Best Management Practices Handbooks (Industrial and Municipal Handbooks)*. The list of potential source control BMPs includes:

Industrial Handbook References

- SC1 Non-Stormwater Discharge to Drains
- SC2 Vehicle and Equipment Fueling

- SC3 Vehicle and Equipment Washing & Steam Cleaning
- SC4 Vehicle and Equipment Maintenance and Repair
- SC5 Outdoor Loading /Unloading of Materials
- SC6 Outdoor Container Storage of Liquids
- SC8 Outdoor Storage of Raw Materials, Products, and By-Products
- SC9 Waste Handling and Disposal
- SC11 Building and Grounds Maintenance
- SC14 Employee Training

Municipal Handbook References

- SC10 Housekeeping Practices
- SC11 Safer Alternative Products
- SC20 Material Storage Control
- SC40 Vehicle Leak and Spill Control
- SC41 Aboveground Tank Leak and Spill Control

This list is not intended to be all-inclusive. However, the BMPs listed are both effective and widely accepted. Permittees are encouraged to consult other sources of BMP information and consider implementation of additional methods and measures as appropriate. A matrix identifying potential BMPs that may be appropriate to implement for municipal facilities and their associated activities is presented in Table 4-4.

Table 4-1. Municipal Facilities and Activities

Type of Municipal Facility	Activities of Concern Conducted
Corporate Yards[1]	Loading, unloading, handling, and storage of animal wastes, anti-freeze, asphalt, batteries, chemicals, concrete, diesel wastes, emulsions, fertilizer, fuel, green wastes, hazardous materials, new and used oil, paint products, pesticides, scrap metal, solvents, trash and debris, and wash water
	Filling of aboveground and underground storage tanks (ASTs and USTs) with fuels
	Dispensing of fuels to vehicles, equipment, and portable fuel containers
	Vehicle and equipment parking and storage
	Vehicle, equipment, and material washing and steam cleaning
	Leak and spill cleanup
	Landscape, garden, and general maintenance and cleaning
Warehouses	Loading, unloading, handling, and storage of materials
	Landscape, garden, and general maintenance and cleaning
Fire and Police Stations	Loading, unloading, handling, and storage of antifreeze, chemicals, new and used oil, scrap metal, and trash and debris
	Filling of ASTs and USTs with fuels
	Dispensing fuel
	Vehicle and equipment maintenance
	Vehicle and equipment parking and storage
	Vehicle washing and steam cleaning
	Leak and spill cleanup
	Landscape, garden and general maintenance and cleaning
Hazardous Materials Storage Facilities	Loading, unloading, handling, and storage of potentially hazardous materials
	Leak and spill cleanup
Animal Shelters	Loading, unloading, handling, and storage of animal wastes for off-site recycling, chemicals, and fuel
	Vehicle, equipment, and material washing
	Leak and spill cleanup
	Landscape, garden, and general maintenance and cleaning
Swimming Pools	Storage and use of chemicals, including chlorine
	Filter maintenance and backwashing
	Landscape, garden, and general maintenance and cleaning
Water Treatment Facilities	Loading, unloading, handling, and storage of materials
	Filling of ASTs and USTs with fuels
	Vehicle washing and steam cleaning
	Leak and spill cleanup
	Landscape, garden, and general maintenance and cleaning

[1] Corporation yards include equipment, transit maintenance, public works, fleet maintenance, civic centers, and parks and recreation equipment yards.

Table 4-2. Public Agency Facilities Matrix

Permittee	Corporate Yards	Parks & Recreation Facilities	Warehouses	Fire Stations	Police Stations	Hazardous Materials Storage	Animal Shelters	Swimming Pools	Water Treatment Facilities
District [a]	--	--	--	--	--	--	--	--	--
County	2								
Hemet [a]	--	--	--	--	--	--	--	--	--
Murrieta	1	19	--	3	1	--	--	1	--
Temecula	1	31	--	4 [b]	2	1	--	1	--

[a] The District and the City of Hemet (after the proposed annexation) have no municipal facilities, other than MS4, in the Santa Margarita Region.

[b] Although within city limits, these fire stations are operated by Riverside County Fire Department.

Table 4-3. Potential Pollutants of Concern

Potential Pollutants	Material Loading, Unloading, Handling, or Storage	Filling of ASTs & USTs	Dispensing Fuel	Vehicle & Equipment Maintenance	Vehicle & Equipment Parking and Storage	Vehicle & Equipment Material Washing & Steam Cleaning	Leak & Spill Cleanup	Landscape, Garden, and General Maintenance & Cleaning
Animal Wastes	X							
Anti-freeze	X			X	X		X	
Asphalt	X							
Acid	X			X				
Chemicals	X			X	X		X	
Concrete	X						X	
Diesel Wastes	X			X			X	
Emulsions	X						X	
Fertilizer	X						X	
Fuel		X	X	X			X	
Green Wastes	X							X
Hazardous Materials	X			X	X		X	X
Herbicides	X						X	X
New/Used Oil	X			X			X	
Oil and Grease Spills	X			X	X	X	X	
Paint Products	X						X	X
Pesticides	X						X	X
Scrap Metal	X			X				
Solvents	X			X			X	
Trash and Debris	X							X
Wash Waters						X		

Table 4-4. Potential Source Control BMPs for Municipal Facilities and Activities [a]

Activities/Potential BMPs	BMP References from Industrial Handbook										BMPs References From Municipal Handbook				
	SC1	SC2	SC3	SC4	SC5	SC6	SC8	SC9	SC11	SC14	SC10	SC11	SC20	SC40	SC41
Material Loading/Unloading/Handling/Storage	X				X	X	X	X		X	X		X	X	X
Filling of ASTs/USTs		X								X					
Dispensing Fuel		X								X				X	
Vehicle/Equipment Maintenance	X			X						X				X	
Vehicle/Equipment Parking and Storage										X					
Vehicle/Equipment/Material Washing and Steam Cleaning	X		X							X		X			
Leak and Spill Cleanup										X	X			X	X
Landscaping, Garden, and General Maintenance and Cleaning	X								X	X		X			

[a] This table will be updated to reflect the 2003 California Stormwater BMP Handbooks.

4.2 PROPOSED PROGRAM COMMITMENTS

To support a comprehensive, countywide MS4 program the Permittees propose the following actions:

- Each Permittee shall continue to implement the Municipal Facilities Strategy.
- The Permittees shall review municipal activities and facilities annually to identify needed revisions of the Municipal Facilities Strategy. A summary of the review shall be included in each Annual Progress Report.
- The Permittees shall maintain up-to-date site-specific Urban Runoff pollution prevention plans for public agency facilities and activities.
- The Permittees shall continue to provide training to municipal staff and to contract field operations staff on fertilizer and pesticide management, maintenance procedures, and other pollution control measures. Permittee staff shall attend at least 3 out of 5 annual training sessions. A summary of training conducted shall be included in each Annual Progress Report.
- Within 6 months of permit adoption the Permittees shall evaluate the criteria used for the inspection and maintenance of MS4s. A summary of the evaluation shall be included in that year's Annual Progress Report.
- Within 6 months of permit adoption the Municipal Facilities Strategy will be revised to replace references to the 1993 California Stormwater BMP Handbooks with references to the 2003 California Stormwater BMP Handbooks.
- Within 9 months the Permittees shall develop standard contract requirements obligating contractors to provide contractor employees training for Urban Runoff management. The standardized contract requirements shall be included in that year's Annual Progress Report.
- Within 10 months of permit adoption the Permittees shall review and document the program for inspection and cleaning of open channels, catch basins, retention/detention basins, and constructed wetlands. Within 16 months of permit adoption the Permittees shall implement the program.
- Within 12 months of permit adoption the Permittees shall develop Model Maintenance Procedures for public agency activities and drainage facilities. The Model Maintenance Procedures shall be submitted in that year's Annual Progress Report.
- Within 12 months the Permittees shall develop a list of appropriate BMPs for fire fighting training activities, fire hydrant/sprinkler testing or flushing, and BMPs feasible for emergency fire fighting flows. The list of appropriate BMPs shall be included in that year's Annual Progress Report.
- Within 18 months the Permittees shall modify the Santa Margarita Regional DAMP to incorporate new and/or revised program elements.

5.0 CONSTRUCTION SITES

5.1 MINIMUM REQUIREMENTS

In determining the compliance of construction sites, the Permittees implement the three minimum guidelines described in this section.

Check for Submittal of NOI

For projects subject to the requirements of California's General Permit for Stormwater Discharges Associated with Construction Activity[27], the Permittees require evidence that an NOI has been submitted to the State Board prior to issuance of grading permits or other approvals.

Include Stormwater Considerations in Building and Grading Permit Inspection Programs

During construction site inspections, Permittees note whether the site:

- Appears to be in compliance with local stormwater and erosion control ordinances;
- Has prepared and implemented an appropriate SWPPP if covered under the General Permit for Stormwater Discharges Associated with Construction Activity; and
- Shows evidence of poorly managed authorized non-stormwater discharges or evidence of illicit connections or illegal discharges to the MS4.

This information is documented on a separate form or has been incorporated into existing inspection forms.

Provide Notification to the San Diego Regional Board

During the course of inspecting construction sites, if it appears that a construction site is required to comply with the California's General Permit for Stormwater Discharges Associated with Construction Activity, the Permittee's inspector will ask the construction site manager whether or not a SWPPP has been prepared and implemented. If the site does not have an NOI and a SWPPP, the inspector will issue a correction notice and notify the appropriate Permittee stormwater program representative, who will in-turn notify the San Diego Regional Board staff. Permittees may also choose to request a current listing from the San Diego Regional Board of all construction sites within their jurisdiction covered under California's General Permit for Stormwater Discharges Associated with Construction Activity to facilitate this aspect of construction site compliance. The Permittee's inspectors also provide educational materials to contractors at the inspected sites.

[27] As of March 10, 2003 construction activity that disturbs one or more acres must comply with California's General Permit for Stormwater Discharges Associated with Construction Activity.

5.2 PROPOSED PROGRAM COMMITMENTS

To support a comprehensive, countywide MS4 program the Permittees propose the following actions:

- Within 6 months of permit adoption the Permittees shall develop a list of erosion control BMPs appropriate for use during construction on sites within the Permit Area. The list shall be included with that year's Annual Progress Report.
- Within 10 months of permit adoption each Co-Permittee shall develop an inventory (database) of active construction sites within its jurisdiction for projects for which a building or grading permit has been issued for a site that is 1 acre or larger. The Enforcement/Compliance Strategy shall be revised to reflect development of the construction site database that contains the following information: site or project name, address, city, zip code, mailing address (if different), location reference (such as, geographic coordinates, cross streets, etc.), site or project contact and phone number, site size, map/plot plan number, grading permit number, assessor's parcel number, and Waste Discharge Identification (WDID) Number associated with the General Permit for Stormwater Discharges Associated with Construction Activity.
- Within 10 months of permit adoption each Co-Permittee shall have arranged for adequate training of its current inspection staff and on an annual basis thereafter, prior to the start of the rainy season (October 1 through May 31). New hires or transfers that will be performing construction site inspections for a Co-Permittee shall be trained within 6 months of starting inspection duties. Training programs related construction site inspections should be coordinated with San Diego Regional Board staff and prior notification of formal classroom training activities shall be provided to the San Diego Regional Board staff.
- Within 11 months of permit adoption the Co-Permittees shall initiate inspection of all inventoried construction sites and shall incorporate inspection data into the construction site inventory database. The Co-Permittees shall prioritize construction sites within their jurisdiction as a high, medium, or low threat to Receiving Water quality. In the initial inventory, at a minimum, the following construction sites shall be designated a high priority:
  - Sites that disturb an area greater than 50 acres;
  - Sites that disturb an area greater than one acre and are located within 200 feet of a water body identified in the 303(d) List of impaired waterbodies within the Permit Area; and,
  - Sites that disturb an area greater than one acre and directly discharge to a waterbody identified in the 303(d) List of impaired waterbodies within the Permit Area.
- Each Co-Permittee shall document the number of construction site inspections and the actions taken. An appropriate summary of said actions shall be provided to the District for inclusion in each year's Annual Progress Report.
- Within 18 months the Permittees shall modify the Santa Margarita Regional DAMP to incorporate new and/or revised program elements.

6.0 DEVELOPMENT PLANNING

6.1 BACKGROUND

During the term of the 1990 MS4 Permit, the Santa Ana/Santa Margarita Advisory Committee recognized the sensitivity of imposing construction-phase and permanent BMPs on developers and the building industry. Therefore, they formed the Construction and New Development Sub-Committee. The Construction and New Development Sub-Committee was comprised of representatives from the Permittees, land development companies, the Building Industry Association, Western States Petroleum Association, engineering companies and the Riverside County Coordinating Committee. The Construction and New Development Sub-Committee prepared the guidelines for new development with particular insight from the development/building industry. The goal of the Construction and New Development Sub-Committee was to identify a suite of BMPs for new development projects that would meet the requirements of the 1990 MS4 Permit while not imposing an undue burden on the development/building industry. Appendix G of the Orange County Drainage Area Management Plan (April 1993) served as a model for the Construction and New Development Sub-Committee.

6.2 NEW DEVELOPMENT GUIDELINES (APRIL 1996)

The purpose for preparing the New Development Guidelines[28] was to identify post construction source control BMPs and treatment control BMPs that could be incorporated into new development projects. The New Development Guidelines recommend BMPs that should be required as standard practice in the plans for new development and significant redevelopment projects. For projects with unique water quality issues additional measures may be required on a case-by-case basis.

Currently, the Santa Margarita Regional DAMP does not specify a minimum size of new development or redevelopment project for which post construction BMPs must be incorporated in project plans, nor does the Santa Margarita Regional DAMP specify which land uses should receive the most attention. In general, BMPs are required on a wide variety of land uses, both residential and non-residential. BMPs should also be required on accessory uses of concern (such as outdoor material/equipment storage, vehicle/ equipment fueling and service) and certain low intensity uses (e.g., golf courses and plant nurseries) that are potentially significant sources of pollutants to Urban Runoff.

6.2.1 Development Planning Process

The Co-Permittees require the implementation of post construction BMPs for new development and significant redevelopment projects. A significant redevelopment project is any project where major modifications to an existing site and/or structure requiring a permit are undertaken. Routine maintenance, interior remodeling, minor structural additions, re-roofing, and maintenance of parking lots are intended to be exempt. A "significant redevelopment project" for purposes of imposing post construction BMPs during the planning process is not to be confused with the projects sponsored by a Redevelopment

[28] Historically, the New Development Guidelines have been referred to as "Supplement A" to the Riverside County Drainage Area Management Plans.

Agency of a jurisdiction. The Co-Permittees may further define a "redevelopment project", utilizing its own planning and permitting criteria.

Planning review procedures must be adopted and uniformly implemented by all the Co-Permittees to ensure consistency. The typical process can be described as follows:

1. Co-Permittee procedures for approval of grading, building, and similar permits have been modified to include incorporation of the BMPs listed in Tables 6-1 and 6-2, as applicable.
2. Co-Permittees have made copies of the New Development Guidelines available to development applicants through the permitting and land development processes. Applicants are informed at the earliest possible time of the requirements described in the New Development Guidelines.
3. Co-Permittees have developed implementation procedures for the New Development Guidelines, including training and education for the employees that have responsibility for ensuring implementation of the New Development Guidelines.
4. Co-Permittee staff notifies applicants at the earliest possible time if there is a known water quality problem that might affect the planning of proposed development.

The Co-Permittees' development review and permitting processes verify that plans contain all the applicable post construction BMPs. Compliance is intended to be a matter of the project or permit applicant incorporating the BMPs specified in the New Development Guidelines (or other acceptable standard) into the plans and project submittals. Then a Co-Permittee's review process verifies that BMPs specified in the New Development Guidelines have been included in the applicant's project plans.

6.2.1.1 General Conditions

For discretionary actions that include a precise plan of development:

1. Prior to issuance of building permits, the applicant shall include in its development plans for approval by County/City Official(s) water quality management controls by specifically identifying BMPs that will be used onsite to control predictable pollutant runoff. The applicant shall identify the structural and non-structural measures specified in the New Development Guidelines (or other equally effective standard) detailing implementation of BMPs whenever they are applicable to the project (when the project has a loading dock, for example); the assignment of long-term maintenance responsibilities (specifying the developer, parcel owner, maintenance association, lessee, etc.); and shall reference the location(s) of structural BMPs.

For subdivisions of land:

2. Prior to recordation and if determined applicable by County/City Official(s), applicant shall identify and include in its plans those routine structural and non-structural BMPs identified in the New Development Guidelines (or other equally effective standard) for approval of County/City officials.

These General Conditions (No. 1 and No. 2) also functionally apply to public agency projects where the local jurisdiction technically chooses not to issue formal permits to itself or hired contractors, but nonetheless undertakes the work.

6.2.1.2 Special Conditions

When a building is being proposed for which no anticipated use is designated or when an unanticipated element of land use or occupancy is proposed after a basic building has already been completed, use of language similar to the following condition is recommended for inclusion in the conditions which must be satisfied prior to issuance of the appropriate permit.

> Prior to issuance of certificates of use and occupancy or building permits for individual tenant improvements or construction permits for a tank or pipeline, uses shall be identified and, for specified uses (where the proposed improvements will store, generate or handle hazardous materials in quantities that will require permitting and inspection once operational), the applicant shall propose plans and measures for chemical management (including, but not limited to, storage, emergency response, employee training, spill contingencies and disposal) to the satisfaction of the County/City Building Official(s).
>
> Chemical management plans shall be approved by the County/City and other appropriate agencies such as County/City Fire Department, the Health Services Agency's Department of Environmental Health, and sewering and/or water agencies to ensure implementation of each agency's respective requirements. Approval by the appropriate agencies shall be furnished to the Building and Safety Department, prior to the issuance of any certificates of use and/or occupancy.
>
> Certificates or permits may be ministerially withheld if features needed to properly manage chemicals cannot be incorporated into a previously completed building, center, or complex.

The Co-Permittees may develop a list of specified uses and occupancies of concern according to their needs.

6.2.2 BMP Selection

The New Development Guidelines identify specific Appropriate Non-Structural BMPs and Routine Structural BMPs that will be incorporated into plans for new development and significant redevelopment projects. Thus, some of the BMPs identified in these New Development Guidelines will become conditions of approval. The Appropriate Non-Structural BMPs (Table 6-1) and the Routine Structural BMPs (Table 6-2) are considered "standard practice" to be required for new development and significant redevelopment projects. Two terms used in these New Development Guidelines are defined as:

> **Structural Controls:** Physical facilities or controls that may include secondary containment, first flush diversion, detention/retention basins, infiltration trenches/basins, oil/grease separators, grass swales, and engineering and design modification of existing structures. These examples include both Routine Structural BMPs and Special Structural BMPs. Routine structural BMPs are economical, practicable, small-scale measures that can be feasibly applied at the smallest unit of development.
>
> **Non-Structural Controls:** In general, these would be activities or programs to educate the public on proper disposal of hazardous/toxic wastes, regulatory approaches, street sweeping and facility maintenance, detection and elimination of illicit connections and illegal dumping.

Each new development and significant redevelopment is required to implement the Appropriate Non-Structural BMPs in keeping with the size and type of development, and potential for stormwater pollution, to minimize the introduction of pollutants into the drainage system. Each new development and significant redevelopment is also be required to implement the appropriate Routine Structural BMPs in keeping with the size and type of development and potential for stormwater pollution.

Special Structural BMPs may be required for some new development and significant redevelopment projects to address specific water quality problems identified in the watershed planning process. Special Structural BMPs are engineered facilities designed to address specific water quality problems identified in the watershed planning process, runoff management plan, CEQA process, or similar watershed planning initiative. Efforts will be directed toward determining the effectiveness of structural BMPs before they are required. Those measures which demonstrate superior cost-effectiveness, considering right-of-way, construction, operation, maintenance, monitoring, and pollutant removal, may be adopted as Special Structural BMPs for application as indicated during the watershed planning studies.

6.2.2.1 Non-Structural Measures

N1, Education for Property Owners, Tenants and Occupants. Project conditions of approval for all new developments will require that the developer provide environmental awareness education materials on general good housekeeping practices that contribute to protection of stormwater quality to all initial residents and occupants/tenants. Such materials will be provided to the developer through the Permittees' Storm Water/Clean Water Protection Program. Different materials for residential, office commercial, retail commercial, vehicle-related commercial and industrial uses will be involved.

N2, Activity Restrictions. If a property owners association (POA) or homeowners association (HOA) is formed, conditions, covenants, and restrictions shall include measures shown in Table 6-1 for the purpose of surface water quality protection.

N3, Common Area Landscape Management. All pesticides shall be applied in strict accordance with pesticide application laws as stated in the State of California Agricultural Code. All pesticide applicators shall be certified by the State as a Qualified Applicator or be directly supervised by a Qualified Applicator. All fertilizers shall be applied at the rate stipulated by the manufacturer. Fertilizer Applicators shall be trained in proper procedures of determining fertilizer rates and calibration of application equipment. Fertilizer shall be applied in such a manner as to avoid application onto hardscape surfaces. Annual soil tests are recommended to determine which fertilizer elements are needed to avoid application of unnecessary elements or over application. The local water agency or resource conservation district can assist with detailed information concerning this BMP.

N4, Common Area Catch Basin Inspection. For developments with a POA or HOA privately maintained drainage systems, the association are required to have privately-owned catch basins inspected and, if necessary, cleaned prior to the storm season, no later than October 15th each year.

N5, POA/HOA Common Area Litter Control. For developments with an association, the POA or HOA are required to implement trash management and litter control procedures in the common areas aimed at reducing pollution of drainage water. The associations may contract with their landscape maintenance firms to provide this service during regularly scheduled maintenance, which should consist

of litter patrol, emptying of trash receptacles in common areas, noting trash disposal violations by homeowners or businesses, and reporting the violations to the association for investigation.

N6, Street Sweeping Private Streets and Parking Lots. For developments with a POA or HOA and privately owned streets and parking lots, the association is required to have the streets and parking lots swept prior to the storm season, no later than October each year.

N7, Underground Storage Tank Compliance. Compliance with State regulations dealing with underground storage tanks is enforced by Riverside County's Department of Environmental Health on behalf of the State.

N8, Spill Contingency Plan. A spill contingency plan (Business Plan/Hazardous Material Management Plan) shall be prepared by the owner/operator in accordance with Section 6.95 of the California Health and Safety Code. Riverside County's Department of Environmental Health or the Fire Departments in the Cities of Riverside, Corona, or Banning shall be responsible for enforcement. Spills will be immediately cleaned up according to the Spill Contingency Plan.

N9, Hazardous Materials Disclosure Compliance. Compliance with local ordinances shall be enforced by Riverside County's Department of Environmental.

N10, Uniform Fire Code Implementation Plan. Compliance with Article 80 of the Uniform Fire Code enforced by fire protection agency will be required.

N11, Title 22 CCR Compliance. Compliance with Title 22 of the California Code of Regulations and relevant sections of the California Health & Safety Code regarding hazardous waste management will be enforced by Riverside County's Department of Environmental Health on behalf of the State.

N12, Housekeeping of Loading Docks. Loading docks for grocery, drug and discount and warehouse type commercial and industrial buildings must be kept in a clean and orderly condition through a regular program of sweeping, litter control, and immediate cleanup of spills and broken containers. Polluted material or wash waters shall not be allowed to discharge into a storm drain.

N13, Employee Training/Education Program. This BMP applies to employees of individual businesses. Based upon information provided through the Permittees' Storm Water/Clean Water Protection Program, the developer either prepares a manual (or manuals) for initial purchasers of business sites, or for development that is constructed for an unspecified use, the developer conveys the commitment for this responsibility to the POA, HOA, or purchaser. (See BMP N1 also.)

N14, BMP Maintenance. The responsibility for implementation of each Appropriate Non-Structural BMP and scheduled maintenance and cleaning of all Routine Structural BMPs shall be identified (owner, agency name, phone number, and address).

Table 6-1. Appropriate Nonstructural BMPs

BMP	Residential	Industrial	Retail or Office Center	Restaurants Warehouse Grocery	Fuel Dispensing	Vehicle Repair or Maintenance
N1, Homeowner/Tenant Education	X	X	X			
N2, Activity Restrictions	X	X	X	X		X
N3, Common Area Landscape Management	X	X	X			
N4, Catch Basin Inspection	X	X	X	X	X	X
N5, Common Area Litter Control	X	X	X	X	X	X
N6, Private Street/Lot Sweeping	X	X	X			
N7, Underground Storage Tank Compliance		X		X	X	
N8, Spill Contingency Plan		X			X	X
N9, Hazardous-Material Disclosure Compliance		X			X	X
N10, Uniform Fire Code Implementation		X			X	X
N11, Title 22 CCR Compliance		X			X	X
N12, Loading Dock Housekeeping		X		X		
N13, Employee Training		X	X	X	X	X
BMP Maintenance	X	X	X	X	X	X

6.2.2.2 Routine Structural BMPs

S1, Control of Impervious Runoff. Impervious areas shall be graded and constructed so as to drain to a filtration BMP, such as a landscaped area or equally effective alternative wherever practicable and as recommended by the engineer of record. Direct drainage from impervious areas to the street or a storm drain facility is discouraged and should be avoided. For example, parking lot catch basins could be placed in a landscaped area with allowances for minor ponding.

S2, Common Area Efficient Irrigation. All sites shall employ multi-programmable irrigation controllers that have enough programs to break up all irrigation stations into hydrozones. If practical and feasible, rain shutoff devices shall be employed to prevent irrigation after significant precipitation. Irrigation systems shall be designed so areas which have different water use requirements are not mixed on the same station (hydrozones). Assistance in implementing a schedule based on plant water needs is available from CIMIS or Mobile Lab. The use of drip irrigation should be considered for all planter areas that have a shrub density that will cause excessive spray interference of an overhead irrigation system. Use flow reducers to mitigate broken heads next to sidewalks, streets and driveways.

S3, Common Area Runoff-Minimizing Landscape Design. Group plants with similar water use requirements in order to reduce excess irrigation runoff and promote surface filtration, where practical. Examples include:

1. Use mulches in planter areas without ground cover to avoid sedimentation runoff.
2. Set irrigation times to avoid runoff. This will involve splitting nightly irrigation into several short cycles if slope and soil conditions warrant.
3. Use only enough water to provide for adequate plant health and growth.
4. Use the water budget mode to make global/weather related scheduling changes.
5. Use CIMIS data for global changes so they will accurately reflect weather changes.
6. Install appropriate plant materials for the location, in accordance with climate zones.
7. Install plants with low water requirements and consider the use of native plant material where possible and recommended by the landscape architect.

S4, Community Car Wash Racks. In high density multi-family developments (apartments, stacked flats) larger than 100 units where car washing is allowed, and developments having a common parking area, a designated car wash area which does not drain directly into a storm drain shall be provided for common usage. An example of such an area would be joint use of an open space or visitor parking area. Wash waters from area may be directed to the sanitary sewer (with prior approval of the sewering agency), to an engineered infiltration system, or equally effective alternative.

S5, Wash Water Controls for Food Preparation Areas. Food establishments (per State Health and Safety Code §27520) shall have contained areas, floor sinks and/or mop sinks with sanitary sewer connections for cleaning of kitchen floor mats and for disposal of wash waters containing kitchen and food wastes. If located outside, the contained area shall also be covered to prevent entry of stormwater.

S6, Trash Container (Dumpster) Areas. Trash container (dumpster) areas shall have drainage from adjoining roofs and pavements diverted around the areas, and:

1. Dumpsters shall be leak proof and have attached workable covers.
2. Trash container areas are to be screened or walled to prevent offsite transport of trash.

S7, Self-Contained Areas for Vehicle Washing, Steam Cleaning, Maintenance, or Material Processing. Self-contained areas are required for vehicle washing, steam cleaning, wet material processing, and maintenance activities, specifically:

1. For businesses where washing of vehicles without steam cleaning occurs, provide wash racks constructed in accordance with local sewering agency guidelines or other acceptable standard and with the prior approval of the sewering agency. (Note: Discharge monitoring may be required by the sewering agency.)
2. Where steam cleaning occurs, provide wash racks as in S7.a, or structurally contain (with a cover to restrict the entry of stormwater during rain events) runoff from such areas onsite for commercial waste removal.
3. Where wet material processing occurs (e.g., electroplating), secondary containment structures shall be provided to hold spills resulting from accidents, leaking tanks or equipment, or any other unplanned releases. (Note: If these secondary containment structures are plumbed to the sanitary sewer, the structures and plumbing shall be in accordance with State and local spill containment

and reporting requirements and have the prior approval of the sewering agency.) Also see BMP N10.

4. Where vehicle repair or maintenance occurs, impermeable berms, drop inlets, trench catch basins, or overflow containment structures shall be provided around repair bays to prevent spilled materials and wash-down waters from entering the storm drain system.

S8, Outdoor Storage. Where a plan of development proposes, or building plans incorporate, outdoor containers of oils, fuels, solvents, coolants, wastes, and other chemicals, the areas where these materials are to be used or stored must be protected by secondary containment structures such as a berm, dike, or curb (see BMP N10). For commercial outdoor vehicle and equipment salvage yards and commercial outdoor recycling, the entire storage area shall drain through water quality inlets (see BMP SP1).

S9, Motor Fuel Concrete Dispensing Areas. Areas used for fuel dispensing shall be paved with concrete (use of asphalt prohibited). Concrete surfacing must extend a minimum of 8 feet from the face side of each pump receptacle and 4 feet from the nose of the pump island. In addition, the fuel dispensing area shall be graded and constructed so as to prevent drainage flow through the concrete fueling area.

S10, Motor Fuel Dispensing Area Canopy. All motor fuel concrete dispensing areas are to have a canopy structure. Canopy roof downspouts are to be routed to prevent drain across the concrete fueling area.

S11, Energy Dissipators. Energy dissipators such as riprap, are to be installed at the outlets of new storm drains which enter unlined channels in accordance with applicable agency specifications.

S12, Catch Basin Stenciling. The phrase "No Dumping – Only Rain in the Drain" (or equally effective phrase as approved by the Permittees' Technical Committee) is be stenciled on catch basins to alert the public as to the destination of pollutants discharged into stormwater drainage systems.

S13, Diversion of Below Grade Loading Dock Drainage. Below-grade loading docks for grocery stores and warehouses or distribution centers of fresh food items will drain through water quality inlets (see BMP SP1), or to an engineered infiltration system, or an equally-effective alternative.

S14, Inlet Trash Racks. Where appropriate to reduce intake and transport through the storm drain system of large floatable debris, trash racks shall be provided where drainage from open areas enters storm drains (Caltrans Standard Plan D96 and D98-C, or equivalent).

Table 6-2. Routine Structural BMPs

BMP	Residential	Industrial	Retail or Office Center	Restaurants Warehouse Grocery	Fuel Dispensing	Vehicle Repair or Maintenance
S1, Control Impervious Runoff	X	X	X	X	X	
S2, Common Area Efficient Irrigation	X	X	X	X	X	X
S3, Common Area Runoff-Minimizing Landscape	X	X	X	X	X	X
S4, Community Car Wash Racks	X					
S5, Wash Waster Controls for Fool Preparation Areas				X		
S6, Trash Container (Dumpster) Areas	X	X	X	X	X	X
S7, Self-Contained Areas for Washing, Steam Cleaning, Repair, or Material Processing		X				X
S8, Outdoor Storage		X				
S9, Motor Fuel Concrete Dispensing Area					X	
S10, Motor Fuel Dispensing Areas Canopy					X	
S11, Energy Dissipaters	X	X	X			
S12, Catch Basin Stenciling	X	X	X			
S13, Diversion of Loading Dock Drainage				X		
S14, Inlet Trash Racks	X	X	X			

6.2.2.3 Special Structural BMPs

SP1, Water Quality Inlets. Water Quality Inlets designed to remove free-phase liquid petroleum compounds, grease, floatable debris and settleable solids may be used in conjunction with BMP Nos. S7, S8, and S13.

6.2.3 Educational Program for Developers and Contractors

The New Development Guidelines, including the attachment entitled "Selection and Design of Stormwater Quality Controls" (included as Appendix G) contains the legal, administrative, and technical information needed to acquaint developers and contractors with the requirements for post construction BMPs in new development and significant redevelopment projects. The Co-Permittees will make the New Development Guidelines available as part of the review process for project planning and permitting.

6.3 PROPOSED PROGRAM COMMITMENTS

To support a comprehensive, countywide MS4 program the Permittees propose the following actions:

- When considering any map or permit for which discretionary approval is sought, each Co-Permittee shall continue to require that the map or permit contain a condition requiring the applicant to obtain coverage under the General Construction Activity Stormwater Permit by filing a NOI with either the State Water Resources Control Board or San Diego Regional Board.
- Each Co-Permittee shall continue to implement those BMPs identified in the New Development Guidelines and its attachment entitled "Selection and Design of Stormwater Quality Controls," and require source control and address the need for structural treatment BMPs, identify their location, and identify how long-term maintenance responsibilities are to be met during the land use approval process.
- Each Co-Permittee shall continue to reduce the short- and long-term impacts on receiving water quality by reducing pollutants and runoff flows from new developments and significant redevelopment to the MEP by:
  1. Reviewing their respective land use approval and CEQA review processes to ensure that they address Urban Runoff issues and revise as appropriate.
  2. Developing and implementing a public/business education program.
- Through conditions of approval, each Co-Permittee shall continue to address the maintenance, operation, and funding for structural BMPs that ensure management of Urban Runoff quality from New Development.
- Each Co-Permittee shall provide the San Diego Regional Board with any draft general plan amendments.
- Within 9 months of permit adoption, the Permittees shall develop a Model Water Quality Management Plan (WQMP) identifying BMPs, including design standards for source control and structural BMPs, that are to be applied when considering any map or permit for which discretionary approval is sought. The WQMP is intended to address regional and sub-regional source control and structural BMPs and to provide guidelines for site-specific, "post-construction BMPs" to address management of Urban Runoff quantity and quality in new development and significant redevelopment projects. The Permittees have established a New Development Committee, a sub-committee of the Technical Committee, to develop the revised WQMP that will address treatment requirements.
- Within 10 months of permit adoption, the Co-Permittees shall review their respective land use approval and CEQA processes to ensure that Urban Runoff issues are properly considered and addressed, and revise if necessary to reflect and mitigate impacts to Urban Runoff quality. The following shall be considered in a Co-Permittee's environmental assessment form:
  1. Potential impact that construction of the project may have on Urban Runoff.
  2. Potential impact that operation of the project may have on Urban Runoff.
  3. Potential for discharge of pollutants in Urban Runoff from areas identified within the project site to be used for material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.
  4. Potential for pollutants in Urban Runoff discharged from a project site to affect the beneficial uses of the Receiving Waters.

5. Potential for significant changes in the flow velocity or volume of Urban Runoff from a project site to result in environmental harm.
6. Potential for significant increases in erosion of a project site or surrounding areas.

Each Co-Permittee shall provide a summary of the review in that year's Annual Progress Report.

- Within 10 months of permit adoption, each Co-Permittee shall review its general plan and land use ordinances to assess whether the following principles and policies are properly considered:

  1. Limit disturbance of natural water bodies and drainage systems; conserve natural areas; protect slopes and channels; minimize impacts from Urban Runoff on the biological integrity of natural drainage systems and water bodies;
  2. Minimize changes in hydrology and pollutant loading; require incorporation of source control and structural BMPs to mitigate the projected increases in pollutant loads and flows; ensure that post-construction runoff rates and velocities from a site do not result in significant adverse impact on downstream erosion and stream habitat; limit the quantity of Urban Runoff directed to impermeable surfaces and the MS4s; and maximize the percentage of permeable surfaces to allow more percolation of Urban Runoff into the ground;
  3. Preserve wetlands, riparian corridors, and buffer zones; establish reasonable limits on the clearing of vegetation from the project site;
  4. Encourage the use of BMPs to manage Urban Runoff quality and quantity;
  5. Provide for appropriate permanent measures to reduce pollutant loads in Urban Runoff from the development site; and
  6. Establish development guidelines for areas particularly susceptible to erosion and sediment loss.

  Each Co-Permittee shall provide a summary of the review and assessment in that year's Annual Progress Report.

- Within 18 months of permit adoption the Permittees shall revise the Santa Margarita Regional DAMP to incorporate the Model WQMP.
- Within 24 months the Co-Permittees shall revise their General Plan and land use ordinances, as determined necessary during review and assessment.

7.0 INDUSTRIAL AND COMMERCIAL SOURCES

7.1 INDUSTRIAL AND COMMERCIAL FACILITY INSPECTIONS

The Permittees have developed an Enforcement/Compliance Strategy that includes a mechanism to identify compliance of industrial and commercial facilities with local stormwater ordinances and, where applicable, potential non-compliance with California's General Permit for Stormwater Discharges Associated with Industrial Activities. However, the Permittees do not have the authority to enforce the provisions of California's General Permit for Stormwater Discharges Associated with Industrial Activities. The State Water Resources Control Board issues these NPDES permits and neither the State Water Resources Control Board nor the San Diego Regional Board can delegate that responsibility to the Permittees. As part of the Enforcement/Compliance Strategy, the Permittees notify San Diego Regional Board staff when potential non-compliance with the General Permit for Stormwater Discharges Associated with Industrial Activities is observed. To facilitate identification of non-compliant facilities, Permittees may request a current listing from the San Diego Regional Board of all industrial facilities within their jurisdiction that have coverage under the General Permit for Stormwater Discharges Associated with Industrial Activities.

During commercial or industrial facility inspections, the inspectors document whether the facility:

- Appears to be in compliance with local stormwater ordinances;
- If applicable, has submitted an NOI to comply with the General Permit for Stormwater Discharges Associated with Industrial Activities; and
- Appears to have poorly managed authorized non-stormwater discharges or evidence of unauthorized non-stormwater discharges, which may be illicit connections or illegal discharges to the MS4.

This information is documented on a separate report or included on existing inspection forms. Inspections resulting in enforcement action are referred to the appropriate jurisdictional entity.

Commercial/Industrial Compliance Assistance Program

As described in Section 2.4.3, the second phase of the Commercial/Industrial Compliance Assistance Program involves a detailed storm water compliance survey for:

- Facilities that must secure a hazardous materials permit for storing, handling or generating such materials, and
- Retail food facilities.

As estimated by the County Administrative Office, within the portion of the Santa Margarita River watershed in Riverside County there are approximately 210 facilities that are permitted as:

- Having an underground storage tank (inspected annually);
- Generating hazardous waste (inspected every two years); or

- Handling hazardous waste (inspected every two years).

Many types of industrial/commercial establishments are inspected including those that conduct automobile mechanical repair, maintenance, fueling, or cleaning operation, automobile or other vehicle body repair or painting operations, and painting or coating operations. Additionally, there are approximately 750 retail food facilities each of which are inspected one to three times annually. Any completed surveys that indicate non-compliance are forwarded to the appropriate Permittee's code enforcement unit.

7.2 Reporting to San Diego Regional Board

In conducting a commercial/industrial facility inspection, if it appears that the facility may be required to have coverage under the General Permit for Stormwater Discharges Associated with Industrial Activities and the facility operator indicated that an NOI has not been filed, the inspector will provide the operator with an informational sheet on the requirements of the General Permit for Stormwater Discharges Associated with Industrial Activities. The inspector also documents the name, address, and SIC code of the facility. Subsequently, a listing of such facilities is compiled and forwarded to the San Diego Regional Board staff on a frequency to be determined by the Permittees.

7.3 Proposed Program Commitments

To support a comprehensive, countywide MS4 program the Permittees propose the following actions:

- Within 9 months of permit adoption, each Co-Permittee shall update its inventory (database) of industrial facilities within its jurisdiction that has the potential to discharge pollutants to the MS4. The industrial facilities database should include the following facility information: name, address, city, zip code, mailing address (if different), location reference (such as, geographic coordinates, cross streets, etc.), facility contact and phone number, Standard Industrial Classification (SIC) Codes, WDID Number associated with the General Permit for Stormwater Discharges Associated with Industrial Activities (if any) or other NPDES permit or Waste Discharge Requirements, assessor's parcel number, and site size.
- Within 9 months of permit adoption, each Co-Permittee shall update its inventory of commercial facilities within its jurisdiction to include the following types of commercial facilities/companies:
  - Mobile automobile or other vehicle washing (base of operations),
  - Mobile carpet, drape or furniture cleaning (base of operations),
  - Mobile high pressure or steam cleaning (base of operations),
  - Nurseries and greenhouses,
  - Landscape and hardscape installation (base of operations), and
  - Other commercial sites/sources that the Permittee determines may contribute a significant pollutant load to the MS4.
- Within 9 months of permit adoption, each Co-Permittee's commercial facility database should contain the following information: facility name, address, city, zip code, mailing address (if different), location reference (such as, geographic coordinates, cross streets, etc.), facility contact and phone number, Standard Industrial Classification (SIC) Codes, WDID Number(s) associated with the General Permit for Stormwater Discharges Associated with Industrial Activities (if any)

or other NPDES permit or Waste Discharge Requirements, assessor's parcel number, and site size.

- Within 10 months of permit adoption, each Co-Permittee's procedures for industrial facility compliance surveys and inspections shall be revised to, at a minimum, address the following:
  - Check for submittal of a NOI to comply with the General Permit for Stormwater Discharges Associated with Industrial Activities or other permit issued by the State Water Resources Control Board or Regional Board to an industrial facility within the Permit Area.
  - Confirm compliance with the local jurisdiction's storm water ordinance.
  - Check for active non-storm water discharges, potential illicit connections, and illegal discharges to the MS4.
  - Potential for discharge of pollutants in Urban Runoff from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.
  - Implementation and maintenance of appropriate BMPs for industrial facilities.
- Within 10 months of permit adoption, the Compliance Assistance Program will be revised to include compliance surveys/inspections of restaurants within Riverside County that, at a minimum, address :
  - Oil and grease disposal to verify that these wastes are not discharged onto a parking lot, street or adjacent catch basin;
  - Trash bin areas to verify that these areas are clean, the bin lids are closed, the bins are not filled with liquid, and the bins have not been washed out into the MS4;
  - Parking lot, alley, sidewalk and street areas to verify that floor mats, filters and garbage containers are not washed in those areas and that no wash water is discharged to MS4s from those areas; and,
  - Parking lot areas to verify that they are cleaned by sweeping, not by hosing down, and that the facility operator uses dry methods for spill cleanup.
- Within 11 months of permit adoption, each Co-Permittee shall designate each industrial facility in its inventory (database) as a high, medium, or low threat to water quality. The priority of an industrial facility may be revised based upon information from subsequent inspections.
- Within 11 months of permit adoption, each Co-Permittee shall designate each commercial facility in its inventory (database) as a high, medium, or low threat to water quality. The priority of a commercial facility may be revised based upon information from subsequent inspections.
- Within 12 months of permit adoption, each Co-Permittee shall have arranged for adequate training of its staff assigned to conduct the commercial facilities compliance surveys/inspections and on an annual basis thereafter. New hires or transfers that will be performing the industrial facilities compliance surveys/inspections for a Co-Permittee will be trained within 6 months of starting field duties.
- Within 12 months of permit adoption, each Co-Permittee shall have arranged for adequate training of its staff assigned to conduct the industrial facilities compliance surveys/inspections and on an annual basis thereafter. New hires or transfers that will be performing the industrial facilities compliance surveys/inspections for a Co-Permittee will be trained within 6 months of starting field duties.

- Training programs related to industrial and commercial facilities compliance surveys/inspections should be coordinated with San Diego Regional Board staff and prior notification of formal classroom training activities shall be provided to the Regional Board staff.
- Within 12 months of permit adoption, each Co-Permittee shall implement an inspection frequency for commercial facilities/companies of no less than:
  - Once a year for commercial facilities designated high priority,
  - Once biannually for commercial facilities designated medium priority, and
  - Once during the term of the 2003 MS4 Permit for commercial facilities designated low priority.
- Within 12 months of permit adoption, each Co-Permittee shall implement an inspection frequency for industrial facilities of no less than:
  - Once a year for industrial facilities designated high priority,
  - Once biannually for industrial facilities designated medium priority, and
  - Once during the term of the 2003 MS4 Permit for industrial facilities designated low priority.
- Each Co-Permittee shall document the number of industrial and commercial facility compliance surveys/inspections conducted and the actions taken. An appropriate summary of said actions shall be provided to the District for inclusion in the Annual Report.
- Within 18 months the Permittees shall modify the Santa Margarita Regional DAMP to incorporate new and/or revised program elements.

8.0 PUBLIC EDUCATION AND OUTREACH

8.1 STORMWATER/CLEANWATER PROTECTION PROGRAM

The Permittees have developed a strong area-wide public education and outreach program known as the StormWater/CleanWater Protection Program (SW/CWPP). The goals of the SW/CWPP are to foster broad public awareness of water pollution concerns, to increase public acceptance of pollution prevention activities to curtail everyday human behaviors that contribute to water pollution problems, and to promote stewardship of local water resources. A copy of the interagency agreement regarding the SW/CWPP is included in Appendix E.

Pollution prevention is a major focus of the SW/CWPP. Common stormwater pollution prevention themes that are emphasized throughout all aspects of the SW/CWPP's public outreach activities and program materials include:

- Proper disposal of household hazardous wastes;
- Proper disposal of used motor oil;
- Guidelines to reduce excessive use of pesticides and fertilizers;
- Good housekeeping BMPs for homeowners and business operators; and
- Proper disposal of pet waste.

The public education program uses numerous outreach methods to reach audiences of all ages and interests. Table 8-1 presents the various outreach methods for different audiences.

Table 8-1. Public Education and Outreach Methods

Audience	Outreach Methods
Residents; General Public	• Pamphlets • Brochures • Radio • TV/Cable • Utility Bill Inserts • Direct Mail • Newspaper Inserts • Advertisements • Community Events • Community Presentations • Surveys
Groundskeepers; Home Gardeners	• Focused Brochures • Posters • Workshops • Newspaper Inserts
Commercial; Industrial	• Brochures • Posters
Students	• Classroom Presentations • Videos • Workbook Materials • Coloring Contests
General Contractors; Construction Contractors	• Focused Brochures • Information at Public Permit Counters • New Development Guidelines
Architects; Developers	• Focused Brochures • Information at Public Permit Counters • New Development Guidelines

To leverage finite resources, the SW/CWPP have frequently partnered with various entities (Riverside County's Waste Management Department, Western Riverside Council of Governments, Los Angeles County Department of Public Works, Riverside Corona Resource Conservation District, Mission Resource Conservation District, California Conservation Corp, etc.) to promote conservation, pollution

prevention and environmental awareness. The education program also expands outreach opportunities by collaborating with entities such as Riverside County's Agricultural Commissioner and University California Cooperative Extension to promote proper use of pesticides and herbicides to specific target groups such as pesticide applicators and home gardeners.

The SW/CWPP developed an Internet website that provides information to residents and businesses about the problem of storm water pollution and offers simple stormwater pollution prevention activities. The website also provides an order form for all educational materials. The website also has a tracking mechanism for the number of queries. The website address is: www.co.riverside.ca.us/depts/flood.

The SW/CWPP operates a toll-free hotline for the reporting of illegal dumping activity and for providing free public education information. Since 1998 the SW/CWPP has kept a record of calls to the toll-free hotline number.

8.2 Proposed Program Commitments

To support a comprehensive, countywide MS4 program the Permittees propose the following actions:

- The Permittees shall participate in the Santa Ana/Santa Margarita Regions Public Education Committee to provide oversight and guidance for the implementation of the public education program. The Public Education Committee shall meet at least twice per year. Through use of local print, radio and television, the Permittees must ensure that the public and business education program makes a minimum of 5 million impressions per year.
- Within 6 months of permit adoption, the Co-Permittees shall begin utilizing BMP guidance developed by the Public Education Committee for restaurants, automotive service centers, and gasoline service stations, and authorized non-stormwater discharges for distribution.
- Within 6 months of permit adoption, the Permittees shall begin utilizing public education materials developed by the Public Education Committee to encourage the public to report clogged storm drains, faded or missing catch basin stencils, illegal dumping from residential, industrial, construction and commercial sites into public streets, storm drains and waterbodies, and general pollution prevention information.
- Within 6 months of permit adoption, the Permittees shall begin utilizing BMP guidance materials developed by the Public Education Committee for the household use of fertilizers, pesticides, and other chemicals, mobile vehicle maintenance, carpet cleaners, commercial landscape maintenance, pavement cutting, and proper management of authorized non-stormwater discharges. These guidance materials shall be distributed to the public, trade associations, etc., through participation in community events, trade association meetings, and/or mail.
- Within 12 months of permit adoption, the Co-Permittees shall begin utilizing the method identified by the Public Education Committee for providing businesses within their jurisdiction educational materials and compliance guidance materials related to the General Permit for Stormwater Discharges Associated with Industrial Activities.
- Within 10 months of permit adoption, the Permittees shall develop a survey proposal for measuring changes in awareness of Urban Runoff quality as a result of the education program. The survey shall be completed by the end of the 2003 MS4 Permit term.

9.0 MONITORING PROGRAM

9.1 OVERVIEW OF THE CONSOLIDATED PROGRAM FOR WATER QUALITY MONITORING

During the term of Order No. 98-02, the Principal Permittee implemented the Consolidated Program for Water Quality Monitoring (Monitoring Program), a copy of which is included in Appendix H. This Monitoring Program was developed in 1994 to integrate the requirements of the three area-wide MS4 NPDES permits issued by the Santa Ana, San Diego and Colorado Regional Boards, each with jurisdictions in portions of Riverside County. The goal of the Monitoring Program is to develop information that can be used to support effective implementation of the Colorado, Santa Ana and Santa Margarita Regional DAMPs.

The major objectives of the Monitoring Program are:

- To identify those Receiving Waters, which without additional action to control pollution from Urban Runoff, cannot reasonably be expected to achieve or maintain applicable water quality standards required to sustain the beneficial uses, the goals, and the objectives of the Basin Plans.
- To develop and support an effective MS4 management program.
- To identify significant water quality problems, related to discharges of Urban Runoff within the Permit Area of each region.
- To define water quality status, trends, and pollutants of concern associated with urban discharges and their impact on the beneficial uses of the Receiving Waters.
- To analyze and interpret the collected data to determine the impact of Urban Runoff and/or validate any water quality models.
- To characterize pollutants associated with Urban Runoff, and to assess the influence of urban land uses on Receiving Water quality and the beneficial uses of Receiving Waters.
- To identify significant water quality problems related to Urban Runoff.
- To identify other sources of pollutants in Urban Runoff to the maximum extent practicable (e.g., including, but not limited to, atmospheric deposition, contaminated sediments, other non-point sources, etc.)
- To identify and prohibit illicit connections.
- To identify and prohibit illicit discharges.
- To verify and to identify sources of Urban Runoff pollutants.
- To verify and to control illegal discharges.
- To evaluate the effectiveness of the Santa Margarita Regional DAMP and WQMPs, including an estimate of pollutant reductions achieved by the structural and non-structural BMPs implemented by the Permittees.

The Monitoring Program primarily utilized three types of locations for sampling: storm drain outfalls, receiving water, and sediment:

- Nearly all of the storm drain sampling locations are located in urbanized watersheds at the end of improved drainage facilities (e.g., storm drains or channels) that discharge to a receiving water. The land use has not changed significantly over the short-term in most cases for the catchments associated with the storm drain outfalls. Data collected from storm drain outfall locations may be used to characterize pollutant loadings discharged from their respective catchment areas and allow the estimation of pollutant mass loads from storm drains to receiving waters. Only a few of the storm drain outfall catchments are of sufficiently uniform land use to assess pollutant loads that are land use specific.
- Receiving water sampling locations were selected to provide baseline information of ambient water quality. Receiving waters are defined as those water bodies that collect, convey, or receive stormwater runoff. Examples of receiving waters include creeks, rivers, lakes, reservoirs, and infiltration basins.
- Sediment sampling locations were chosen to assess the accumulation of pollutants in the sediment deposited in drainage facilities. Such information is useful in evaluating appropriate maintenance activities for flood control basins and ensuring the proper disposal of excavated material. Sediment sampling locations are located in detention/retention basins and channels having a natural bed (presumably having settled material from the MS4).

A sampling data base (spreadsheet format) that includes channel type, location information, nearest rain gauge, type of sampling location (outfall vs. receiving water), sampling methods and equipment, and tributary area (in process) has been developed.

The Monitoring Program includes the following sampling types: wet weather, dry weather, sediment, microbial, screening, complaint-based, and special studies. To date wet weather, dry weather, and sediment samples have been the primary focus of monitoring efforts. Wet weather samples involve weather forecasting, scheduling field crews, collecting a representative sample from the runoff hydrograph, compositing samples, and laboratory analysis. Dry weather flow indicates a source not related to rainfall, which may reflect an illicit connection or an illegal discharge. Sediment samples are mainly collected to assess the presence of pollutants in sediments that may accumulate in flood control basins and channels.

9.2 Participation in Regional Monitoring Efforts

The District participates in the Southern California Stormwater Monitoring Coalition, which is a regional monitoring consortium. The consortium includes the Los Angeles, Santa Ana, and San Diego Regional Boards and each of the Principal Permittees in Southern California (i.e., the Counties of Los Angeles, Orange, San Bernardino, San Diego and Ventura), and the City of Long Beach. The overall goal for this consortium is to establish a Southern California stormwater research and monitoring program that would focus on improving stormwater monitoring science, coordination among data collection programs, and evaluating the effects of stormwater discharges to receiving waters.

9.3 PROPOSED PROGRAM COMMITMENTS

To support a comprehensive, countywide MS4 program the Permittees will modify the Consolidated Monitoring Program as follows:

Within 6 months of permit adoption, the Permittees shall, in consultation with Colorado, San Diego and Santa Ana Regional Board staff, revise the Consolidated Monitoring Program to reflect an integrated watershed monitoring approach and to achieve the objectives of the Monitoring Program.

10.0 PROGRAM EVALUATION, REPORTING AND REVISION

10.1 ANNUAL REPORTING

Each year the District has compiled and prepared an Annual Report for submittal to the San Diego Regional Board. To support preparation of the Annual Reports, the Co-Permittees have submitted to the District information regarding their implementation of the Santa Margarita Regional DAMP utilizing standardized reporting forms.

Future Annual Reports shall, at a minimum, include the following:

- A review of the status of program implementation and compliance (or non-compliance) relative to the schedules provided in the 2003 MS4 Permit.
- An assessment of the effectiveness of control measures established under the illicit discharge elimination program and the Santa Margarita Regional DAMP. The effectiveness may be measured in terms of how successful the program has been in eliminating illicit connections/illegal discharges and reducing pollutant loads in Urban Runoff.
- An assessment of any modifications to the WQMPs, or the Santa Margarita Regional DAMP, made to comply with Clean Water Act requirements to reduce the discharge of pollutants to the MEP.
- A summary, evaluation, and discussion of monitoring results from the previous year and any changes to the Consolidated Monitoring Program for the following year.
- A fiscal analysis progress report as that provides each Permittee's expenditures for the previous fiscal year, each Permittee's budget for the current fiscal year, and a description of the source of funding.
- A draft work plan that describes the proposed implementation of the WQMPs and the Santa Margarita Regional DAMP for the next fiscal year. The work plan shall include clearly defined tasks, responsibilities, and schedules for implementation of the stormwater program and each Permittee's actions for the next fiscal year.
- Major changes in any previously submitted plans or policies.
- An assessment of each Permittee's compliance status with the Receiving Water Limitations included in the 2003 MS4 Permit.

However, the State Water Resources Control Board is required to develop a statewide municipal storm water (Urban Runoff) monitoring and reporting program. Once this statewide monitoring and reporting program has been developed (anticipated completion date: October 2003), the Permittees will incorporate appropriate components into their reporting.

10.2 SANTA MARGARITA REGIONAL DAMP REVISIONS

- Within 10 months of permit adoption the Permittees shall develop new standardized reporting forms that shall be completed and submitted to the Principal Permittee for preparation of each year's Annual Report.
- Within 18 months of permit adoption the Permittees shall review and revise the Santa Margarita Regional DAMP to reflect program elements that are new or revised since permit adoption. Subsequently, as part of each Annual Report the Permittees will identify the sections of the Santa Margarita Regional DAMP that require revision and within 3 months of Annual Report submittal shall revise Santa Margarita Regional DAMP accordingly.

LARGE SCALE MAPS

Figure 1-1. 2003 (1)
Figure 1-2. 1998 (2)
figure 1-3. (3)
figure 1-4. (4)

HAS BEEN UPLOADED SEPARATELY

Please select CROSS REFERENCE TAB in ECM to view linked MAP

APPENDIX A

Glossary

2003 MS4 Permit – Order No. R9 XXXX (NPDES No. CAS0108766)

Annual Report – Pursuant to each NPDES MS4 permit issued by the San Diego Regional Board to the Permittees, there is a requirement for preparation and submittal of an Annual Report.

APN – Assessor's parcel number.

Basin Plan – Water Quality Control Plan developed by the Regional Board for the San Diego Region.

BAT [Best Available Technology] – BAT is the technology-based standard established by Congress in CWA section 402(p)(3)(A) for industrial dischargers of stormwater. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source controls and structural treatment BMPs. For example, secondary treatment (or the removal of 85% suspended solids and BOD) is the BAT for suspended solid and BOD removal from a sewage treatment plant. BAT generally emphasizes treatment methods first and pollution prevention and source control BMPs secondarily. The best economically achievable technology that will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants is determined in accordance with regulations issued by the USEPA Administrator. Factors relating to the assessment of BAT shall take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, the cost of achieving such effluent reduction, non-water quality environmental impact (including energy requirements), and such other factors as the permitting authority deems appropriate.

BCT [Best Conventional Technology] – BCT is the treatment techniques, processes and procedure innovations, and operating methods that eliminate or reduce chemical, physical, and biological pollutant constituents.

Beneficial Uses – The uses of water necessary for the survival or well being of humans, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals. "Beneficial Uses" that may be protected against include, but are not limited to: domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975, and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)]

Biological Integrity – Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Referred to in Environmental Management 5:55-68 as: "A diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

BMP [Best Management Practices] – Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the U.S. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of MS4 permits, BMPs are typically used in place of numeric effluent limits.

Caltrans – California Department of Transportation

CAP – Compliance Assistance Program developed and funded by the Permittees.

CEQA – California Environmental Quality Act (Section 21000 et seq. of the California Public Resources Code.

Cleaning – The removal of litter or debris that can impact Receiving Waters.

CMP – Consolidated Program for Water Quality Monitoring

Conditions of Concern – Scour, erosion (sheet, rill and/or gully), aggradation (raising of a streambed from sediment deposition), changes in fluvial geomorphology, hydrology and changes in aquatic ecosystem.

Construction Activity Permit – The State's General Permit for Stormwater Discharges Associated with Construction Activity.

Contamination – As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease." "Contamination" includes any equivalent effect resulting from the disposal of waste whether or not Waters of the U.S. are affected.

Co-Permittees – County of Riverside and the Cities of Hemet, Murrieta, and Temecula.

County – County of Riverside, legal entity

CWA – Federal Clean Water Act

DAMP [Drainage Area Management Plan] – The DAMP is a programmatic document developed by the Permittees and approved by the Executive Officer that outlines the major programs and policies that the Permittees individually and/or collectively implements to manage Urban Runoff in the Permit Area.

E/CS – Enforcement Compliance Strategy developed by the Permittees.

Effluent limitations – Limitations on the volume of each waste discharge and the quantity and concentrations of pollutants in the discharge. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. Effluent limitations are limitations of the quantity and concentrations of pollutants in a discharge. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. In other words, an effluent limit is the maximum concentration of a pollutant that a discharge can contain. To meet effluent limitations, the effluent typically must undergo one or more forms of treatment to remove pollutants in order to lower the pollutant concentration below the limit. Effluent limits are typically numeric (e.g., 10 mg/l).

Emergency Situation – At a minimum, sewage spills that could impact water contact recreation, all sewage spills above 1,000 gallons, an oil spill that could impact wildlife, a hazardous material spill where residents are evacuated, all reportable quantities of hazardous waste spills as per 40CFR 117 and 302, and any incident reportable to the OES (1-800-852-7550).

Ephemeral Stream – A stream that flows only in direct response to precipitation.

Executive Officer — The Executive Officer of the Regional Board

General Permit for Stormwater Discharges Associated with Construction Activity – State Board Order No. 99-08 DWQ (NPDES No. CAS000002)

General Permit for Stormwater Discharges Associated with Industrial Activities – State Board Order No. 97-03 DWQ (NPDES No. CAS000001)

General Stormwater Permits – The State's General Permits for Stormwater Discharges Associated with Industrial Activity or Construction Activity.

GIS – Geographical Information Systems.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA to be reported if a designated quantity of the material is spilled into the Waters of the U.S. or emitted into the environment.

Illegal Discharge – Illegal discharge means any disposal, either intentionally or unintentionally, of material or waste to land or MS4s that can pollute stormwater or create a nuisance. The term illegal discharge includes any discharge to the MS4 that is not composed entirely of stormwater, except discharges pursuant to an NPDES permit or Waste Discharge Requirements, or discharges that are identified as "not prohibited" in the 2003 MS4 Permit.

Illicit Connection — Illicit Connection means any connection to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit connection includes all non storm-water discharges and connections except discharges pursuant to an NPDES permit or Waste Discharge Requirements, or discharges that are identified as "not prohibited" in the 2003 MS4 Permit.

Impaired Waterbody – Section 303(d) of the CWA requires each of California's Regional Water Quality Control Boards to routinely monitor and assess the quality of waters of their respective regions. If this assessment indicates that beneficial uses are not met, then that waterbody must be listed under Section 303(d) of the CWA as an impaired waterbody. A 12-mile reach of Murrieta Creek was included in the 303(d) list of impaired waterbodies approved by the SWRCB on February 4, 2003. Murrieta Creek was identified as impaired by phosphorous and this impairment was identified a low priority for TMDL development.

Implementation Agreement – NPDES Stormwater Discharge Permit – Implementation Agreement dated November 1998 by and among the Permittees.

Impressions – The most common measure is "gross impressions" that includes repetitions. This means that if the same person sees an advertisement, or hears a radio spot, or sees a television advertisement a thousand times, that will be counted as 1000 impressions. There are independent auditing agencies (e.g., Nielsen Rating) that perform this task and provide you with the numbers. In most cases, when you buy an advertisement in any media, they will provide you this number.

LA – Load allocations

Land Disturbance – The clearing, grading, excavation, stockpiling, or other construction activity that results in the possible mobilization of soils or other pollutants into MS4s. This specifically does not include routine maintenance activity to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. This also does not include emergency construction activities required to protect public health and safety. The Permittees should first confirm with Regional Board staff if they believe that a particular routine maintenance activity is exempt under this definition from any General Stormwater Permit or other Orders issued by this Regional Board.

Management Steering Committee — A committee to address Urban Runoff management policies for the Permit Area and coordinate the review and necessary revisions of the DAMP and Implementation Agreement.

MEP [Maximum Extent Practicable] – There is no statutory or regulatory definition for MEP. The CWA section 402(p)(3)(B)(iii) requires that MS4 permits "shall require controls to reduce the discharge of pollutants to the MEP, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants..." However, there has been several interpretations that have been provided including:

1. MEP means that when considering and choosing BMPs to address an identified pollution problem, the municipality is to consider the following: technical feasibility, effectiveness, compliance with regulatory standards, cost, and public acceptance. The BMP chosen must achieve greater or substantially the same pollution control benefit as identified in the manuals developed by the California Stormwater Quality Task Force (Proposed by Permittees).

2. MEP means to the maximum extent feasible, taking into account considerations of synergistic, additive, and competing factors, including but not limited to, gravity of the problem, technical feasibility fiscal feasibility, public health risks, societal concerns, and social benefits. (Order R8-2001-10 Orange County MS4 Permit)

3. MEP is the technology-based standard established by Congress in CWA Section 402(p)(3)(B)(iii) that municipal dischargers of stormwater (MS4s) must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their Water Quality Management Plan. Their total collective and individual activities conducted pursuant to the Water Quality Management Plan becomes their proposal for MEP as it applies both to their overall effort, as

well as to specific activities (e.g., MEP for street sweeping, or MEP for municipal separate storm sewer system maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

4. In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows: "To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern

b. Regulatory Compliance: Is the BMP in compliance with stormwater regulations as well as other environmental regulations?

c. Public Acceptance: Does the BMP have public support?

d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?

e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."

MS4 [Municipal Separate Storm Sewer System] – An MS4 is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, natural drainage features or channels, modified natural channels, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to Waters of the U.S.; (ii) Designated or used for collecting of conveying stormwater; (iii)

Which is not a combined sewer; (iv) Which is not part of the POTW as defined at 40 CFR 122.2. Historic and current developments make use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.

Municipal Facilities Strategy — Each Permittee's plan to address potential impacts to Urban Runoff quality from its facilities and activities.

New Development – The categories of development identified in subsections VIII.B.1.b of the 2002 MS4 Permit adopted by the Santa Ana Regional Water Quality Control Board on October 25, 2002. "New development' does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of a facility, nor do they include emergency new developments required to protect public health and safety. Dischargers should confirm with Regional Board staff whether or not a particular routine maintenance activity is subject to the 2003 MS4 Permit.

NOI [Notice of Intent] — A NOI is an application for coverage under a General Stormwater Permit.

Non-Point Source – Non-point source refers to diffuse, widespread sources of pollution. These sources may be large or small, but are generally numerous throughout a watershed. Non-point sources, include but are not limited to urban, agricultural or industrial areas, roads, highways, construction sites, communities served by septic systems, recreational boating activities, timber harvesting, mining, livestock grazing, as well as physical changes to stream channels, and habitat degradation. Non-point source pollution can occur year-round any time rainfall, snowmelt, irrigation, or any other source of water runs over land or through the ground, picks up pollutants from these numerous, diffuse sources and deposits them into rivers, lakes and coastal waters or introduces them into ground water.

Non-Stormwater – Non-stormwater consists of all discharges to and from a stormwater conveyance system that do not originate from precipitation events (i.e., all discharges from a conveyance system other than stormwater). Non-stormwater includes illicit discharges, non-prohibited discharges and NPDES permitted discharges. An illicit discharge is defined at 40 CFR 122.26(b)(2) as any discharge to a MS4 that is not composed entirely of stormwater except discharges pursuant to a separate NPDES permit and discharges resulting from emergency fire fighting activities.

NPDES [National Pollutant Discharge Elimination System] – Permits issued under Section 402(p) of the CWA for regulating discharge of pollutants to Waters of the U.S.

Nuisance – As defined in the Porter-Cologne Water Quality Control Act a nuisance is "anything which meets all of the following requirements:

1. Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
2. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
3. Occurs during, or as a result of, the treatment or disposal of wastes."

Numeric Effluent Limitations – A method by which "effluent limitations," see above, are prescribed for pollutants in waste discharge requirements using concentration based criteria to implement the federal NPDES regulations. When numeric effluent limits are met at the "end-of-pipe," the effluent discharge generally will not cause water quality standards to be exceeded in the receiving waters (i.e., water quality standards will also be met).

OES – Office of Emergency Services

Perennial Stream – A stream that flows continuously.

Perennial Interrupted Stream – Streams that have perennial reaches with intervening intermittent or ephemeral reaches.

Permit Area – The portion of the upper Santa Margarita watershed that is within the County of Riverside and identified in Appendix 1 of the 2003 MS4 Permit as "Urban Area" and those portions of "Agriculture" and "Open Space" that do convert to industrial, commercial, or residential use during the term of the 2003 MS4 Permit.

Permittees – Co-Permittees and the Principal Permittee.

Person or Party – A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. [40 CFR 122.2].

Point Source – Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged.

Pollutant – A pollutant is broadly defined as any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollutants of Concern – A list of potential pollutants to be analyzed for in the Monitoring and Reporting Program. This list shall include: total suspended solids, total inorganic nitrogen, total phosphorus, soluble reactive phosphorus, acute toxicity, fecal coliform, total coliform, pH, and chemicals/potential pollutants expected to be present on the project site. In developing this list, consideration should be given to the chemicals and potential pollutants available for stormwater to pick-up or transport to Receiving Waters, all pollutants for which a waterbody within the Permit Area that has been listed as impaired under CWA Section 303(d), the category of development and the type of pollutants associated with that development category.

Pollution – As defined in the Porter-Cologne Water Quality Control Act, pollution is the alteration of the quality of the Waters of the U.S. by waste, to a degree that unreasonably affects either of the following: 1) the waters for beneficial uses; or 2) facilities that serve these beneficial uses. Pollution may include contamination.

Pollution Prevention – Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control, treatment, or disposal.

Post-Construction BMPs – A subset of BMPs including source control and structural treatment BMPs which detain, retain, filter or educate to prevent the release of pollutants to surface waters during the final functional life of development.

POTW – Publicly owned treatment works

Principal Permittee – Riverside County Flood Control and Water Conservation District.

Public Education Committee – A committee that has been established by the Santa Ana Region/Santa Margarita Region Permittees pursuant to the 2002 MS4 Permit for the Santa Ana River Region to provide oversight and guidance for the implementation of the public education program.

Rainy Season – October 1 through May 31 of each year.

District – Riverside County Flood Control and Water Conservation District

Receiving Water(s) – (1) The Waters of the U.S. that includes surface *and ground waters*. (2) The receiving waters within the Permit Area

Receiving Water Limitations – Receiving Water Limitations are requirements included in the 2003 MS4 Permit issued by the Regional Board to assure that the regulated discharges do not violate water quality standards established in the Basin Plan at the point of discharge to Waters of the U.S. Receiving Water Limitations are used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Receiving Water Quality Objectives — Water quality objectives specified in the Basin Plan for Receiving Waters.

Region – Upper Santa Margarita River Watershed

Regional Board – California Regional Water Quality Control Board, San Diego Region

Riverside County — Territory within the geographical boundaries of the County.

ROWD – Report of Waste Discharge, which is the application for renewal of San Diego Regional Board Order No. 98-02 and USEPA Region IX NPDES Permit No. CAS 0108766.

Santa Margarita Region – That portion of the Santa Margarita River watershed that resides within Riverside County.

Sediment – Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. The 2003 MS4 Permit regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

SIC – Standard Industrial Classification

Significant Redevelopment – defined in the 2003 MS4 Permit.

Source Control BMPs – In general, activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed to limit the contact between pollutant sources and stormwater or authorized non-stormwater. Examples include: activity schedules, prohibitions of practices, street sweeping, facility maintenance, detection and elimination of illicit connections and illegal dumping, and other non-structural measures. Facility design examples include providing attached lids to trash containers, or roof or awning over material and trash storage areas to prevent direct contact between water and pollutants. Additional examples are provided in Section 4 of Supplement A to the DAMP.

State Board — California State Water Resources Control Board

Stormwater – Runoff from urban, open space, and agricultural areas consisting only of those discharges that originates from precipitation events. Stormwater is that portion of precipitation that flows across a surface to the MS4 or receiving waters. Examples of this phenomenon include: the water that flows off a building's roof when it rains (runoff from an impervious surface); the water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and the water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). During precipitation events in urban areas, rain water picks up and transports pollutants through stormwater conveyance systems, and ultimately to Waters of the U.S.

Stormwater Ordinance – The Stormwater/Urban Runoff Management and Discharge Control Ordinances and ordinances addressing grading and erosion control adopted by each of the Co-Permittees

Structural BMPs – Physical facilities or controls which may include secondary containment, treatment measures, (e.g. first flush diversion, detention/retention basins, and oil/grease separators), run-off controls (e.g., grass swales, infiltration trenches/basins, etc.), and engineering and design modification of existing structures. Additional examples are provided in Section 4 of Supplement A to the Riverside County DAMP dated April 1996.

Subdivision Map Act – Section 65000 et seq. of the California Government Code

Supplement A – Supplement A to the DAMP that is entitled "New Development Guidelines" and the attachment thereto entitled "Selection and Design of Stormwater Quality Controls."

SWPPP – Stormwater Pollution Prevention Plan

TDS — Total dissolved solids.

Technical Committee — A Permittee staff committee to direct the development of the DAMP and direct the implementation of the overall Urban Runoff program as described in the ROWD.

TMDL [Total Maximum Daily Load] – TMDL is the maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA Section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity – Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

TSS — Total suspended solids.

Uncontaminated Pumped Groundwater — Groundwater that meets the surface water quality objectives specified in the Basin Plan to which it is proposed to be discharged.

Urban Runoff – Urban Runoff includes those discharges from residential, commercial, industrial, and construction areas within the Permit Area and excludes discharges from feedlots, dairies, farms, and open space. Urban Runoff discharges consist of stormwater and non-stormwater surface runoff from drainage sub-areas with various, often mixed, land uses within all of the hydrologic drainage areas that discharge into the Waters of the U. S. In addition to Urban Runoff, the MS4s regulated by the 2002 MS4 Permit receive flows from agricultural activities, open space, state and federal properties and other non-urban land uses not under the control of the Permittees. The quality of the discharges from the MS4s varies considerably and is affected by, among other things, past and present land use activities, basin hydrology, geography and geology, season, the frequency and duration of storm events, and the presence of past or present illegal and allowed disposal practices and illicit connections. The Permittees lack legal jurisdiction over stormwater discharges into their respective MS4s from agricultural activities, California and federal facilities, utilities and special districts, Native American tribal lands, wastewater management agencies and other point and non-point source discharges otherwise permitted by or under the jurisdiction of the Regional Board. The Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. Similarly, certain activities that generate pollutants present in Urban Runoff are beyond the ability of the Permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from lawful application of pesticides, nutrient runoff from agricultural activities, and leaching of naturally occurring minerals from local geography.

USEPA — United States Environmental Protection Agency

Waste – As defined in Water Code Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste that cannot be discharged directly or indirectly to waters of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Waste Discharge Requirements – As defined in Section 13374 of the California Water Code, the term "waste discharge requirements" is the equivalent of the term "permits" as used in the Federal Water Pollution Control Act, as amended. The Regional Board usually reserves reference to the term "permit" to Waste Discharge Requirements for discharges to surface Waters of the U.S.

Water Code – California Water Code

Waters of the U.S. – Waters of the U.S. can be broadly defined as navigable surface waters and all tributary surface waters to navigable surface waters. Groundwater is not considered to be a Waters of the U.S. As defined in 40 CFR 122.2, the Waters of the U.S. are defined as: (a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as Waters of the U.S. under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Water Quality Objectives – Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water [California Water Code Section 13050 (h)]. The Regional Boards establish California's water quality objectives in the Water Quality Control Plans. As stated in the Porter-Cologne requirements for discharge (CWC 13263): "(Waste discharge) requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241." Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a Receiving Water and still generally ensure that the beneficial uses of the Receiving Water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne's definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards – are defined as the water quality goals of a waterbody (or a portion of the waterbody) designating beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) to be made of the water and the water quality objectives or criteria necessary to protect those uses.

Watershed – That geographical area which drains to a specified point on a watercourse, usually a confluence of streams or rivers (also known as drainage area, catchments, or river basin).

WLA – Waste load allocations

WQMP – Water Quality Management Plan as described in the 2003 MS4 Permit.

APPENDIX B

Permit No. CAS0108766 and Order No. 98-02

California Regional Water Quality Control Board
San Diego Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb9/
9771 Clairemont Mesa Boulevard, Suite A, San Diego, California 92124-1324
Phone (858) 467-2952 • FAX (858) 571-6972

Gray Davis
Governor

CERTIFIED MAIL-RETURN RECEIPT
P 053 272 155

October 6, 2000

RECEIVED
OCT 11 2000
RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DIST

Mr. David Zappe
Riverside County
Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501

Dear Mr. Zappe:

TENTATIVE ADDENDUM NO. 1 TO ORDER NO. 98-02, NPDES PERMIT NO. CAS0108766

Enclosed is a copy of tentative Addendum No. 1 to Order No. 98-02, *Waste Discharge Requirements for Storm Water and Urban Runoff from the Riverside County Flood Control District, the County of Riverside, and the Incorporated Cities of Riverside County Within the San Diego Region*. This tentative addendum will be presented to the Regional Board for consideration at the Regional Board meeting scheduled for November 8, 2000. Tentative Addendum No. 1 to Order No. 98-02 will essentially adopt the language of USEPA permit NPDES No. CAS0108766 in its entirety.

The November 8th Board meeting will be held at the City of Encinitas, City Council Chambers located at 505 Vulcan Avenue, Encinitas. Please review and comment on the tentative addendum at your earliest convenience. I request that you submit any written comments no later than November 1, 2000, so that your comments and staff responses can be provided to the Regional Board members prior to the day of their meeting. If you have any questions regarding tentative Addendum No. 1 to Order No. 98-02, you may contact Elizabeth Lair of my staff at (858) 636-3161.

Respectfully,

JOHN H. ROBERTUS
Executive Officer
San Diego Regional Water Quality Control Board

SCANNED
64984

Enclosure: Tentative Addendum No.1 to Order No. 96-03

cc: w/ enclosure

John Richards
Office of Chief Counsel
SWRCB
P.O. Box 100
901 P Street
Sacramento, CA 95814

Terry Oda
CWA Standards and Permits Office
USEPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Eugene Bromley
CWA Standards and Permits Office
USEPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

All Riverside Area Co-Permittees in the San Diego Region

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

TENTATIVE ADDENDUM NO. 1 TO ORDER NO. 98-02
NPDES PERMIT NO. CAS0108766

AN ADDENDUM MODIFYING ORDER NO. 98-02 TO INCORPORATE LANGUAGE DEVELOPED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds that:

1. Order No. 98-02 (NPDES Permit No. CAS0108766) specifies Waste Discharge Requirements for **Discharges of Storm Water and Urban Runoff from the Riverside County Flood Control District, the County of Riverside, and the Incorporated Cities of Riverside County within the San Diego Region** (Co-Permittees).

2. NPDES No. CAS0108766 issued by the USEPA on May 30, 1999 established waste discharge requirements for the Co-Permittees.

3. The requirements of Order No. 98-02 must be modified to assure consistency with the NPDES No. CA0108766, issued by the USEPA.

4. This Regional Board has notified all known interested parties of its intent to modify Order No. 98-02 to reflect the addition of the language developed by the United States Environmental Protection Agency.

5. This Regional Board in public hearing heard and considered all comments pertaining to the final draft of the addendum.

IT IS HEREBY ORDERED THAT Order No. 98-02 is modified to reflect the language in it entirety as developed by the United States Environmental Protection Agency in their **Authorization to Discharge Under the National Pollutant Discharge Elimination System** which became effective May 30, 1999.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Addendum adopted by the California Regional Water Quality Control Board, San Diego Region, on November 8, 2000.

Tentative
JOHN H. ROBERTUS
Executive Officer

S:/storm/lair/riverside/order98-02addendum

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 25 1999

In Reply
Refer to: WTR-5

David P. Zappe
General Manager-Chief Engineer
Riverside County Flood Control and
Water Conservation District
1995 Market Street
Riverside, CA 92501

Re: Storm Water Permit No. CAS0108766 for Riverside County Flood Control and Water Conservation District and Co-Permittees

Dear Mr. Zappe:

The purpose of this letter is to formally notify the Riverside County Flood Control and Water Conservation District (the "District") and its co-permittees under final NPDES permit No. CAS0108766 that EPA, Region 9 is returning the permit to the San Diego Regional Water Quality Control Board (SDRWQCB) for implementation. This permit authorizes storm water discharges from the municipal separate storm sewer system (MS4) operated by the District and its co-permittees within the jurisdiction of the SDRWQCB. As you know, EPA, Region 9 objected to the permit which was issued by the SDRWQCB for Riverside County on May 13, 1998, and ultimately assumed permit issuance responsibility for the permit.

Permit No. CAS0108766 was issued by EPA, Region 9 on April 27, 1999 and the permit became effective on May 30, 1999, given the fact that no requests for an evidentiary hearing were received by May 30, 1999. By letter dated June 24, 1999, EPA, Region 9 formally notified the SDRWQCB that the Riverside County permit had been returned to the SDRWQCB for implementation. This means that the primary responsibility for overseeing compliance with the permit rests with the SDRWQCB rather than EPA, Region 9. For the District and its co-permittees, it also means that the annual reports and other information required by the permit, including the special requirements of Appendix 1 of the permit, should now be sent to the SDRWQCB rather than EPA, Region 9. However, we also request that you continue to send us copies of these materials as you have been doing for several years now.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please call Eugene Bromley of the CWA Standards and Permits Office at (415) 744-1906.

Sincerely,

Terry Oda, Chief
CWA Standards and Permits Office

cc: Christopher Hans, Riverside County
Eugene Diepholz, City of Murrieta
John Pourkazemi, City of Temecula
Mark Wills, Riverside County Flood Control
Deborah Jayne, San Diego Regional Board
John H. Robertus, San Diego Regional Board
Mike Adackapara, San Ana Regional Board
Walt Pettit, State Board
Bruce Fujimoto, State Board
Betsy Jennings, State Board
Bob Collacott, Woodward Clyde Consultants

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 25 1999

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RIVERSIDE COUNTY FLOOD CONTRO
AND WATER CONSERVATION DISTR

In Reply Refer to: WTR-5

John H. Robertus
Executive Officer
California Regional Water Quality Control
Board, San Diego Region
9771 Clairemont Mesa Blvd, Suite A
San Diego, CA 92124-1324

Re: NPDES Permit No. CAS0108766 for Riverside County and Co-Permittees

Dear Mr. Robertus:

On April 27, 1999, EPA, Region 9 issued a final NDPES permit (permit No. CAS0108766) for storm water discharges from the municipal separate storm water system (MS4) operated by Riverside County and several co-permittees within the jurisdiction of the San Diego Regional Water Quality Control Board (SDRWQCB). As you know, EPA, Region 9 objected to the MS4 permit which had been issued by the SDRWQCB for Riverside County on May 13, 1998, and ultimately assumed permit issuance responsibility for the permit.

The cover letter accompanying the permit issued by EPA, Region 9 on April 27, 1999 indicated that the permit would become effective on May 30, 1999, provided no requests for an evidentiary hearing were received in accordance with 40 CFR 124.74 and 124.76 by May 30, 1999. The time period for requesting an evidentiary hearing has now passed and no requests were received. As such, the permit is now in effect.

In a letter dated April 1, 1999 to the State Water Resources Control Board, EPA, Region 9 also provided notice of its intent to return the Riverside County MS4 permit to the SDRWQCB for implementation upon completion of the permit issuance process. As noted above, the permit is now in effect and the permit issuance process has been completed. By this letter, we are formally advising the SDRWQCB that as of the date of this letter, permit No. CAS0108766 has been returned to the SDRWQCB for implementation. This means that the primary responsibility for reviewing annual reports, the special requirements of Appendix 1 of the permit, and overseeing compliance with the permit rests with the SDRWQCB. We are separately notifying the permittees that they should be sending all reports and other information required by the permit to the SDRWQCB for review, rather than EPA, Region 9, and that the agency with primary responsibility for permit implementation is now the SDRWQCB rather than EPA, Region 9. In our letter to the permittees, however, we are also requesting that they continue

sending us copies of the reports and other submittals required by the permit as they have already been doing for several years.

If you have any questions regarding this matter, please call Eugene Bromley of the CWA Standards and Permits Office at (415) 744-1906.

Sincerely,

Terry Oda, Chief
CWA Standards and Permits Office

cc: David P. Zappe, Riverside County Flood Control
Christopher Hans, Riverside County
Eugene Diepholz, City of Murrieta
John Pourkazemi, City of Temecula
Mark Wills, Riverside County Flood Control
Deborah Jayne, San Diego Regional Board
John H. Robertus, San Diego Regional Board
Mike Adackapara, San Ana Regional Board
Walt Pettit, State Board
Bruce Fujimoto, State Board
Betsy Jennings, State Board
Jon Van Rhyn, San Diego County Department of Environmental Health
Bob Wheeler, Elsinore-Murrieta Resource Conservation District
Jayne Joy, USMC, Camp Pendleton
Borre Winkler, Riverside County BIA
Diane Takvorian, Environmental Health Coalition
Richard Watson, Richard Watson and Associates
Ken Moser, San Diego BayKeeper
Bob Collacott, Woodward Clyde Consultants
Everett DeLano, Environmental Law and Litigation
Dave Brent, California Storm Water Quality Task Force
Robert Hale, California Storm Water Quality Task Force
Robert Falk, Morrison & Foerster
Gary Grimm, Law Offices of Gary Grimm
Steve Borroum, Caltrans
Nora Chorover, Law Offices of Nora Chorover
Mark Gold, Heal the Bay
David Beckman, NRDC
Robert Cain, City of San Diego
Mike Lozeau, San Francisco BayKeeper

San Diego Regional Water Quality Control Board

9771 Clairemont Mesa Blvd., Suite A
San Diego, CA 92124
(619) 467-2952
FAX (619) 571-6972

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RIVERSIDE COUNTY FLOOD CONTRO

Pete Wilson
Governor

May 14, 1998

To all on Distribution List:

Transmittal Of Adopted Order No. 98-02, Waste Discharge Requirements And NPDES Permit No. CAS0108766 For Urban Runoff From The Riverside County Flood Control and Water Conservation District, The County of Riverside, and the Incorporated Cities of Riverside County within the San Diego Region

On May 13, 1998, the California Regional Water Quality Control Board, San Diego Region (SDRWQCB), adopted Order No. 98-02. Enclosed is a copy of the adopted Order. If you have any questions or comments, please call Mr. Greg Gearheart of my staff at (619) 627-3941.

Very truly yours,

Greg Gearheart
Water Resource Control Engineer

GTG:dsj:gtg

Attachments: Order No. 98-02

Distribution List
Gene Diepholtz, City of Murrieta
Mark Wills, Riverside County Flood Control
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ORDER NO. 98-02
NPDES NO. CAS0108766

WASTE DISCHARGE REQUIREMENTS FOR URBAN RUNOFF FROM THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, THE COUNTY OF RIVERSIDE, AND THE INCORPORATED CITIES OF RIVERSIDE COUNTY WITHIN THE SAN DIEGO REGION

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I. FACT SHEET

PROJECT

The attached pages contain information concerning an application for renewal of waste discharge requirements and a National Pollutant Discharge Elimination System (NPDES) permit, Order No. 98-02, NPDES No. CAS0108766, which prescribes waste discharge requirements for urban storm water runoff from the cities and the unincorporated areas in Riverside County within the jurisdiction of the SDRWQCB. On January 17, 1995 the Riverside County Flood Control and Water Conservation District (RCFC&WCD), the County of Riverside, the Cities of Temecula and Murrieta (Cities), hereinafter collectively referred to as Permittees, submitted NPDES Application No. CAS0108766 for an area-wide storm water discharge permit under the NPDES program. The permit application was submitted in accordance with the previous NPDES permit (Order No. 90-46) which expired on July 1, 1995. Additionally, the permit application follows guidance provided by staff of the State Water Resources Control Board (State Board) and the Regional Water Quality Control Boards (RWQCBs).

PROJECT AREA

The permitted area is delineated by the Santa Ana RWQCB-SDRWQCB boundary line on the north, the SDRWQCB - Colorado River Basin RWQCB boundary line on the east, and the County of Riverside (County) boundary line on the south and west. The permitted area is shown on Attachment 1 (Western Riverside County NPDES Permit Area).

CLEAN WATER ACT REQUIREMENTS

The Federal Clean Water Act (CWA) allows the United States Environmental Protection Agency (USEPA) to delegate its NPDES permitting authority to states with an approved environmental regulatory program. The State of California is one of the delegated states. The California Water Code (CWC) authorizes the State Board, through its Regional Boards, to regulate and control the discharge of pollutants into waters of the State and tributaries thereto. Section 405 of the Water Quality Act (WQA) of 1987 added Section 402(p) to the CWA. Pursuant to Section 402(p)(4) of the CWA, the USEPA promulgated regulations for storm water permit applications for storm water discharges associated with industrial activities and municipal separate storm sewer systems (MS4s) serving a population of 100,000 or more. As shown in Appendix I to 40 CFR 122 (the final Phase I storm water regulations), the County of Riverside has an unincorporated, urbanized-area population of greater than 100,000 and less than 250,000 (based on the 1980 decennial census) and is therefore required to obtain coverage under a municipal NPDES storm water permit . USEPA intended that Phase I municipal NPDES storm water permits focus on the areas within a county which are either already highly urbanized or are rapidly developing. The portion of Riverside County within the jurisdiction of the SDRWQCB is one the fastest growing areas in the State. Riverside County was California's fastest growing county from 1980 to 1990. Riverside County grew three times faster than Orange County and more than two times faster than San Diego County during that same time period. Temecula is currently the fastest growing city in Riverside County. From 1990 to 1997 Temecula was the 11th fastest growing city in the State. This permit governing municipal and industrial storm water discharges meets both the statutory requirements of Section 402(p)(3) of the CWA and all requirements applicable to an NPDES permit issued under the issuing authority's discretionary authority in accordance with Section 401(a)(1)(B) of the CWA.

AREA-WIDE STORM WATER PERMIT

To regulate and control storm water discharges from the Riverside County area to the MS4s, an area-wide approach is essential. The entire MS4 is not controlled by a single entity; the RCFC&WCD, the County, several Cities, and the State Department of Transportation (Caltrans), in addition to other smaller entities, manage the systems. In addition to the Cities, the County and the RCFC&WCD, there are a number of other contributors of urban storm water runoff to these storm drain systems. While there are other contributors to their MS4s, the Permittees are responsible for all discharges from their MS4s. Together with the SDRWQCB and USEPA , the Permittees share a responsibility to enforce the laws, regulations, and ordinances that apply to discharges of storm water runoff.

The management and control of the entire MS4 cannot be effectively carried out without the cooperation and efforts of all these entities. Also, it would not be practical at this time to issue a separate storm water permit to each of the entities within the permitted area whose land/facilities drain into the storm drain systems operated by the Permittees. The SDRWQCB has concluded that the best management option for this portion of Riverside County is to issue an area-wide storm water permit to the RCFC&WCD, Riverside County, and the cities in Riverside County. Storm water discharges from other state, federal, utility, or special district facilities and state or federal lands will either be added to the Riverside County permit or permitted separately if required.

COORDINATION WITH OTHER REGIONAL AGENCIES

In developing best management practices (BMPs) and monitoring programs, consultation/coordination with other drainage management entities and other Regional Boards is highly desirable. SDRWQCB staff will coordinate the program with other Regional Boards, other dischargers, and other entities on an "as needed" basis. The municipal storm water permit/program process is at the same stage of development in both the Santa Ana RWQCB and SDRWQCB areas of Riverside County.

EXISTING FACILITIES AND PROGRAMS

Within the San Diego Region, the MS4 owned and operated by the RCFC&WCD currently serves a population of approximately 100,000, occupying an area of approximately 630 square miles. The RCFC&WCD's MS4 includes an estimated 30 miles of open and closed storm drains. The MS4s owned and operated by the remaining Permittees include an estimated 2 miles of open and closed storm drains. Storm water discharges from urbanized areas consist mainly of surface runoff from residential, commercial, and industrial developments. In addition, the MS4 receives storm water discharges from agricultural land uses. Although the CWA specifically excludes agricultural discharges from regulation under an NPDES permit, SDRWQCB encourages the Permittees to seek cooperative ways to control these discharges to and from their MS4s. The constituents of concern and significance in storm water discharges are: human pathogens, total suspended solids, biochemical oxygen demand (BOD), chemical oxygen demand (COD), oil and grease (O&G), heavy metals, nutrients and organic chemicals such as pesticides and petroleum hydrocarbon components.

This permit places an emphasis on the Permittees' programs to control the discharge of sediment from construction sites through their MS4s. During the past 5 years, SDRWQCB staff has observed a significant occurrence of sediment discharges from construction activities which threaten to impair the beneficial uses of the Santa Margarita River and its tributaries. During this period, SDRWQCB staff estimates to have expended over 50% of its storm water resources to address this specific problem. These resources have been spent in efforts to ensure that dischargers comply with applicable NPDES permits. SDRWQCB staff anticipate that this level of effort will be necessary for the next few years as the Permitted area continues to grow. The rapid development occurring in the area subject to this Permit presents both a special problem and a special opportunity for the Permittees. Due to the number of construction activities ongoing at any time and the erosive nature of the soil in the area, the Permittees need to increase their oversight of construction activities, conduct increased site inspections (for compliance with their ordinances), and diligently enforce their ordinances as appropriate. The fact that the Permitted area is currently developing (as opposed to fully "built-out"), provides the Permittees with a

unique opportunity and responsibility to incorporate BMPs into their general and specific plans. Careful consideration of water quality issues during the planning and zoning decision-making process is an effective means for reducing sediment and other pollutants in urban runoff. Structural BMPs are also very effective in reducing pollutants and can be cost-effective in developing areas since installation of new structural BMPs is less costly than retrofitting.

To protect the beneficial uses of waters of the State, the pollutants from all sources need to be controlled. Recognizing this, and the fact that urban runoff discharges contain pollutants, the Permittees and the SDRWQCB have agreed that an area-wide municipal storm water permit is the most effective way to develop and implement a comprehensive municipal storm water management program in a timely and cost-effective manner. This area-wide municipal storm water permit contains requirements with time schedules that will allow the Permittees to continue to address water quality problems caused by urban runoff through their existing storm water management programs.

PERMIT REQUIREMENTS

In accordance with Section 402(p)(3), as part of a program to reduce the pollutants in urban runoff discharges, the Permittees have been required to submit existing management plans and programs being implemented or developed in the previous municipal storm water NPDES permit to reduce pollutants in urban runoff discharges. In addition, the Permittees will be required to report, review and/or revise these management programs and control measures in accordance with a time schedule approved by the Executive Officer of the SDRWQCB for this municipal storm water permit.

If existing municipal storm water management programs are not effective in controlling pollutant loading from urban runoff discharges and in achieving the water quality objectives of the receiving waters, additional programs shall be developed and implemented upon consultation and approval of the Executive Officer.

The permit also requires further development and implementation of management programs and/or BMPs during the life of the permit such that the quality of urban runoff discharges can be improved and the water quality objectives of the receiving waters ultimately can be met. It is also expected that through implementation of these programs and/or BMPs the beneficial uses of the receiving waters will be protected.

PERFORMANCE STANDARDS FOR STORM WATER AND NON-STORM WATER DISCHARGES

The Permittees are required to reduce all discharges of pollutants in storm water and non-storm water from their MS4s to the maximum extent practicable (MEP). In addition, this permit regulates the Permittees' industrial discharges (including construction discharges), which are subject to the Best Available Technology Economically Achievable (BAT) / Best Conventional Pollutant Control Technology (BCT) performance standards.

BENEFICIAL USES / RECEIVING WATERS

Storm water flows, which are discharged to and from MS4s in Riverside County, are tributary to various water bodies of the state, including inland surface streams, the Santa Margarita River, the Santa Margarita Lagoon, and the Pacific Ocean. The beneficial uses of the inland water bodies in this watershed include municipal and domestic supply, agricultural supply (AGR), industrial service supply (IND), industrial process supply (PROC), groundwater recharge (GWR), contact water recreation (REC1), non-contact water recreation (REC2), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), and preservation of rare and endangered species (RARE). The beneficial uses of the Pacific Ocean are industrial service supply (IND), navigation (NAV), contact water recreation (REC1), non-contact water recreation (REC2), commercial and sport fishing (COMM), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), marine habitat (MAR), aquaculture (AQUA), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHELL). The ultimate goal of this municipal storm water management program is to protect the beneficial uses of the receiving waters.

ANTIDEGRADATION ANALYSIS

The SDRWQCB has considered whether a complete antidegradation analysis, pursuant to Title 40 Code of Federal Regulations (40 CFR), Part 131.12 and State Board Resolution No. 68-16, is required for these municipal storm water discharges. The SDRWQCB finds that the pollutant loading rates from urban runoff discharges to the receiving waters should not degrade water quality with the implementation of the requirements in this order. As a result, the quality of urban runoff discharges and receiving waters will be improved, thereby protecting the beneficial uses of waters of the United States. This is consistent with the federal and state antidegradation requirements and a complete antidegradation analysis is not necessary.

PUBLIC WORKSHOP

The SDRWQCB recognizes the significance of Riverside County's Storm Water/Cleanwater Protection Program and will conduct, participate, and/or assist with at least one workshop every year during the term of this permit to promote and discuss the objectives of the municipal storm water management program. The details of these workshops will be published in local newspapers and mailed to interested parties. Persons wishing to be included in the mailing list for any of the items related to this permit may register their name, mailing address and phone number with the SDRWQCB office at the address given below.

PUBLIC HEARING

On April 8, 1998, the SDRWQCB held a public hearing in Temecula regarding the proposed waste discharge requirements.

INFORMATION AND COPYING

Persons wishing additional information may write to the above address or call Greg Gearheart at (619) 627-3941. Copies of the application, proposed waste discharge requirements, and other documents (other than those which the Executive Officer maintains as confidential) are available at the SDRWQCB office for inspection and copying by appointment scheduled between the hours of 10:00 a.m. and 4:00 p.m., Monday through Thursday (excluding holidays).

REGISTER OF INTERESTED PERSONS

Any person interested in a particular application or group for applications may leave his name, address and phone number as part of the file for an application. Copies of tentative waste discharge requirements will be mailed to all interested parties.

II. WASTE DISCHARGE REQUIREMENTS

A. FINDINGS

The SDRWQCB finds that:

1. **PERMITTEES:** These entities are hereinafter referred to in this Order as *Permittees* or *dischargers*. The terms and conditions of this Order apply to discharges to and from municipal separate storm sewer systems (MS4s) owned or operated by the following:

   a. the Riverside County Flood Control and Water Conservation District (RCFC&WCD);
   b. the County of Riverside (County);
   c. the City of Temecula; and
   d. the City of Murrieta (collectively referred to as Cities).

2. **LEGAL AUTHORITY:** This Order implements all of the portions of the CWA, the CWC, the CFR and the California Code of Regulations (CCR) applicable to the discharge of urban runoff in the San Diego Region.

3. **BASIS AND SCOPE OF REISSUED PERMIT:** In July of 1990, the Permittees (except for Murrieta, which had not yet been incorporated) voluntarily sought and obtained an NPDES storm water permit (Order No. 90-46) that preceded USEPA's November 1990 final NPDES storm water regulations for discharges from MS4s. This type of permit was called an "Early Permit." As shown in Appendix I to 40 CFR 122 (the final Phase I storm water regulations), the County of Riverside has an unincorporated, urbanized-area population of greater than 100,000 and less than 250,000 (based on the 1980 decennial census) and is therefore required to obtain coverage under a municipal NPDES storm water permit. USEPA intended that Phase I municipal NPDES storm water permits focus on the areas within a county which are either already highly urbanized or are rapidly developing. The portion of Riverside County within the jurisdiction of the SDRWQCB is one of the fastest growing areas in the State. Each Permittee owns and operates an MS4 which discharges into one or more surface water bodies in the San Diego Region including numerous creeks, the Santa Margarita River, the Santa Margarita Lagoon, the Pacific Ocean and tributaries thereto. Permittees' discharges contain pollutants which may adversely affect the water quality of waters of the United States. These surface waters are waters of the United States as defined in 40 CFR 122.2. The Permittees may lack legal jurisdiction over storm water discharges into their systems from Native American tribal lands. The SDRWQCB encourages the Permittees to seek cooperative ways to control these discharges to and from their MS4s.

4. **POLLUTANT SOURCES:** Pollutants occur in urban runoff. The sources of these pollutants occur primarily in commercial, industrial, and residential urban land use areas. The most important pollutant sources include motor vehicles; construction site runoff; industrial site runoff; sewage spills; illegal dumping; illicit connections or improper plumbing of sewage; commercial site runoff ; paved surfaces; animal waste; and residential site runoff (e.g., home and garden care). The most important pollutant categories include metals (e.g., copper, lead, zinc and cadmium), human pathogens (e.g., bacteria, parasites and viruses), synthetic organics (e.g., petroleum products, pesticides, and PAHs), sediment; nutrients (e.g., nitrogen and phosphorus fertilizers), and oxygen demanding substances (decaying vegetation, animal waste, and other organic matter).

5. **DRAINAGE AREA MANAGEMENT PLAN (DAMP):** Order No. 90-46 required the Permittees to develop and implement a DAMP; develop and implement storm water and receiving water monitoring

plans; to eliminate illegal and illicit discharges to the storm drain systems; and, to enact the necessary legal authority to effectively prohibit illegal and illicit discharges. On April 26, 1996 the Executive Officer of the SDRWQCB approved the DAMP for the Santa Margarita Watershed.

6. **REPORT OF WASTE DISCHARGE / NPDES PERMIT RENEWAL APPLICATION:** On January 17, 1995 the RCFC&WCD submitted a Report of Waste Discharge (NPDES permit renewal application), which included the following major components:

   a. A map of the drainage area and maps of existing storm drain facilities
   b. A summary of the storm water management program
   c. A Consolidated Program for Water Quality Monitoring
   d. A copy of a Proposed Storm Water/Urban Run-off Management and Discharge Control Ordinance
   e. A copy of the current Implementation Agreement
   f. A copy of the Interagency Agreements
   g. The Drainage Area Management Plan (DAMP)
   h. A copy of Proposed Riverside County Grading and Erosion Control Ordinance

   On April 26, 1996 the Executive Officer of the SDRWQCB approved the Report of Waste Discharge submitted as an application for renewal of the NPDES permit.

7. **SIGNIFICANT CONTRIBUTORS OF POLLUTANTS CONSIDERATIONS:** Each of the Permittees are significant contributors of pollutants to waters of the United States in the Santa Margarita Watershed based on the following considerations:

   a. Monitoring data collected by municipal dischargers within the San Diego Region (including the Permittees) and others indicate that urban runoff discharges contain metals, pathogens, sediment, and nutrients in concentrations that could adversely affect receiving waters.

   b. Pollutant loads during the first several storms of the wet season may be significantly higher than pollutant loads from storms later in the season because the semiarid San Diego Region has an extended dry season.

   c. In the semiarid San Diego Region, most receiving water streams are essentially ephemeral in nature. Non-storm water flows containing pollutants discharge into these streams during dry weather conditions. During the dry weather season these streams have no reliable dilution waters available to aid in protection of the public health and wildlife and to provide sufficient assimilative capacity to ensure that discharges do not contribute to violations of receiving water quality objectives. Accordingly, non-storm water flows to these streams during dry weather periods could adversely affect receiving waters.

   d. All watercourses in the Santa Margarita Watershed terminate into the Santa Margarita Lagoon, which has poor flushing characteristics and little assimilative capacity.

   e. Discharges of storm water containing suspended sediment from construction activity sites in the areas of the Santa Margarita Watershed subject to this Permit, have threatened to cause and/or contribute to the impairment of beneficial uses in portions of the Santa Margarita River and its tributaries. These types of discharges violate Basin Plan Prohibition No. 14. The area covered by this Permit is rapidly growing, so there is a significant potential for these types of discharges to continue through the life of this Permit.

8. **CWA SECTION 303(D) WATER BODIES:** The discharge of urban runoff pollutants by the Permittees into CWA Section 303(d) water bodies is significant because they may contribute to violations of applicable water quality standards. The Santa Margarita Lagoon, which is impaired by eutrophication, is the only CWA Section 303(d) Water Body that receives discharges subject to this permit.

9. **PERFORMANCE STANDARD:** As specified in CWA Section 402 (p)(3) and 40 CFR 122.26, the performance standards applicable to the Permittees' discharges of storm water and non-storm water which are covered by this Permit are summarized below:

STORM WATER AND NON STORM WATER RUNOFF FROM	MAXIMUM EXTENT PRACTICABLE (MEP) [for Municipal Discharges as defined in CWA Section 402 (p)(3)(B)]	BEST AVAILABLE TECHNOLOGY (BAT) / BEST CONVENTIONAL TECHNOLOGY (BCT) [for Industrial Discharges as defined in CWA Section 402 (p)(3)(A)]
All Permittee-Owned MS4s unless specified below	X	
Permittee-Owned Industrial Facilities	X [If the activity at the facility is not one of the 11 categories listed in 40 CFR 122.26 (b)(14)(i-xi)]	X [If the activity at the facility is one of the 11 categories listed in 40 CFR 122.26 (b)(14)(i-xi)]
Permittee-Owned Construction Sites	X [Sites that disturb less than 5 acres]	X [Sites that disturb 5 acres or more, or less than 5 acres but are part of a larger common plan of development or sale]

10. **POLLUTION PREVENTION:** The SDRWQCB and the Permittees fully support pollution prevention as a fundamental principle of the SDRWQCB's mission to protect the quality of the Region's ground and surface waters.

11. **CONSTRUCTION ACTIVITY SITES:** The rapid development occurring in the area subject to this Permit presents both a special problem and a special opportunity for the Permittees. Due to the sheer number of construction activities ongoing at any time and the erosive nature of the soil in the area, the Permittees need to increase their oversight of construction activities, conduct increased site inspections (for compliance with their ordinances), and diligently enforce their ordinances as appropriate.

12. **IMPORTANCE OF PLANNING:** The fact that the Permitted area is currently developing (as opposed to fully "built-out"), provides the Permittees with a unique opportunity and responsibility to incorporate BMPs into their general and specific plans. Careful consideration of water quality issues during the planning and zoning decision-making process is an effective means for reducing sediment and other pollutants in urban runoff. Structural BMPs are also very effective in reducing pollutants and can be cost-effective in developing areas since installation of new structural BMPs is less costly than retrofitting.

13. **RECEIVING WATER LIMITATIONS:** The Basin Plan designates beneficial uses to be protected in the receiving water bodies, and contains both numeric and narrative receiving water quality objectives (including all incorporated plans, policies, and resolutions). Attainment of these water quality objectives ensures water quality necessary to sustain the beneficial uses. Receiving water limitations, based on the numeric and narrative receiving water quality objectives, are required in this Order to ensure that water quality needed to sustain the beneficial uses is attained in spite of the discharges of storm water and non-storm water flows regulated by this Order.

14. **RECEIVING WATER LIMITATIONS:** Numeric effluent limitations do not provide an appropriate mechanism for regulating discharges from MS4s at this time because such discharges are generally not susceptible to conventional wastewater treatment approaches (i.e., removal of pollutants in a conventional wastewater treatment plant). Such full scale treatment of all flows from MS4s may be technologically and economically infeasible. For discharges from MS4s, best management practices (BMPs), rather than numeric effluent limitations, are used to promote attainment of receiving water quality objectives.

15. **RECEIVING WATER LIMITATIONS:** Development and implementation of storm water management programs that include both nonstructural as well as structural BMPs designed to reduce discharges of pollutants into and from storm water conveyance systems can protect the beneficial uses of the receiving waters by promoting attainment of receiving water quality objectives.

16. **RECEIVING WATER LIMITATIONS:** Implementation of BMPs is not equivalent to attainment of receiving water quality objectives. If there are violations of receiving water quality objectives as determined by the SDRWQCB and the USEPA, an iterative process of BMP development, education, implementation, enforcement, assessment, and adjustment by the Discharger is necessary to assure that its storm water management program is sufficiently comprehensive and effective to promote consistent compliance with receiving water quality objectives.

17. **BENEFICIAL USES OF INLAND SURFACE WATERS:** The beneficial uses of inland surface waters in the Santa Margarita Watershed designated in the Basin Plan are: Municipal and Domestic supply (MUN); Agricultural supply (AGR); Industrial process supply (PROC); Industrial service supply (IND); Ground Water Recharge (GWR); Contact water recreation (REC1); Non-contact water recreation (REC2); Warm freshwater habitat (WARM); Cold freshwater habitat (COLD); Wildlife habitat (WILD); and Rare, threatened, or endangered species (RARE). Beneficial uses of inland surface waters vary. The beneficial uses for specific inland surface waters are described in the Basin Plan. Inland surface waters consist of all waters exclusive of the waters of the Pacific Ocean, enclosed bays and estuaries, coastal lagoons, and ground waters.

18. **BENEFICIAL USES OF COASTAL WATERS:** The beneficial uses of coastal waters in the Santa Margarita Watershed and the Pacific Ocean designated in the Basin Plan are: Industrial service supply (IND); Navigation (NAV); Contact water recreation (REC1); Non-contact water recreation (REC2); Commercial and sport fishing (COMM); Estuarine habitat (EST); Wildlife habitat (WILD); Preservation of biological habitats of special significance (BIOL); Rare, threatened, or endangered species (RARE); Marine habitat (MAR); Aquaculture (AQUA); Migration of aquatic organisms (MIGR); Spawning,

reproduction, and/or early development(SPWN); Warm freshwater habitat (WARM); and Shellfish harvesting (SHELL). Beneficial uses of coastal waters vary. The beneficial uses for specific coastal waters are described in the Basin Plan. Coastal waters are defined as waters subject to tidal action and include ocean waters and enclosed bays and estuaries.

19. **ANTIDEGRADATION:** The Basin Plan contains the following general antidegradation water quality objective which applies to all waters of the State within the San Diego Region:

"Wherever the existing quality of water is better than the quality of water established herein as objectives, such existing quality shall be maintained unless otherwise provided by the provisions of the State Water Resources Control Board Resolution No. 68-16, 'Statement of Policy with Respect to Maintaining of Waters in California', including any revisions thereto, or the federal antidegradation policy, 40 CFR 131.12 (for surface waters only)."

Discharges from Permittee storm water conveyance systems in compliance with the terms and conditions of this Order should not degrade surface water quality. Furthermore, the purpose of this Order is to reduce pollutants in storm water discharges to the MEP in conformance with CWA section 402(p)(3)(B)(ii). Therefore, the SDRWQCB finds that this Order is in conformance with SWRCB Resolution No. 68-16 and the federal antidegradation policy described in 40 CFR 131.12.

20. **NPDES PERMIT:** This Order shall serve as an NPDES permit pursuant to CWA section 402, and waste discharge requirements pursuant to CWC section 13260 for the discharge of urban runoff to surface waters of the project area of the Santa Margarita Watershed.

21. **CEQA:** The issuance of this Order for the discharge of urban runoff is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (Public Resources Code, Division. 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389 and as provided in categorical exemption classes of the CEQA Guidelines (Title 14, CCRs sections 15301-15329).

22. **PRINCIPAL PERMITTEE:** The RCFC&WCD will serve as the principal Permittee for this permit.

23. **PUBLIC NOTICE:** The SDRWQCB has notified the Permittees and all known interested parties of its intent to renew an NPDES permit for the existing discharge of storm water and non-storm water.

24. **PUBLIC HEARING:** The SDRWQCB has, at a public meeting on April 8, 1998, held, or provided an opportunity for, a public hearing, and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Riverside County Flood Control and Water Conservation District, the County of Riverside, the City of Temecula, and the City of Murrieta (hereinafter referred to as the Dischargers, or Permittees), in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act, as amended, and regulations and guidelines adopted thereunder, shall each comply with the following:

B. RESPONSIBILITIES OF THE PRINCIPAL PERMITTEE

The principal Permittee (RCFC&WCD) shall be responsible for managing the overall storm water program and shall:

1. Conduct water quality monitoring of the MS4 outfalls within the Santa Margarita River drainage area.

2. Develop criteria for inspections of the MS4s.

3. Conduct inspections of the MS4s owned and operated by the RCFC&WCD.

4. Implement management programs, monitoring programs, and related plans as required by this order.

5. Enact and revise policies and ordinances necessary to establish and maintain adequate legal authority within the scope of the Riverside County Flood Control and Water Conservation District Act, as required by the Federal Storm Water Regulations, 40 CFR, Part 122.26(d)(2)(i)(A-F).

6. Respond and/or arrange for responding to emergency situations such as accidental spills, leaks, illicit discharges/illegal connections, etc., to prevent or reduce the discharge of pollutants to the MS4s and to waters of the United States.

7. Prepare and submit to the Executive Officer of the Regional Board, unified reports, plans, and programs necessary to comply with this order.

The activities of the principal Permittee shall include, but not be limited to, the following:

8. Coordinate permit activities and participate in any committees/subcommittees formed to coordinate permit compliance activities.

9. Provide technical and administrative support and inform the Permittees of the progress of other pertinent municipal programs, pilot projects, research studies, etc.

10. Coordinate the implementation of storm water quality management activities within the Santa Margarita River drainage area such as monitoring programs, public education, other pollution prevention measures, household hazardous waste collection, etc.

11. Gather and disseminate information on the progress of statewide municipal storm water programs and evaluate the information for potential use in the execution of this order.

12. Monitor the implementation of the plans and programs required by this order and determine their effectiveness in reducing pollutant loadings to surface waters to the applicable performance standard, as described in Finding No. 9.

13. Coordinate activities pertaining to implementation of this order with the SDRWQCB.

14. Solicit and coordinate public input for any major proposed storm water management programs and implementation plans.

15. Develop and implement mechanisms, performance standards, etc., to promote consistent implementation of BMPs among the Permittees.

16. In conjunction with the Permittees, implement the BMPs listed in the approved DAMP.

C. *RESPONSIBILITIES OF THE PERMITTEES*

Each Permittee shall be responsible for managing the storm water program within its jurisdiction and shall:

1. Conduct storm drain system inspections in accordance with the criteria developed by the principal Permittee.

2. Enact and revise policies and ordinances necessary to establish and maintain adequate legal authority as required by the Federal Storm Water Regulations, 40 CFR, Part 122.26(d)(2)(i)(A-F) within 120 days of adoption of this order.

3. Implement management programs, monitoring programs, and related plans as required by this order.

4. Respond and/or arrange for responding to emergency situations such as accidental spills, leaks, illicit discharges/illegal connections, etc., to prevent or reduce the discharge of pollutants to the municipal separate storm drain systems and to waters of the United States.

The Permittees' activities shall include, but not be limited to, the following:

5. Administer and enforce the storm water and erosion control ordinances adopted pursuant to Items 1. and 3., above.

6. Conduct and coordinate with the principal Permittee any surveys, monitoring and/or characterizations needed to identify the pollutant sources and drainage areas.

7. Review and comment on all plans, strategies, management programs, monitoring programs, as developed by the principal Permittee or any subcommittee to comply with this order.

8. Participate in committees and/or subcommittees formed by the principal Permittee to address compliance with this order.

9. In conjunction with the principal Permittee, implement the BMPs listed in the approved DAMP.

10. Submit to the principal Permittee any information necessary to develop unified report submittals to the Executive Officer of the SDRWQCB.

11. Prepare and submit any specific reports/information related to the Permittees' storm water program as deemed necessary by the Executive Officer of the SDRWQCB.

D. DISCHARGE LIMITATIONS

1. The Permittees shall prohibit illicit discharges from entering into the MS4s and require controls to reduce the discharge of pollutants to the applicable performance standard, as described in Finding No. 9.

2. This order regulates storm water discharges to waters of the United States from the Permittees' existing MS4s. Accordingly, the Permittees shall implement the BMPs (structural and/or non-structural control measures) necessary to reduce the pollutants in the discharge to the applicable performance standard, as described in Finding No. 9. All other discharges are prohibited except those listed under Item 3., below, those for which the SDRWQCB has issued individual permits or waived waste discharges requirements, and those discharges which are in accordance with Item 5., below.

3. The following discharges need not be prohibited by the Permittees unless identified by the Permittees or the SDRWQCB as sources of pollutants to the waters of the United States.

   a. Discharges authorized by an NPDES permit, or for which an approval has been issued by the SDRWQCB or State Board office;

   b. Discharges from potable water line flushing and other potable water sources;

   c. Discharges from fire fighting and fire hydrant testing and flushing;

   d. Discharges from landscape irrigation, lawn watering and other irrigation activities;

   e. Diverted stream flows:

   f. Rising ground waters and natural springs;

   g. Uncontaminated groundwater infiltration (as defined in 40 CFR 35.2005(20)) and uncontaminated pumped groundwater;

   h. Passive foundation drains;

   i. Air conditioning condensate;

   j. Water from crawl space pumps;

   k. Passive footing drains;

   l. Discharges from individual residential vehicle washing (not including discharges from mobile sources such as automobile/equipment detailing or washing);

   m. Flows from riparian habitats and wetlands;

   n. Dechlorinated swimming pool discharges;

   o. Street wash water and run-off from fire fighting (program descriptions shall address discharges or flows from fire fighting only where such discharges are identified as

significant sources of pollutants to waters of the United States),

p. Waters not otherwise containing wastes as defined in CWC Section 13050 (d); and

q. Other types of discharges identified and recommended by the Permittees and approved by the SDRWQCB.

For purposes of this order, a discharge may include storm water and other types of discharges as indicated above.

4. The Permittees shall take necessary steps as required under Item 1., above, to ensure that non-storm water discharges to their MS4s do not cause or contribute to violations of water quality objectives or discharge pollutants to waters of the United States.

5. Non-storm water discharges from Permittees' activities into waters of the state are prohibited unless the non-storm water discharges are permitted by an NPDES permit or are included in Item 3., above. If permitting or immediate elimination of the non-storm water discharges is impractical, the Permittees shall include in the Municipal Facilities Strategy, required under Section II. F., Provision 14., of this order, a proposed plan to address the non-storm water discharges.

6. The discharge of storm water and non-storm water shall not cause or contribute to degradation of groundwaters.

7. Pollutants in storm water discharges from the Permittees' MS4s shall be reduced to the applicable performance standard, as described in Finding No. 9.

E. RECEIVING WATER LIMITATIONS

1. Storm water discharges and authorized non-storm water discharges to any surface or ground water shall not adversely impact human health or the environment.

2. The DAMP shall be designed and implemented, or shall be in the process of being revised in accordance with the procedures set forth below to ensure that discharges authorized by this permit shall not cause or substantially (in more than a de minimus amount) contribute to a continuing or recurring exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan or the SDRWQCB's Basin Plan.

3. If the discharges cause or contribute to an exceedance of the applicable water quality standards, Permittee shall take the following steps:

   a. Upon a determination by either the Permittee or the SDRWQCB that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the SDRWQCB that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the DAMP unless the SDRWQCB directs an earlier submittal. The SDRWQCB may require modifications to the report;

b. Submit any modifications to the report required by the SDRWQCB within 30 days of notification;

c. Within 30 days following approval of the report described above by the SDRWQCB, the Permittee shall revise its DAMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;

d. Implement the revised DAMP and monitoring program in accordance with the approved schedule; and

e. Reduce pollutants in storm water discharges and authorized non-storm water discharges, following implementation of the DAMP revised in accordance with paragraph 3 above, to levels which shall not cause or contribute to an exceedance of any applicable water quality standards.

4. So long as Permittees have complied with the procedures set forth in paragraph 3 above and are implementing the revised DAMP, they do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the SDRWQCB to develop additional BMPs.

F. PROVISIONS

GENERAL

1. The Permittees shall demonstrate compliance with all the requirements in this order and specifically with Section D., Discharge Limitations, and Section E., Receiving Water Limitations, through timely implementation of their approved DAMP and any modifications, revisions, or amendments thereto, which are developed pursuant to this order. The DAMP and any amendments thereto are hereby made an enforceable part of this order.

2. Permittees shall implement all elements of the DAMP. Each Permittee shall develop and, at the SDRWQCB Executive Officer's request, submit a plan describing how they will implement the applicable portions of the DAMP. Any proposed revisions to the DAMP shall be submitted to the SDRWQCB Executive Officer.

3. The Permittees shall comply with the Consolidated Program for Water Quality Monitoring required by the Monitoring and Reporting Requirements contained in this order The SDRWQCB Executive Officer may revise the MRP to allow the Permittees to participate in regional, statewide, national, or other monitoring programs in lieu of the Consolidated Program for Water Quality Monitoring.

4. All plans, reports and subsequent amendments submitted in compliance with this order shall be implemented immediately and shall be an enforceable part of this Order upon submission to the SDRWQCB Executive Officer. All submittals by the Permittees must be adequate to implement the requirements of this order.

5. The Permittees shall report to the SDRWQCB Executive Officer:

a. Any enforcement actions and known discharges of storm or wastewaters to MS4s owned or

operated by the Permittees which may impair domestic water supply sources (e.g., discharges due to a levee break, sewer overflows, illegal discharges to the street, etc.) or which may have an impact on human health or the environment.

b. Any industrial facilities and/or construction sites found not to be in compliance with the Permittees' ordinances or where the activities may be contributing pollutants to the waters of the U.S.; and

c. Any suspected or reported activities on federal, state, or other entity's land or facilities, where the Permittees do not have any jurisdiction, and where the suspected or reported activities may be contributing pollutants to waters of the United States.

6. The Permittees shall not issue occupancy permits, or any other use entitlements, unless the applicant is informed of his obligation under the State's NPDES industrial general permit. The Permittees shall not issue grading or building permits to developments that may result in land disturbance of five acres or more (or less than five acres, if it is part of a larger common plan of development or sale which is five acres or more) unless the applicant shows proof of coverage under the State's NPDES General Construction Activity Storm Water Permit. The proof of coverage may include a letter from the Regional Board office, a copy of the Notice of Intent, etc. The Permittees shall coordinate the activities of the various departments/sections within each Permittee's jurisdiction to insure consistent implementation of storm water regulations.

7. Permit application and special NPDES program requirements contained in 40 CFR 122.21 (a), (b), (d) (2), (f), and (p), 122.41 (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), and (l); and 122.42 (c) are incorporated into this order by reference.

IMPLEMENTATION AGREEMENT

8. Within 120 days of issuance of this Order, the Permittees shall submit to the SDRWQCB Executive Officer an updated copy of an implementation agreement with authorized signatures of each of the Permittees. Any subsequent revisions to the implementation agreement shall be forwarded to the SDRWQCB Executive Officer within 30 days of approval by the Permittees. At a minimum, the implementation agreement should include all the essential elements of the existing agreement, developed in accordance with Order No. 90-46.

LEGAL AUTHORITY

9. The Permittees shall adopt a Storm Water/Urban Run-off Management and Discharge Control Ordinance. Within 180 days of issuance of this Order, each Permittee's Chief Legal Counsel shall certify to the SDRWQCB Executive Officer that it has adequate legal authority to control the discharges of pollutants into the municipal storm drain system and that it has, at a minimum, satisfied each of the following regulatory requirements [contained in 40 CFR Section 122.26(d)(2)(i)(A-F)]:

a. control through ordinance, permit, contract order or similar means, the contribution of pollutants to the MS4 by storm water discharges associated with industrial activity (including construction activity) and the quality of storm water discharge from sites of industrial activity (including construction activity);

b. prohibit through ordinance, order or similar means, illicit discharges to the MS4;

c. control through ordinance, order or similar means, the discharge to a MS4 of spills, dumping, or

disposal of materials other than storm water;

d. control through interagency agreements among Permittees the contribution of pollutants from one portion of the MS4 to another;

e. require compliance with conditions in ordinances, permits, contracts and orders; and

f. carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including prohibition on illicit discharges to the MS4.

ENFORCEMENT/COMPLIANCE STRATEGY

10. Within 360 days of issuance of this Order, the Permittees shall develop, submit to the SDRWQCB Executive Officer, and implement an enforcement/compliance strategy which describes each Permittees' programs for enforcing their storm water and erosion control ordinances. This enforcement/compliance strategy should include a mechanism to determine compliance of industrial facilities and construction sites with the Permittees' ordinances, and notification to the SDRWQCB Executive Officer any finding of non-compliance and any proposed local enforcement action.

PUBLIC EDUCATION AND OUTREACH

11. The Permittees shall continue to implement the public education efforts already underway and shall implement all of the proposed efforts identified in the Report of Waste Discharge.

12. When feasible, the Permittees shall participate in joint outreach with other programs including, but not limited to, other municipal storm water programs to ensure that a consistent message on storm water pollution prevention is brought to the public.

13. The Permittees shall develop public education materials to encourage the public to report illegal dumping from residential, industrial, construction and commercial sites into public streets, storm drains and other water bodies.

MUNICIPAL FACILITIES

14. This Order regulates the discharge of storm water and non-storm water from Permittee-owned facilities associated with industrial activity. The Permittees shall reduce pollutants (to the applicable performance standards, as defined in Finding No. 9) in such discharges through implementation of BMPs.

The Permittees shall develop a pollution prevention strategy to address their public agency facilities and associated activities which are determined by the Permittees to be sources of concern regarding storm water pollution. The pollution prevention strategy shall be developed to ensure that public agency facilities and associated activities that are currently not required to obtain coverage under the State's general storm water permits are not sources of pollutants into the waters of the United States. The pollution prevention strategy shall be submitted to the SDRWQCB Executive Officer within 180 days of issuance of this Order. In developing the pollution prevention strategy, the Permittees shall consider the following:

a. Identification of public agency facilities and associated activities that are potential contributors of pollutants to waters of the United States;

b. Potential pollutants of concern that are associated with the facilities and associated activities;

c. Proposed BMPs and a schedule for their implementation to ensure that these facilities are not sources of pollutants into the waters of the United States;

d. A monitoring program to measure the effectiveness of the BMPs;

e. A schedule for training of public agency staff to ensure proper implementation of the BMPs; and

f. Identification of any non-storm water discharges from the public agency facilities/activities, frequency of the discharge, characterization of the discharge, volume, flow and duration of the discharge, short term source control BMPs to mitigate the impacts from the discharge, and a schedule for elimination or permitting of the discharge.

PERMITTEE-OWNED CONSTRUCTION PROJECTS/ACTIVITIES

15. This Order regulates the discharge of storm water run-off from construction projects, regardless of size, that are under ownership and/or direct responsibility of any of the Permittees. The Permittees shall prevent and control (to the applicable performance standards, as defined in Finding No. 9) discharges of contaminated runoff from all construction sites under ownership and/or direct responsibility of any of the Permittees through implementation of BMPs.

16. Prior to commencement of Permittee-owned construction activities, the Permittees shall notify the SDRWQCB Executive Officer of proposed construction projects that disturb more than one (1) acre of land. Upon completion of the project, the SDRWQCB Executive Officer shall be notified of the completion of the project.

17. For Permittee-owned projects that will disturb more than five (5) acres (or less than five acres, but part of a larger common plan of sale or development), the Permittees shall develop and implement a storm water pollution prevention plan (SWPPP) and a monitoring program that is specific for the construction project prior to the commencement of any of the construction activities. The SWPPP and monitoring program shall be implemented throughout the duration of the construction project. The SWPPP shall be kept at the construction site and released to the public and/ or SDRWQCB staff upon request.

18. The SWPPP and the monitoring program for the Permittee-owned construction projects shall be consistent with the requirements of the State's General Permit for Storm Water Discharges Associated with Construction Activities (State Board Order No. 92-08 DWQ).

19. The Permittees shall give advance notice to the SDRWQCB Executive Officer of any planned changes in the Permittee-owned construction activities which may result in non-compliance with this Order. In the event of conditions at a Permittee-owned project site which constitute non-compliance with this Order, the Permittees shall: 1) notify the SDRWQCB Executive Officer within 3 days of the of the non-compliance; 2) take all reasonable steps to minimize or correct any adverse impact on the environment resulting from non-compliance with this Order; and 3) shall, within 30 days of notification, report the following to the SDRWQCB Executive Officer:

a. a description of the events which lead to the non-compliance;

b. a description of the actions taken by the responsible Permittee to minimize or correct any adverse impacts on the environment resulting from the non-compliance;

c. an assessment of the adverse impacts on the environment resulting from the non-compliance.

20. All other terms and conditions of State Board Order No. 92-08 DWQ shall be applicable.

NEW DEVELOPMENT (INCLUDING RE-DEVELOPMENT)

21. The Permittees shall immediately require all construction operations not under ownership and/or direct responsibility of any of the Permittees, regardless of size, to prevent and control (to the MEP, as defined in Finding No. 9) discharges of contaminated runoff from construction sites.

Within 270 days of issuance of this Order, the Permittees shall implement and submit to the SDRWQCB Executive Officer Supplement B to the DAMP for Erosion Control which describes the following: 1) the Permittees' recommended BMPs which prevent and control discharges of contaminated runoff from construction sites; and 2) the Permittees' programs (i.e., Permittees' ordinances, inspection program, enforcement program, etc.) to require construction operations to implement BMPs.

22. Within 180 days of issuance of this Order, the Permittees shall implement the new development BMPs (DAMP Supplement A) that were developed pursuant to SDRWQCB Order No. 90-46.

23. For new development projects where the Permittees act as lead agency for the California Environmental Quality Act (CEQA), the Permittees shall ensure that their processes for approving General Plan CEQA checklist documents, and any other CEQA documents approved by the Permittees for new developments, comply with the requirements of this Order. If necessary, these processes shall be revised to include requirements for evaluation of storm water-related impacts and identification of appropriate mitigation measures.

24. The Permittees shall establish a mechanism to insure proper maintenance and operation of all permanent flood control structures. For new developments, the parties responsible for the maintenance of the flood control structures and funding sources for maintenance and operation of the facilities shall be identified prior to issuance of grading permits.

FISCAL RESOURCES

25. The Permittees shall prepare and submit a unified fiscal analysis report appropriate for implementation of the requirements of this order to the Executive Officer of the SDRWQCB. The fiscal analysis report shall be submitted as part of the Annual Report no later than **October 15** of each year and shall at a minimum include the following:

a. Each Permittee's expenditures for the previous fiscal year;
b. Each Permittee's budget for the current fiscal year;
c. A description of the source of funds;

MONITORING AND REPORTING REQUIREMENTS

26. The Permittees shall implement the Consolidated Program for Water Quality Monitoring (submitted as part of the Report of Waste Discharge) until development and implementation of other acceptable monitoring programs.

27. All reports and other submittals required by this order shall be signed by the principal Permittee and copies shall be submitted to the Executive Officer of the SDRWQCB under penalty of perjury.

28. The Permittees shall submit three copies of an ANNUAL REPORT to the Executive Officer of the SDRWQCB and one copy of an ANNUAL REPORT to the Regional Administrator of USEPA, Region 9 no later than **October 15** of each year. This report may be submitted in a mutually agreed upon electronic format. At a minimum, the annual report shall include the following:

a. A review of the status of program implementation and compliance (or non-compliance) with the schedules contained in this order.

b. An assessment of the effectiveness of control measures established under the illicit discharge elimination program and the DAMP. The effectiveness may be measured in terms of how successful the program has been in eliminating illicit connections / illegal discharges (IC/IDs) and in reducing pollutant loads in storm water discharges.

c. An assessment of any storm water management program modifications made to comply with CWA requirements to reduce the discharge of pollutants to the applicable performance standard.

d. The results and information described in the Consolidated Program for Water Quality Monitoring for the previous year.

e. Fiscal Resources Report, as required by Section II.F.25.

29. Permittees shall be responsible for the submittal of all required information/materials needed to comply with this Monitoring and Reporting Program in a timely manner to the principal Permittee. All such submittals shall be signed by a duly authorized representative of the Permittee under penalty of perjury.

All information/materials required by this order shall be submitted to the SDRWQCB Executive Officer in accordance with the following schedule:

ITEM	*DUE DATE*
Revised Implementation Agreement	September 10, 1998
Legal Authority Certification	November 9, 1998
Municipal Activities Pollution Prevention Strategy	November 9, 1998
Supplement B to the DAMP for Erosion Control	February 9, 1999
Enforcement Compliance Strategy	May 13, 1999
Report of Waste Discharge (NPDES Renewal Application)	November 9, 2002
Annual Report, including: **1. Program Status** **2. Effectiveness Assessment of Illegal Discharge Elimination Program** **3. Program Modifications** **4. Monitoring Program Results** **5. Fiscal Resources Report**	October 15 of each year (next report due in 1998)

PERMIT EXPIRATION AND RENEWAL

30. This Order expires five years from the date of issuance of this Order and the Permittees must file a Report of Waste Discharge (NPDES permit renewal application) no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements. The Report of Waste Discharge shall, at a minimum, include the following:

a. Any revisions to the DAMP including, but not limited to, all the activities the Permittees propose to undertake during the next permit term, goals and objectives of such activities, an evaluation of the need for additional source control and/or structural BMPs, any proposed pilot studies, etc.;

b. Changes in land use and/or population including map updates; and

c. Any significant changes to the storm drain systems, outfalls, detention or retention basins or dams, and other controls, including map updates of the storm drain systems.

31. The SDRWQCB may modify, revoke or reissue this Order prior to its expiration date for the following reasons:

a. To address significant changes in conditions identified in the technical reports required by the Regional Board which were unknown at the time of the issuance of this order;

b. To incorporate applicable requirements of statewide water quality control plans and policies adopted by the State Board or any amendments to the Basin Plan approved by the SDRWQCB, the State Board, and, if necessary, by the Office of Administrative Law; or

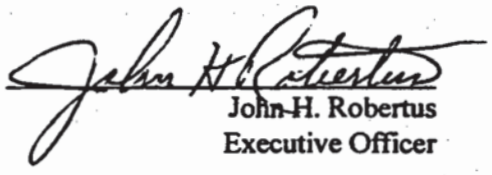
c. To comply with any applicable requirements, guidelines, or regulations issued or approved under the Clean Water Act, if the requirements, guidelines, or regulations contain different conditions or additional requirements than those included in this order.

d. To incorporate new or revised program elements and compliance schedule(s) necessary to comply with Section II.E. of this Order.

32. This order shall serve as a NPDES permit pursuant to Section 402 (p) of the CWA, or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator of the USEPA has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

33. Order No. 90-46 is hereby rescinded.

I, John H. Robertus, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the SDRWQCB, on May 13, 1998.



John H. Robertus
Executive Officer

III. GLOSSARY

Best Available Technology Economically Achievable (BAT) / Best Conventional Pollutant Control Technology (BCT)
BAT and BCT are treatment-based performance standards which measure the effectiveness of pollutant reduction in discharges, as defined in CWA 402(p) and 40 CFR 122, for specific categories of industrial facilities subject to storm water effluent limitations, new source performance standards, or toxic pollutant effluent standards. Effluent limitations have been defined in 40 CFR for the reduction of toxic pollutants using BAT, and the reduction of conventional pollutants using BCT.

Best Management Practices (BMPs)
BMPs are defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Controls
Controls are defined in Section 402 (p)(3)(B)(iii) of the Clean Water Act (CWA) as a means to reduce the discharge of pollutants to the maximum extent practicable (MEP), including maintenance practices, control techniques and system design and engineering methods, and such other provisions as the Administrator or State determines appropriate for the control of such pollutants.

CWA Section 303(d) Water Bodies
Certain water bodies receiving storm water discharges are designated by the SWRCB and USEPA as CWA section 303(d) water bodies. A "section 303(d) water body" is an impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of storm water and non-storm water pollutants by the Permittees are significant because these discharges contribute to violations of applicable water quality standards.

Maximum Extent Practicable (MEP)
Under Section 402(p) of the CWA, municipalities are required to reduce the discharge of pollutants from their storm water conveyance systems to the MEP. MEP is the critical performance standard which municipalities must attain in order to comply with their municipal storm water permits.

To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
c. Public Acceptance: Does the BMP have public support?
d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.?

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs which should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs which would address a pollutant source, or to pick a BMP based solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented. [Source: February 11, 1993 memo entitled "Definition of Maximum Extent Practicable" by Elizabeth Jennings, Senior Staff Counsel, SWRCB].

Municipal Separate Storm Sewer System (MS4)
A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) designated or used for collecting or conveying storm water; (iii) which is not a combined sewer; and (iv) which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Non-Storm Water
Non-storm water consists of all discharges to and from a storm water conveyance system which do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges. An illicit discharge is defined at 40 CFR 122.26(b)(2) as any discharge to a municipal storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a separate NPDES permit and discharges resulting from emergency fire fighting activities.

Person
A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. [40 CFR 122.2].

Pollution Prevention
Pollution prevention is defined as practices and processes which reduce or eliminate the generation of pollutants, in contrast to source control, pollution control, treatment or disposal.

Public Agency Facilities
Facilities owned and operated by public agencies, including corporate yards, fire stations, vehicle maintenance facilities, etc.

Storm Water
Storm water is defined as runoff from precipitation and snow melt consisting only of those discharges which originate from precipitation events. Storm water is that portion of precipitation which flows across a surface to the storm drain system or receiving waters. Examples of this phenomenon include: water that flows off a building's roof when it rains (runoff from an impervious surface); water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). When all factors are equal, runoff increases as the perviousness of a surface decreases. During precipitation events in urban areas, storm water picks up and transports pollutants into and through storm water conveyance systems, and ultimately to waters of the United States.

Municipal Separate Storm Sewer System (MS4)
A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): **(i)** owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; **(ii)** designated or used for collecting or conveying storm water; **(iii)** which is not a combined sewer; and **(iv)** which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Urban Runoff
Urban runoff is defined as all flows in a MS4 and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows).

Waste
As defined in California Water Code Section 13050(d), "**waste** includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Attachment 1: Map of Project Area Subject to Permit

Permit No. CAS0108766

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq.; the "Act"),

Riverside County Flood Control
and Water Conservation District
1995 Market Street
Riverside, CA 92501

Riverside County
4080 Lemon Street, 12th Floor
Riverside, CA 92501

City of Murrieta
26442 Beckman Court
Murrieta, CA 92562

City of Temecula
P.O. Box 9033
Temecula, CA 92589

are authorized to discharge storm water runoff from the municipal separate storm sewer system (MS4) operated by the permittees to waters of the United States from all outfalls within the permittees' MS4 in accordance with effluent limitations, monitoring requirements and other conditions set forth in Part I, Part II (USEPA Region IX Standard Federal NPDES Permit Conditions dated May 10, 1990) and Appendix 1 of this permit.

This permit shall become effective on MAY 30 1999

This permit and the authorization to discharge shall expire at midnight, November 30, 2003.

Signed this 27th day of April 1999

For the Regional Administrator

John Ong for A.S.

Acting Director, Water Division

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittees are authorized to discharge storm water runoff from all outfalls of the permittees' MS4.

2. Non-Storm Water Discharges

The permittees shall prohibit non-storm water discharges into the MS4. NPDES permitted discharges are exempt from this prohibition.

a. The following discharges need not be prohibited unless they are identified as a source of pollutants by either the permittees or USEPA Region IX:

from riparian habitats and wetlands
diverted stream flows
springs
rising ground waters
uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers

If any of the above discharges are identified as sources of pollutants, the discharges need not be prohibited provided the permittees develop and implement appropriate best management practices to ensure that the discharges are not a source of pollutants as described in Part I.A.2.b of this permit.

b. The following discharges need not be prohibited nor additional control measures implemented by the permittees prior to the effective date of the permit modification discussed below:

water line flushing
landscape irrigation
uncontaminated pumped ground water
discharges from potable water sources
foundation drains
air conditioning condensate
irrigation water
water from crawl space pumps
footing drains

lawn watering
individual residential car washing
discharges from emergency fire fighting activity

For each of the discharges listed above, the permittees shall select one of the following options and submit the required information not later than March 15, 2000:

i. The permittees shall submit information showing that the discharge is not a source of pollutants, or in the case of emergency fire fighting runoff, not a significant source of pollutants;
ii. The permittees shall propose appropriate best management practices to ensure that the discharge is not a source of pollutants, or in the case of emergency fire fighting runoff, not a significant source of pollutants; or
iii. The permittees shall propose a prohibition on the discharge entering the MS4.

Upon receipt of the submittal by USEPA Region IX, this permit shall be reopened and modified to require the implementation of the proposed best management practices, or a modification of the proposals if necessary to comply with the Clean Water Act. This permit shall also be reopened and modified to require that the permittees prohibit each of the above non-storm water discharges for which appropriate best management practices are not proposed, or for which information is not provided showing that the discharge is not a source of pollutants, or not a significant source of pollutants in the case of emergency fire fighting runoff.

3. Storm Water Management Program

The permittees shall control pollutants in storm water discharges to the maximum extent practicable, and to demonstrate compliance with this requirement, the permittees shall implement in its entirety the proposed storm water management program (SWMP) described in the documents listed in Part I.D.11 of this permit. All storm water pollution control measures identified in the SWMP shall be implemented, including existing and proposed measures, and any modifications to the SWMP made during the term of this permit, including those made in accordance with Part I.A.5.b of this permit. Proposed control measures shall be implemented in accordance with the implementation schedules provided in the SWMP, with the effective date of the permit serving, at a minimum, as the starting date for the implementation schedule.

The permittees shall also implement the additional control measures related to the SWMP set forth in Appendix 1 to this permit in the time frame set forth in Appendix 1.

4. Storm Water Monitoring Program

The permittees shall implement the storm water monitoring program described in the documents listed in Part I.D.12 of this permit.

5. Compliance with Water Quality Standards

a. Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives (collectively WQSs) are prohibited.

b. The permittees shall comply with Part I.A.5.a of this permit through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this permit including any modifications; the SWMP shall be designed to achieve compliance with Part I.A.5.a of this permit; if exceedance(s) of WQSs persist notwithstanding implementation of the SWMP and other requirements of this permit, the permittees shall assure compliance with Part I.A.5.a of this permit by complying with the following procedure:

i. Upon a determination by either the permittees or USEPA Region IX that discharges are causing or contributing to an exceedance of an applicable WQS, the permittees shall promptly notify and thereafter submit a report to USEPA Region IX that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. The report may be incorporated in the annual update to the SWMP unless USEPA Region IX directs an earlier submittal. The report shall include an implementation schedule. USEPA Region IX may require modifications to the report;

ii. Submit any modifications to the report required by USEPA Region IX within 30 days of notification;

iii. Within 30 days following approval of the report described above by USEPA Region IX, the permittees shall revise the SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be

implemented, the implementation schedule, and any additional monitoring required;

iv. Implement the revised SWMP and monitoring program in accordance with the approved schedule.

So long as the permittees have complied with the procedures set forth above and are implementing the revised SWMP, the permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same WQSs unless directed by USEPA Region IX to develop additional BMPs.

B. ANNUAL REPORT

The permittees shall submit an annual report summarizing the storm water program activities including, at a minimum, the following items:

1. The status of implementing the components of the SWMP required by the permit;
2. Any proposed changes to the SWMP;
3. Any revisions or updates to the assessment of controls and fiscal analysis reported in the permit application;
4. A summary of the data, including monitoring data, that is accumulated during the monitoring year;
5. Annual expenditures and budget for the year following each annual report;
6. A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
7. Identification of water quality improvement or degradation.

The annual report is due on September 15 of each year of the term of this permit. The first report is due on September 15, 1999.

C. ENDANGERED SPECIES ACT REQUIREMENTS

This permit does not authorize nor require the construction of any particular structural storm water quality control device that could adversely affect listed or proposed threatened or endangered species.

D. DEFINITIONS

1. Best Management Practices (BMPs) refer to schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

2. "CWA" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 95-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.

3. "Illicit Discharge" means any discharge to a municipal separate storm sewer system that is not composed entirely of storm water except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges from fire fighting activities.

4. "Major Outfall" means a municipal separate storm sewer outfall from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more, or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

5. "Municipal Separate Storm Sewer" means a conveyance, or system of conveyances (including roads with drainage systems, municipal streams, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
(i) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal or sewage, industrial wastes, storm water, or other wastes, including special districts under State law
such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to water of the United States;
(ii) designed or used for collecting or conveying storm water;

(iii) which is not a combined sewer; and
(iv) which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

6. "Outfall" means a point source where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

7. "Permittees" mean the Riverside County Flood Control and Water Conservation District, Riverside County and the Cities of Murrieta and Temecula.

8. "Point Source" means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

9. "Representative Storm" means a storm event of greater than 0.1" of rainfall and at least 72 hours after the previously measurable (greater than 0.1" rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in the area.

10. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

11. The "storm water management program" (SWMP) consists of the following documents:

    i. SWMP described in sections 4 through 8 of the document entitled "NPDES Municipal Stormwater Application for Permit Renewal, Santa Margarita Watershed" dated January 17, 1995, and further described in the document entitled "Santa Margarita Regional Drainage Area Management Plan" dated March, 1993.

12. The "storm water monitoring program" consists of the following documents:

i. Consolidated program for water quality monitoring described in section 9 of the document entitled " NPDES Municipal Stormwater Application for Permit Renewal, Santa Margarita Watershed" dated January 17, 1995, and further described in the document entitled "Consolidated Program for Water Quality Monitoring" dated October, 1994.

13. "Waters of the United States" means:

(a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(b) all interstate waters, including interstate "wetlands":
(c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
(1) which are or could be used by interstate or foreign travelers for recreational or other purposes;
(2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
(3) which are used or could be used for industrial purposes by industries in interstate commerce;
(d) all impoundments of waters otherwise defined as waters of the United States under this definition;
(e) tributaries of waters identified in paragraphs (a) through (d) of this definition;
(f) the territory sea; and
(g) wetlands adjacent to areas (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States.

USEPA REGION IX STANDARD FEDERAL NPDES PERMIT CONDITIONS
(Updated as of May 10, 1990)

1. Duty to Reapply [40 CFR 122.21(d)]

The permittee shall submit a new application 180 days before the existing permit expires.

2. Applications [40 CFR 122.22]

a. All permit applications shall be signed as follows:

(1) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes; (I) The chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative or representatives of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this Section;

(2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director.

c. Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or a portion of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly

responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

3. Duty to Comply [40 CFR 122.41(a)]

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

b. The Clean Water Act provides that:

(1) Any person who causes a violation of any condition in this permit is subject to a civil penalty not to exceed $25,000 per day of each violation. Any person who negligently causes a violation of any condition in this permit is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two years, or both. [Updated pursuant to the Water Quality Act of 1987]

(2) Any person who knowingly causes violation of any condition of this permit is subject to fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than three years, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $100,000 per day of violation, or by imprisonment of not more than six years, or both. [Updated pursuant to the Water Quality Act of 1987]

(3) Any person who knowingly causes a violation of any condition of this permit and,by so doing, knows at that time that he thereby places another in imminent danger of death or serious bodily injury shall be subject to a fine or not more than $250,000, or imprisonment of not more than 15 years, or both. A person who is an organization and violates this provision shall be subject to a fine or not more than $1,000,000 for a first conviction. For a second conviction under this provision, the maximum fine and imprisonment shall be doubled. [Updated pursuant to the Water Quality Act of 1987]

4. Need to Halt or Reduce Activity Not a Defense [40 CFR 122.41 (c)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate [40 CFR 122.41(d)]

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance [40 CFR 122.41(e)]

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

7. Permit Actions [40 CFR 122.41(f)]

The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

8. Property Rights [40 CFR 122.41 (g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Duty to Provide Information [40 CFR 122.41(h)]

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

10. Inspection and Entry [40 CFR 122.41(i)]

The permittee shall allow the Director, or an authorized representative, upon the presentation of credential and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance

or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. Monitoring and Records [40 CFR 122.41(j)]

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application, except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless test procedures have been specified in this permit.

e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to a fine of not more than $20,000 per day of violation, or imprisonment for not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

12. Signatory requirement [40 CFR 122.41(k)]

a. All applications, reports or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record other document submitted or required to be

maintained under this permit, including monitoring reports of compliance or noncompliance shall, upon conviction, be punished by a fine or not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both for a first conviction. For a second conviction, such a person is subject to fine of not more than $20,000 per day of violation, or imprisonment of not more than four years, or both. [Updated pursuant to the Water Quality Act of 1987]

13. Reporting requirements [40 CFR 122.41(l)]

a. Planned changes. The permittee shall give notice to the Director as soon as possible to any planned physical alternations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section 122.42(a)(1); or

b. Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility of activity which may result in noncompliance with the permit requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See Section 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory).

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136, then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. Twenty-four hour reporting.

(1) The permittee shall report any noncompliance which may endanger public health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned in order to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(i) Any unanticipated bypass which exceeds any effluent limitation in the permit. [See 40 CFR 122.41(g).]

(ii) Any upset which exceeds any effluent limitation in the permit.

(iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. [See 40 CFR 122.44(g).]

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under the above paragraphs (i), (ii), and (iii) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed paragraph (iii) of this section.

h Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

14. Bypass [40 CFR 122.41(m)]

a. Definitions

(1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not Exceeding Limitations.The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

c. Notice.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, of possible at least ten days before the date of the bypass.

(2) Unanticipated bypass.The permittee shall submit notice of an unanticipated bypass as required in paragraph (f) of section (13) (24-hour notice).

d. Prohibition of bypass.

(1) Bypasses are prohibited, and the Director may take enforcement action against a permittee for a bypass, unless:

(i) A bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

(iii) The permittee submitted notices as required under paragraph c of this section.

(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the director determines it will meet the three conditions listed above in paragraph (d) of this section.

15. Upset [40 CFR 122.41(n)]

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirement of paragraph c of this section are met. No determination made during administrative review of claims that noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated; and

(3) The permittee submitted notice of the upset as required in paragraph 13(f) (24-hour notice).

(4) The permittee complied with any remedial measures required under 40 CFR 122.41(d).

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

16. Reopener Clause [40 CFR 122.44(c)]

This permit shall be modified or revoked and reissued to incorporate any applicable effluent standard or limitation or standard for sewage sludge use or disposal under sections 301 (b) (2) (C), and (D), 304 (b) (2), 307 (a) (2) and 405 (d) which is promulgated or approved after the permit is issued if that effluent or sludge standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant or sludge use or disposal practice not limited in the permit.

17. Transfers by Modification [40 CFR 122.61(a)]

Except as provided in section 18, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR 122.62(b)(2)0, or a minor modification made under 40 CFR 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under the CWA.

18. Automatic Transfers [40 CFR 122.61(b)]

An alternative to transfers under section 17, any NPDES permit may be automatically transferred to a new permittee if:

a. The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (2) of this section;

b. The notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (2) of this section.

19. Minor Modification of Permits [40 CFR 122.63]

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 125. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR 122.62. Minor modifications may only:

a. Correct typographical errors;

b. Require more frequent monitoring or reporting by the permittee;

c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

d. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in their permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Director.

e. Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation prior to discharge under 40 CFR 122.29.

f. Delete a point source outfall when the discharge from the outfall is terminated and does not result in discharge of pollutants from other outfall except in accordance with the permit limits.

g. When the permit becomes final and effective on or after March 9, 1982, conform to changes respecting 40 CFR 122(3), (1), (m)(4)(I)(B), (n)(3)(I), and 122.42 (a) issued September 26, 1984.

h. Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 as enforceable conditions of the POTW's permit.

20. Termination of permits [40 CFR 122.64]

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

a. Noncompliance by the permittee with any condition of the permit;

b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

21. Availability of Reports [Pursuant to Clean Water Act Section 308]

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

22. Removed Substances [Pursuant to Clean Water Act Section 301]

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

23. Severability [Pursuant to Clean Water Act Section 512]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of the permit, shall not be affected thereby.

24. Civil and Criminal Liability [Pursuant to Clean Water Act Section 309]

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

25. Oil and Hazardous Substance Liability [Pursuant to Clean Water Act Section 311]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

26. State or Tribal Law [Pursuant to Clean Water Act Section 510]

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.

APPENDIX 1 - Additional Permit Requirements

A. Street Sweeping Program

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX a proposal for regular street sweeping of the permittees' municipal roads, including a description of the type of equipment to be used. Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

B. Storm Drainage System Inspection and Maintenance

Not later than December 15, 1999, the permittees shall submit to USEPA Region IX a proposal for regular inspection and maintenance (including debris removal) of the permittees' municipal separate storm sewer system (not including municipal roads). Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

C. Investigation of Malfunctioning Septic Systems

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX an evaluation of the potential for storm water quality degradation from malfunctioning septic systems within the area covered by the permit. The evaluation shall also include recommendations for reducing pollutants discharged from malfunctioning septic systems if the permittees conclude that malfunctioning septic systems may contribute significant quantities of pollutants in storm water runoff. Upon receipt of the evaluation by USEPA Region IX, this permit may be reopened and modified to include any recommendations from the evaluation, or a modification of the recommendations as necessary to comply with applicable requirements of the Clean Water Act.

D. Source Identification and Prioritization

The permittees shall develop and update annually, at a minimum, a list of facilities within the jurisdiction of the permittees which discharge storm water associated with industrial activity as defined at 40 CFR 122.26(b)(14). The list shall also include non-industrial facilities, or categories of facilities which the permittees believe may discharge significant quantities of pollutants in storm water. The overall list shall be prioritized to indicate the individual sources, or categories of sources which the permittees believe are the most significant sources of pollutants.

E. Inspection Program for Industrial/Commercial Facilities

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX a proposal for inspections of industrial and commercial facilities to evaluate storm

water pollution control efforts at the facilities. The proposal shall describe the types of facilities to be inspected and the frequency of such inspections and followup enforcement of local requirements. Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

F. Inspection/Enforcement Program at Construction Sites

With the first annual report required by this permit, the permittees shall submit to USEPA Region IX a proposal for inspection and enforcement of the permittees' grading ordinance at construction sites. The proposal shall describe the frequency of the inspections and the type of follow-up enforcement to be undertaken. Upon receipt of the proposal by USEPA Region IX, this permit shall be reopened and modified to include the proposal, or a modification of the proposal as necessary to comply with applicable requirements of the Clean Water Act.

G. Legal Authority Requirements

Within six months of the effective date of this permit, each permittee shall provide a certification to USEPA Region IX that it has adequate legal authority to do the following:

1) control through ordinance, permit, contract, order or other means discharges of pollutants into the MS4 from storm water discharges associated with industrial activity;
2) prohibit illicit connections to the MS4;
3) control spills or the dumping of materials other than storm water into the MS4;
4) control through interagency agreements the contribution of pollutants from one portion of the MS4 to another;
5) require compliance with ordinances, permits, contracts or orders; and
6) conduct inspections, surveillance and monitoring to ensure compliance with permits or ordinances.

H. Monitoring for Diazinon and Chlorpyrifos

The wet weather monitoring program required by Part I.A.4 of this permit shall include diazinon and chlorpyrifos among the parameters for which sampling and analysis is conducted.

I. Watershed Coordination Report

Not later than March 15, 2000, the permittees shall submit to USEPA Region IX a report which analyzes the appropriateness of the permittees' storm water management program and monitoring program in addressing storm water quality issues within the Santa Margarita Watershed as a whole, including the program's effect on water quality and habitat downstream from the Riverside County line. This analysis shall also include an assessment of the compatibility

with corresponding programs of San Diego County and Camp Pendleton and the needs and opportunities for collaboration with these communities. The report shall also include recommendations for any needed changes to the permittees' storm water management program or monitoring program based on the findings of the report. Upon receipt of the report by USEPA Region IX, this permit may be reopened and modified to include the recommendations, or a modification of the recommendations as necessary to comply with applicable requirements of the Clean Water Act.

APPENDIX C

City of Temecula
Inventory of Stormwater Drainage Facilities

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
RANCHO CALIFORNIA RD. WEST HEADING EAST:				
1	At Diaz Road	3 Catch Basins	To Murrieta Creek	
FRONT STREET:				
1	At 2nd Street	6 Combo basins (SE, SW)	W 24" to 3rd to Murrieta Creek	
1	At 3rd & Main Streets	10 Combo basins (E, W)	W 24" to 36" to Murrieta Creek	
1	Between 4th and Main Streets	5 Combo basins (E, W)	W 36" to Murrieta Creek	
1	At 5th Street	5 Combo basins (SW, SE)	W 24" to 36" to Murrieta Creek	
1	6th Street at Front	#2 Drop Boxes		
1	At Moreno	2 Catch basins (SW & SE)	W 24" to 36" to Murrieta Creek	
1	Rancho California Road	4 Catch basins	W 24" to 36" to Temecula Creek	
1	Jefferson Street across from Fast Signs	1 Catch basin		
1	300' South of Haciendas	1 Catch basin (E/W drain)	Run (E) Caltrans 24" (E) drain Empire Creek	
JEFFERSON AVENUE				
1	Jefferson Avenue at Montezuma	2 Catch basin (E & W)	S 24" X 2	
1	150' North of Overland	1 Combo basin (E), 1 catch basin (W)	48" X 2 to Murrieta Creek	
1	150' North of Bridge	2 Catch basins (1 E, 1 W)		
1	Buecking Drive	1 Catch basin (E)		
1	300' South of Del Rio	2 Catch basins (1E, 1W)	to Murrieta Creek	
1	150' South of Cherry	1 Catch basin (E)	flow with Murrieta Creek	
1	At Cherry	2 Catch basins	flow with Murrieta Creek	
AVENIDA ALVARADO:				
1	at Aqua Vista	1 Catch basin (NE), 1 drop box	Flow S	
1	at Tierra Alta	2 Catch basins (1 SW, 1 N)	S/S	
1	300' W/O "A" Street	2 Catch basins (1 S, 1 N)		
RIO NEDO:				
1	at Calle Empleado	2 Catch basins (1 NW, 1 S)	Flow E	
1	at Tierra Alta	2 Catch basins (SW) North	Flows to middle of road	
1	at Aqua Vista	2 catch basins (SE) North		
VIA DOS PICOS:				
1	300' West of Diaz	1 Combo basin (N), 1 drop box (S)	Flow E	
RANCHO WAY				
1	300' East of Business Park Drive	2 Catch basins	E 24" to concrete channel	
1	at Diaz	1 Catch basin (NE)	E 24"	
DIAZ ROAD:				
1	Diaz at Zevo Drive	3 Catch basins (E & W)		
1	300' South of Winchester	2 Catch basins (1 E, 1 W)	E to Creek 48"	
1	300' South of Alvarado	1 Catch basin (W)	E to Creek	
1	200' South of Sarah Way	1 Catch basin (W)	E to Creek	
1	200' n/o of Rancho Way	1 Catch basin (W)	E to Creek	

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
1	1000' n/o RanchoCalifornia Road	1 Catch basin	E to Creek	
1	"Remington Avenue"	2 Catch basins	At Diaz E & W	
1	"Remington Avenue"	2 Catch basins	1,000' west of Diaz	
1	"Zevo"	2 Catch basins	1,500' east of Winchester	
1	"Zevo"	2 Catch basins	2,000' east of Winchester	
1	"Zevo"	2 Catch basins	750' west of Diaz	
RANCHO VISTA ROAD AND VIA DEL CAMPO:				
1	Kathleen Way .2 mile from R.C. Road	1 Catch basin (W)		
1	Kathleen Way .3 mile from R.C. Road	2 Catch basins (1 E, 1 W)		
VINCENT MORAGA:				
1	500' South of Feliz Valdez	2 Catch basins (1 E, 1 W)	Flow E	
SINGLE OAK DRIVE:				
1	2 Catch basins (1 N, 1 S)	S to E		
BUSINESS PARK WEST TO EAST:				
1	.2 mile from Rancho California Road	2 Catch basins (1 E, 1 W)	E S	
1	.6 mile from Rancho California Road	2 Catch basins (1 E, 1 W)	E	
1	.8 mile from Rancho California Road	1 Catch basin (W)	E to Street	
BUSINESS PARK: E				
1	At Rancho Way	1 Catch basin (W)	E to Rancho Way	
1	100' south of Single Oak	2 Catch basins (1 E, 1 W)		
FELIX VALDEZ:				
1	.15 mile from Vincent Moraga	2 Catch basins (1 E, 1 W)	E	
1	100' north of Baldaray Circle	1 Catch basin (W), 1 drop box (E)	E	
MAIN STREET:				
1	At Pujol Street	1 Catch basin (S/E)	E	
DEL RIO:				
1	200' north of Front Street	2 Catch basins (1 E, 1 W)	W 16"	
1	At Calle Cortez	1 Catch basin (W), concrete drainage (E)	W 16"	
1	At Las Haciendas	Concrete drainage (E)	1N 1S" 24" Flow W	
1	At Montezuma	2 Catch basins	1N 1S	
1	"Las Haciendas" @ Del Rio	2 Catch basins		
COMMERCE CENTER DRIVE:				
1	At Montezuma	2 Catch basins (1 E, 1 W)	S	
1	150' south of Enterprise Circle West	2 Catch basins (1E, 1W)	To Murrieta Creek	
ENTERPRISE CIRCLE WEST:				
1	at Rider Way	1 Catch basin NE, 1 drop box west	W 24" to Murrieta Creek	
1	at bend, going north	2 Catch basins E/W	W to Murrieta Creek	
ENTERPRISE CIRCLE SOUTH:				
1	100' east of Enterprise Circle West	1 Catch basin (S)		
1	200' S/O Winchester Road	2 Catch basins (1 E 1 W) 54" W		

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
1	at bend, going west, 100' from corner	2 Catch basins		
1	at bend going north 150' from corner	1 Catch basin (E)		
ENTERPRISE CIRCLE NORTH:				
1	300' north of Winchester	2 Catch basins	W 36"	
1	700' north of Winchester	2 Catch basins	36"	
1	500' west of bend	2 Catch basins	36"	
1	at bend	1 Catch basin	36"	
RAINBOW CANYON:				
1	at Pala	2 Catch basins (1 N 1 S)	to street	
OLYMPIC:				
1	at Bay Hill	2 Catch basins (1 W, 1E)	Flow to Bay Hill W flows E - E flow S	
CLUBHOUSE:				
1	at Pala	2 Catch basins (1 E, 1 W)	to street	
1	at Bayhill	2 Catch basins (1 E, 1 W)	36" to Clubhouse	
1	at Murfield	1 Catch basin (W)	E	
MASTERS:				
1	at Pala	2 Catch basins (1 E, 1 W)	Flows into Masters	
CLASSIC:				
1	at Glen Eagles	2 Catch basins (1 N, 1 S)	Flow S	
MURFIELD:				
1	2 Catch basins (1 N, 1 S)	N & S to Murfield E		
CLASSIC:				
1	at Murfield	2 Catch basins (1 E, 1 W)	N to Murfield	
LOMA LINDA:				
1	at Pala	2 Catch basins (1 N, 1 S)		
1	at Esmerado	2 Catch basins (1 E, 1 W)	to Esmerado Street	
1	Between El Osito Ct. & Escalante Ct.	2 Catch Basins (1 EN, 1 WS)		
EAST LOMA LINDA:				
1	at Masquaz	2 Catch basins (1 E, 1 W)		
MASKUAZ:				
1	at end of cul-de-sac	1 Catch basins (1 E, 1 W)		
ESMERADO:				
1	at Loma Linda	2 Catch basins (1 N, 1 S)	into Loma Linda	
1	31077 Ruidosa	2 Catch basins		
PASHAHO:				
1	at Saho	2 Catch basins (1 E, 1 W)	Drains to Pashaho N	
LAHONTAN:				
1	at Pashaho	1 Catch basin (S)	Drains to Pashaho N	
HOPACTONG:				
1	at Lahontan	2 Catch basins (1 E, 1 W)		
PIUTE:				

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
1	at Huron	2 Catch basins (1 E, 1 W)		
HURON:				
1	at Puite	2 Catch basins (1 N, 1 S)		
PALA ROAD:				
1	at Huron	1 Catch basin (W)		
EONA:				
1	at end of cul-de-sac	1 Catch basin		
PALA ROAD:				
1	150' south of Via Gilberto	1 Catch basin		
1	at Loma Linda	1 Catch basin (W)		
1	560' south of Masters	3 Catch basins (W) (E)		
CUPENO:				
1	at Wabash	2 Catch basins (1 N, 1 S)	N W	
1	at Wabash	1 Catch basin (N)	W	
PECHANGA:				
1	475' west of Cupeno	2 Catch basins (1 N, 1 S)	S into channel	
1	at Wabash	1 Catch basin (N)	S into street	
BEDFORD:				
1	at Highway 79	2 Catch basins (1 E, 1 W)		
RIDGEPARK DRIVE:				
1	1000' south of RanchoCalifornia Road	Catch basin 1W	E & S	
1	500' s/w of Vincent Moraga	2 Catch basins		
PUJOL STREET:				
1	800' s/o 1st	Drop boxes (2)	E	
MADISON AVENUE:				
1	s/o Sanborne	2 Catch Basins (1E, 1W)		
1	250' south of Bueking	2 Catch Basins		
McCABE COURT:				
1		1 Catch Basin	24" W to Murrieta Creek	
FRONT STREET:				
1	At Texaco 79S	2 Catch Basins (1)E, (1)W		
JEFFERSON AVENUE:				
1	at Winchester Road	2 Perk Basins (1)N 15		
RANCHO CALIFORNIA ROAD:				
1	Ridge Park Drive - 400' N	1 Drop Box		
CALLE EMPLEADO:				
1	at Rio Nedo	1 Catch Basin W		
VIA GILBERTO:				
1	Pala Road W/O	1 Catch Basin W		
CLUBHOUSE DRIVE:				
1	End of Cul-de-sac	1 Catch Basin		

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
WINCHESTER ROAD:				
1	Diaz Road 1500' W/O	2 Catch Basins (1)N (1)S		
1	Diaz Road 2500' W/O	2 Catch Basins (1)N (1)S		
1	Diaz Road 3000' W/O	2 Catch Basins (1 N, 1 S)		
1	Diaz Road 3500' w/o	1 Catch Basin (1)N		
1	25' W/O Colt Road	1 Catch Basin (1)N		
1	25' W/O Bostik Court	1 Catch Basin (1)N		
RANCHO CALIFORNIA RD. WEST HEADING EAST:				
2	150' W/O Ynez	2 Drop Boxes	N 24" to N 24" to Pond	
2	At Ynez	Combo Drain	SW 24"	
2	1000' from Ynez E/N	Drop Box	N 24"	
2	300' E/O Moraga	2 Catch Basins (1) N, (1) S	E 24" to Moraga	
2	At Cosmic	2 Catch Basins (1) NE, (1) SW	NE Cosmic across Rancho California to Long Valley	
YNEZ ROAD:				
2	South of Rancho California Road	1 Combo Basin (E)		
RANCHO HIGHLAND:				
2	200' West of Ynez Road	2 Catch Basins (1) N, (1) S	N-36"	
SANTIAGO ROAD:				
2	At Quiet Meadow	3 Catch basins		
2	200' East of "C" Street	1 Catch basin		
PREECE:				
2	At Ynez	2 Catch basins (1) N, (1) S		
GATEWOOD:				
2	At Preece	1 Catch basin (W)		
2	At end of cul-de-sac	1 Catch basin (W)		
2	Buttercup east of Buckeye	2 Catch basins (N & S)		
HIGHLANDER:				
2	East in cul-de-sac	1 Catch Basin		
NORTHGATE:				
2	At Bend	2 Catch Basins		
RANCHO VISTA:				
2	300' West of Mira Loma	2 Catch Basins (1) N, (1) S	S to Sun Lakes, N to Vail Elementary	
2	300' West of Southern Cross	1 Catch Basin	10/13/94 Plugged	
CALLE HALCON:				
2	At Ynez	2 Combo Basins (N/S)		
VIA BRISA:				
2	1 Catch Basin in cul-de-sac	24" S/W		
VIA CANADA:				
2	1 Catch Basin in cul-de-sac	24" S/W		

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
COLINA VERDE:				
2	30345	2 Catch basins (1) N, (1) S	24"	
2	30585	2 Catch basins (1) N, (1) S	24"	
CORTE VILLA:				
2	1 Catch Basin in cul-de-sac			
PRIMAVERA:				
2	30126	2 Catch Basins (1N, 1S)		
VILLA ALTURAS DRIVE:				
2	At Pauba	2 Catch Basins (1E, 1W)		
PAUBA ROAD:				
2	At Ynez East of Villa Alturas	2 Catch Basins (1) N, (1) S		
2	300' West of Primavera	2 Catch Basins (1) N, (1) S		
RANCHO VISTA:				
2	At Argo	1 Catch Basin (S)		
2	At Southern Cross	1 Catch Basin	24" S	
SOUTHERN CROSS:				
2	North of Spica	2 Combo Basins (1E, 1W)		
COSMIC:				
2	South of Rancho California Road	4 Catch Basins (2)E, (2)W	To Long Valley	
ASTEROID:				
2	South of Rancho California Road	2 Catch basins (1) E, (1) W	To Long Valley	
ARGO:				
2	At Rancho Vista	2 Catch basins (1) E, (1) W	24" S	
MOONTIDE COURT:				
2	East of Southern Cross	1 Catch Basin (N), 1 Combo (S)		
SPICA COURT:				
2	East of Southern Cross	1 Catch Basin (N), 1 Combo (S)		
2	120' West of Southern Cross	1 Catch Basin (S)		
AGENA:				
2	East of Southern Cross	2 Catch Basins (1N), (1S)		
2	300' from cul-de-sac	2 Catch Basins (1N), (1S)		
2	50' from end of cul-de-sac	2 Catch Basins (1N), (1S)		
MIRA LOMA:				
2	At Tierra Robles	1 Catch Basin (NW)	24" to Sun Lakes	
2	600' South of Rancho Vista	2 Catch Basins	24" to Sun Lakes	
2	1,000' South of Rancho Vista	2 Catch Basins	24" to Sun Lakes	
REMORA:				
2	At bend 300' from Escolacata	2 Catch Basins (1N), (1S)	24" S. flows N	
LEVANDE:				
2	At cul-de-sac	1 Catch basin (NW)		
MIRA LOMA:				

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STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
2	North of Rancho Vista Road	1 Catch Basin E		
2	100' South of Calle Violeta	2 Catch Basins		
SANTA SUZANNE:				
2	South of Cactus Place	2 Catch basins (1) E, (1) W	To Sun Lakes	
MARGARITA ROAD STARTING AT HIGHWAY 79:				
2	500' South of Pauba Road	2 Catch basins E & W		
2	At Pauba Road South	2 Catch basins E & W		
2	300' South of Rancho Vista	2 Catch basins E & W		
DE PORTOLA ROAD:				
2	At Villa De Sur	1 Combo Basin N		
2	At Jedediah Smith	1 Combo Basin N, 1 Drop Box (S)		
MARGARITA ROAD:				
2	Pio Pico 50' N/O	1 Catch Basin (E)		
RANCHO VISTA ROAD:				
2	East of Southern Cross	2 Catch Basins (1N), (1S)		
SANTIAGO ROAD:				
2	Quiet Meadow 150' W/O	1 Catch Basin (N)		
2	Quiet Meadow 15'	3 Catch Basins (N/S)		
DE PORTOLA ROAD:				
2	At Pio Pico	1 Combo N		
MARGARITA ROAD:				
2	79 (S) 300' N/O	2 Drop Box (1E), (1W)	36"	
2	79 (S) at Margarita	2 Drop Box (1E), (1W)		
SPICA COURT:				
2	At Southern Cross	1 Combo W		
2	Southern Cross at Spica Court	2 Catch Basins		
CALLE NACIDO:				
2	At 43490	2 Catch Basins (1)E, (1)W	36"W	
2	43325 Nacido	2 Catch Basins S/N		
2	Tierra Vista at Calle Nacido	2 Catch Basins		
2	Tierra Vista at Via Asado	2 Catch Basins		
2	43131 Fresca at Calle Nacido	2 Catch Basins		
VIA FANITA:				
2	Corte Rialto W/O	1 Combo	36"W	
2	At Preece	1 Catch basin		
SOUTHERN CROSS ROAD:				
2	At Rancho Vista	1 Catch Basin	24"W	
RANCHO VISTA ROAD:				
2	At Southern Cross	1 Catch Basin	24" W	

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STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
PALOMA DEL SOL:				
2	Via Rami at Pauba	2 Catch Basins		
2	Via Ricci at Amarita	2 Catch Basins		
2	Via Nanzo	2 Catch Basins at Amarita		
2	Pio Pico at Amarita	2 Catch Basins		
2	Via Rami at Amarita	2 Catch Basins		
2	Via Campanario at Via Rami	2 Catch Basins		
2	Abanilla at Via Campanario	1 Catch Basin		
2	Cala Rosso end of street	1 Catch Basin		
2	Corte Rimola end of street	1 Catch Basin		
2	Cala Canasco end of street	1 Catch Basin		
2	Calle Veronica at park	1 Catch Basin		
2	Corte Almonte endi of street	1 Catch Basin		
2	Corte Montilla end of street	2 Catch Basins		
2	Corte Calanda end of street	1 Catch Basin		
2	Corte Tolosa at Via Espirito	4 Catch Basins		
2	Corte Barbeste end of street	1 Catch Basin		
2	Via Barrozo at Corte Cardenas	1 Catch Basin		
2	Via Barrozo at Calle Redondela	2 Catch Basins		
2	Corte Cabral at Calle Redondela	2 Catch Basins		
2	Calle Redondela at Corte Sagunto	3 Catch Basins		
2	Corte Sagunto at Calle Redondela – end of cul-de-sac	1 Catch Basin		
2	Corte Amaya	1 Catch Basin		
2	Calle Redondela at Pio Pico	1 Catch Basin		
2	Pio Pico at Via Allrizo	1 Catch Basin		
2	Leena Way at Montelegro	1 Catch Basin		
2	Via Bande at aCorte Argento	1 Catch Basin		
2	Calle Carabana at Via Naya	2 Catch Basins		
2	Via Naya at Montelegro Way	3 Catch Basins		
2	Via Cesario at Corte Argento	5 Catch Basins		
2	Via Jasso at Meadows Parkway	1 Catch Basin		
2	Corte Illora at Meadows Parkway	2 Catch Basins		
2	Via Jumilla at Corte Illora	2 Catch Basins		
2	McCabe at Meadows Parkway	1 Catch Basin		
2	Camino Alagon at McCabe	1 Catch Basins		
2	Corte Carmona at Via Deanda	3 Catch Basins		
2	Via Deanda at Pauba Road	2 Catch Basins		
2	42929 Via Alhambra	3 Catch Basins		
2	Via Raya at Amarita	1 Catch Basin		
2	43120 Corte Salamaca end of street	1 Catch Basin		

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ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
2	Via Rami at Corte Cabrera	1 Catch Basin		
2	Camino Casillas at Corte Cabrera	1 Catch Basin		
2	Corte Cabrera end of cul-de-sac	1 Catch Basin		
2	Corte Cabrera at Corte Landeros	1 Catch Basin		
2	Via Ricci at Corte Cabrera	1 Catch Basin		
2	Corte Pollensa end of street	1 Catch Basin		
2	Via Nanzo at Calle Novelda	2 Catch Basins		
2	Via Nanzo at Amarita Way	1 Catch Basin		
2	Corte Benavente at Corte Algete	2 Catch Basins		
2	Corte Benavente at Montellegro	2 Catch Basins		
2	Via Rolas at Montellegro	1 Catch Basin		
2	Corte Alemeria end of street	1 Catch Basin		
2	31943 Corte Ballentine	2 Catch Basins		
RANCHO CALIFORNIA ROAD WEST HEADING EAST:				
2	300' E/O Moraga	2 Catch Basins (1)N, (1)S	E 24" to Moraga	
2	At Margarita	1 Combo Drain		
2	At Aragon	3 Catch Basins		
2	At Calle Bahia Vista	1 Catch Basin (SE)	N36"	
2	At Chardonnay Hills	2 Catch Basins (1 NE), (1NW)	S 36" to S 36"	
PAUBA ROAD:				
2	At Margarita Road	1 Catch Basin (SE Corner)		
2	1000' West of Via Rami	1 Catch Basin (S)		
2	100' East of Green Tree	1 Catch Basin (S)		
2	50' East of Meadows	1 Catch Basin (S)		
RANCHO VISTA:				
2	At Calle Jabili	1 Catch Basin (NE Corner)	To Rancho Vista	
2	At Via Toreno	1 Catch Basin (S)	To Rancho Vista	
2	West of Meadows	3 Catch Basins (1S)	To Rancho Vista	
2	At El Greco	1 Catch Basin (NW Corner)		
2	100' East of School District Office	1 Catch Basin (N)		
2	100' East of Calle Rio Vista	1 Catch Basin (S)		
2	At Calle Rio Vista	1 Catch Basin (NE)		
2	100' West of Calle Rio Vista	1 Catch Basin (S)		
2	East of Margarita	2 Catch Basins (N/S)		
2	300' East of Margarita	2 Catch Basins (1N, 1S)		
2	Across from School District	1 Catch Basin (S)		
VIA TORENO:				
2	At Camino Marea	2 Catch Basins (1E, 1W)		
2	Via Vistana at Rancho Vista	1 Catch Basin		
2	Via Vistana at Corte Canel	1 Catch Basin		

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STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
2	Camino Nunez at Corte Prado	6 Catch Basins		
2	Corte Merano at Corte Prado	1 Catch Basin		
2	Via Torres at Pauba – end of street	2 Catch Basins		
2	Corte Prado at Camino Seneco	4 Catch Basins		
MEADOWS PARKWAY FROM RANCHO CALIFORNIA ROAD SOUTHBOUND:				
2	200' S/O Rancho California Road	2 Catch Basins		
2	75' south of Meadows	2 Catch Basins		
2	At Pauba Road	4 Catch Basins		
2	At Via Jasso	1 Catch Basin		
2	At Cassino Court	1 Catch Basin		
BUTTERFIELD STAGE SOUTHBOUND STARTING AT RANCHO CALIFORNIA ROAD:				
2	75' S/O Rancho California Road	1 Catch Basin		
2	400' North of Pauba	2 Catch Basins		
2	Butterfield between Pauba and De Portola	6 Catch Basins		
2	Butterfield at 79S	2 Catch Basins		
2	De Portola between Margarita and Butterfield Stage Road	6 Catch Basins		
2	DePortola between Butterfield Stage Road and Park	6 Catch Basins		
2	Via Angeles at De Portola	2 Catch Basins		
2	Via Angeles at Corte Figueroa	2 Catch Basins		
2	Via Sabino at De Portola	3 Catch Basins		
2	Via Sabino 50' south of Nangarino	2 Catch Basins		
2	Calle Morita at Via Chapparo	2 Catch Basins		
2	Via Chapparo west of Via Sabino	2 Catch Basins		
2	Avenida de Mission at Via Rio Temecula	3 Catch Basins		
2	Via Rio Temecula at Corte Capistrano	3 Catch Basins		
2	Corte Veranas at Calle de Sax	1 Catch Basin		
2	Corte Capistrano at Via Santa Ines	1 Catch Basin		
2	Santa Ines at Corte Capistrano	1 Catch Basin		
2	Via Del Coronado at Loma Linda Rd.	3 Catch Basins		
2	Loma Linda at Corte Casa	3 Catch Basins		
2	31586 Loma Linda at Pool	2 Catch Basins		
2	Loma Linda at Corte Serrvina	3 Catch Basins		
2	Via Cordoba at Corte Carolina	4 Catch Basins		
2	Via Cordoba at Corte Valley	4 Catch Basins		
2	Via Cordoba at Corte Algera	3 Catch Basins		
2	Via Cordoba at Corte Bravo	4 Catch Basins		
2	Via Cordoba at Via Del Coronado	4 Catch Basins		
2	Via Quivera at Via Cordoba	1 Catch Basins		
2	Via San Carlos at Corte Camellia	7 Catch Basins		

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STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
CAMINO MAREA:				
2	At Via Asturias	1 Catch Basin (NE)		
2	At Vintage Hills	3 Catch Basins (1S, 1NE, 1NW)		
VINTAGE HILLS:				
2	South of Rancho California Road	1 Catch Basin (SE)	Dumps into 8' Culvert	
PASEO GOLETA:				
2	At Corte Sonora	2 Catch Basins (1S, 1W)		
CORTE SONORA:				
2	At Lomas Vista	1 Catch Basin (S)		
2	Calle Bahia Vista at Avenida De La Reina	3 Catch Basins		
2	Avenida De La Reina 41573	2 Catch Basins		
LOMAS VISTA:				
2	At Paseo De Las Olas	1 Catch Basin (SE)		
PASEO DE LAS OLAS:				
2	At Tajo	1 Catch Basin (S)		
TAJO:				
2	At Rancho California Road	1 Catch Basin (E)		
CALLE RIO VISTA:				
2	North of Rancho Vista	1 Catch Basin (E)		
CORTE ALAMAR:				
2	At Calle Rio Vista	1 Catch Basin (N)		
MEADOWS PARKWAY:				
2	100' north of Pauba Road	4 Catach Basins (2N, 2S)		
2	At Rancho Vista aRoad	1 Catch Basin		
MARGARITA ROAD STARTING AT RANCHO CALIFORNIA ROAD:				
3	310' North of Rancho California Road	2 Catch Basins (1W, 1E)		
3	600' East of Avenida Barca	1 Combo Basin (N)		
3	300' East of Avenida Barca	1 Catch Basin (N)		
CALLE MEDUSA:				
3	300' North of Riverton	2 Catch Basins (1E, 1W)		
3	300' South of Riverton	2 Catdh Basins (2E, 1W)		
3	300' North of Everest	2 Combo Basins (1E, 1W)		
3	Windsor at New Town	1 Catch Basin		
ALTON:				
3	East end cul-de-sac	1 Catch Basin		
CALLE KATERINE:				
3	At Leigh	2 Catch Basins (1E, 1W)		
3	Klarer Lane	2 Catch Basins		
3	At Windsor	3 Catch Basins		
3	New Town at Clear Light	2 Catch Basins		
	Windsor & New Town	1 Catch Basin		

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ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
RIVERTON:				
3	At Calle Medusa	2 Catch Basins (1E, 1W)		
YARDLEY:				
3	East of cul-de-sac	1 Catch Basin	36" S	
ASHMILL:				
3	At Enfield	2 Catch Basins (1E, 1W)		
ENFIELD:				
3	At Calle Medusa	2 Catch Basins (1N, 1S)		
WELLINGTON:				
3	610' North of Calle Medusa	2 Catch Basins (1E, 1W)		
3	Jons Place at Diego Drive	2 Catch Basins		
3	Jons Place at Seraphina Road	1 Catch Basin		
LA SERENA WAY:				
3	At Meadows	2 Combo Basins south side		
MEADOWS:				
3	At Cafera	2 Catch Basins (3)		
VINTAGE:				
3	At Cafera	1 Catch Basin (E)		
LA SERENA WAY:				
3	At Camino Corto, 200 S.	1 Combo Basin west side	Flows east to street	
3	At Via Puerta orth	1 Catch Basin west side	E	
3	200' east of Via Halcon	1 Catch Basin west side	E	
VIA PUERTA:				
3	At La Serena Way	2 Catch Basins (1E, 1W)		
3	At Camino Del Este	3 Catch Basins (1W, 2E)		
CAMINO DEL ESTE:				
3	East of Via Puerta	2 Catch Basins (1N, 1S)	W	
LA SERENA WAY:				
3	200' North of Piña colada	2 Catch Basins (1E, 1W)		
3	150' North of Margarita	2 Catch Basins (1E, 1W)		
CHARDONNAY HILLS:				
3	50' North of Rancho California Road	1 Combo Basin (E)		
3	At Circle Beauregard	2 Combo Basins (1E, 1W)		
CHEMIN LAURENT:				
3		3 Catch Basins (N)		
COUR BEAUNE:				
3		1 Catch Basin (end cul-de-sac)		
REISLING:				
3	At Rancho California Road	2 Catch Basins (1E, 1W)		
CHENIN BLANC:				

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ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
3	At Vineyard	2 Catch Basins (1E, 1W)		
ZINFANDEL:				
3	At Vineyard	2 Catch Basins (1E, 1W)		
KAISER:				
3	At Rancho California Road	1 Catch Basin (E)		
PIÑA COLADA:				
3	At Salt River	1 Catch Basin (N)		
3	150' South of Salt River	1 Catch Basin (S)		
3	100' North of Yuba	2 Catch Basins (1N, 1S)		
3	100' South of Serena	2 Catch Basins (1N, 1S)	24" to Piña Colada	
SO. GENERAL KEARNY ROAD:				
3	At La Serena Way	2 Catch Basins (1N, 1S)		
3	At Big Sage Court	1 Catch Basin		
3	300' East of La Serena Way	1 Catch Basin (N)		
3	At Heritage Trailer Park	3 Catch Basins (north side)		
BUTTERFIELD STAGE ROAD:				
3	North of Pauba Road	2 Catch Basins (1E, 1W)		
RANCHO CALIFORNIA ROAD:				
3	@ Meadows			
DEL REY ROAD:				
3	30819	1 Catch Basin (S)		
KAHWEA ROAD:				
3	At Via Norte	2 Catch Basins (1N, 1S)		
CALLE TORCIDA:				
3	Via Norte 500' W/O	1 Catch Basin (N)		
CHEMIN LAURENT:				
3	32249 n/o	1 V-Ditch Catch Basin 24" flows North		
3	32233 N/O	1 V-Ditch Catch Basin flows North		
3	41411 N/O	1 V-Ditch Catch Basin 24" flows North		
3	32257	Chemin Laurent		
PROMENADE CHARDONNAY HILLS:				
3	At La Serena Way	2 Catch Basins (1E, 1W)		
3	Promenade Chardonnay Hills at Heitz Lane	3 Catch Basins		
3	31645 Heitz Lane	2 Catch Basins		
CERCLE BEAUREGARD:				
3	Promenade Chardonnay Hills	2 Catch Basins (1N, 1S)		
BUTTERFIELD STAGE ROAD:				
3	Rancho California Road	50' N/O 2 Catch Basins W/S		

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ROADS DIVISION
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AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
3	Rancho California Road	50' S/O 1 Catch Basin W/S		
3	Tee Drive at Rancho California Rd.	2 Basins 1E / 1W		
3	Tee Drive at Temeku	1 Basin, East Side		
3	Temeku at Par Drive	1 Basin, south side		
3	Temeku at Pin Way	2 Basins, 1 North, 1 South		
3	Temeku at La Serena	2 Basins, 1E / 1W		
3	Temeku at Berkshire Lane	1 Basin, 1West		
3	Temeku at Glen Eagles Drive	1E / 1W		
3	Temeku at Flag Way 300' N	1W		
3	Temeku 100' East of Tee Drive	1N		
3	Temeku at Crystalaire	1N		
3	Temeku 250' west of Crystalaire	1S		
3	Temeku at Brassie	1N / 1S		
3	Honors Drive at Margarita	1N / 1S		
3	41486 Temeku	1W		
3	Honors at Tee Drive	1 Basin N/S		
3	Honors at Crystalaire Drive	1 Basin N/S (couldn't get bolts in)		
3	Honors at Brassie Lane	2 Basins North & South side (no holes for bolts)		
3	Honors at Margarita	2 Basins North & South		
3	Honors 150 yds. East of Brassie			
3	41880 Cascades Court	1 Basin		
3	41790 Colonial Court	1 Basin		
3	Royal Birkdale between Pine Needle and Sandhill	1 North / 1 South		
3	Somerest Hills at Pacific Grove	1 Basin (west side)		
3	Delmonte Street	2 basins at end of cul-de-sac		
3	31471 Sandhill	2 Basins		
3	31521 Sandhill	2 Basins		
3	31581 Sandhill	2 Basins		
3	31406 Royal Oaks Drive	2 Basins		
3	Royal Oaks at Somerset Hills	2 Basins		
3	41501 Eagle Point	1 Basin		
3	31402 Pennant Court	1 Basin		
3	41574 Laurel Valley Circle	1 Basin		
3	31370 Inverness	1 Basin		
3	31369 Inverness	1 Basin		
3	31275 Canterbury Court	1 Basin		
3	Glen Eagle Drive at Temeku	2 Basins		
3	31185 Glen Eagles	2 Basins		
3	31122 Firestone Street	1 Basin		

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AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
3	31111 Firestone Street	1 Basin		
3	31117 Sunning Dale Drive	2 Basins		
3	31413 Sunning Dale Drive 31431 Congressional Drive	1 Basin 1 Basin		
3	Congressional at Sea Island	1 Basin		
3	41188 Essex Court	1 Basin		
3	41194 Sea Island Court	1 Basin		
3	41101 Crooked Stick Drive	2 Basins		
3	31075 Oak Hill Drive	1 Basin		
3	31074 Oak Hill Drive	1 Basin		
3	31021 Oak Hill Drive	1 Basin		
3	31024 Oak Hill Drive	1 Basin		
3	Pine Tree at Berkshire	1 Basin		
3	Berkshire at Temeku	1 Basin		
3	Brassie Lane at Honors Drive	1 Basin		
3	31033 Iron Circle	1 Basin		
3	Brassie Lane at Rough Way	1 Basin		
3	Brassie Lane at Bunker Way	1 Basin		
3	Niblick Road at Brassie Lane	1 Basin		
3	Niblick Road at Dog Leg	1 Basin		
3	41821 Niblick Road	1 Basin		
3	41799 Niblick Road	1 Basin		
3	30916 Wedge Way	1 Basin		
3	41845 Vardon Drive	1 Basin		
3	41923 Vardon Drive	2 Basins		
3	30892 Mashie Way	1 Basin		
3	Driver Lane at Honors Drive	2 Basins		
3	41911 Driver Lane	2 Basins		
3	41901 Driver Lane	1 Basin		
3	41879 Driver Lane	1 Basin		
3	31138 Bunker Drive	2 Basins*		
3	Fore Way at Brassie Lane	2 Basins*		
3	Brassie 100 yds. N/O Crystalaire	2 Basins*		
3	30709 Links Court	1 Basin*		
3	Boogy Way at Links Court	1 Basin*		
3	42183 Southern Hills Drive	1 Basin*		
3	42068 Southern Hills Drive	1 Basin*		
3	Ashburn 50 yds. N/O Southern Hills	2 Basins*		
3	Ashburn at Median Way	1 Basin*		
3	41463 Ashburn	1 Basin*		
3	Median at Ashburn	1 Basin*		

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AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
3	30724 Point Woods Court	1 Basin*		
3	30770 Crystalaire Drive	1 Basin*		
3	Brassie Lane at Crystalaire Drive	1 Basin*		
3	30866 Crystalaire Drive	1 Basin*		
3	30906 Crystalaire Drive	2 Basins		
COUNTY CENTER DRIVE:				
4	50' East of Ynez	2 Catch Basins	W	
4	600' East of Ynez	1 Catch Basin (S)	W24"	
4	.15 Miles East of Ynez	1 Catch Basin (S)	W	
4	.25 Miles East of Ynez	1 Catch Basin (N)	W	
4	.27 Miles East of Ynez	1 Catch Basin (S)	W	
4	.3 Miles East of Ynez	1 Catch Basin (N)	W	
4	.35 Miles East of Ynez	1 Catch Basin (S)	W	
WINCHESTER ROAD:				
4	On Winchester 40' E/O Ynez Road 1. 300' S/O Winchester Road 2. Center Divider Catch Basins E/S of Ynez Road	3 Catch Basins (1SE corner, 1 NE corner)	Flow to Santa Gertrudis Creek	
YNEZ ROAD:				
4	20' n/o 79S	1 Catch Basin		
4	.1 Mile north or County Center Drive	2 Combo Basins (1E, 1W)		
4	South of Palm Plaza	2 Catch Basins (1E, 1W)		
4	100' North of Motor Car Parkway	2 Catch Basins (E) (W)		
4	North of Solana Way	1 Catch Basin (E)		
4	South of Solana Way	1 Catch Basin		
4	North of Rancho Calif. Rd. at Channel	1 Catch Basin	W24"	
HUMBER:				
4	At Rancho California Road	1 Catch Basin (W)		
4	At Long Valley	1 Catch Basin (W), 1 Combo (E)	E36"	
4	At Avenida Barca	1 Catch Basin (S)	S	
RIO GRANDE:				
4	At Humber	2 Catch Basins (N end)		
4	Avenida Barca at Margarita	1 Catch Basin (E)		
LONG VALLEY DRIVE:				
4	100' east of Humber	2 Catch basins (1N, 1S)		
ROANOAKE:				
4	At Long Valley	2 Catch Basins (1E, 1W)		
4	150' North of Long Valley	2 Combo Basins (1E, 1W)		
YUKON:				
4	At Rancho California Road	2 Catch Basins (1E, 1W)	24" to Long Valley	
4	120' North of Rancho California Road	1 Combo Basin (E)	24" to Long Valley	

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AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
4	At Long Valley North	1 Combo E	24" to Long Valley	
4	At Red River N	1 Combo Drain	24" to Long Valley	
4	At Sweet Shade E	2 Catch Basins (1N, 1S)	36" TO Long Valley	
IRON BARK:				
4	At Copper Beech	1 Catch Basin		
4	100' East of Copper Beech	2 Catch Basins (1N, 1S)		
MARGARITA ROAD STARTING AT HIGHWAY 79:				
4	200' East of Avenida Sonoma	1 Catch Basin	24" flows North	
4	At Avenida Sonoma East	2 Catch Basins (1N, 1S)		
4	300' East of Moraga	3 Catch Basins (N)	36" flow North	
4	50' East of Brilliante	1 Catch Basin (N)	36" flows North	
4	At Brilliante West	1 Catch Basin (N)		
4	200' South of Ramsey	2 Catch Basins (1E, 1W)	24"	
4	165' South of Solana Way	2 Catch Basins (W) (E)		
DEAL COURT:				
4		1 Catch Basin (NW cul-de-sac)		
TONEWOOD:				
4	East of Margarita	1 Catch Basin (S)		
4	175' West of Margarita	2 Catch Basins (1N, 1S)		
PUESTA DEL SOL:				
4	At Brilliante	2 Catch Basins (1NE, 1NW		
4	At Cuesta Al Sol	3 Catch Basins (1NE, 1NW, 1SW)		
4	100' East of Cuesta Al Sol	1 Catch Basin (N)		
CIMA DEL SOL:				
4	400' East of Beso Del Sol	2 Catch Basins (1N, 1S)		
SONOMA:				
4	At Margarita	3 Catch Basins (2 E, 1S)		
4	At San Luis	2 Catch Basins (1E, 1W)		
4	At Corte Cantera	2 Catch Basins (1E, 1W)		
AVENIDA VISTA LADERA:				
4	100' West of Calle Aranda	1 Catch Basin (S)		
4	At Via Sevilla	1 Catch Basin (E)		
VIA SEVILLA:				
4	At Via Vista	2 Catch Basins (1E, 1W)		
ARANDA:				
4	At Solana Way	2 Catch Basins (E/W)		
RENATE:				
4	At Via Las Charcras	3 Catch Basins (E/W side)		
4	200' South of Via La Vida	2 Catch Basins (1E, 1W)		
VIA LA VIDA:				

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
4	100' West of Renate	2 Catch Basins (1N, 1S)		
4	400' East of Margarita	1 Drop Box (S)		
RORIPAUGH ROAD:				
4	Roripaugh/John Christian	4 Catch Basins		
4	At Winchester	3 Combo Basins		
4	At Rosebay Court	2 Catch Basins (1N, 1S)		
4	At Mimulus	2 Catch Basins (1N, 1S)		
4	At Nicholas	2 Catch Basins (1E, 1W)		
4	Roripaugh / Senna	2 Catch Basins		
MIMULUS WAY:				
4	Warbler / Jon Christian	2 Catch Basins		
4	100' South of Lark Court	2 Catch Basins (1E, 1W)		
4	Parkside at Warbler	3 Catch Basins		
4	Parkside at June Road	2 Catch Basins		
4	Sierra Madre at North General Kearny	2 Catch Basins		
4	Sierra Madre at Cross Creek	4 Catch Basins		
4	Goldenrod at North General Kearny	2 Catch Basins		
4	No. General Kearany at Cross Creek	1 Catch Basin		
4	North General Kearny at Sierra Madre	2 Catch Basins		
4	Nicholas at Warbler N/S	1 Catch Basin		
4	Nicholas at Roripaugh N/S	1 Catch Basin		
4	Nicholas at 79N	2 Catch Basins		
NORTH GENERAL KEARNY:				
4	50' South of Salerno	2 Catch Basins (1E, 1W)		
4	At Dear Meadow	1 Catch Basin (E)		
DEAR MEADOW:				
4	At North General Kearny	2 Catch Basins (1N, 1S)		
4	At Tuolomne Court	2 Catch Basins (1N, 1S)		
4	At Vidette	2 Catch Basins (1N, 1S)		
4	At Via Lobo	2 Catch Basins (1N, 1S)		
HOLDEN CIRCLE:				
4		1 Catch (NE side) in cul-de-sac		
MILANO ROAD:				
4	At bend	1 Catch Basin (NW)		
4	East of bend	1 Catch Basin (S)		
4	100' E/O Villa Venecia	2 Catch Basins		
NICHOLAS ROAD:				
4	10' East Villa Venecia	2 Combo Basins south side Catch Basin N/Side	To Santa Gertrudis Channel 36"	
4	10' East Villa Venecia	3 Combo Catch S/S		

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
VIA LOBO:				
4	50' South of Nicholas Road	2 Drop Boxes (1E, 1W)	To Channel 36"	
WINCHESTER CREEK:				
4	At Winchester Road	1 Combo Basin (S)		
4	At Springtime Drive	1 Catch Basin (S)		
RISING HILL:				
4	500' North Falling Creek	2 Catch Basins (1E, 1W)		
SPRINGTIME:				
4	At Winchester Creek	2 Catch Basins (1E, 1W)		
OAKCLIFF:				
4	100' South of Quail Slope	1 Catch Basin (E)		
4	150' south of Quail Slope	1 Catch Basin (W)		
4	At Raven Hill	1 Catch Basin (W)		
RUSTIC GLEN:				
4	At Margarita	2 Catch Basins (N)		
4	At Oak Cliff	2 Catch Basins (N)		
4	100' East of Rainbow Creek	1 Catch Basin		
4	At Knoll Ridge	2 Catch Basin (S)		
4	At Shadow View	1 Catch Basin (N)		
4	Rustic Glen at Winchester	2 Catch Basin		
KNOLL RIDGE:				
4	100' West of Creative	1 Catch Basin (N)		
4	At Majello	2 Catch Basins (1N, 1S)		
MAJELLO:				
4	Cul-de-sac, south end	1 Catch Basin (S)		
MARGARITA:				
4	At Rustic Glen	1 Catch Basin (N)		
4	Pump Station	2 Catch Basins (E)		
4	Margarita & 79N City Limits	4 Catch Basins		
MORAGA:				
4	680' South of Margarita	2 Catch Basins (E)		
WINCHESTER ROAD:				
4	100' West of Ynez	1 Catch Basin (S)		
4	135' East of Ynez	1 Catch Basin (S)		
4	170' East of Ynez	1 Catch Basin (S)		
4	140' West of Ynez	1 Catch Basin (S)		
4	50' East of Ynez	1 Catch Basin (N)		
4	70' East of Ynez	1 Catch Basin (N)		
4	50' South of Winchester Creek Road	1 Drop Box (W)	36" South	
4	500' South of Winchester Creek Road	1 Drop Box (W)	36" South	
RYCREST:				

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
4	At Solana Way	2 Catch Basins (1E, 1W)		
WINDWOOD:				
4	At Gilwood	1 Catch Basin (S)		
4	End of cul-de-sac	1 Catch Basin		
SKYWOOD:				
4	At Solana	2 Catch Basins (1E, 1W)		
4	400' North of Solana	1 Catch Basin (E)		
SHOREWOOD:				
4	At Nightcrest	2 Catch Basins (1E, 1W)		
SOLANA:				
4	At Calle Fuego	1 Catch Basin (S)		
YNEZ ROAD:				
4	At Highway 79 North	1 Catch Basin NE Corner		
4	Motorcar Parkway 100' N/O	1 Catach Basin Center Divider		
SOLANA WAY:				
4	Ynez NE Corner	1 Catch Basin (N)		
4	Between Ynez & Margarita	1 Catch Basin		
4	Solana at Margarita N/E Corner	1 Catch Basin		
AVENIDA BARCA:				
4	At Margarita	1 Catch Basin (E)		
MARGARITA ROAD:				
4	At Winchester S/S	2 Catch Basins (1E, 1W)		
4	At Rustic Glen NE Corner	1 Catch Basin		
4	At Highway 79 North	2 Catch Basins (1E, 1W)		
NICHOLAS ROAD:				
4	Via Lobo E/O	6 Catch Basins (3N, 3S)		
RANCHO CALIFORIA ROAD:				
4	Humber	1 Catch Basin (E)	WELD	
4	Solana at Margarita N/E Corner	1 Catch Basin		
DEL REY ROAD:				
4	Via Corsica S/O	2 Catch Basins (1E, 1W) flows N		
MARGARITA AT 79 NORTH:				
4	On Winchester e/o Margarita Road	1 (S)		
4	On Winchester e/o Roripaugh	1 (S) 80 Ft.		
4	On Winchester 450' E/O Nicholas Rd.	1 (S)		
4	On Winchester at Nicholas Road (W)	1 (S)		
4	On Winchester at Nicholas Road	1 (S)		
4	On Winchester 350' E/O Nicholas Rd.	1 (S)		
4	On Winchester 710' E/O Nicholas Rd.	1 (S)		
4	On Winchester 1300' E/O Nicholas Rd	1 (S)		

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
4	On Winchester 200' W/O Winchester Creek Road	1 (S)		
4	On Winchester 100' E/O Winchester Creek Road	1 (S)		
4	On Winchester 600' E/O Winchester Creek Road	1 (S)		
4	On Winchester 350' W/O Winchester Creek Road	1 (N)		
4	On Winchester 100' W/O Winchester Creek Road	1 (N)		
4	On Winchester 350' E/O Nicholas Rd.	1 (N)		
4	On Winchester at Nicholas (E)	1 (N)		
4	On Winchester at Nicholas (W)	1 (N)		
4	On Winchester at Nicholas (W)	1 (N)		
4	On Winchester 30' E/O Roripaugh	1 (N)		
4	On Winchester 550' E/O Margarita Rd.	1 (N)		
4	N. General Kearney At Margarita Rd.	1 Catch Basin		
4	N. General Kearney 500' E/O Margarita Road	3 Catch Basins		
5	Vail Ranch Parkway & Redhawk	No. & So.		
5	Vail Ranch Parkway & Harmony	1S		
5	Vail Ranch Parkway & Mill Run	1 Basin, 1 S		
5	Vail Ranch & Johnston	1 Basin, 1 S		
5	Vail & Camino Rubano	1S & 1N		
5	Vail & Tehachapi	1S		
5	Vail & Chisimal	1N		
5	Vail & Camino Pedra Rojo	1N		
5	Vail & Terzich	1N		
5	Overland Trail 60' East of Redhawk	1N & 1S		
5	Hafiz & Hupp	1E & 1W		
5	Hafiz & Hupp	1S		
5	Linalou Ranch Road & Hupp	1E & 1W		
5	44888 Linalou Ranch Road	1E & 1W		
5	Hupp & Potestas	1N & 1S		
5	Valintino & Hupa	2W & 2E		
5	Valintino & Regina Drive	1E & 2W		
5	Hupa & Valintino	1N		
5	Cinon & Cupa	1E & 1W		
5	Machon & Cinon	1N & 1S		
5	Garoli Pass & Regina	1E & 1W		
5	Rhiannon & Cinon	1N & 1S		
5	44715 Cupa	1E & 1W		

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
5	44858 Tehachapi Pass			
5	Tehachapi Pass & Marge	2E		
5	44972 Marge	1W		
5	33346 Calle Alfredo	1N		
5	33323 Calle Alfredo			
5	33306 Calle Alfredo			
5	44677 Lorraine			
5	44665 Lorraine	1E & 1W		
5	44643 Pris Lane			
5	Prins Lane & Sawyers Run Road	1S		
5	44563 Pris Lane			
5	44692 Calle Hilaril			
5	44707 Calle Hilaril			
5	33183 Calle Mira Copa			
5	44765 Tehachapi Pass			
5	33082 Terrace Drive			
5	44710 Corte Gutierrez	2E & 2W		
5	33272 Calle Cantu	1N & 1S		
5	33180 Camino Pedra Rojo	1N & 1S		
5	33194 Parowin			
5	33223 Avenida Bicicleta	1E & 1W		
5	33251 Camino Pedra Rojo	1N & 1S		
5	44653 Camino Gonzales	1N & 1S		
5	44679 Corte Sanchez	1E & 1W & 1N		
5	44735 Johnston	1N & 1S		
5	Nighthawk at Vail Ranch Parkway	1N & 1S		
5	44581 Brentwood	1N & 1S		
5	44598 Brentwood	1S		
5	32975 Terrace Drive			
5	Harmony at Vail Ranch Parkway	1E & 1W		
5	32975 Harmony	1E		
5	44652 Mill Run			
5	33028 Tulley Ranch Road	1N & 1S		
5	44531 Lauriano Drive	1E & 1W		
5	32844 Tulley Ranch Road	1N & 1S		
5	44561 Tulley Ranch Road			
5	32732 Tulley Ranch Road	1S		
5	32624 Hislop Way	1N & 1S		
5	32579 Hislop Way			
5	32549 Hislop Way	1N & 1S		
5	44733 Bananal	1E & 1W		

CITY OF TEMECULA
DEPARTMENT OF PUBLIC WORKS

ROADS DIVISION
STORM DRAINS WITHIN CITY

AREA	LOCATION	TYPE OF DRAIN	SIZE & DIRECTION	MAINT REQ'D
5	Redhawk Parkway at Park	1E & 1W		
5	Wolf Store & Apis Road	1E & 1W & 1S		
5	Wolf Store 200 yds. East of Apis	1S		
5	Wolf Store 400 yds. East of Apis	1S		
5	Wolf Store 600 yds. East of Apis	1S		
5	Mahlon Vail Road at Wolf Store	1E & 1W		
5	Wolf Store 200 Yds. East of Mahlon Vail Rd.	1S		
5	Wolf Store 400 yds. East of Mahlon Vail Rd.	1S		

***NEED RAIN-IN-DRAIN**

APPENDIX D

Implementation Agreement

AGREEMENT

National Pollutant Discharge Elimination System
Stormwater Discharge Permit
Implementation Agreement
San Diego Region

(Santa Margarita Drainage Area)

This Agreement, entered into as of this _____ day of _____, by the RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT (herein called DISTRICT), the COUNTY OF RIVERSIDE (herein called COUNTY), and the CITIES OF TEMECULA AND MURRIETA (herein called CITIES), establishes the responsibilities of each party concerning compliance with the National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit (NPDES Permit) issued by the California Regional Water Quality Control Board - San Diego Region pursuant to its Order No. 98-02.

RECITALS

WHEREAS, Congress in 1987 added Section 402(p) to the Federal Clean Water Act (CWA) (33 U.S.C. §1342(p)); and

WHEREAS, Section 402(p) requires certain municipalities to obtain NPDES Permits in order to discharge stormwater from Municipal Separate Storm Sewer Systems (MS4s) to waters of the United States; and

WHEREAS, Section 402(p) also requires operators of certain industrial facilities to obtain NPDES Permits for stormwater discharges associated with designated industrial activities, including construction activities; and

NOV 17 1998 2.1&9.1

WHEREAS, Section 402(p) further requires the United States Environmental Protection Agency (USEPA) to promulgate regulations requiring NPDES Permits for designated MS4s and industrial activities; and

WHEREAS, USEPA promulgated such regulations in November 1990; and

WHEREAS, USEPA has delegated to the California Regional Water Quality Control Board-San Diego Region (CRWQCB-SDR) the authority to administer the NPDES permitting process within the boundaries of that region; and

WHEREAS, DISTRICT was created to provide for the control of flood and stormwaters within the County of Riverside and is empowered to investigate, examine, measure, analyze, study and inspect matters pertaining to flood and stormwaters; and

WHEREAS, in January 1995, DISTRICT, COUNTY and CITIES submitted a Report of Waste Discharge as an application to renew NPDES Permit No. CAS 0108766; and

WHEREAS, the NPDES Permit Application was submitted in accordance with the provisions of the previous NPDES Permit (Order No. 90-46, NPDES No. CAS 0108766) which expired on July 16, 1995; and

WHEREAS, on May 13, 1998, CRWQCB-SDR adopted Order No. 98-02 to serve as Waste Discharge Requirements in accordance with Section 13263(a) of the California Water Code and as an NPDES Permit pursuant to Section 402(p) of the CWA; and

WHEREAS, the NPDES Permit issued pursuant to Order No. 98-02 meets both the requirements of Section 402(p)(3)(B) of the CWA and all requirements applicable to an NPDES Permit issued under CRWQCB-SDR discretionary authority in accordance with Section 402(a)(1)(B) of the CWA; and

WHEREAS, the NPDES Permit designates DISTRICT as the "Principal Permittee", and COUNTY and CITIES as "Co-Permittees"; and

WHEREAS, cooperation between DISTRICT, COUNTY and CITIES in the administration and implementation of the NPDES Permit is in the best interests of DISTRICT, COUNTY and CITIES; and

WHEREAS, DISTRICT is willing to utilize its staff to coordinate the activities of DISTRICT, COUNTY and CITIES to facilitate compliance with the NPDES Permit and CWA requirements; and

WHEREAS, DISTRICT, COUNTY and CITIES are to perform certain activities prescribed in the NPDES Permit that will benefit all parties.

NOW, THEREFORE, the parties hereto do mutually agree as follows:

1. Incorporation of the NPDES Permit. The NPDES Permit issued to DISTRICT, COUNTY and CITIES by CRWQCB-SDR pursuant to Order No. 98-02 is attached to this Agreement as EXHIBIT A and is hereby incorporated by reference in its entirety and made a part of this Agreement.

2. Delegation of Responsibilities. The responsibilities of each of the parties shall be as described in the NPDES Permit and reiterated as follows:

a. DISTRICT, at no cost to COUNTY and CITIES, shall assume the responsibilities and meet the requirements of the NPDES Permit by:

(1) Complying with Section II.B. (RESPONSIBILITIES OF THE PRINCIPAL PERMITTEE).

(2) Complying with Sections II.D. (DISCHARGE LIMITATIONS), II.E. (RECEIVING WATER LIMITATIONS), and II.F. (PROVISIONS) as they pertain to DISTRICT facilities and operations.

(3) Performing all sample collection and laboratory analyses, including stormwater, dry weather and receiving water sampling, as described in Section II.F.26. et seq. (MONITORING AND REPORTING REQUIREMENTS).

(4) Performing all reporting requirements described in Section II.F.26. et seq. (MONITORING AND REPORTING REQUIREMENTS). With respect to such reporting, DISTRICT shall specifically:

(a) Prepare the required narrative for all reports; and

(b) Provide COUNTY and CITIES an opportunity to review and comment on any such narrative.

(5) Corresponding with CRWQCB-SDR, USEPA, SWRCB, and other parties concerning NPDES Permit matters on behalf of COUNTY and CITIES. With respect to such correspondence, DISTRICT shall specifically:

(a) Prepare the required narrative for such correspondence;

(b) Provide COUNTY and CITIES an opportunity to review and comment on any such correspondence; and

(c) Provide copies of all such correspondence to COUNTY and CITIES.

b. COUNTY and CITIES shall, at no cost to DISTRICT, assume the responsibilities and meet the requirements of the NPDES Permit for land area within their respective jurisdictions and facilities that they own or operate by:

(1) Complying with Section II.C. (RESPONSIBILITIES OF THE PERMITTEES).

(2) Complying with Sections II.D. (DISCHARGE LIMITATIONS), II.E. (RECEIVING WATER LIMITATIONS), and II.F. (PROVISIONS) as they pertain to COUNTY and CITIES facilities and operations.

(3) Demonstrating compliance with all NPDES Permit requirements through timely implementation of the approved Drainage Area Management Plan

(DAMP) and any approved modifications, revisions, or amendments thereto.

(4) Providing to DISTRICT (on DISTRICT provided forms) all information needed to satisfy the reporting requirements as described in Section II.F.26. et seq. (MONITORING AND REPORTING REQUIREMENTS). COUNTY and CITIES shall specifically:

(a) Provide information on existing stormwater facilities and/or other data as it pertains to COUNTY or CITIES facilities when requested by DISTRICT.

(b) Submit their individual NPDES Permit compliance reports to DISTRICT for incorporation into DISTRICT'S narrative no later than September 15 of each year.

3. Shared Costs. In the event DISTRICT requires the services of a consultant or consultants to prepare manuals, develop additional stormwater management or NPDES Permit compliance programs, or perform studies relevant to the entire permitted area, the cost of said consultant services shall be shared by DISTRICT, COUNTY and CITIES. The shared costs shall be allocated as follows:

Party	Percentage Contribution
DISTRICT	50
COUNTY & CITIES	50

The individual percentage contribution from COUNTY and individual CITIES shall be a function of population. More specifically, such contribution shall be calculated as the population of COUNTY* or individual CITIES, divided by the total population of all the Co-Permittees multiplied by 50, i.e.,:

Contribution (%) = $50(x_n/x_{tot})$

X_n = population of COUNTY* or individual CITIES
X_{tot} = total population of COUNTY* and CITIES
50 = total percentage excluding DISTRICT portion

* Population within the Santa Margarita drainage area

The population of COUNTY and CITIES shall be based on the latest California State Department of Finance population figures issued in May of each year.

The total shared cost of consultant services shall not exceed $75,000.00 annually.

COUNTY and CITIES shall be notified in writing of DISTRICT'S request for proposals from consultants, selection of consultant(s), associated fee(s), contract timetable(s) and contract payment schedule(s).

COUNTY and CITIES shall pay to DISTRICT their portion of any shared costs within 60 days of receipt of an invoice from DISTRICT.

4. Term of the Agreement. The term of this Agreement shall commence on the date the last duly authorized representative of DISTRICT, COUNTY or CITIES executed it. The term of this Agreement shall be indefinite or as long as required for compliance with the CWA, unless each of the Co-Permittees withdraws in accordance with the terms of this Agreement.

5. Additional Parties. Any City which incorporates after the date of issuance of the NPDES Permit and/or after the date of execution of this Agreement may file a written request with DISTRICT asking to be added as a party. Upon receipt of such a request, DISTRICT shall solicit the approval or denial of each Co-Permittee. If each of the Co-Permittees approves the addition of the City, DISTRICT, on behalf of the Co-Permittees, shall ask CRWQCB-SDR to add the City to the NPDES Permit as an additional Co-Permittee. Once the City is made an additional Co-Permittee to the NPDES Permit, this Agreement shall be amended to reflect the addition, and the City shall, thereafter, comply with all provisions of the NPDES Permit and this Agreement. Upon execution of the amended Agreement, the City shall be responsible for the shared costs discussed in Section 3 of this Agreement for the current and any subsequent budget year.

6. Withdrawal from the Agreement. Any party may withdraw from this Agreement sixty (60) days after giving written notice to DISTRICT and CRWQCB-SDR. The withdrawing party shall agree in such notice to file for a separate NPDES Permit and to comply with all of the requirements established by CRWQCB-SDR. In addition, withdrawal shall constitute forfeiture of all of the withdrawing party's share of the costs described in Section 3 of this Agreement. The withdrawing party shall be responsible for all lawfully assessed penalties as a consequence of withdrawal. The cost allocations to the remaining parties shall be recalculated in the following fiscal year.

7. Non-compliance with Permit Requirements. Any party found in non-compliance with the conditions of the NPDES Permit shall be solely liable for any lawfully assessed penalties. Common or joint penalties shall be calculated and allocated between the parties according to the formula outlined in Section 3 of this Agreement.

8. Amendments to the Agreement. This Agreement may be amended only by consent of all parties to this Agreement. No amendment to this Agreement shall be effective unless it is in writing and signed by the duly authorized representatives of all parties to the Agreement.

9. Authorized Signatories. The General Manager-Chief Engineer of DISTRICT, the Chief Executive Officer of COUNTY and the City Managers of CITIES (or their designees) shall be authorized to execute all documents and take all other procedural steps necessary to file for and obtain an NPDES Permit(s) or amendments thereto.

10. Notices. All notices shall be deemed duly given when delivered by hand; or three (3) days after deposit in the U.S. Mail, postage prepaid.

11. Governing Law. This Agreement shall be governed and construed in accordance with laws of the State of California. If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired hereby.

12. Consent to Waiver and Breach. No term or provision hereof shall be deemed waived and no breach excused, unless the waiver or breach is consented to in writing, and signed by the party or parties affected. Consent by any party to a waiver or breach by any other party shall not constitute consent to any different or subsequent waiver or breach.

13. Applicability of Prior Agreements. This Agreement and the exhibits attached hereto constitute the entire Agreement between the parties with respect to the subject matter; all prior agreements, representations, statements, negotiations and undertakings are superseded hereby.

14. Execution in Counterparts. This Agreement may be executed and delivered in any number of counterparts or copies ("counterpart") by the parties hereto. When each party has signed and delivered at least one counterpart to the other parties hereto, each counterpart shall be deemed an original and, taken together, shall constitute one and the same Agreement, which shall be binding and effective as to the parties hereto.

//

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IN WITNESS WHEREOF, this Agreement has been executed as of the day and year first above written.

RECOMMENDED FOR APPROVAL:

DAVID P. ZAPPE
General Manager-Chief Engineer

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By _____
James A. Venable
Riverside County Flood Control
And Water Conservation District
Board Of Supervisors

APPROVED AS TO FORM:

WILLIAM C. KATZENSTEIN
County Counsel

By _____
Deputy

Dated 10/29/98

ATTEST: NOV 17 1998

GERALD A. MALONEY
Clerk of the Board

By _____
Deputy

(SEAL)

RECOMMENDED FOR APPROVAL:

By _____
LARRY PARRISH
County Executive Officer

Dated _____

COUNTY OF RIVERSIDE

By _____
JOHN F. TAVAGLIONE, Chairman
County of Riverside
Board of Supervisors

ATTEST: NOV 17 1998

GERALD A. MALONEY
Clerk of the Board

By _____
Deputy

(SEAL)

VLD:MHW:pln

11/17/98 2.1

APPROVED AS TO FORM:

By _____
City Attorney
Peter M. Thorson

CITY OF TEMECULA

By _____
Mayor
Steven J. Ford

ATTEST:

By _____
City Clerk
Susan W. Jones, CMC

(SEAL)

APPROVED AS TO FORM:

By _____
City Attorney

CITY OF MURRIETA

By _____
Mayor

ATTEST:

By _____
City Clerk

(SEAL)

National Pollutant Discharge Elimination System
Stormwater Discharge Permit Implementation Agreement
San Diego Region

Exhibit A

Order No. 98-02
California Regional Water Quality Control Board – San Diego Region

Permit scanned
as PC\56868

APPENDIX E

Interagency Agreements

Compliance Assistance Program

4350 577491

FLOOD CONTROL AND WATER CONSERVATION DISTRICT BOARD SUBMITTAL
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FROM: Chief Engineer SUBMITTAL DATE: August 10, 1999

SUBJECT: Contract Services Agreement with County Health Services Agency's Department of Environmental Health Department

RECOMMENDED MOTION:

The Board approve the attached agreement between the District and the Health Services Agency's Environmental Health Department and authorize the Chairman to execute the agreement documents on behalf of the District.

JUSTIFICATION:

Since 1993, the Flood Control District, as part of its area-wide municipal stormwater management program, has provided funding to the Environmental Health Department in support of its Household Hazardous Waste (HHW) collection program. This 3-year agreement continues the existing funding arrangement for the HHW program and establishes a new element of the area-wide stormwater management program: a commercial/industrial Compliance Assistance Program (CAP).

The CAP will conduct education and outreach to the commercial/industrial sector providing information on stormwater best management practices, stormwater permitting requirements and prohibitions against non-stormwater discharges. This effort will be performed in conjunction with existing facility inspection programs conducted by the Environmental Health Department's Hazardous Materials Management Division and District Environmental Services Division. In addition, the CAP will provide feedback to municipal stormwater permittees and the Regional Water Quality Control Boards regarding the compliance status of commercial/industrial facilities.

This matter is also on the County's Board agenda this same date. County Counsel has approved this agreement as to legal form.

FINANCIAL:

Funding for the HHW and Compliance Assistance Programs will be provided by the District's annual NPDES Benefit Assessments levied in the Santa Ana, Santa Margarita and Whitewater Benefit Assessment Areas.

DAVID P. ZAPPE
General Manager-Chief Engineer

FINANCIAL DATA:

CURRENT YEAR COST $ 170,000	**ANNUAL COST $223,000 (maximum)**
NET DISTRICT COST $170,000	**IN CURRENT YEAR BUDGET: YES**
	BUDGET ADJUSTMENT: NO

SOURCE OF FUNDS:

Fund No. 675 – Whitewater NPDES Benefit Assessment
Fund No. 677 – Santa Ana NPDES Benefit Assessment
Fund No. 679 – Santa Margarita NPDES Benefit Assessment

C.E.O. RECOMMENDATION **APPROVE**

County Executive Officer Signature

FISCAL PROCEDURES APPROVED
IVAN M. CHAND, Director of Finance
By Mary Rand Date 7/28/99

MINUTES OF THE FLOOD CONTROL & WATER CONSERVATION DISTRICT BOARD

On motion of Supervisor Tavaglione, seconded by Supervisor Mullen and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Buster, Tavaglione, Venable, Wilson and Mullen
Noes:	None
Absent:	None
Date:	August 10, 1999
xc:	Flood, HSA, Env. Health

Gerald A. Maloney
Clerk of the Board
By Deputy

MHW:pln Prev. Agn. ref. Depts. Comments Dist. All AGENDA NO. 9.3

FORM 11B (12/82)

SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

715

FROM: Director, Health Services Agency/Environmental Health

SUBMITTAL DATE: August 10, 1999

SUBJECT: Agreement Between the Flood Control District and the Department of Environmental Health for Support of National Pollution Discharge Elimination System (NPDES) Activities

RECOMMENDED MOTION: The Board approve the attached three (3) year Agreement between the Flood Control District and the Department of Environmental Health and authorize the Chairman to execute the Agreement on behalf of the Department

BACKGROUND: Federal regulations implementing the NPDES municipal stormwater program require NPDES stormwater permittees to implement programs that reduce the discharge of pollutants from their respective municipal stormwater discharges. Since FY 1993-94, the Flood Control District, on behalf of all Riverside County NPDES stormwater permittees, has provided funding to the Department in support of its area-wide Household Hazardous Waste (HHW) Collection Program to assist in reducing the discharge of HHW into the municipal stormwater drainage system.

Approval of the attached Agreement will expand the activities the Department will provide in support of the NPDES program. The additional activities will involve

(continued)

FORM APPROVED
COUNTY COUNSEL

JUL 19 1999

BY G. Blankenship

Kenneth B. Cohen, Director
Health Services Agency

FINANCIAL DATA:

CURRENT YEAR COST	$ 545,170	ANNUAL COST	$ 545,170
NET COUNTY COST	$ -0-	IN CURRENT YEAR BUDGET:	YES/X NO/
		BUDGET ADJUSTMENT:	YES/ NO/X FOR FY: 1999/00

SOURCE OF FUNDS: Flood Control NPDES Benefit Assessments

C.E.O. RECOMMENDATION: **APPROVE**

County Executive Officer Signature Susan Loew

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Mullen, seconded by Supervisor Tavaglione and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Buster, Tavaglione, Venable, Wilson and Mullen
Noes: None
Absent: None
Date: August 10, 1999
xc: HSA/Environ.Health, Co.Co., Auditor, Flood

Gerald A. Maloney
Clerk of the Board
By: Deputy

3.54

Policy ☐ Consent
Policy ☐ Consent
Departm. Recommendation:
Per Executive Office:

FORM 11 (Rev. 11/98)

support funding to operate the (3) Antifreeze, Battery, Waste Oil and Latex Paint (ABOP) sites located in Palm Springs, Murrieta and Pedley as well as utilizing staff of the Department to provide educational and compliance activities to the facilities regulated by the Department.

Additionally, the Agreement provides for a new area-wide stormwater compliance Assistance Program (CAP). The CAP will provide information to commercial and industrial establishments concerning stormwater regulations and Best Management Practices. The CAP will also provide feedback to municipal permittees and the Regional Water Quality Control Boards regarding the compliance status of commercial/industrial facilities throughout the County. Activities performed will be reimbursed by the District on a quarterly billing basis based on existing hourly rates for the Department staff involved.

Approval of the attached Agreement is also on the Flood Control District's agenda this same date. County Counsel and the Department have approved the Agreement.

Financial: Funding for the HHW and Compliance Assistance Program activities will be provided by Flood Control Districts' annual NPDES Benefit Assessments levied in the Santa Ana, Santa Margarita and Whitewater Benefit Assessment Areas.

The estimated amounts reimbursable for the period covered by this Agreement are as follows:

Fiscal Year	Household Haz. Waste	Field Services	Total
FY 99/00	$375,000	$170,175	$545,170
FY 00/01	$375,000	$170,175	$545,170
FY 01/02	$375,000	$223,135	$598,135

CONTRACT AGREEMENT

SUPPORT FOR REGIONAL NPDES PROGRAM ACTIVITIES

This CONTRACT AGREEMENT, entered into as of this day of August 10, 1999 by the RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT (DISTRICT) and the COUNTY OF RIVERSIDE, HEALTH SERVICES AGENCY, DEPARTMENT OF ENVIRONMENTAL HEALTH (DEPARTMENT), is hereby agreed to as follows:

RECITALS

A. WHEREAS, in 1987, Congress added Section 402(p) to the Federal Clean Water Act (CWA) (33 U.S.C. §1342(p)); and

B. WHEREAS, Section 402(p) requires certain municipalities to obtain National Pollutant Discharge Elimination System (NPDES) Permits in order to discharge stormwater from Municipal Separate Storm Sewer Systems (MS4s) to waters of the United States; and

C. WHEREAS, Section 402(p) also requires operators of certain industrial facilities to obtain NPDES Permits for stormwater discharges associated with designated industrial activities; and

D. WHEREAS, Section 402(p) further requires the United States Environmental Protection Agency (USEPA) to promulgate regulations requiring NPDES Permits for designated industrial activities and certain MS4s; and

E. WHEREAS, USEPA promulgated such regulations in November 1990; and,

F. WHEREAS, USEPA has delegated its NPDES permitting authority to the State Water Resources Control Board (SWRCB) to administer the NPDES permitting process within the State; and

G. SWRCB has in turn delegated its NPDES permitting authority to the respective California Regional Water Quality Control Boards (CRWQCBs); and

H. WHEREAS, DISTRICT was created to provide for the control of flood and

AUG 10 1999 23

stormwaters within the County of Riverside and is empowered to investigate, examine, measur analyze, study and inspect matters pertaining to flood and stormwaters; and

I. WHEREAS, DISTRICT, County of Riverside (COUNTY), Coachella Valley Water District and the incorporated cities within the County of Riverside (except for Blythe), have obtained NPDES MS4 Permits from the appropriate RWQCB pursuant to Section 402(p) of the CWA; and

J. WHEREAS, USEPA regulations and the NPDES MS4 Permits require municipalities to control the contribution of pollutants to the municipal storm sewer by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity; and

K. WHEREAS, DISTRICT, in accordance with its responsibilities as a lead Permittee is charged with developing comprehensive stormwater management programs within the County of Riverside and in the region; and

L. WHEREAS, DEPARTMENT conducts certain area-wide programs and activitie pertaining to hazardous waste management, industrial facility compliance inspections, and health and safety code inspections; and

M. WHEREAS, certain aspects of DEPARTMENT'S activities are consistent with the goals and objectives of the NPDES MS4 Permits and the Best Management Practices (BMPs) included in the Permittees' regional Drainage Area Management Plans (DAMPs); and

N. WHEREAS, DISTRICT wishes to support certain DEPARTMENT programs and activities by entering into this CONTRACT AGREEMENT with said DEPARTMENT to contribute a sum of money (CONTRIBUTION) to sustain and/or increase the scope of DEPARTMENT programs and activities to meet the requirements of the NPDES MS4 Permits; and

O. WHEREAS, it is understood that this CONTRACT AGREEMENT does not change existing responsibilities for compliance with any NPDES MS4 Permit, and DEPARTMENT, through any services provided, is not assuming responsibility for NPDES MS4 Permit compliance requirements as they exist or may be established; and

P. WHEREAS, cooperation between DISTRICT and DEPARTMENT in these matters is in the best interest of the public.

NOW, THEREFORE, the parties hereto do mutually agree as follows:

1. NPDES PROGRAM ACTIVITIES. DEPARTMENT will perform NPDES PROGRAM ACTIVITIES as long as adequate manpower is available within DEPARTMENT'S staff and reimbursement from DISTRICT is sufficient to perform the activities agreed to including the following: Household Hazardous Waste (HHW) Collection Program; Antifreeze, Battery, Oil and Latex Paint (ABOP) Program; Commercial/Industrial Facility Inspection and Compliance Assistance Programs (FIELD SERVICES) and enforcement actions (ENFORCEMENT ACTIONS/LITIGATION SUPPORT). A scope of services and budget for the HHW and ABOP programs are described below. A preliminary scope of services and budget for FIELD SERVICES and ENFORCEMENT ACTIONS/LITIGATION SUPPORT are described in Attachment A hereto.

(a) HOUSEHOLD HAZARDOUS WASTE (HHW) COLLECTION PROGRAM

(i) DEPARTMENT shall conduct not less than fifteen (15) HHW collection events during each year of this CONTRACT AGREEMENT. Additional events will be scheduled based on the amount of DISTRICT'S CONTRIBUTION to specifically support the HHW program. A minimum of two (2) HHW collection events shall be held in each of the three (3) NPDES MS4 Permit areas (Santa Ana, Santa Margarita and Whitewater watersheds).

(ii) DISTRICT shall advertise scheduled HHW collection events in countywide and/or local newspapers.

(iii) DISTRICT and DEPARTMENT shall work cooperatively, with COUNTY, incorporated cities, and other interested parties to provide technical assistance and/or coordinate additional HHW

collection events within the NPDES Permit areas.

(b) ABOP PROGRAM

(i) DEPARTMENT shall continue to operate three (3) existing ABOP collection centers in the Pedley, Southwest County (Murrieta) and Palm Springs areas.

(ii) DISTRICT and DEPARTMENT shall work cooperatively, with COUNTY, incorporated cities, and other interested parties to facilitate the establishment of additional ABOP collection centers within the NPDES Permit areas.

(c) FIELD SERVICES

As requested by DISTRICT, DEPARTMENT shall:

(i) Provide NPDES Program support by distributing BMP guidance materials and NPDES Program compliance information to selected commercial and industrial facilities that are within th purview of the existing facility inspection programs conducted by the Hazardous Materials Management Division (HMMD) and/or the District Environmental Services Division (DESD).

(ii) In consultation with DISTRICT, develop and incorporate an inspection and referral form to identify and report compliance and non-compliance with applicable stormwater regulations for selected commercial and industrial facilities that are within the purview of the existing facility inspection programs conducted by HMMD and/or DESD.

(iii) Conduct inspections of the selected commercial and industrial facilities that are within the purview of the existing facility inspection programs conducted by HMMD and/or DESD.

(d) ENFORCEMENT ACTIONS/LITIGATION SUPPORT

(i) DISTRICT and DEPARTMENT recognize that, on occasion, it may be necessary to pursue enforcement action(s) against violators of local stormwater ordinances and/or the California Water Code. Upon written request from DISTRICT, DEPARTMENT, acting within the scope of its normal regulatory activities, will assist DISTRICT in obtaining compliance with NPDES stormwater regulations.

(ii) In cases of significant non-compliance, DEPARTMENT'S HMMD will coordinate, as needed, with NPDES MS4 Permittees, CRWQCB, and the District Attorney's Environmental Crimes Task Force.

2. ANNUAL PROGRAM REVIEW BUDGET CONTRIBUTION. On or about February 1 of each year, DISTRICT and DEPARTMENT representatives shall meet and review program status, scope, costs, priorities, and available funding sources for NPDES PROGRAM ACTIVITIES:

(a) DISTRICT and DEPARTMENT staff shall review available funding resources and develop a preliminary schedule for HHW events and ABOP activities.

(b) DISTRICT and DEPARTMENT staff shall also determine the type and amount of FIELD SERVICES to be performed by DEPARTMENT field staff.

(c) DISTRICT and DEPARTMENT staff shall summarize the scope, priorities and projected costs for NPDES PROGRAM ACTIVITIES in a Memorandum of Understanding (MOU).

(d) Within 30 days of signing the MOU, DISTRICT shall contribute a sum of three hundred and seventy five thousand dollars ($375,000) to DEPARTMENT to support supplemental HHW events and ABOP

activities.

3. USE OF CONTRIBUTION. DEPARTMENT shall use CONTRIBUTION only for salaries, training, equipment, supplies, waste disposal and other expenses related to providing NPDES PROGRAM ACTIVITIES as agreed upon by DISTRICT and DEPARTMENT.

4. INDEMNITY AND HOLD HARMLESS. DEPARTMENT shall indemnify and hold DISTRICT, its officers, employees and agents free and harmless from all claims, actions, damages and liabilities of whatsoever kind and nature arising from death, personal injury, property damage or other cause asserted or based upon any act or omission of or by person or persons associated with NPDES PROGRAM ACTIVITIES relating to or in any way connected with the accomplishment of the work or performance of services of NPDES PROGRAM ACTIVITIES. As part hereto of the foregoing indemnity, DEPARTMENT agrees to protect and to defend at its own expense, including attorneys' fees, DISTRICT, its officers, agents and employees from any and all legal action based upon any negligent acts or omissions, as stated herein, by any person or persons.

5. REPORTS AND INFORMATION. DEPARTMENT shall submit to DISTRICT on or before September 1, 1999, and every year thereafter by September 1, a comprehensive report on NPDES PROGRAM ACTIVITIES performed by DEPARTMENT during the previous fiscal year (July 1 through June 30). The report shall include but not be limited to:

(a) Narrative describing the HHW Program (to include a summary of each collection event), ABOP Program, FIELD SERVICES and ENFORCEMENT ACTIONS/LITIGATION SUPPORT, performed by DEPARTMENT (pursuant to this CONTRACT AGREEMENT) during the prior fiscal year.

(b) Quantities of materials collected by the HHW and ABOP Programs, cost of waste disposal, and costs associated with labor, supply, equipment and materials costs.

(c) Costs incurred for FIELD SERVICES and ENFORCEMENT ACTIONS/LITIGATION SUPPORT activities.

6. HHW EVENT. For the purposes of this CONTRACT AGREEMENT, an HHW event is a time period that an HHW collection center is operated by DEPARTMENT at a site, typically a three consecutive day period in a single week (Thursday, Friday and Saturday).

7. PAYMENT. Payment for HHW Collection Program and ABOP Program shall be as described in Section 2, above. Payment for FIELD SERVICES and ENFORCEMENT ACTIONS/LITIGATION SUPPORT will be billed to DISTRICT on a quarterly basis throughout the fiscal year.

DISTRICT shall reimburse DEPARTMENT at a rate of $65.00/hour for DESD services and at a rate of $77.00/hour for HMMD services related to the NPDES Program. In addition, DEPARTMENT shall be reimbursed for the direct costs of materials and equipment that may be used by DEPARTMENT in performing NPDES related services.

Once each quarter, DEPARTMENT shall submit to DISTRICT a quarterly billing statement (invoice) that itemizes the costs for personnel, legal services, equipment and materials costs incurred for NPDES FIELD SERVICES and ENFORCEMENT ACTIONS/LITIGATION SUPPORT. The DISTRICT shall reimburse costs of DEPARTMENT within 30 days upon receipt of DEPARTMENT'S invoice.

8. CONTINGENCY. CONTRIBUTION shall be contingent upon the approval by DISTRICT'S Board of Supervisors of the annual Benefit Assessment levies for the Santa Ana, Santa Margarita, and Whitewater Watershed Benefit Assessment Areas. If the CONTRIBUTION determined to be available is less than the prior fiscal year total, DEPARTMENT shall be notified immediately so it may adjust, after consultation and agreement by DISTRICT, the scope of NPDES PROGRAM ACTIVITIES to be provided during the current or next fiscal year period.

9. COMPLIANCE WITH NPDES PERMITS. NPDES PROGRAM ACTIVITIES, as specified herein, will be performed by DEPARTMENT under this CONTRACT AGREEMENT with DISTRICT. Nothing in this CONTRACT AGREEMENT shall be construed as making DEPARTMENT responsible for NPDES Permit compliance.

10. NON-INTERFERENCE. DISTRICT understands and agrees that it shall not

directly supervise or interfere with any of DEPARTMENT'S activities contemplated hereunder.

11. TERM OF AGREEMENT. This CONTRACT AGREEMENT shall commence on the date of execution and shall continue in effect until June 30, 2002.

12. TERMINATION OF AGREEMENT. Either party may terminate the provisions of this CONTRACT AGREEMENT related to the HHW and ABOP Programs subject to twelve (12) months written notice thereof. Three (3) months notice is required if either party desires to terminate activities performed pursuant to FIELD SERVICES portion of this CONTRACT AGREEMENT.

13. APPLICABILITY OF PRIOR AGREEMENTS. This CONTRACT AGREEMENT and the Attachments hereto constitute the entire CONTRACT AGREEMENT between the parties with respect to the subject matter; all prior agreements, representations, statements, negotiations and understandings are hereby superseded.

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IN WITNESS WHEREOF, this CONTRACT AGREEMENT has been executed as of the day and year first above written.

RECOMMENDED FOR APPROVAL:

DAVID P. ZAPPE
General Manager-Chief Engineer

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By _____
JAMES A. VENABLE, Chairman
Riverside County Flood Control And Water Conservation District Board of Supervisors

ATTEST: AUG 10 1999
GERALD A. MALONEY
Clerk of the Board
By GERALD A. MALONEY, CLERK of the BOARD OF SUPERVISORS, County of Riverside, State of California
Deputy

(SEAL)

RECOMMENDED FOR APPROVAL:

6/23/99
GARY ROOT
Acting Director

APPROVED AS TO FORM:

WILLIAM C. KATZENSTEIN
County Counsel

By _____
JOE S. RANK
Assistant County Counsel

Dated 5-3-99

COUNTY OF RIVERSIDE

By _____
ROY WILSON, Chairman
County of Riverside Board of Supervisors

ATTEST: AUG 10 1999
GERALD A. MALONEY
Clerk of the Board
By _____
Deputy

(SEAL)

MHW:pln
pc\56885.1

8-10-99 9.3

Preliminary Scope of Services
For
NPDES Program Activities

First Year (FY 1999-00)

Task 1 – Conduct education and outreach to identified Facilities of Concern, i.e., facilities that are routinely inspected by Hazardous Materials Management Division (HMMD) and District Environmental Services Division (DESD) staff. HMMD and DESD staff will distribute NPDES program information to facilities normally inspected by existing HMMD and DESD inspection programs. Department will prepare a year-end report listing the facilities contacted by the respective programs and provide to District.

Appropriate stormwater education materials describing stormwater regulations and Best Management Practices will be provided by the StormWater/CleanWater Protection Program (SW/CWPP).

Task 2 – Department's HMMD will provide staff support for major enforcement actions via the Environmental Crimes Task Force.

Task 3 – Develop a one-page facility inspection report/referral form to be used in year two and three activities. HMMD will review its existing enforcement authorities to ensure HMMD inspection staff have adequate enforcement authority to address stormwater compliance issues.

As needed, modify existing policies and procedures pertaining to inspection protocols and reporting procedures.

HHMD shall assist MS4 Permittees and Regional Boards with identification of industrial "non-filers", i.e., facilities that are required to obtain coverage under the State General Permit For Discharges Of Storm Water Associated With Industrial Activities (97-03-DWQ) using HMMD database information, e.g., SIC codes, Dun and Bradstreet etc.

Second Year (FY 2000-01)

Task 1 – HMMD and DESD staff continue distribution of NPDES program information to facilities normally inspected by existing HMMD and DESD inspection programs.

HMMD and DESD field staff to begin using facility inspection report/referral form developed above. Completed inspection report/referral forms will be forwarded to District each month.

Department will prepare a year-end report listing the facilities contacted by the respective programs and provide to District.

Task 2 – Department's HMMD will provide staff support for major enforcement actions via the Environmental Crimes Task Force.

Task 3 – As needed, modify existing policies and procedures pertaining to inspection protocols, reporting forms and reporting procedures.

Continue to assist MS4 Permittees and Regional Boards with identification of industrial "non-filers", i.e., facilities that are required to obtain coverage under the State General Permit For Discharges Of Storm Water Associated With Industrial Activities (97-03-DWQ) using HMMD database information and targeted industrial categories.

Provide reports and program information to MS4 permittees and Regional Boards concerning SIC codes and NOI status.

Third Year (FY 2001-02)

Task 1 – Task 1 – HMMD and DESD staff continue distribution of NPDES program information to facilities normally inspected by existing HMMD and DESD inspection programs.

HMMD and DESD field staff continue using facility inspection report/referral form. Completed inspection report/referral forms will be forwarded to District each month.

Department will prepare a year-end report listing the facilities contacted by the respective programs and provide to District.

Task 2 – Department's HMMD will provide staff support for major enforcement actions via the Environmental Crimes Task Force.

Task 3 – As needed, modify existing policies and procedures pertaining to inspection protocols and reporting procedures.

Continue to assist MS4 Permittees and Regional Boards with identification of industrial "non-filers", i.e., facilities that are required to obtain coverage under the State General Permit For Discharges Of Storm Water Associated With Industrial Activities (97-03-DWQ) using facility database information, targeted industrial categories and field observations.

Provide reports and program information to MS4 permittees and Regional Boards concerning facility compliance, SIC codes and NOI status.

FY 1999-00		Facilities (No.)		Time (min)		Rate ($/hr)	Total	Budget
Task 1	DESD	5000		10	$	65	$ 54,167	
	HMMD	1600		10	$	77	$ 20,533	
Task 2	Enforcement Action/ Litigation Support	3	@		$	10,000	$ 30,000	
Task 3	Admin Support: Reporting, Revise P and P, Non Filer ID						$ 50,000	
	TOTAL						**$ 154,700**	**$ 170,170**

FY 2000-01		Facilities (No.)		Time (min)		Rate ($/hr)	Total	Budget
Task 1	DESD	5000		10	$	65	$ 54,167	
	HMMD	1600		10	$	77	$ 20,533	
Task 2	Enforcement Action/ Litigation Support	3	@		$	10,000	$ 30,000	
Task 3	Admin Support: Reporting, Revise P and P, Non Filer ID						$ 50,000	
	TOTAL						**$ 154,700**	**$ 170,170**

FY 2001-02		Facilities (No.)		Time (min)		Rate ($/hr)	Total	Budget
Task 1	DESD	5000		15	$	65	$ 81,250	
	HMMD	1600		30	$	77	$ 61,600	
Task 2	Enforcement Action/ Litigation Support	3	@		$	10,000	$ 30,000	
Task 3	Admin Support: Reporting, Revise P and P, Non Filer ID						$ 30,000	
	TOTAL						**$ 202,850**	**$ 223,135**

Hazardous Materials Emergency Response

FLOOD CONTROL AND WATER CONSERVATION DISTRICT BOARD SUBMITTAL
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

203 B

FROM: Chief Engineer **SUBMITTAL DATE:** June 12, 2001

SUBJECT: District Agreement to Contribute to the County Fire Department Hazardous Materials Response Team

RECOMMENDED MOTION:

Approve the attached agreement between the District and the County of Riverside, and authorize the Chairman to execute the agreement documents on behalf of the District.

JUSTIFICATION:

The District and Copermittees are required by their respective NPDES Municipal Stormwater Permits to respond to emergency spills. To satisfy this requirement, the District proposes to contribute to the Fire Department's budget for the Hazardous Materials Response Team.

This matter is also on the County's Board agenda this same date. County Counsel has approved this Agreement as to legal form.

FINANCIAL:

The contribution to the Team of $375,000.00 will come from the NPDES Benefit Assessments levied in the Santa Ana, Santa Margarita and Whitewater areas for FY 2000-2001.

DAVID P. ZAPPE
General Manager-Chief Engineer

FISCAL PROCEDURES APPROVED
Sandi Henry, Finance Director
By _____ Date 6/11/01

C.E.O. RECOMMENDATION:

APPROVE

County Executive Officer Signature

MINUTES OF THE FLOOD CONTROL & WATER CONSERVATION DISTRICT BOARD

On motion of Supervisor Venable , seconded by Supervisor Tavaglione and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Buster, Tavaglione Venable, Wilson and Mullen
Noes:	None
Absent:	None
Date:	June 12, 2001
xc:	Flood

Gerald A. Maloney
Clerk of the Board
By: _____ Deputy

All

Prev. Agn. ref. **Depts. Comments** **Dist.** **AGENDA NO.** 1

[W:mcv
\69524

AGREEMENT

HAZARDOUS MATERIALS EMERGENCY
RESPONSE TEAM

The RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", and the COUNTY OF RIVERSIDE, hereinafter called "COUNTY", hereby establish the responsibilities of each party concerning COUNTY'S Hazardous Materials Emergency Response Team.

RECITALS

WHEREAS, Congress in 1987 added Section 402(p) to the Federal Clean Water Act (CWA) (33 U.S.C. §1342(p)); and

WHEREAS, Section 402(p) requires certain municipalities to obtain a National Pollutant Discharge Elimination System (NPDES) Permit to discharge stormwater from municipal separate storm sewer systems into navigable waters; and

WHEREAS, pursuant to 33 U.S.C. §1342(p) (2) (C), (D) and (E), DISTRICT, COUNTY, the Coachella Valley Water District (CVWD) and certain incorporated Cities within Riverside County sought to obtain NPDES Permits for municipal stormwater discharges; and

WHEREAS, Section 402(p) further requires the Federal Environmental Protection Agency (EPA) to promulgate regulations for NPDES Permit applications; and

WHEREAS, EPA promulgated such regulations and adopted them in November 1990; and

WHEREAS, EPA delegated authority to the California Regional Water Quality Control Board (RWQCB) to administer the NPDES Permit process within the boundaries of their regions; and

JUN 1 2 2001

9.1

WHEREAS, DISTRICT was created to provide for the control of flood and stormwaters within the County of Riverside and is empowered to investigate, examine, measure, analyze, study and inspect matters pertaining to flood and stormwaters; and

WHEREAS, DISTRICT, COUNTY, CVWD and certain incorporated Cities within Riverside County have obtained NPDES Permits from the respective RWQCBs in order to comply with Section 402(p); and

WHEREAS, the NPDES Permits require the municipal permittees to develop integrated stormwater discharge management programs to improve water quality in the County of Riverside and in the region and to respond to emergency incidents to control the discharge of pollutants to the waters of the United States; and

WHEREAS, COUNTY, through the Riverside County Fire Department, staffs and maintains a HAZARDOUS MATERIALS RESPONSE TEAM, hereinafter called "TEAM"; and

WHEREAS, DISTRICT in accordance with its responsibilities as described in the NPDES Stormwater Discharge Permit Implementation Agreements for the Santa Ana Region (Santa Ana Drainage Area) dated May 9, 1997; for the San Diego Region (Santa Margarita Drainage Area) dated November 17, 1998; and for the Colorado River Basin Region (Whitewater Drainage Area) dated September 9, 1997; wishes to contribute a sum of money, hereinafter called "CONTRIBUTION", to the funding of TEAM to support TEAM'S existence and current activity status.

NOW, THEREFORE, the parties hereto do mutually agree as follows:

1. TEAM BUDGET CONTRIBUTION – DISTRICT shall contribute the sum of three hundred seventy-five thousand dollars ($375,000) to COUNTY within thirty (30) days after

execution of this agreement.

2. USE OF CONTRIBUTION – COUNTY shall use CONTRIBUTION only for salaries, equipment and maintenance of TEAM.

3. INDEMNITY AND HOLD HARMLESS – COUNTY shall indemnify and hold DISTRICT, its officers, employees and agents free and harmless from all claims, actions, damages and liabilities of whatsoever kind and nature arising from death, personal injury, property damage or other cause asserted or based upon any act or omission of TEAM relating to or in any way connected with the accomplishment of the work or performance of services of TEAM. As part hereto of the foregoing indemnity, COUNTY agrees to protect and to defend at its own expense, including attorneys' fees, DISTRICT, its officers, agents and employees from any and all legal action based upon any negligent acts or omissions, as stated hereinabove, by any person or persons.

4. REPORTS AND INFORMATION - COUNTY shall submit to DISTRICT on or by September 30, 2001, a report summarizing the activities, responses and cases handled or performed by TEAM between July 1, 2000 and June 30, 2001. The report shall consist of a narrative describing TEAM, its operations and any major spills, and a categorization of TEAM'S responses showing the following: responses inside and outside DISTRICT'S jurisdiction, traffic related responses, industrial related responses, drug enforcement responses, and other response categories. The report shall also include a description of current TEAM operating expenses and revenue sources (budget).

5. TEAM OPERATIONS - This Agreement does not give DISTRICT any authority to dictate the day to day activities of TEAM, or grant DISTRICT any authority over any TEAM personnel other than that stated in this paragraph. TEAM shall, at DISTRICT'S request,

provide timely response to emergency incidents where a hazardous material is entering or has a reasonable potential to enter a DISTRICT owned storm drain facility, provided that TEAM is not already committed to another incident. TEAM shall respond to emergency incidents irrespective of the local jurisdiction (City or County) in which said DISTRICT facilities are located.

6. TERM OF AGREEMENT - This Agreement shall commence on the date of execution thereof and shall continue in effect until December 31, 2001.

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IN WITNESS WHEREOF, the parties hereto have executed this agreement on

JUN 12 2001.
(to be filled in by Clerk of the Board)

RECOMMENDED FOR APPROVAL:

DAVID P. ZAPPE
General Manager-Chief Engineer

Dated 6/1/01

APPROVED AS TO FORM:

WILLIAM C. KATZENSTEIN
County Counsel

Deputy

Dated 4-12-01

RECOMMENDED FOR APPROVAL:

TOM TISDALE
County Fire Chief

Dated 5/22/01

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By
JAMES A. VENABLE, Chairman
Riverside County Flood Control and Water Conservation District Board of Supervisors

ATTEST:

GERALD A. MALONEY
Clerk of the Board

By
Deputy

(SEAL)

COUNTY OF RIVERSIDE

By
JAMES A. VENABLE, Chairman
County of Riverside
Board of Supervisors

ATTEST:

GERALD A. MALONEY
Clerk of the Board

By
Deputy

(SEAL)

MHW:mcv
PC\69279
04/09/2001

JUN 12 2001 9.1

StormWater/CleanWater Program

PROFESSIONAL SERVICES AGREEMENT

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", and MISSION RESOURCE CONSERVATION DISTRICT, hereinafter called "CONTRACTOR", hereby agree as follows:

1. PROJECT - CONTRACTOR shall perform services for the project described as: 1) solicit and present stormwater pollution education programs to public and private schools within the Temecula/Murrieta area; and 2) coordinate and administer storm drain stenciling events.

2. SCOPE OF SERVICES - CONTRACTOR shall furnish tools, equipment, facilities, materials and labor necessary to perform in a complete, skillful and professional manner those services described on Attachment "A" attached hereto and made a part hereof. DISTRICT shall provide specific Stormwater/Cleanwater promotion materials for distribution by CONTRACTOR.

3. TIME FOR PERFORMANCE - CONTRACTOR shall commence performance on July 1, 1999, and shall diligently perform the services to full completion by June 30, 2001, after which time activity under this Agreement shall terminate.

4. COMPENSATION - DISTRICT shall pay CONTRACTOR for services performed and expenses incurred in accordance with the standard rates set forth on Attachment "B" attached hereto and made a part hereof. The total amount of compensation paid to CONTRACTOR under this Agreement shall not exceed the sum of forty-nine thousand nine hundred forty-eight dollars and twenty cents ($49,948.20), unless a written amendment to this Agreement is executed by both parties prior to performance of additional services.

5. PAYMENT - Payment to CONTRACTOR shall be made by DISTRICT following satisfactory performance of the services as set forth herein and within thirty (30) da after DISTRICT'S receipt of appropriate monthly invoice(s) from CONTRACTOR. CONTRACTOR shall keep employee and expense records according to customary accounting methods and such records shall be available for inspection by DISTRICT to verify the invoices of CONTRACTOR. All invoices shall itemize charges to conform with the portion(s) of work and estimated costs as set forth on Attachment "B".

6. LICENSES - CONTRACTOR, its employees, agents, contractors and subcontractors shall maintain professional licenses required by the laws of the State of California at all times while performing services under this Agreement.

7. NOTICES - Any and all notices sent or required to be sent to the parties of this Agreement will be mailed by first class mail, postage prepaid, to the following addresses:

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
1995 Market Street
Riverside, CA 92501

MISSION RESOURCE
CONSERVATION DISTRICT
990 East Mission Road
Fallbrook, CA 92028

8. WORKER'S COMPENSATION INSURANCE - CONTRACTOR certifies that it is aware of the laws of the State of California requiring employers to be insured against liability for worker's compensation and shall comply with such laws during the term of this Agreement.

9. INDEMNITY AND HOLD HARMLESS - CONTRACTOR agrees to and shall indemnify and hold DISTRICT, its officers, employees and agents free and harmless from all claims, actions, damages and liabilities of whatsoever kind and nature arising from death, personal injury, property damage or other cause asserted or, based upon any negligent act or omission of CONTRACTOR, its employees, agents, invitees, or any subcontractor of CONTRACTOR relating to or in any way connected with the

accomplishment of the work or performance of services under this Agreement, regardless of the existence or degree of fault or negligence on the part of DISTRICT or any officer or employee of said DISTRICT, other than the active negligence of DISTRICT, its officers, employees or agents. As part hereto of the foregoing indemnity CONTRACTOR agrees to protect and to defend at its own expense, including attorneys' fees, DISTRICT, its officers, agents and employees from any and all legal action based upon any acts or omissions, as stated hereinabove, by any person or persons.

10. INSURANCE - CONTRACTOR shall:

(a) Provide and maintain comprehensive liability insurance coverage which shall protect CONTRACTOR from claim from damages for personal injury, including accidental and wrongful death, as well as from claims for property damage which may arise from CONTRACTOR'S performance of services of its obligations hereunder, whether such performance of services by CONTRACTOR, or by anyone employed directly or indirectly by any of them. Such insurance shall name DISTRICT and the County of Riverside as additionally insured with respect to this agreement and the obligations of CONTRACTOR hereunder. Such insurance shall provide for limits of not less than two million dollars ($2,000,000.00) per occurrence.

(b) Cause its insurance carrier(s), to furnish DISTRICT and the County of Riverside, upon execution of this agreement, with certificate(s) of insurance showing that such insurance is in full force and effect and that DISTRICT and the County of Riverside are named as additional insured with respect to this agreement and the obligations of CONTRACTOR hereunder. Further, said certificate(s) shall provide that the issuing company shall give DISTRICT and the County of Riverside sixty (60) days written notice in the event of cancellation, termination,

non-renewal or reduction in coverage of the policies evidenced by the certificate(s). In the event of any such cancellation, termination, non-renewal o reduction in coverage, CONTRACTOR shall, forthwith, secure replacement insurance meeting the provisions of this paragraph.

11. WORK PRODUCT - CONTRACTOR shall provide DISTRICT with a minimum of two (2) original copies of a summary report regarding group presentations and stenciling events that details what groups received presentations and/or participated in stenciling events and when. All non-consumable presentation and stenciling kit materials shall be and remain the sole property of DISTRICT.

12. TERMINATION - This Agreement may be terminated by either CONTRACTOR or DISTRICT upon written notice to the other party in the event of substantial failure of performance by the other party or in the event DISTRICT shall elect to abandon or indefinitely postpone the project. In the event DISTRICT abandons or indefinitely postpones the project and gives such notice of termination, DISTRICT shall make payment for all services performed to the date of written notice in a total amount which bears the same ratio to the total maximum fee otherwise payable under this Agreement as the services actually performed bear to the total services necessary for performance of this Agreement.

13. ASSIGNMENT - Neither this Agreement nor any part thereof shall be assigned by CONTRACTOR without the prior written consent of DISTRICT.

14. NON-DISCRIMINATION - In the performance of the terms of this Agreement, CONTRACTOR shall not engage in nor permit others he may employ to engage in discrimination in the employment of persons because of the race, color, national origin or ancestry, religion, physical handicap, disability as defined by the Americans with

Disabilities Act (ADA), medical condition, marital status or sex of such persons, in accordance with the provision of California Labor Code Section 1735.

//

This Agreement is executed on August 31, 1999.
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

David Zappe

DAVID P. ZAPPE
General Manager-Chief Engineer

MISSION RESOURCE CONSERVATION DISTRICT

By Mariko Cummings
Responsible Officer

Mariko Cummings
Printed Name

President
Title

(760) 631-4760
Area Code/Phone Number

DVA:mcv:bjp:pln
07/28/99

ıe (760) 728-1332
Fax (760) 723-5316

Mission Resource Conservation District
990 East Mission Road, Fallbrook, California 92028
P.O. Box 1777, Fallbrook, California 92088-1777

e-mail
missnrcd@tfb.com

ATTACHMENT "A"
SCOPE OF SERVICES
FOR THE IMPLEMENTATION OF THE STORM WATER AND CLEAN WATER PROTECTION PROGRAM
FOR 7/01/99 - 6/30/01

Mission Resource Conservation District (RCD) is pleased to provide the following scope of services to assist Riverside County Flood Control District (District) with implementation of the Storm Water/Clean Water Protection Program in the Temecula/Murrieta area.

The RCD proposes to:

I. Develop the StormWater/CleanWater Protection Program Storm Water Pollution Patrol "Mascot Docent Program" and;

II. Develop the StormWater/CleanWater Protection Program Storm Water Pollution Patrol "Blowing the Whistle" presentation and;

III. Disperse, present, and administer the Storm Water Pollution Patrol elementary school programs: "Fancy Finn, Blowing the Whistle, videos, and Docent Mascot", in public and private schools in the Temecula/Murrieta/Wildomar areas and;

IV. Disperse, present, and administer the Storm Water Pollution Prevention middle school program in public and private schools in the Temecula/Murrieta/Wildomar area and;

V. Staff, coordinate, and administer storm drain stenciling events within the Temecula/Murrieta/Wildomar areas.

I. DEVELOP THE STORM WATER POLLUTION PATROL MASCOT DOCENT PROGRAM

1. Develop Mascot Costume

The RCD will develop and coordinate the production of a unisex Fancy Finn mascot costume utilizing the existing character and color scheme. The costume size will accommodate the average size of a high school student/adult. The costume package will include: costume, adequate ventilation, cooling vest and ice packs, and sunglasses.

2. Develop Standard Protocol

The RCD will develop and organize a standardized protocol for the use by mascot and handlers. This will allow for continuity of behavior while representing the District. Additionally, the RCD will develop/revise a volunteer form to be utilized in the high school mascot docent program.

3. Projected Time Frame

The time frame for this activity will begin upon mutual acceptance of this proposal and will be completed no later than June 30, 2000 so that the mascot docent program will be available as soon as possible.

II. DEVELOP STORM WATER POLLUTION PATROL "BLOWING THE WHISTLE" CLASSROOM PRESENTATION

1. Develop story line

The presentation will be based on the theme "Blowing the Whistle on Storm Water Pollution." The story line will include the introduction of Phinnious J. Greene (Pacific Tree Frog from the RCD) as the rural friend of Fancy Finn and will focus on urban/rural interface and the affects of pollution on the riparian habitat. The presentation story line will include photographs mounted on foam core board and an adventure story with picture cards. The picture cards will be provided by the District. Classroom participation will be encouraged by having the students blow a whistle when they hear keynote words while discussing storm water pollution and prevention.

The presentation will address the following issues: affects of pollutants on riparian habitat, development of urban areas, native & exotic species, and best management practices.

2. Whistles

The classroom presentation will utilize a whistle as an integral part of individual participation. The RCD will select and arrange for the purchase of a "soft-toned" whistle to be utilized in the classroom. This whistle will surpass choking criteria for children.

3. Additional Activities

Additional activities will include: word search, connect-the-dot, find the polluter, pretest, and post test. Three of the activity sheets will provide take-home support to the presentation. The pre and post tests will allow the RCD and District to determine the retention level of the material and will provide data to document the program's effectiveness. The tests will have true (T) and false (F) responses which will make it applicable to all grade levels.

4. Docent Program

A docent program will be developed so that the mascot costume will be manned by a high school student. This will allow the high school student and the elementary student to partner in storm water pollution prevention. Additionally the high school student will be able to earn community service hours which are mandatory for high school graduation. The docents will be organized and volunteer release forms will be secured by the RCD. Transportation to the school or special events will be provided by the high school student.

5. Projected Time Frame

The presentation development will begin on mutual acceptance of this proposal and will be completed no later that January 31, 2000.

III. & IV. IMPLEMENT THE STORM WATER POLLUTION PATROL & POLLUTION PREVENTION PROGRAMS: AN EDUCATION PROGRAM FOR THE ELEMENTARY & MIDDLE SCHOOLS

1. Promote use of materials

A letter introducing and/or reintroducing the *Storm Water Pollution Patrol* program will be sent directly to the elementary schools teachers of public and private schools in the Temecula/Murrieta portion of the Santa Margarita River. Included with this letter will be an introductory packet. This packet will include a copy of the Storm Water Pollution Patrol activity book, a Pollution Patrol Club information sheet, and a return mailer order form.

A letter of introduction of the *Storm Water Pollution Prevention* program will be sent directly to the middle school teachers of public and private schools in the Temecula/Murrieta/Wildomar portion of the Santa Margarita River. Included with this letter will be an introductory packet. This packet will include a "Water in Our Hands" comic book, Watershed poster, and a return mailer order form. The return mailer form will be revised to include the "Blow the Whistle" presentation and corresponding material as it becomes available.

A letter introducing the New Storm Water Pollution Patrol, "Blowing the Whistle," will be sent directly to the elementary school teachers as the program becomes available.

The mailing list will include 9 elementary schools and 3 middle schools in the Temecula Unified School District, 6 elementary schools and 1 middle school in the Murrieta Valley Unified School District, and 2 elementary and 1 middle school in the Wildomar Unified School District. The three areas also contain approximately 50 private schools and 4 youth groups which will be included in the list along with key School District personnel.

2. Provide materials to teachers and individuals upon request

Teachers returning the mailer order form will have the requested elementary school material or middle school material mailed or delivered by the RCD. Printed material to fill these orders will be provided by the District.

3. Provide School Programs:

The return mailer order form will also offer the teachers and schools the opportunity to access an instructor to conduct a classroom presentation program from the following guidelines:

A. *Fancy Finn Program* - The introductory elementary school program will continue to be modelled after the classroom presentation developed by the Riverside-Corona Resource Conservation District. The presentation will consist of the *Fancy Finn* hands-on activities, songs, matted photographs, and hazardous household material talk, as approved by the Storm Water/Clean Water Education Coordinator.

B. *Pollution Patrol Video Program* - This elementary school program will also be modelled after the classroom presentation developed by the Riverside-Corona Resource Conservation District. The presentation will consist of the Storm Water Pollution Patrol Video, matted photographs, and hazardous household material, as approved by the Storm Water/Clean Water Education Coordinator.

C. *Blow the Whistle Program* - This program will be an elementary school classroom presentation developed by the RCD. It will consist of the "Blow the Whistle" theme, hands-on activities, Fancy Finn's new adventure book (produced by the District), song, matted photographs, rural/urban interface, and affects on riparian habitat discussions. This presentation will be approved by the District Education Coordinator before implementation.

D. *Middle School Video Program* - The introductory middle school program will be modelled after the classroom presentation developed by the Riverside-

Corona Resource Conservation District. The video presentation will include either the Storm Water Pollution Patrol video or the video developed for adult education. Matted photographs will be utilized as visual aids. A discussion of household hazardous products and collection events will also be completed.

The instructor, provided by the RCD, will be responsible for presentation preparation, promotion, scheduling presentations, accounting of presentations given, and for keeping adequate inventory of materials necessary to presentations. The goal for the instructor is to make 100 presentations (of any combination) at the elementary public & private schools and 35 presentations at the middle public & private schools. The instructor will also offer promotional presentations to school administration, youth group leaders and in-service instruction to teachers.

4. Provide Awards

When classes or individuals complete the club requirements, the RCD will mail or deliver Storm Water Pollution Patrol award materials including certificates and other items. Award material will be provided by the District. The instructor with the District approval may seek media coverage of any award presentations to call further attention to the program and its participants.

5. Special and After Hour Events

The Fancy Finn Mascot will be available for six special events located within the Temecula, Murrieta, Wildomar areas. This will provide assurance that Fancy Finn will be included in additional activities that will promote further association with Fancy finn and storm water pollution prevention.

V. STORM DRAIN STENCILING

1. Coordinate and Confirm Events

The RCD will coordinate storm drain stenciling events which have been referred by the District, organized by the instructor, or requested by special interest groups. The RCD will schedule and plan events with prospective participants. Each event will consist of at least 6 participants. Time, date, and locations will be determined. The Voluntary Release and Assumption of Risk and Indemnity Agreement forms will be mailed to the site/event coordinator prior to the event. District will solicit event participation,provide kit materials, provide printed materials (pamphlets, certificates, litter bags, magnets, etc.). RCD staff will mail certificates and solicit media coverage.

The staff provided by the RCD will coordinate with cities/county to secure maps and approval for stenciling locations.

2. Hold Stenciling Events

The RCD staff will obtain completed Voluntary Release - Assumption of Risk and Indemnity Agreements from participants prior to their participation. The RCD staff will then instruct participants in safety and stenciling procedures. Kit materials will be demonstrated and provided. Stenciling will be inspected and participants will be surveyed for safety awareness to ensure that participants understand instructions.

Upon the completion of an event, the RCD will collect the non-consumables and retain for subsequent events. RCD staff will thank participants and distribute participation materials (litter bags, magnets, pencils, etc.).

3. Final Report

Upon conclusion of the contract period, a final report will be submitted which will include information on the number of participants, number of inlets stenciled and possible recommendations to make the program more effective.

Attachment "B" - Activity I

Activity Charges for Mascot
Costume Developement

1. Develop Mascot Costume

A. Select material and oversee costume design 8 hours at 24.00/hr	192.00
B. Long distance phone calls Actual expenses will be billed	25.00
C. Purchase intital costume accessories Actual expenses will be billed	900.00
D. Develop standard protocol and volunteer forms 20 hours @ 24.00/hr	480.00
E. Long distance phone calls Actual expenses will be billed	10.00

2. Develop Docent Program

A. Meet with high school counselors 20 hours @ 24.00/hr	480.00
B. Mileage: 500 miles @ .30/mile Actual expenses will be billed	150.00
C. Long distance phone calls Actual expenses will be billed	75.00

3. Provide Docent Program

A. 4 hours per event @ 30.00/hour 24 events Actual expenses will be billed Not to exceed...	$2,880.00
B. Mileage: 650 miles @ .30/mile	195.00
C. Supplies (Tee shirts, awards, incentives, film)	$ 250.00

Subtotal	$ 5,637.00
2. Administrative Fee	
A. $5,637.00 @ 20%	1,127.40
TOTAL FOR ACTIVITY	**$ 6,764.40**

Attachment "B" - Activity II

Activity Charges "Blowing the Whistle"
Program Development

1. Develop Story Line for Classroom Presentation	
A. 40 hours @ 24.00/hr	960.00
2. Develop Five Activity Sheets	
A. 20 hours @ 24.00/hr Word Search (3rd-6th) Connect-the-Dot Find the Polluter Pretest & Post Test	480.00
4. Develop Handouts for Presentation	
A. Collect samples & select whistles secure pricing & manufacturer 6 hours @ 24.00/hr	144.00
B. Long distance phone calls Actual expenses will be billed	25.00
C. Postage	10.00
Subtotal	1,619.00
5. Administrative Fee	
A. $1,619.00 @ 20%	323.80
TOTAL FOR ACTIVITY	**$1,942.80**

Attachment "B" - Activities III & IV

Activity Charges for
Classroom Presentations

Item	Costs
1. Offer Materials	
A. School deliveries or mailings Mailing list preparation and label: preparation 21 hours at $20 per hour	$ 420.00
B. Time to assemble approximately 160 packets for principals, teachers groups, etc. 15 hours at $20 per hour	$ 300.00
C. Supplies: labels, envelops & misc. copies	$ 50.00
D. Postage and/or mileage at .30/mile x 650 miles: Actual expenses will be billed	$ 195.00
E. Marketing supplies	$ 300.00
Subtotal	$ 1,265.00
2. Distribute materials:	
A. Assemble and deliver orders 45 hours at $20 per hour	$ 900.00
B. Supplies: envelopes, labels, & misc. copies	$ 75.00
C. Mileage to deliver materials 650 miles @ .30/ Actual mileage logs will be presented with actual costs	$ 195.00
Subtotal	$ 1,170.00

3. Provide School/Youth Group Programs

A. 8 hours per week
4 hours per presentation @ $30.00/hour
(150 elementary & 53 middle school presentations)
Cost not to exceed... $24,360.00
Actual hours to be billed

B. Mileage at 30 cents a mile;
50 miles per presentation X 30 cents=
$15; $15 X 75 weeks = $ 1,125.00

D. Long distance phone calls; $5 per week
X 75 weeks; actual cost will be billed $ 375.00

Subtotal $25,860.00

4. Provide Award Materials

A. Time to personalize certificates, and compile, mail or deliver award materials and thank you letters. Process approximately 10 per hour at $20 per hour = $2.00 per Storm Water Pollution Patrol member (The goal is to enroll 750 members)
Actual cost will be billed $ 1,500.00

B. Postage to mail awards or mileage for delivery at 30 cents per mile. Postage:
$1.43 (for 6 oz) X 750 $ 1,072.50

Subtotal $ 2,572.50

5. Administrative Fee

$30,867.50 @ 20% $ 6,173.50

TOTAL OF ACTIVITY **$37,041.00**

Attachment "B"- Activity V

Activity Charges for Catch Basin Stenciling
Per Event Expense Estimate

Item	Costs
1. Coordinate and Confirm the Event	
A. Time to coordinate and verbally confirm the event to mail written confirmation etc; 1.5 hours at $20.00 per hour	$ 30
B. Postage, supplies	$ 4
C. Long distance phone calls; actual expense will be billed	$ 2
2. Stage the Event	
A. Two people X 5 hours = 10 hours 10 hours X $25.00 per hour	$ 250
B. Mileage per event Actual mileage to be billed at 30 cents per mile 60 miles X 30 cents per mile	$ 18
3. Administrative Fee	
Includes time for planning, meetings, proposal preparation and final report	
20% X $304	$ 61
TOTAL PER EVENT ESTIMATE	**$ 365.00 PER EVENT**

Total number of stenciling events not to exceed 12

$365.00 per event X 12 events	**$4,200.00**

ACTIVITIES SUMMARY

TOTAL Activity I	$ 6,764.40
TOTAL Activity II	$ 1,942.80
TOTAL Activities III & IV	$37,041.00
TOTAL Activity V	$ 4,200.00
GRAND TOTAL COST OF PROGRAM:	**$49,948.20**

SCANNED 71252

PROFESSIONAL SERVICES AGREEMENT

AMENDMENT NO. 1

The AGREEMENT dated August 31, 1999, between RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", and MISSION RESOURCE CONSERVATION DISTRICT, hereinafter called "CONTRACTOR", for project described as solicit and present stormwater pollution education programs to public and private schools within the Temecula/Murrieta area and coordinate and administer storm drain stenciling events is hereby amended as follows:

Additional time to complete the services, as specified in the original AGREEMENT, has become necessary.

Consequently, it has been mutually agreed that CONTRACTOR'S time for performance under said AGREEMENT be extended to June 30, 2002 at no increase in cost.

Paragraph 3 of AGREEMENT is changed to read:

3. TIME FOR PERFORMANCE – CONTRACTOR shall commence performance of service on July 1, 1999, and shall diligently perform the services to full completion through June 30, 2002, after which time activity under this Agreement shall terminate.

Except for the extent specifically added to, modified or amended hereunder, all of the terms, covenants and conditions of said AGREEMENT dated August 31, 1999, shall remain in full force and effect between the parties hereto.

Dated: July 16, 2001
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By _____
DAVID P. ZAPPE
General Manager-Chief Engineer

MISSION RESOURCE CONSERVATION DISTRICT

By Mariko Cummings
Responsible Officer

Mariko Cummings
Printed Name

President
Title

(760) 728-1332
Area Code/Phone Number

TMR:pln
PC/71269
6/26/01

PROFESSIONAL SERVICES AGREEMENT

AMENDMENT NO. 2

The AGREEMENT dated August 31, 1999 and AMENDMENT NO. 1 dated July 16, 2001 between RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT" and MISSION RESOURCE CONSERVATION DISTRICT, hereinafter called "CONTRACTOR", for project described as solicit and present stormwater pollution education programs to public and private schools within the Temecula/Murrieta area and coordinate and administer storm drain stenciling events is hereby amended as follows:

Additional time to complete the services, as specified in the original AGREEMENT, has become necessary.

Consequently, it has been mutually agreed that CONTRACTOR'S time for performance under said AGREEMENT be extended to June 30, 2003 and the CONTRACTOR'S total amount of compensation paid under said AGREEMENT be increased by an amount not to exceed twenty-four thousand nine hundred ninety-nine dollars and ninety-nine cents ($24,999.99), unless a written amendment to this Agreement is executed by both parties prior to the performance of additional services.

Paragraph 3 of AGREEMENT is changed to read:

3 TIME FOR PERFORMANCE – CONTRACTOR shall commence performance of service on July 1, 2002, and shall diligently perform the services to full completion through June 30, 2003, after which time activity under this Agreement shall terminate.

Except for the extent specifically added to, modified or amended hereunder, all of the terms, covenants and conditions of said AGREEMENT dated August 31, 1999 and

SCANNED

AMENDMENT NO. 1 dated July 16, 2001 shall remain in full force and effect between the parties hereto.

Dated: OCTOBER 29, 2002
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By _____
DAVID P. ZAPPE
General Manager-Chief Engineer

MISSION RESOURCE CONSERVATION DISTRICT

By _____
Responsible Officer

SCOTT A. MURRAY
Printed Name

PRESIDENT OF THE BOARD OF DIRECTORS
Title

760-728-1332
Area Code/Phone Number

TT:bjp
10/09/02

PROFESSIONAL SERVICES AGREEMENT

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", and MISSION RESOURCE CONSERVATION DISTRICT, hereinafter called "CONTRACTOR", hereby agree as follows:

1. PROJECT - CONTRACTOR shall perform services for the project described as disperse, present, and administer the StormWater/CleanWater Protection Program for adults in various community groups throughout Southwestern Riverside County (Temecula/Murrieta area) by: 1) soliciting slide show presentations to civic groups, community service clubs, home owner's associations, environmental interest groups, commercial and trade associations, etc.; 2) attempting to schedule and present one slide show every two weeks; and 3) distributing StormWater/CleanWater material supplied by the District following each presentation to those in attendance.

2. SCOPE OF SERVICES - CONTRACTOR shall furnish tools, equipment, facilities, materials and labor necessary to perform in a complete, skillful and professional manner those services described on Attachment "A" attached hereto and made a part hereof. DISTRICT shall provide specific StormWater/CleanWater promotional materials for distribution by CONTRACTOR.

3. TIME FOR PERFORMANCE - CONTRACTOR shall commence performance of service on July 1, 1999, and shall diligently perform the services to full completion through December 30, 2000, after which time activity under this Agreement shall terminate.

4. COMPENSATION - DISTRICT shall pay CONTRACTOR for services performed and expenses incurred in accordance with the standard rates set forth on Attachment "B" attached hereto and made a part hereof. The total amount of compensation paid to

CONTRACTOR under this Agreement shall not exceed the sum of twelve thousand one hundred twenty six dollars ($12,126.00), unless a written amendment to this Agreement is executed by both parties prior to performance of additional services.

5. PAYMENT - Payment to CONTRACTOR shall be made by DISTRICT following satisfactory performance of the services as set forth herein and within thirty (30) days after DISTRICT'S receipt of appropriate monthly invoice(s) from CONTRACTOR. CONTRACTOR shall keep employee and expense records according to customary accounting methods and such records shall be available for inspection by DISTRICT to verify the invoices of CONTRACTOR. All invoices shall itemize charges to conform with the portion(s) of work and estimated costs as set forth on Attachment "B".

6. LICENSES - CONTRACTOR, its employees, agents, contractors and subcontractors shall maintain professional licenses required by the laws of the State of California at all times while performing services under this Agreement.

7. NOTICES - Any and all notices sent or required to be sent to the parties of this Agreement will be mailed by first class mail, postage prepaid, to the following addresses:

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
1995 Market Street
Riverside, CA 92501

MISSION RESOURCE
CONSERVATION DISTRICT
990 East Mission Road
Fallbrook, CA 92028
Attn: Ms. Judy Mitchell

8. WORKER'S COMPENSATION INSURANCE - CONTRACTOR certifies that it is aware of the laws of the State of California requiring employers to be insured against liability for worker's compensation and shall comply with such laws during the term of this Agreement.

9. INDEMNITY AND HOLD HARMLESS - CONTRACTOR agrees to and shall indemnify and hold DISTRICT, its officers, employees and agents free and harmless

from all claims, actions, damages and liabilities of whatsoever kind and nature arising from death, personal injury, property damage or other cause asserted or, based upon any negligent act or omission of CONTRACTOR, its employees, agents, invitees, or any subcontractor of CONTRACTOR relating to or in any way connected with the accomplishment of the work or performance of services under this Agreement, regardless of the existence or degree of fault or negligence on the part of DISTRICT or any officer or employee of said DISTRICT, other than the active negligence of DISTRICT, its officers, employees or agents. As part hereto of the foregoing indemnity CONTRACTOR agrees to protect and to defend at its own expense, including attorneys' fees, DISTRICT, its officers, agents and employees from any and all legal action based upon any acts or omissions, as stated hereinabove, by any person or persons.

10. INSURANCE - CONTRACTOR shall:

(a) Provide and maintain comprehensive liability insurance coverage which shall protect CONTRACTOR from claim from damages for personal injury, including accidental and wrongful death, as well as from claims for property damage which may arise from CONTRACTOR'S performance of services of its obligations hereunder, whether such performance of services by CONTRACTOR, or by anyone employed directly or indirectly by any of them. Such insurance shall name DISTRICT and the County of Riverside as additional insureds with respect to this agreement and the obligations of CONTRACTOR hereunder. Such insurance shall provide for limits of not less than two million dollars ($2,000,000.00) per occurrence.

(b) Cause its insurance carrier(s), to furnish DISTRICT and the County of Riverside, upon execution of this agreement, with certificate(s) of insurance showing that

such insurance is in full force and effect and that DISTRICT and the County of Riverside are named as additional insureds with respect to this agreement and the obligations of CONTRACTOR hereunder. Further, said certificate(s) shall provide that the issuing company shall give DISTRICT and the County of Riverside thirty (30) days written notice in the event of cancellation, termination, non-renewal or reduction in coverage of the policies evidenced by the certificate(s). In the event of any such cancellation, termination, non-renewal or reduction in coverage, CONTRACTOR shall, forthwith, secure replacement insurance meeting the provisions of this paragraph.

11. WORK PRODUCT - CONTRACTOR shall provide DISTRICT with a minimum of two (2) original copies of a summary report regarding slide show presentations that detail what groups received presentations and when. All non-consumable presentation materials shall be and remain the sole property of DISTRICT.

12. TERMINATION - This Agreement may be terminated by either CONTRACTOR or DISTRICT upon written notice to the other party in the event of substantial failure of performance by the other party or in the event DISTRICT shall elect to abandon or indefinitely postpone the project. In the event DISTRICT abandons or indefinitely postpones the project and gives such notice of termination, DISTRICT shall make payment for all services performed to the date of written notice in a total amount which bears the same ratio to the total maximum fee otherwise payable under this Agreement as the services actually performed bear to the total services necessary for performance of this Agreement.

13. ASSIGNMENT - Neither this Agreement nor any part thereof shall be assigned by CONTRACTOR without the prior written consent of DISTRICT.

14. NON-DISCRIMINATION - In the performance of the terms of this Agreement, CONTRACTOR shall not engage in nor permit others he may employ to engage in discrimination in the employment of persons because of the race, color, national origin or ancestry, religion, physical handicap, disability as defined by the Americans with Disabilities Act (ADA), medical condition, marital status or sex of such persons, in accordance with the provision of California Labor Code Section 1735.

This Agreement is executed on August 31, 1999
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

David Zappe

DAVID P. ZAPPE
General Manager-Chief Engineer

MISSION RESOURCE CONSERVATION DISTRICT

By Mariko Cummings
Responsible Officer

Mariko Cummings
Printed Name

President
Title

(760) 631-4760
Area Code/Phone Number

VLD:MHW:pln
PC\51305
07/29/99

ATTACHMENT "A"
SCOPE OF SERVICES
FOR THE IMPLEMENTATION OF
THE STORMWATER/CLEANWATER PROTECTION PROGRAM
FOR 7/01/99 - 12/31/00

Mission Resource Conservation District (RCD) is pleased to provide the following scope of services to assist Riverside County Flood Control District (District) with implementation of the Storm Water/Clean Water Protection Program in the Temecula/Murrieta area.

The RCD proposes to:

Disburse, present, and administer the Storm Water/Clean Water Protection Program for adults on public and private business, churches, homeowner associations, adult community classes, and community groups in the Temecula/Murrieta area. The RCD will attempt to schedule one presentation every two weeks. Storm Water/Clean Water material (literature, magnets, pencils, etc. supplied by the District) will be distributed following each presentation.

IMPLEMENT THE STORM WATER/CLEAN WATER
POLLUTION PREVENTION PROGRAM:
AN EDUCATION PROGRAM FOR THE ADULTS

1. Slide Show:

The slide show presentation theme will address pollutants in storm water runoff and their impact on the Santa Margarita River Watershed and on groundwater. The format will be as follows:

A. Defining Southern Riverside County storm water, its origins, the major pollutants carried and its probable paths to either the surface of groundwater of the Santa Margarita River Watershed.

B. Explain the dynamics of the Southern Riverside County portion of the Santa Margarita River Watershed.

C. Explain the importance of high quality groundwater to the health and economic prosperity of the citizens of Southern Riverside County.

D. Review actions that individuals can do to prevent storm water pollution such as proper disposal of potential pollutants (automotive products, household hazardous waste, domestic animal waste, litter, etc.) and proper application of landscape chemicals and irrigation water.

E. Concluding with slides depicting good drinking/recreational water and a

healthy Santa Margarita River Watershed utilized by people engaged in recreational, industrial, and wildlife observation activities.

Presentations will be delivered throughout the Southern Riverside County portion of the Santa Margarita River Watershed.

2. Execution of Presentations

A. **Slide Show and Script** - RCD will utilize the already developed and approved slide show from the Riverside Corona Resource Conservation District. Minor replacement of slides will customize the current presentation to be used specifically for the Santa Margarita River Watershed. Similar minor script changes will be made for the same purposes. Narration of the slides will be done by the presenter.

B. **Solicitation of Speaking Engagements** - An introductory letter will be sent to civic, service, environmental, and large businesses throughout Southern Riverside County. The letter will offer the presentation for meetings of the groups. A return mailer request form will be included requesting the identity of the responding organization, time, date, and location of requested presentation date, contact person, and number of attendees expected.

C. **Confirmation of and Preparation for Speaking Engagement** - Phone contacts will be made with those groups responding with return mailers. The group presentation will be scheduled and planned. Audio-visual equipment requirements will be discussed and be provided by the responding organization or supplied by the RCD as needed.

D. **Storm Water Slide Show Presentation** - The RCD presenter will transport the slide show, audio-visual equipment, and materials to the meeting site and arrive 1/2 hour in advance of the meeting to set-up and test equipment. The presentation will be followed by a question and answer period and will conclude with the distribution of Storm Water/Clean Water materials.

E. **Special Outreach Events** - At the direction of the Riverside County Flood Control District, the RCD will participate in public outreach events to businesses, community events (i.e. Temecula Balloon and Wine Festival, Farmers Fair, Storm Baseball Games, etc.) in support of the overall public education outreach effort. The RCD will offer StormWater/CleanWater program materials and discuss the program theme. Presentation materials will be provided to the RCD on an as needed basis.

Attachment "B"

	Items	Costs
1.	**Slide Show and Script Revise/Customize for Santa Margarita River Watershed**	
	A. Supplies (film), slide developing	40.00
	B. Further customize script to accurately depict erosion problems and preventative measures 24 hours @ 30.00	720.00
	C. Two full duplicate slide sets	250.00
2.	**Solicitation of Speaking Engagements**	
	A. Preparation of introductory letter to potential target groups: 2 hours @ 20.00/hr	40.00
	B. Preparation of return mailer form: 2 hours @ 20.00/hr	40.00
	C. Preparation of mailing labels: 10 hours @ 20.00/hr	200.00
	D. Supplies/Envelopes	40.00
	E. Postage (250 mailings X .33/ea)	82.50
	F. Time to stuff, label, & mail 250 letters 4 hours @ 20.00/hr	80.00
3.	**Confirmation of and Preparation for Speaking Engagements**	
	A. Time to coordinate events (1/2 hour per event) 12.5 hours @ 25.00	312.50
	B. Long distance phone calls	100.00
	C. Preparing and picking up materials:	

	5 hours @ 20.00		100.00
4.	**Storm Water Slide Show Presentation**		
	A. Four hours per presentation (including travel, set-up, and breakdown) X 25 presentations 100 hours @ 25.00/hr		2,500.00
	B. Mileage: 25 presentations 1,000 miles @ .30/mile		300.00
5.	**Special Events**		
	A. 250 hours @ 20.00/hr		5,000.00
	B. Mileage: 1,000 miles @ /30/mile		300.00
6.	**Administration Fee**		
	A. 20% X 10,105.00		2,021.00
		TOTAL	**$12,126.00**

PROFESSIONAL SERVICES AGREEMENT

AMENDMENT NO. 1

The AGREEMENT dated August 31, 1999, between RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", and MISSION RESOURCE CONSERVATION DISTRICT, hereinafter called "CONTRACTOR", for project described as disperse, present, and administer StormWater/CleanWater Protection Program for adults in various community groups throughout Southwestern Riverside County (Temecula/Murrieta area) is hereby amended as follows:

Additional time to complete the services, as specified in the original AGREEMENT, has become necessary.

Consequently, it has been mutually agreed that CONTRACTOR'S time for performance under said AGREEMENT be extended to June 30, 2001 at no increase in cost.

Paragraph 3 of AGREEMENT is changed to read:

3. TIME FOR PERFORMANCE – CONTRACTOR shall commence performance of service on July 1, 1999, and shall diligently perform the services to full completion through June 30, 2001, after which time activity under this Agreement shall terminate.

Except for the extent specifically added to, modified or amended hereunder, all of the terms, covenants and conditions of said AGREEMENT dated August 31, 1999, shall remain in full force and effect between the parties hereto.

Dated: JANUARY 31. 2001
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By _____
DAVID P. ZAPPE
General Manager-Chief Engineer

MISSION RESOURCE CONSERVATION DISTRICT

By Mariko Cummings
Responsible Officer

Mariko Cummings
Printed Name

President
Title

(760) 631-4760
Area Code/Phone Number

LCG:pln
PC/65877
12/12/00

PROFESSIONAL SERVICES AGREEMENT
AMENDMENT NO. 2

The AGREEMENT dated August 31, 1999, between RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", and MISSION RESOURCE CONSERVATION DISTRICT, hereinafter called "CONTRACTOR", for project described as disperse, present, and administer StormWater/CleanWater Protection Program for adults in various community groups throughout Southwestern Riverside County (Temecula/Murrieta area) is hereby amended as follows:

Additional time to complete the services, as specified in the original AGREEMENT, has become necessary.

Consequently, it has been mutually agreed that CONTRACTOR'S time for performance under said AGREEMENT be extended to June 30, 2002 at no increase in cost.

Paragraph 3 of AGREEMENT is changed to read:

3. TIME FOR PERFORMANCE – CONTRACTOR shall commence performance of service on July 1, 1999, and shall diligently perform the services to full completion through June 30, 2002, after which time activity under this Agreement shall terminate.

Except for the extent specifically added to, modified or amended hereunder, all of the terms, covenants and conditions of said AGREEMENT dated August 31, 1999, shall remain in full force and effect between the parties hereto.

Dated: July 16, 2001
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By _____
DAVID P. ZAPPE
General Manager-Chief Engineer

MISSION RESOURCE CONSERVATION DISTRICT

By Mariko Cummings
Responsible Officer

Mariko Cummings
Printed Name

President
Title

(760) 728-1332
Area Code/Phone Number

TMR:pln
PC/71267
6/26/01

SCANNED
71851

PROFESSIONAL SERVICES AGREEMENT

AMENDMENT NO. 3

The AGREEMENT dated August 31, 1999 and AMENDMENT NOS. 1 and 2 dated January 31, 2001 and July 16, 2001, respectively, between RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT" and MISSION RESOURCE CONSERVATION DISTRICT, hereinafter called "CONTRACTOR", for project described as disperse, present, and administer the *StormWater/CleanWater Protection Program* for adults in public and private business, service groups and various community groups in the Temecula/Murrieta area is hereby amended as follows:

Additional time to complete the services, as specified in the original AGREEMENT, has become necessary.

Consequently, it has been mutually agreed that CONTRACTOR'S time for performance under said AGREEMENT be extended to June 30, 2003 and the CONTRACTOR'S total amount of compensation paid under said AGREEMENT be increased by an amount not to exceed twenty-four thousand nine hundred ninety-nine dollars and ninety-nine cents ($24,999.99), unless a written amendment to this Agreement is executed by both parties prior to the performance of additional services.

Paragraph 3 of AGREEMENT is changed to read:

3. TIME FOR PERFORMANCE – CONTRACTOR shall commence performance of service on July 1, 2002, and shall diligently perform the services to full completion through June 30, 2003, after which time activity under this Agreement shall terminate.

Except for the extent specifically added to, modified or amended hereunder, all of the terms, covenants and conditions of said AGREEMENT dated August 31, 1999 and

SCANNED
80607

AMENDMENT NOS. 1 and 2 dated January 31, 2001 and July 16, 2001, respectively, shall remain in full force and effect between the parties hereto.

Dated: OCTOBER 29, 2002
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

By _____
DAVID P. ZAPPE
General Manager-Chief Engineer

MISSION RESOURCE CONSERVATION DISTRICT

By _____
Responsible Officer

SCOTT A. MURRAY
Printed Name

PRESIDENT OF THE BOARD OF DIRECTORS
Title

760-728-1332
Area Code/Phone Number

TT:bjp
10/09/02

PROFESSIONAL SERVICES AGREEMENT

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, hereinafter called "DISTRICT", and HOLMES & NARVER, INC., hereinafter called "CONTRACTOR", hereby agree as follows:

1. PROJECT - CONTRACTOR shall perform services for the project described as prepare, present and administer on-site Municipal Employee Storm Water Quality Training. The Municipal Employee Storm Water Quality Training sessions will focus on general Good Housekeeping and Best Management Practices for stormwater pollution prevention from operation and maintenance activities of Roadway Maintenance Activities, Municipal Corporate Yards, Fleet Services, Building Services and Maintenance, Park Maintenance, Medical Facilities, Printing Services, Supply Services, Food Services, and other related agencies/services. The exact dates, times and locations for the training sessions are to be specified by DISTRICT in consultation with CONTRACTOR.

2. SCOPE OF SERVICES - CONTRACTOR shall furnish materials and labor necessary to perform in a complete, skillful and professional manner those services described on Attachment "A" attached hereto and made a part hereof.

3. TIME FOR PERFORMANCE - CONTRACTOR shall commence performance of service within fourteen (14) consecutive calendar days after the date of execution of this Agreement, and shall diligently perform the services to full completion by June 30, 2002, after which time activity under this Agreement shall terminate.

4. COMPENSATION - DISTRICT shall pay CONTRACTOR for services performed and expenses incurred in accordance with the standard rates set forth on Attachment "B" attached hereto and made a part hereof. The total amount of compensation paid to CONTRACTOR under this Agreement shall not exceed the sum of fifteen thousand

dollars ($15,000.00), unless a written amendment to this Agreement is executed by both parties prior to performance of additional services.

5. PAYMENT - Payment to CONTRACTOR shall be made by DISTRICT following satisfactory performance of the services as set forth herein and within thirty (30) days after DISTRICT'S receipt of appropriate monthly invoice(s) from CONTRACTOR. CONTRACTOR shall keep employee and expense records according to customary accounting methods and such records shall be available for inspection by DISTRICT to verify the invoices of CONTRACTOR. All invoices shall itemize charges to conform with the portion(s) of work and estimated costs as set forth on Attachment "B".

6. LICENSES - CONTRACTOR, its employees, agents, contractors and subcontractors shall maintain professional licenses required by the laws of the State of California at all times while performing services under this Agreement.

7. NOTICES - Any and all notices sent or required to be sent to the parties of this Agreement will be mailed by first class mail, postage prepaid, to the following addresses:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT 1995 Market Street Riverside, CA 92501	HOLMES & NARVER, INC. 999 Town & Country Road Orange, CA 92868 Attn: Mr. John Gleason

8. INDEMNITY AND HOLD HARMLESS - CONTRACTOR agrees to and shall indemnify and hold DISTRICT, its officers, employees and agents free and harmless from all claims, actions, damages and liabilities of whatsoever kind and nature arising from death, personal injury, property damage or other cause asserted or, based upon any negligent act or omission of CONTRACTOR, its employees, agents, invitees, or any subcontractor of CONTRACTOR relating to or in any way connected with the accomplishment of the work or performance of services under this Agreement, other than the sole active negligence or willful misconduct of DISTRICT, its officers, employees or

agents. As part hereto of the foregoing indemnity, CONTRACTOR agrees to protect and to defend at its own expense, including attorneys' fees, DISTRICT, its officers, agents and employees from any and all legal action based upon any acts or omissions, as stated hereinabove, by any person or persons.

9. INSURANCE - CONTRACTOR shall, at its sole cost and expense, secure and maintain from companies approved to transact insurance business in the State of California and approved by DISTRICT in writing, insurance coverage in the following forms and minimum amounts specified:

A. Workers' Compensation Insurance with statutory limits.

B. Comprehensive General Liability Insurance, including contractual coverage and excluding automobile, with a combined single limit of not less than $1,000,000 each occurrence and $2,000,000 annual aggregate.

C. Automobile Bodily Injury and Property Damage Liability Insurance with combined single limits not less than $1,000,000 each occurrence for bodily injury and property damage and $2,000,000 annual aggregate. Such insurance shall cover liability arising out of use by CONTRACTOR of owned, non-owned, and hired automobiles in the performance of the work hereunder. As used herein, the term "automobile" means vehicles licensed or required to be licensed under the California Vehicle Code.

D. Professional Liability Insurance coverage in an amount not less than $1,000,000, for CONTRACTOR'S own protection and for the benefit and protection of the DISTRICT from liability and claims caused by or connected with any negligent error, omission or act performed by CONTRACTOR or by its employees or agents in providing services under the terms of this Agreement. Said insurance

shall not be construed to relieve or limit CONTRACTOR for amounts or types or liability in excess of the protection provided by the insurance coverage.

CONTRACTOR shall furnish certificates of insurance to DISTRICT evidencing the insurance coverage required above prior to commencement of the work. Certificates shall provide that such insurance shall not be terminated or expire except on thirty (30) days prior written notice to DISTRICT, shall be maintained in full force and effect from the time work first commences until completion of the work and, except for professional liability insurance, shall include DISTRICT as additional insured.

10. WORK PRODUCT - CONTRACTOR shall provide DISTRICT with an electronic copy of all training program materials developed under this Agreement for future use. Said electronic copies of the training materials shall be and remain the sole property of DISTRICT.

11. TERMINATION - This Agreement may be terminated by either CONTRACTOR or DISTRICT upon written notice to the other party in the event of substantial failure of performance by the other party or in the event DISTRICT shall elect to abandon or indefinitely postpone the project. In the event DISTRICT abandons or indefinitely postpones the project and gives such notice of termination, DISTRICT shall make payment for all services performed to the date of written notice in a total amount which bears the same ratio to the total maximum fee otherwise payable under this Agreement as the services actually performed bear to the total services necessary for performance of this Agreement.

12. ASSIGNMENT - Neither this Agreement nor any part thereof shall be assigned by CONTRACTOR without the prior written consent of DISTRICT.

13. CONFLICT OF INTEREST - CONTRACTOR covenants that it presently has no interest including, but not limited to, other projects or independent contracts, and shall not acquire any such interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. CONTRACTOR further covenants that in the performance of this Agreement, no person having any such interest shall be employed or retained by it under this Agreement.

14. NON-DISCRIMINATION - In the performance of the terms of this Agreement, CONTRACTOR shall not engage in nor permit others he may employ to engage in discrimination in the employment of persons because of the race, color, national origin or ancestry, religion, physical handicap, disability as defined by the Americans with Disabilities Act (ADA), medical condition, marital status or sex of such persons, in accordance with the provision of California Labor Code Section 1735.

This Agreement is executed on FEBRUARY 13, 2001.
(to be filled in by General Manager-Chief Engineer)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

David P. Zappe

DAVID P. ZAPPE
General Manager-Chief Engineer

HOLMES & NARVER, INC.

By Melinda McCoy
Responsible Officer

Melinda McCoy
Printed Name

Associate Vice President
Title

(714) 567-2588
(714) 337-0499
Area Code/Phone Number

TT:MHW:pln
PC\66818
01/24/01

ATTACHMENT "A"

Holmes & Narver, Inc., (H&N) will assist the Riverside County Flood Control And Water Conservation District (District) with the preparation, presentation and administration of the Municipal Employee Storm Water Quality Training.

The topics of the training will focus on general Good Housekeeping and Best Management Practices for stormwater pollution prevention from operation and maintenance activities of Roadway Maintenance Activities, Municipal Corporate Yards, Fleet Services, Building Services and Maintenance, Park Maintenance, Medical Facilities, Printing Services, Supply Services, Food Services, and other related agencies/services.

The training sessions will consist of multimedia presentations with PowerPoint and videos.

The costs for completing the above services will include the set-up and training time, computer slide projector, computer, television/video player, and travel expenses. All services will be billed according to the standard rates as set forth on Attachment "B".

ATTACHMENT "B"

Rate Schedule

Labor Rates

Title	Hourly Rate
Project Manager	$120
Sr. Technical Specialist	$145
Principal Engineer/Trainer	$110
Sr. Engineer/Inspector	$97
Engineer/Inspector	$80
Editor	$62
Clerical/Administrative	$47

Reimbursable Expenses

Travel Expenses: Mileage to and from the job site will be billed at a rate of $0.34 per mile with no markup. Travel time will be billed at hourly labor rates.

Audio-Visual Equipment: A computer slide projector, lap-top computer, and VCR necessary to present the training course videos and slides is available for $195.00 per day with no markup.

Other Direct Costs: Other direct costs will be marked up 8% for general and administrative costs.

APPENDIX F

Permittee Enforcement Activities and Responsible Department

The District

Construction Site Inspections

The Contract Administration department of the Riverside County Flood Control and Water Conservation District (RCFC&WCD) conducts inspections of RCFC&WCD construction projects. Construction sites include storm drains and channels, dams, bridges, roadways, and levees. The purpose of these inspections is to ensure that contractors are conforming to construction plans and specifications and complying with OSHA regulations and other contract requirements including stormwater requirements.

Contract documents specify requirements for measures to reduce potential pollution from construction projects. Bid documents may also require development and implementation of a stormwater management plan or implementation of best management practices. A pre-construction meeting is conducted to review project requirements, including requirements for best management practices.

During inspections, construction activities are compared against project plans and specifications. Reports of observations are maintained. Construction sites are inspected daily for the duration of the project. Inspectors provide verbal advice on best management practices to contractors to reduce stormwater pollution. Verbal and written warnings are issued when necessary to enforce contract provisions and RCFC&WCD has the authority to cease construction if necessary. Inspectors have received training regarding stormwater pollution prevention through attending workshops and meetings.

Potential Involvement: *Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control*

County of Riverside

Construction Site Inspections

The County of Riverside Transportation Department performs inspections of public works construction sites in unincorporated areas. Private construction projects including housing tracts, commercial buildings, and grading projects are inspected by the County Building and Safety Department. Construction is checked to ensure compliance with approved plans, specifications, and building codes. Inspectors distribute brochures and provide verbal guidance on best management practices to contractors and developers as needed. Inspectors report violations to the Regional Board when contractors or developers fail to respond to written or verbal warnings. Inspectors have attended a two-day training class on construction stormwater best management practices.

Potential Involvement: *Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control*

Code Enforcement

The Code Enforcement Division of the County's Building and Safety Department enforces County ordinances including Ordinance 541 that pertains to rubbish accumulation on vacant property. Two enforcement actions are available. Criminal action includes issuing a notice of violation and then a citation for an infraction with the possibility of a misdemeanor (for more serious violation/non-compliance). The more common action, because the subject property is vacant/non-owner occupied, is a civil action that includes notice of violation, Board of Supervisors hearing, order to abate, contracting for cleanup, and billing (including collection via property taxes).

Coordination with other agencies includes referral to the Transportation Department if rubbish is in the road right-of-way, referral to Environmental Health Department if the rubbish is trash on occupied property, Hazmat if it is hazardous rubbish, and referral to Animal Control if there are neglected or dead animals.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control, Industrial Facilities*

Commercial/Industrial Facilities Inspections

The County of Riverside Environmental Health Department implements several inspection programs throughout incorporated and unincorporated areas of the County except in the cities of Corona, Riverside, and Banning. These inspection programs address restaurants and retail food stores and hazardous materials facilities (i.e., underground storage tanks and hazardous materials generators). Inspections focus on storage of hazardous waste materials, solid waste disposal, and control of discharges. Inspectors also check for illicit connections to the sewer and storm drain systems. Inspection frequency varies depending upon the facility type; in general, multiple inspections are performed per year.

Enforcement includes issuing notices of violations and citations pursuant to the appropriate ordinance. Notices and citations indicate the required time frame for compliance after which time follow-up inspections and actions are initiated. Enforcement procedures are coordinated with other County Departments as necessary. Reports of illegal discharges are responded to and sampling is performed as necessary.

The County Fire Department assists the Environmental Health Department in responding to hazardous materials spills and discharges; however, enforcement is performed by the Environmental Health Department. The results of inspections and investigations are documented on standardized reporting forms. Inspectors have not yet received training regarding stormwater pollution prevention best management practices.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, and Industrial Facilities*

City of Hemet

Construction Site Inspections

Inspections are performed by the City of Hemet Public Works/Engineering Department at public and private construction projects to ensure that construction is performed according to approved specifications and building codes. Active construction sites are generally inspected daily as part of the overall construction inspection program. During inspections, construction is checked against plans, specifications, and building codes. The inspectors' log is used for record keeping documenting inspections. When violations are identified, a correction (stop-work) notice is issued and re-inspection is performed. If a correction notice is ignored, the City may refuse to issue a final permit (e.g., for occupancy). Stop work orders are generally issued for dust control, traffic impacts, or to ensure safety. Inspectors have attended a Riverside County Flood Control and Water Conservation District-sponsored workshop on construction stormwater best management practices.

Potential Involvement: *Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control*

Code Enforcement

The City of Hemet Code Enforcement Department enforces city ordinances by issuing notices of violation and citations. Code Enforcement responds to calls regarding illegal dumping and coordinates with the Integrated Waste Management Department. If the responsible party is identified, a verbal warning is issued. The nature of follow-up actions depends upon the circumstances of the violation. Fines have not yet been established for dumping violations.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control, Industrial Facilities*

Commercial/Industrial Facility Inspections

The City Fire Department inspects businesses once every three years for general housekeeping, fire hazards, and extinguishers. Businesses are also expected to perform self-inspections. The Fire Department also inspects businesses with disclosed business plans for hazardous materials storage practices every three years to ensure that materials are properly stored and contained in the event of a spill or leak. Fire inspectors check for compliance with the City's industrial waste ordinance and fire codes at that time. The Fire Department's

Hazardous Materials Team responds to reports of hazardous materials spills or dumping and coordinates spill response with the County of riverside Fire Department when the city team is unable to respond.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, and Industrial Facilities*

Additional Information

The Industrial Waste section of the Eastern Municipal Water District (EMWD) implements the sewage pretreatment program for industries within the City of Hemet. The EMWD must approve Certificate of Occupancy applications. Additionally, the City's Business License Inspector makes random visits to industrial and commercial facilities to ensure that information on the license is accurate.

City of Murrieta

Construction Site Inspections

Construction site inspections are performed by the City of Murrieta Engineering/Public Works Department at public and private construction projects. These inspections are conducted to ensure that construction is performed in compliance with its applicable ordinances, permits and development conditions. Inspectors verify that an effective combination of BMPs are implemented and maintained to protect receiving water quality. At a minimum each High priority site is inspected weekly and Medium and Low priority projects are inspected monthly during the wet season (October 1 through April 30). Construction sites are inspected monthly during the dry season. Additional inspections are conducted as needed based on-site activities, weather conditions and site observations.

Inspectors document observations of non-compliance with stormwater management requirements and coordinate compliance activities. Depending on the severity of the violation, enforcement can range from

a verbal warning to civil or criminal actions. Where appropriate, inspectors provide notification to the San Diego Regional Board of violations of the General Construction Permit. Follow-up inspections are conducted as needed to attain project compliance.

Potential Involvement: *Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control*

Code Enforcement

The Code Enforcement Department enforces the City of Murrieta's stormwater ordinance. Notices of violation and citations are issued for violations and fines are increased if violations are not corrected. Code Enforcement conducts follow up inspections to ensure compliance and correction of any noted violation. Code Enforcement generally responds to complaints called into the Police Department. Code Enforcement will investigate the complaint and also contact any departments that may have previous dealings with the subject property, such as Engineering or Planning.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control, Industrial Facilities*

Commercial/Industrial Facilities Inspections

Industrial facilities and restaurants in the City of Murrieta are inspected by the County of Riverside Environmental Health Department. These inspection programs address restaurants and retail food stores and hazardous materials facilities (i.e., underground storage tanks and hazardous materials generators). Inspections focus on storage of hazardous waste materials, solid waste disposal and control of discharges. Inspectors also check for illicit connections to the sewer and MS4. Inspection frequencies vary depending on facility type. The City of Murrieta Fire Department inspects businesses with disclosed business plans for hazardous materials storage practices every three years to ensure that materials are properly stored and contained in the event of a spill or leak. The Fire Department verifies compliance with the City's industrial waste ordinance and fire codes at that time. The Fire Department responds to reports of hazardous materials spills or dumping and coordinates spill response with the County of Riverside Fire Department.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, and Industrial Facilities*

Additional Information

The Industrial Waste Section of the Eastern Municipal Water District (EMWD) and Rancho California Water District (RCWD) implements the sewage pretreatment program within the City of Murrieta. The EMWD and the RCWD must approve Certificate of Occupancy applications.

City of Temecula

Construction Site Inspections

City of Temecula Public Works Inspectors perform inspections on private construction sites involving both commercial and residential construction as well as publicly funded capital improvement projects. Work inspected includes grading and all infrastructure improvements excluding sewer and water. In addition to scheduled inspections, these personnel also routinely identify situations pertaining to NPDES that require corrective measures. Inspectors bring deficiencies to the attention of the responsible party on

site for corrective action to be taken. Depending upon the situation they may request one of the individuals in the NPDES section of Land Development to address. Public education is a priority for the NPDES section. Developers are made aware of areas that require corrective action and are provided information and access to information resources to afford them the opportunity to make educated decisions. Formal reports including photographs are used to document conditions on construction sites and are provided to the developer. In the event corrective actions are not taken resulting in a violation to City ordinance, Code Enforcement personnel issue the appropriate administrative citation. Occupancy of completed units has also been withheld pending corrective action on erosion control issues. Depending on the situation City staff will notify the San Diego Regional Board staff of issues warranting their attention. Staff has received training by attending multiple workshops, seminars, and meetings.

Potential Involvement: *Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control*

Code Enforcement

Code Enforcement personnel respond to situations such as illegal dumping and illegal grading. Code Enforcement issues notices of violation and administrative citations and follows up on abatement. When Code Enforcement finds NPDES issues they may call NPDES section staff to assist.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, Construction and Development, Erosion Control, Industrial Facilities*

Commercial/Industrial Facility Inspections

Facilities in Temecula are inspected through the Compliance Assistance Program implemented by the County. The City of Temecula has begun a field review of all commercial and industrial facilities within their jurisdiction and this program is currently being developed. Some interaction with business owners has occurred and educational material has been provided.

Potential Involvement: *Illegal Dumping, Illicit Connections, Non-Stormwater Discharges, and Industrial Facilities*

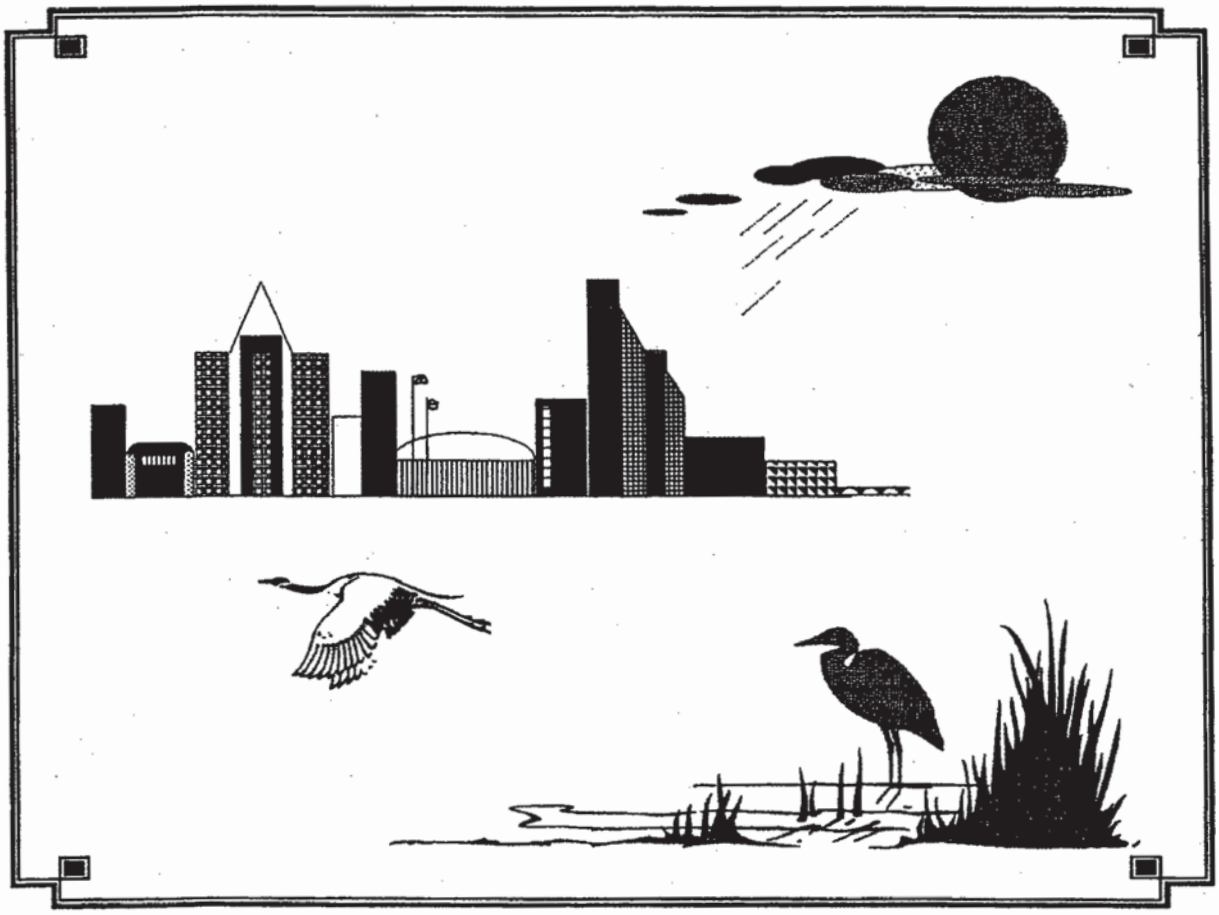
APPENDIX G

Selection and Design of Stormwater Quality Controls

ATTACHMENT

TO SUPPLEMENT "A" OF THE RIVERSIDE COUNTY DRAINAGE AREA MANAGEMENT PLANS

SELECTION AND DESIGN OF STORMWATER QUALITY CONTROLS



PREPARED BY RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

ATTACHMENT

TO SUPPLEMENT "A" OF THE RIVERSIDE COUNTY DRAINAGE AREA MANAGEMENT PLANS

SELECTION AND DESIGN OF STORMWATER QUALITY CONTROLS

Printed by
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April 1996

This Attachment to Supplement "A" was prepared by the Riverside County Flood Control and Water Conservation District for the benefit of the Santa Ana, Santa Margarita and Whitewater NPDES municipal permittees. Reference number one; Controlling Urban Runoff by the Metropolitan Washington Council of Governments, is principally responsible for establishing the format and content of this document.

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I. INTRODUCTION

This manual outlines factors which planners and engineers need to consider when choosing and designing a structural best management practice (BMP) for a particular development site. It gives a brief overview of the different types of BMPs available and it identifies and presents specific BMPs that are applicable to Supplement "A".

Over the past two decades, a number of urban BMPs have been developed and refined to mitigate some of the adverse impacts associated with development activity. Experience has shown that each BMP option has both unique capabilities and persistent limitations. These, in turn, must be balanced with both the physical constraints imposed by the development site and the overall management objectives for the watershed. In practice, this balance is achieved through a negotiating process between the engineering consultant and the local development review staff. Typically, the consultant is responsible for developing the initial BMP plan, and represents the interests of the developer. The planner reviews the plan to ensure that it conforms with local policies and design standards, and represents the interests of the community. The goal is to develop a plan which represents both interests concurrently and equally.

It is important to note that runoff quality control is not yet a technical science. Rather, it is more an engineering art, with few design criteria for pollution removal having been established at this point. Therefore, it will be up to each jurisdiction to develop some performance standard for runoff control devices (with the program objective in mind). A credit system may be useful in evaluating the combined performance of the BMPs. The goal of any Municipal Stormwater Program is to reduce the discharge of pollutants to the maximum extent practicable (MEP), the Environmental Protection Agency's (EPA) measure for compliance. Although not specifically defined in the Federal regulations, the intent of MEP is to reduce the discharge of pollutants as much as possible. To accomplish this, many factors including technical feasibility and effectiveness as well as economic factors must be taken into consideration.

II. URBAN BEST MANAGEMENT PRACTICES

The term BMP, or Best Management Practice, has gained wide acceptance as a general term designating any method for controlling the quantity and quality of stormwater runoff. Urban BMPs are generally grouped into four categories based on the operating principle or physical mechanism used to reduce the amount of runoff pollutants discharged to surface waters. These include:

DETENTION BASINS - The term "detention" applies when the runoff is temporarily stored and, apart from relatively minor incidental losses due to evaporation or percolation, is subsequently discharged to surface water. Control results from a reduction in pollutant concentrations due to settling during the period the runoff is detained.

RETENTION DEVICES - The term "retention" applies when runoff is permanently captured so that it never discharges directly to a surface water. The usual mechanism by which stormwater controls permanently "capture" surface runoff is by infiltration. These techniques are often referred to as infiltration BMPs.

VEGETATIVE CONTROLS - Vegetative controls provide contact between stormwater runoff and vegetated areas and accomplish pollutant removal by a combination of filtration, sedimentation and biological uptake that reduce pollutant concentrations, and/or by a reduction in runoff volume due to infiltration or evapo-transpiration. Figure 1 provides a schematic illustration of various types of vegetative BMPs.

SOURCE CONTROLS - Source control techniques include any practice that either (1) reduces the amounts of accumulated pollutants on the land surface available for washoff by rainfall, (2) regulates the amount of impervious area to reduce the portion of rainfall that will appear as runoff, or (3) excludes inappropriate discharges to storm drains.

Source controls are generally difficult to implement because the sources are diffuse, coming from streets, parking lots, rooftops, lawns, cars, atmospheric rainfall, and so forth. Treatment is equally difficult because of the hydrologic variability and the dilute concentration of the waste stream being treated. But much can be done to improve the quality of the stormwater that runs off our urban developments if the designer is simply cognizant of possibilities for and desirous of maximizing the water quality.

In general, source controls are preferable to structural or treatment controls because they minimize pollution and are less expensive to implement and maintain. However, a coordinated effort to implement both is necessary to achieve the desired/required level of runoff quality control. As in any new program, it is important to evaluate needs and constraints at the beginning of the process to ensure that the best controls are selected. Table 1 gives a brief overview and compares the effectiveness of a number of these currently used BMPs.

FIGURE 1: Vegetative BMPs take many forms and are used for various purposes.
Adapted from Schueler, 1987.

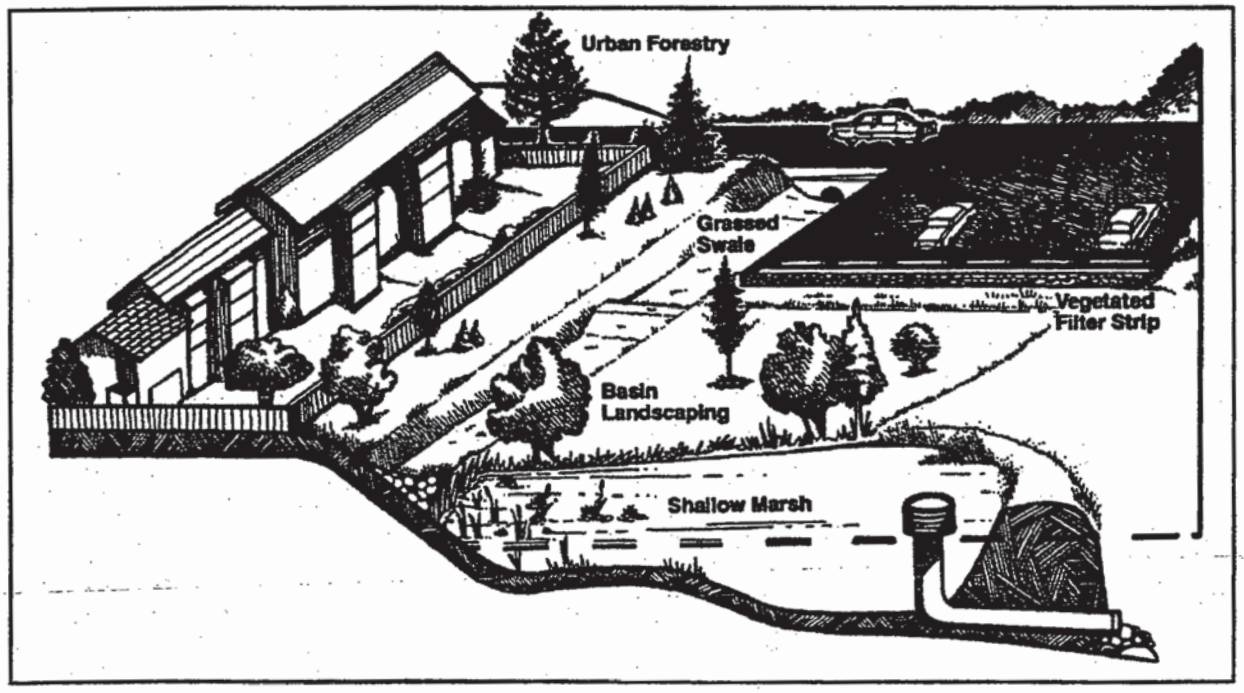


Table 1. A COMPARATIVE ASSESMENT OF THE EFFECTIVENESS OF CURRENT URBAN BEST MANAGEMENT PRACTICES

URBAN BMP OPTIONS*	RELIABILITY FOR POLLUTANT REMOVAL	LONGEVITY*	APPLICABLE TO MOST DEVELOPMENTS	WILDLIFE HABITAT POTENTIAL	ENVIRONMENTAL CONCERNS	COMPARATIVE COST	SPECIAL CONSIDERATIONS
INFILTRATION TRENCHES	Presumed Moderate	50% Failure rate within 5 years	Highly restricted (soils, groundwater, slope, area, sediment input)	Low	Slight risk of groundwater contamination	Cost-effective on smaller sites; rehab costs can be considerable	Recommended with pretreatment and geotechnical evaluation
INFILTRATION BASINS	Presumed moderate, if working	60-100% failure within 5 years	Highly restricted (see infiltration trench)	Low to moderate	Slight risk of groundwater contamination	Construction cost moderate, but rehab cost high	Not widely recommended until longevity is improved
POROUS PAVEMENT	High (if working)	75% failure within 5 years	Extremely restricted (traffic, soils, groundwater, slope, area, sediment input)	Low	Possible groundwater contamination	Cost effective compared to conventional asphalt when working properly	Recommended in highly restricted application with careful construction and effective maintenance
SAND FILTERS	Moderate to high	20+ years	Applicable for smaller developments	Low	Minor	Comparatively high construction costs and frequent maintenance	Recommended, with local demonstration
GRASSED SWALES	Low to moderate but unreliable	20+ years	Low-density development and roads	Low	Minor	Low compared to curb and gutter	Recommended, with checkdams as one element of a BMP system
FILTER STRIPS	Unreliable in urban settings	Unknown, but may be limited	Restricted to low-density areas	Moderate if forested	Minor	Low	Recomended as one element of a BMP system
WATER QUALITY INLETS	Presumed low	20+ years	Small, highly impervious catchments (<2 acres)	Low	Resuspension of hydrocarbon loadings; disposal of hydrocarbo and toxic residuals	High, compared to trenches and sand filters	Not currently recommended as a primary BMP option

* Based on current designs and prevailing maintenance practices. Source: Metropolitan Washington Council of Governments, 1992

III. CHOOSING THE BEST BMP FOR THE SITE

There is no generic method by which these different control techniques can be ranked either qualitatively or quantitatively. Site specific conditions determine which practices are best, and even whether a particular approach is appropriate. At a minimum, the BMP plan jointly developed for a site should accomplish the following goals:

1. Be appropriate for the site, given physical constraints
2. Reproduce pre-development hydrological conditions
3. Provide moderate pollutant removal capability
4. Have neutral impact on the environment
5. Be cost effective and
6. Have acceptable future maintenance burden

To aid the planner or engineer in selecting the most appropriate BMP for a particular development site, a series of screening tools have been developed to compare the capabilities and limitations of each BMP. The screening tools can be used in any order, or may be used as an overall summary of BMP performance. Key factors that influence the suitability of a particular BMP include the following:

* ***Drainage area served*** - The feasibility of a particular control measure depends on the drainage area. There tends to be an upper and/or lower bounds of the urban drainage area that can be served with a particular control practice. These bounds are based on design features and size requirements, as well as the operation characteristics of the BMP. Figure 2 presents a number of BMPs and the associated range of feasible drainage areas.

* ***Soil permeability*** - The soil type, which effectively governs the long term percolation rate, is an important feature which can limit the applicability of a technique at a site. Figure 3 illustrates typical ranges of infiltration rates associated with different soil types and their impact on the feasibility of different BMPs.

* ***Other site factors*** - Other common physical restrictions on BMPs include slope, high water table, distance to bedrock, proximity to foundations and wells, land consumption, maximum depth, restricted land uses, high sediment input, and thermal enhancement. Table 2 represents a matrix that shows whether a BMP is subject to these restrictions.

* ***Environmental amenities*** - In most cases, environmental amenities are not automatically provided when a BMP is built. Rather, they are a result of thoughtful design, regular maintenance, and creative landscape planting. Table 2 shows the environmental and human amenities which can be provided by a particular BMP. The first five headings refer to amenities related to the improvement of the natural environment, while the last five headings pertain to amenities which are provided to the adjacent community. As community amenities are quite subjective, some generalities have been made.

* ***Stormwater benefits*** - The objective of stormwater management is to attempt to reproduce the pre-development hydrology of the site. Table 2 shows the extent to which common BMP designs provide these benefits. Studies have shown that capturing or treating the first ¼ to ½ inch of runoff (small frequent storms with 1 to 2 month return period) will result in 80 to 95 percent capture of the runoff volume; however, before developing detention criteria for a given geographical area, local rainfall analyses should be performed.

* ***Pollutant removal*** - The pollutant removal capability of a BMP is primarily governed by three interrelated factors: 1) the removal mechanisms; 2) the fraction of the annual runoff volume that is effectively treated; and 3) the nature of the urban pollutant being treated. Figure 4 illustrates the comparative pollutant removal capabilities of BMP options. The design variations for each BMP are arrayed in order of increasing fractions of annual runoff volume treated.

* ***Maintenance and cost*** - A final step in selecting a control method is estimating the cost by taking into account all factors associated with the method. Construction and both short and long term maintenance are the major cost components.

Consideration of the components discussed above will usually permit a planner to significantly reduce the choice of control practices appropriate for a detailed evaluation. An explanation of the individual screening factors is presented in Appendix A.

A comprehensive approach to stormwater management views stormwater as a resource and sees the land as a treatment medium. Stormwater management should replenish groundwater supplies, maintain the dry weather flow of urban streams through infiltration and delayed discharge, reduce stream warming, use vegetation to utilize water pollutants as fertilizer, and reduce flooding.

IV. DESIGN CONSIDERATIONS

Once a BMP has been selected for the site, more detailed design of the facility can begin. The following section describes several variations in the basic design of selected BMPs. These designs illustrate innovative ways to fit a BMP into a particular development site and combine BMPs together to improve performance or minimize maintenance needs. Each section concludes with a brief design summary that highlights some of the recommended BMP design features that should be included in every site plan. Both the engineering consultant and the site-plan reviewer can use these summaries as a checklist to ensure that the BMP plan for the site will be effective.

Key design features of the different control techniques are identified, but it should be recognized that other variations are possible. Appropriate studies and reports should be reviewed for additional detail on design, installation and operating aspects of specific BMPs. A list of selected references and other resources is provided at the end of this manual for further evaluation.

FIGURE 2: Feasible BMPs for different watershed sizes. *Source: Schueler, 1987.*

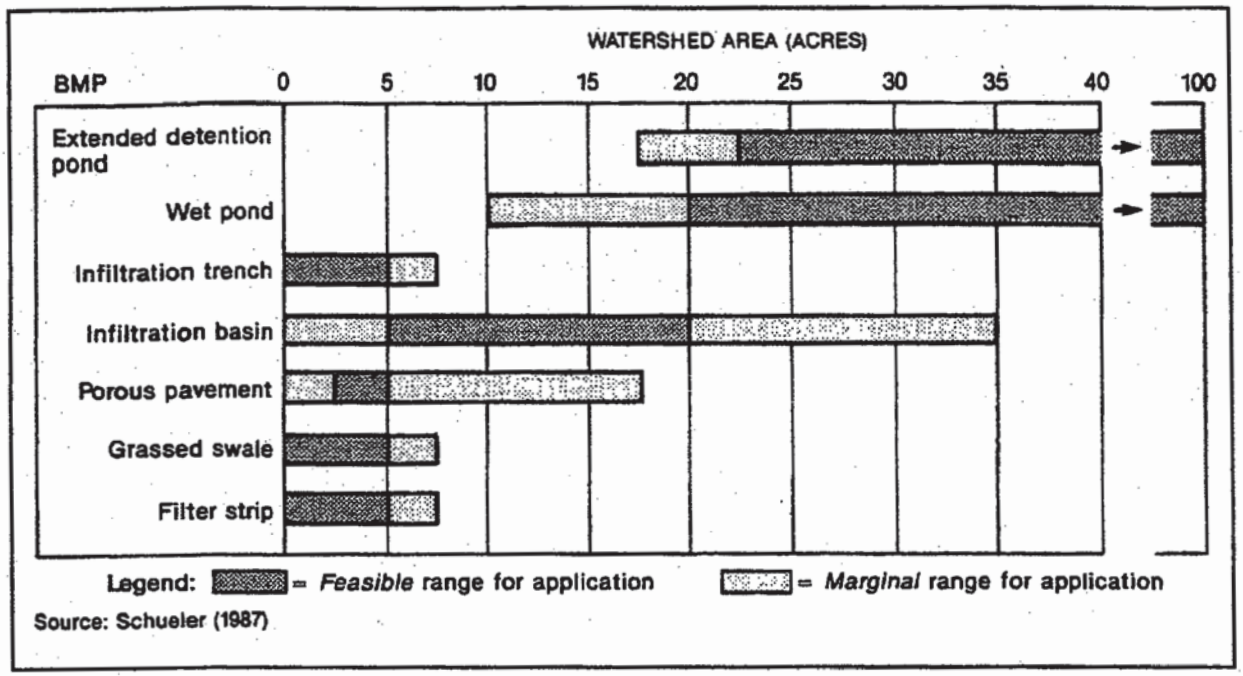


FIGURE 3: Restrictions for BMP application based on soil permeability. *Source: Schueler, 1987.*

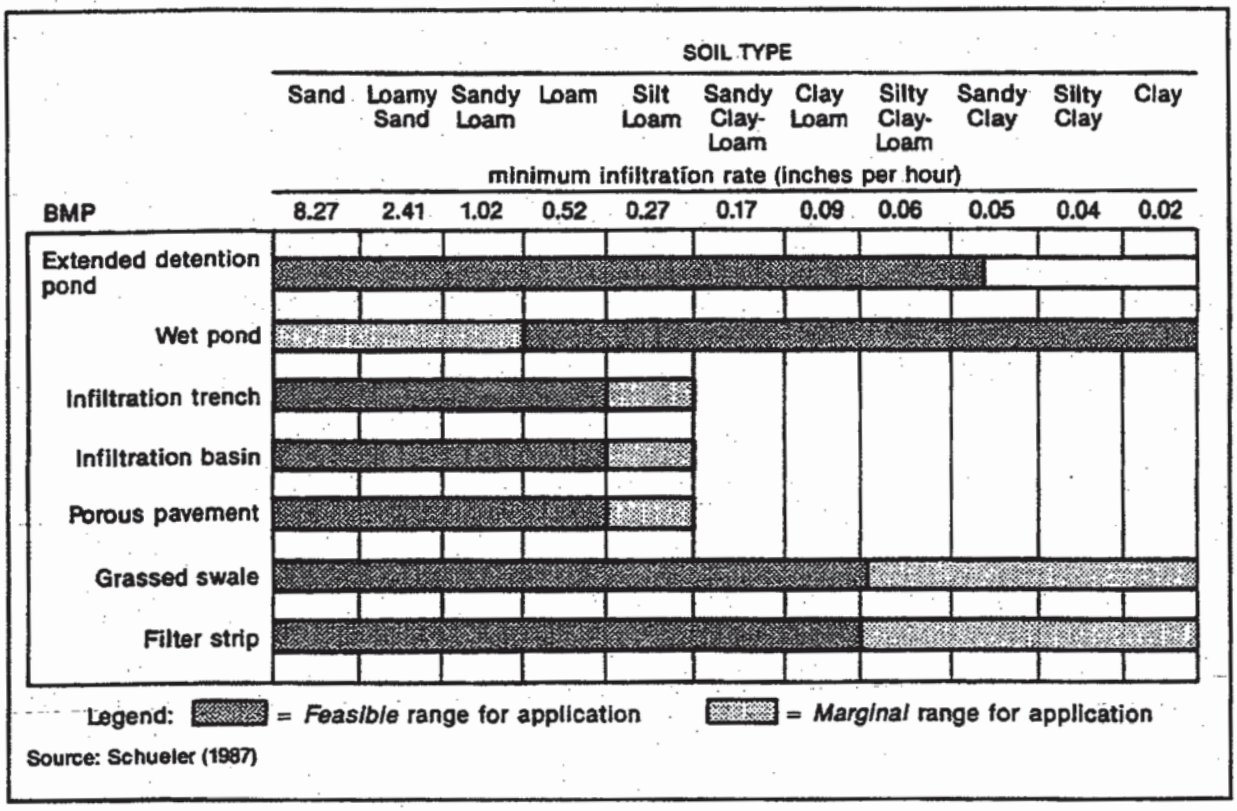
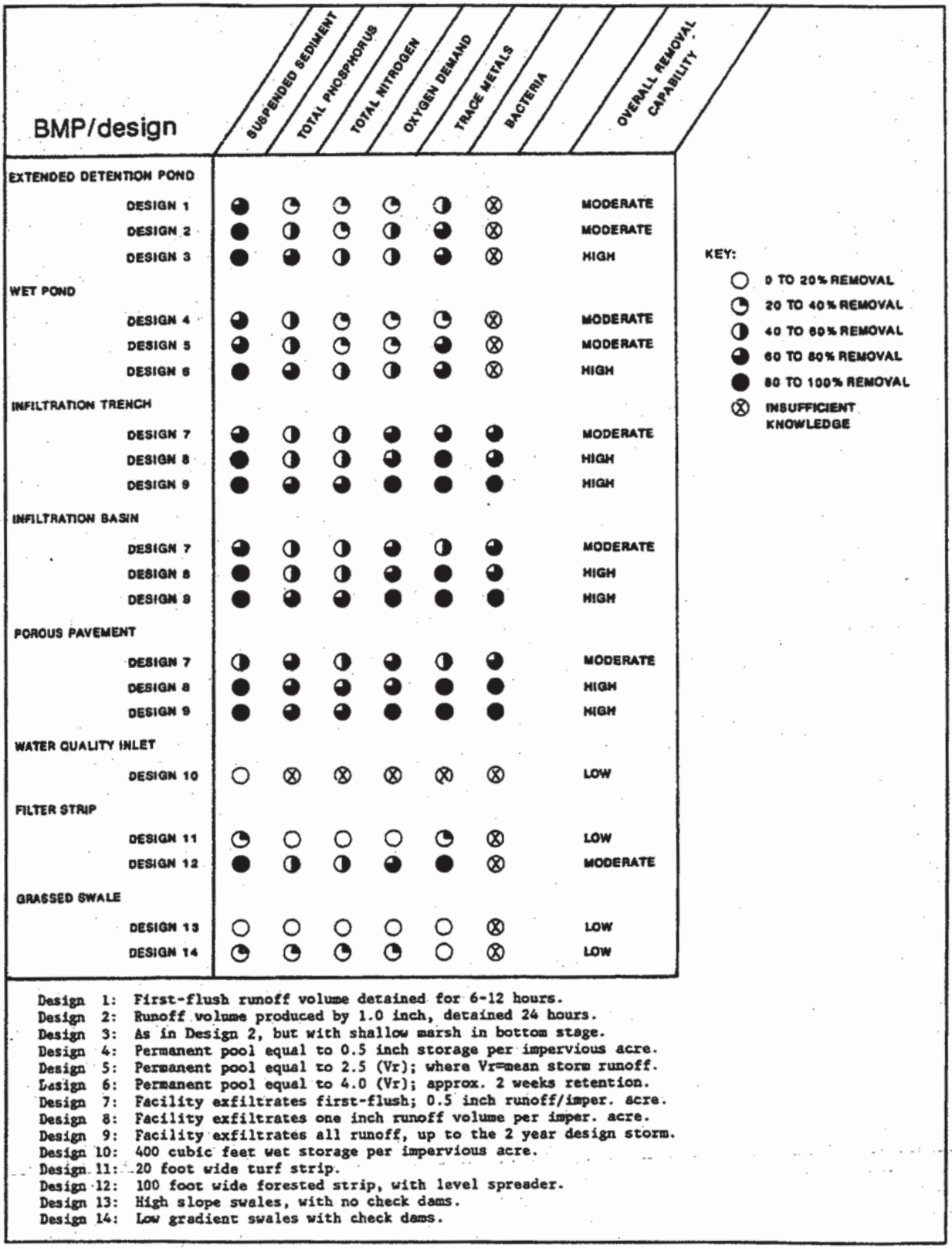


Table 2. COMPARATIVE BENEFITS PROVIDED BY URBAN BMPs. Source: Metropolitan Washington Council of Governments, 1993

	FACTORS	INFILTRATION TRENCH	INFILTRATION BASIN	POROUS PAVEMENT	GRASSED SWALE	FILTER STRIP	WATER QUALITY INLET
SITE	Slope	X	O	X	X	O	
	High Water Table	X	X	X	X	O	
	Close to Bedrock	X	X	X	O	O	X
	Proximity to Foundations	X	O	X	O	O	X
	Space Consumption		O	X			
	Maximum Depth	X	X	X			X
	Restricted Land Uses			X	X	O	X
	High Sediment Input	X	X	X	X	X	X
	Wetlands/Forest Permits						
	Stream Warming						
ENVIRONMENT AND COMMUNITY	Low flow maintenance				O	O	X
	Streambank erosion control	O	O	O	X	X	X
	Aquatic Habitat Creation	X	X	X	X	X	X
	Wildlife Habitat Creation	X		X	O		X
	No Thermal Enhancement						
	Landscape Enhancement	X	O	X	O	O	X
	Recreational Benefits	X	O	X	X	X	X
	Hazard Reduction						
	Aesthetics	X	X	X	O	O	X
	Community Acceptance		O				
STORMWATER	2 Year Storm				O	O	X
	10 Year Storm	O	O	O	X	X	X
	100 Year Storm	X	O	O	X	X	X
	Volume Control				O	O	X
	Groundwater Recharge				O	O	X
	Streambank Erosion Control		O	O	X	X	X

X Seldom provided (May preclude the use of a BMP)
O Sometimes provided (Can be overcome w/careful site design)
BLANK Ussually provided (Generally not a restriction)

FIGURE 4: Comparative Pollutant Removal Of Urban BMP Designs



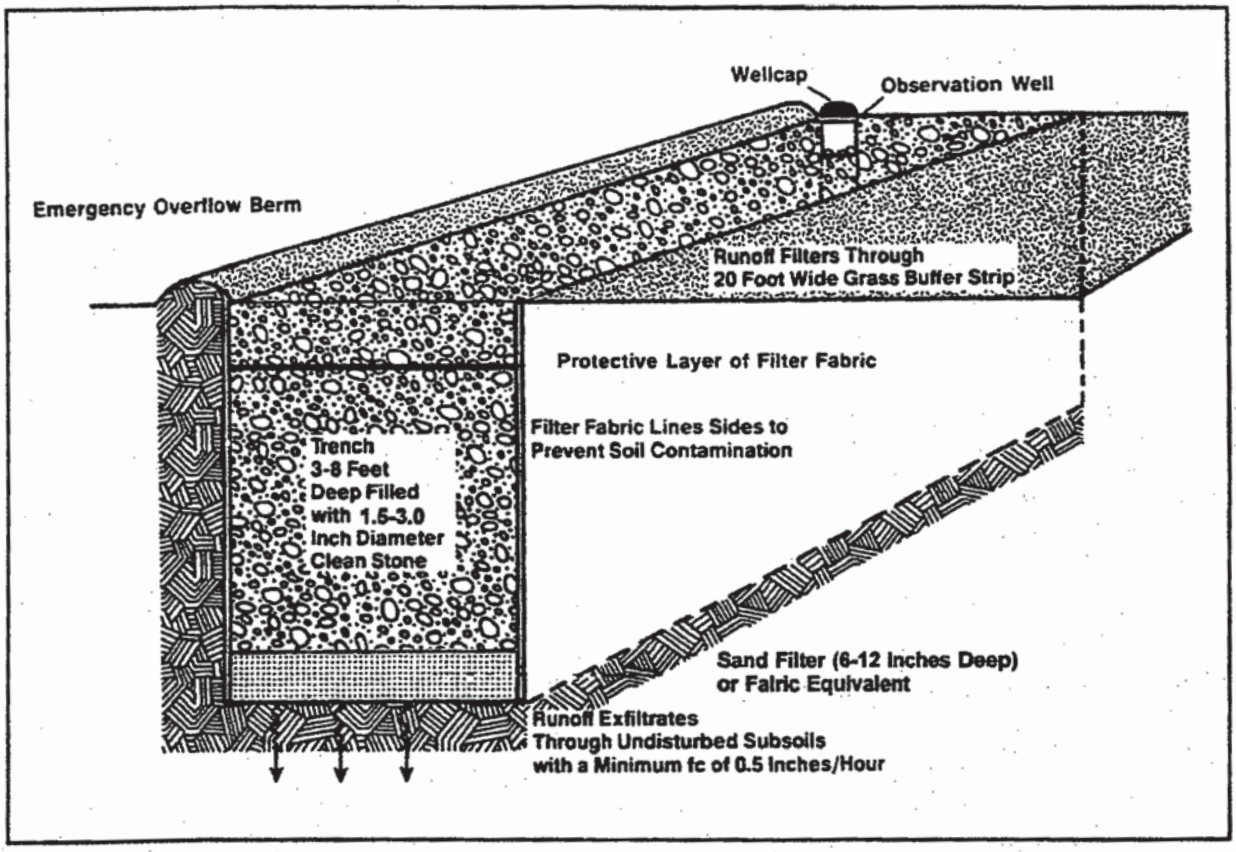
Design 1: First-flush runoff volume detained for 6-12 hours.
Design 2: Runoff volume produced by 1.0 inch, detained 24 hours.
Design 3: As in Design 2, but with shallow marsh in bottom stage.
Design 4: Permanent pool equal to 0.5 inch storage per impervious acre.
Design 5: Permanent pool equal to 2.5 (Vr); where Vr=mean storm runoff.
Design 6: Permanent pool equal to 4.0 (Vr); approx. 2 weeks retention.
Design 7: Facility exfiltrates first-flush; 0.5 inch runoff/imper. acre.
Design 8: Facility exfiltrates one inch runoff volume per imper. acre.
Design 9: Facility exfiltrates all runoff, up to the 2 year design storm.
Design 10: 400 cubic feet wet storage per impervious acre.
Design 11: 20 foot wide turf strip.
Design 12: 100 foot wide forested strip, with level spreader.
Design 13: High slope swales, with no check dams.
Design 14: Low gradient swales with check dams.

SECTION V

INFILTRATION TRENCHES

Infiltration trenches are an adaptable BMP that effectively remove both soluble and particulate pollutants. As with other infiltration systems, trenches are not intended to trap coarse sediments. Grass buffers (for surface trenches) or special inlets (for underground trenches) must be installed to capture sediment before it enters the trench. Depending on the degree of storage/exfiltration achieved, trenches can provide groundwater recharge, low flow augmentation and localized streambank erosion control. Individual trenches are primarily an on-site control, and are seldom practical or economical on sites larger than 5 or 10 acres. Trenches are only feasible when soils are permeable and the water table and bedrock are situated well below the bottom of the trench. Aside from regular inspections and more rigorous sediment and erosion control, trenches have limited routine maintenance requirements. However, trenches will prematurely clog if sediment is not kept out before, during and after construction of a site. If a trench does become severely clogged, partial or complete replacement of the structures may be required.

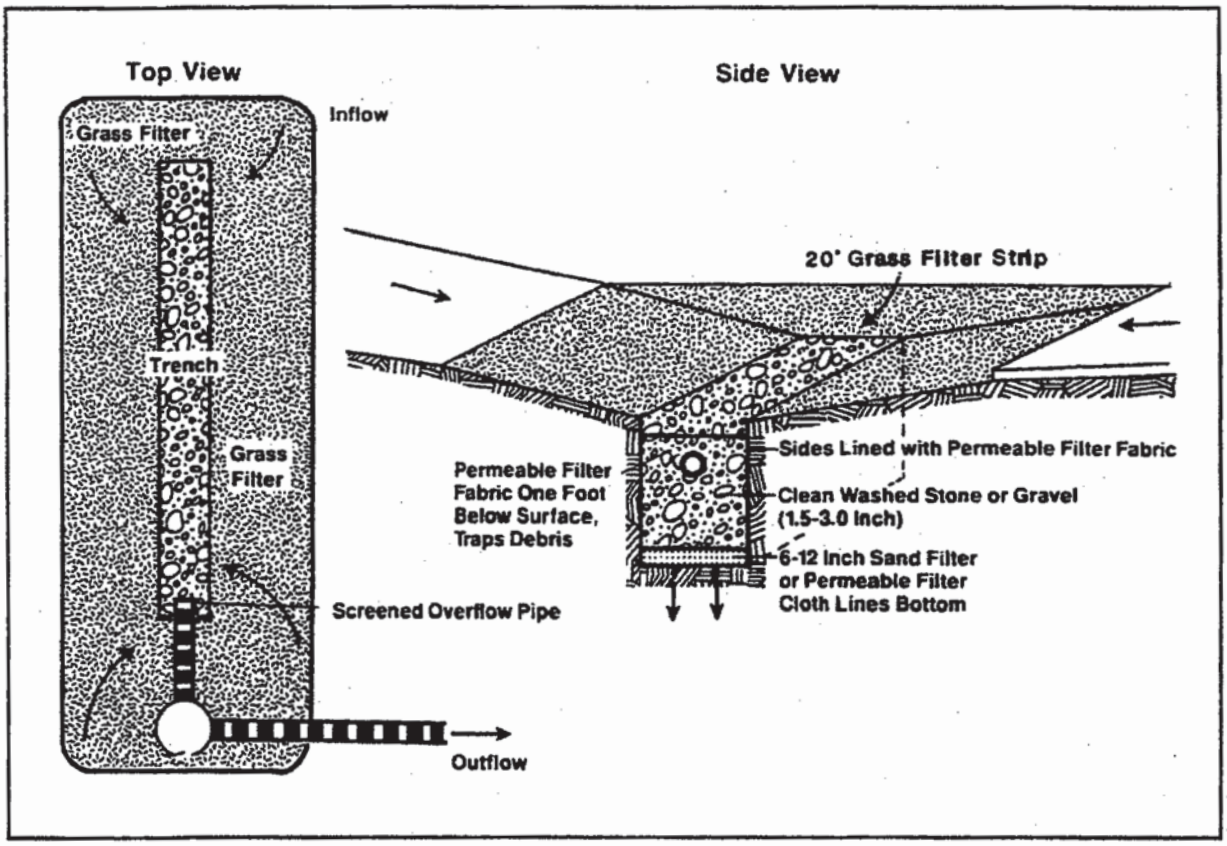
FIGURE 1: Schematic of an Infiltration Trench



DESIGN 1:

Median Strip Design (Figure 2). This design is frequently used for highway median strips and parking lot "islands" (depressions in between two lots or adjacent sides of one lot). Sheet flow is accepted from both sides of the trench, and is filtered through a 20-foot wide grassed buffer strip. The strip is an integral part of the trench, and should be graded to have a uniform slope not greater than 5%, and should directly abut the contributing impervious area. Berms located on each side of the strip form a shallow depression that temporarily store runoff before it enters the trench. An overflow pipe is used to pass excess runoff.

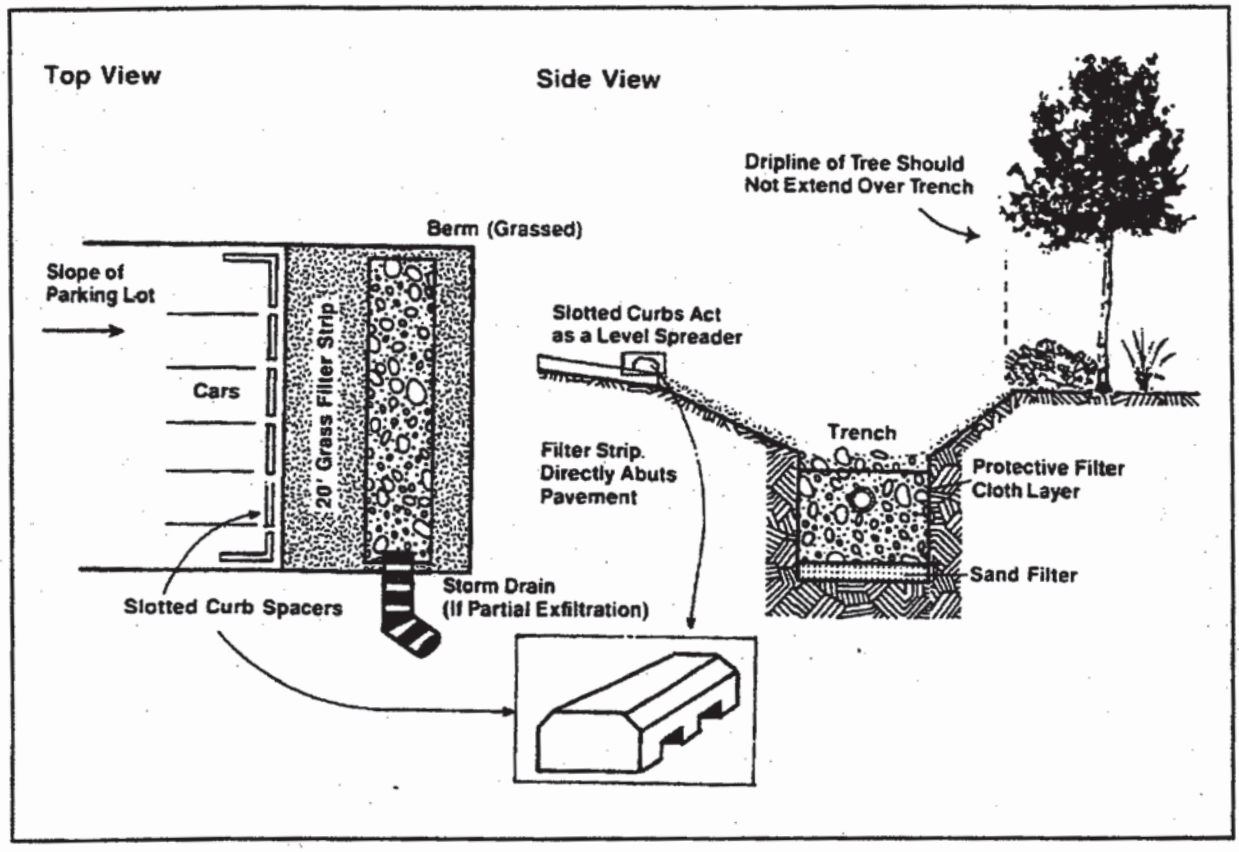
FIGURE 2: Median Strip Trench Design



DESIGN 2:

Parking Lot Perimeter (Figure 3). This design accepts sheet flow from the lower end of a parking lot. Slotted curb spacers are used as level spreaders to route sheet flow from the parking lot over the 20-foot wide filter strip (and also keep cars from damaging the strip). After being filtered over the grass strip, runoff enters the surface of the trench. A shallow berm is installed at the far end of the trench to ensure that runoff does not escape. The trench should have an overflow to pass large design storms, such as a PVC pipe with holes drilled on its underside, set near the top of the trench.

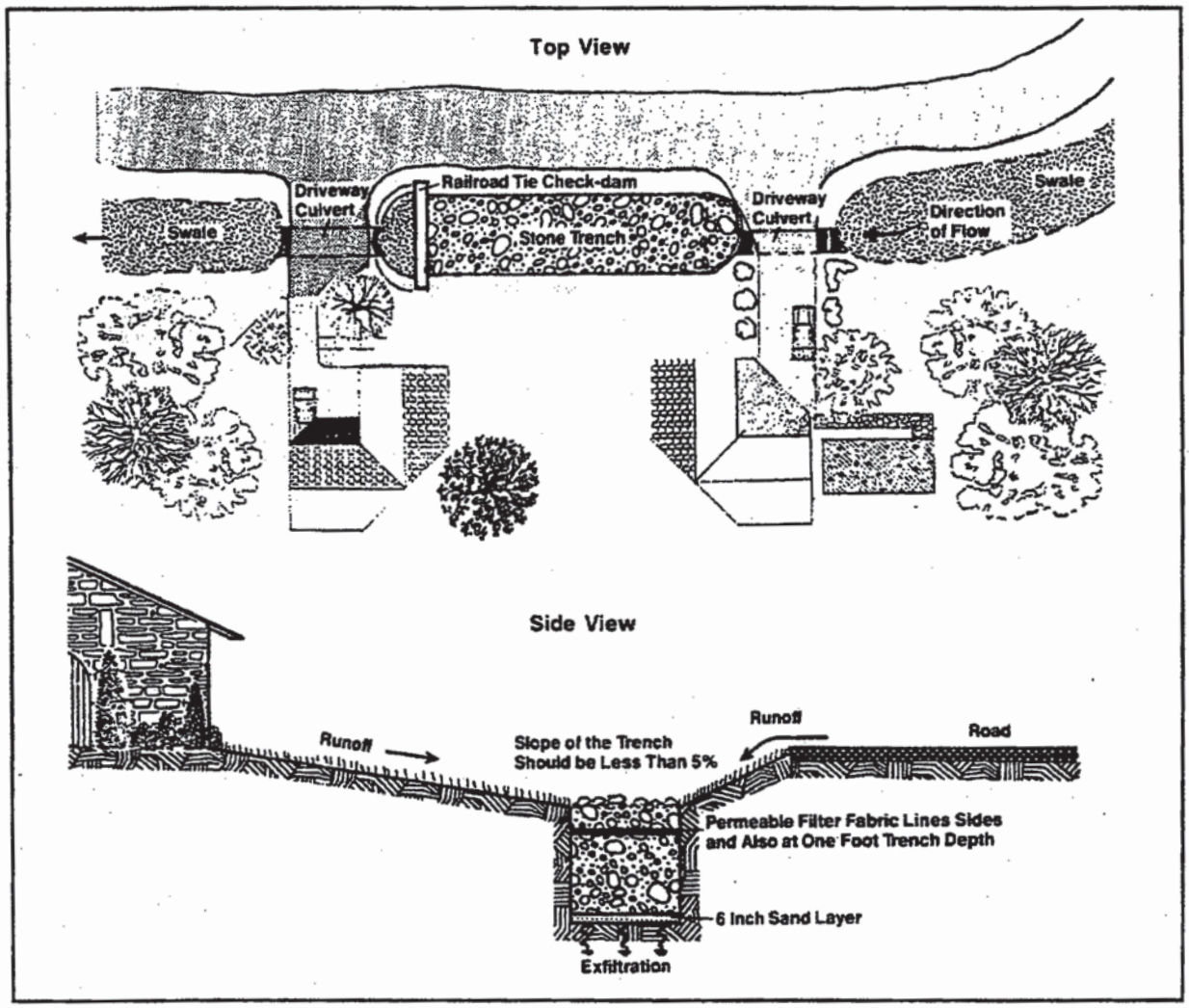
FIGURE 3: Parking Lot Perimeter Trench Design



DESIGN 3:

Swale Designs (Figure 4). Low density residential runoff (5-15% impervious) can be treated through a series of surface trenches located in swale drainage systems. The major design requirement is that the longitudinal slope of the swale collection system should never exceed 5%. Otherwise, concentrated flows will develop that might erode the swales and contaminate the trench. In addition, concentrated flows may pass around or over the surface of the trench and never infiltrate. An earthen check dam or railroad tie placed perpendicularly to the flow path, on the downstream side of the trench, can prevent "short-circuiting" and increase the volume of runoff exfiltrated by the trench. The slope of the trench should be as close to zero as feasible, and should have sideslopes of 5:1 (h:v) or less.

FIGURE 4: Swale/Trench Design



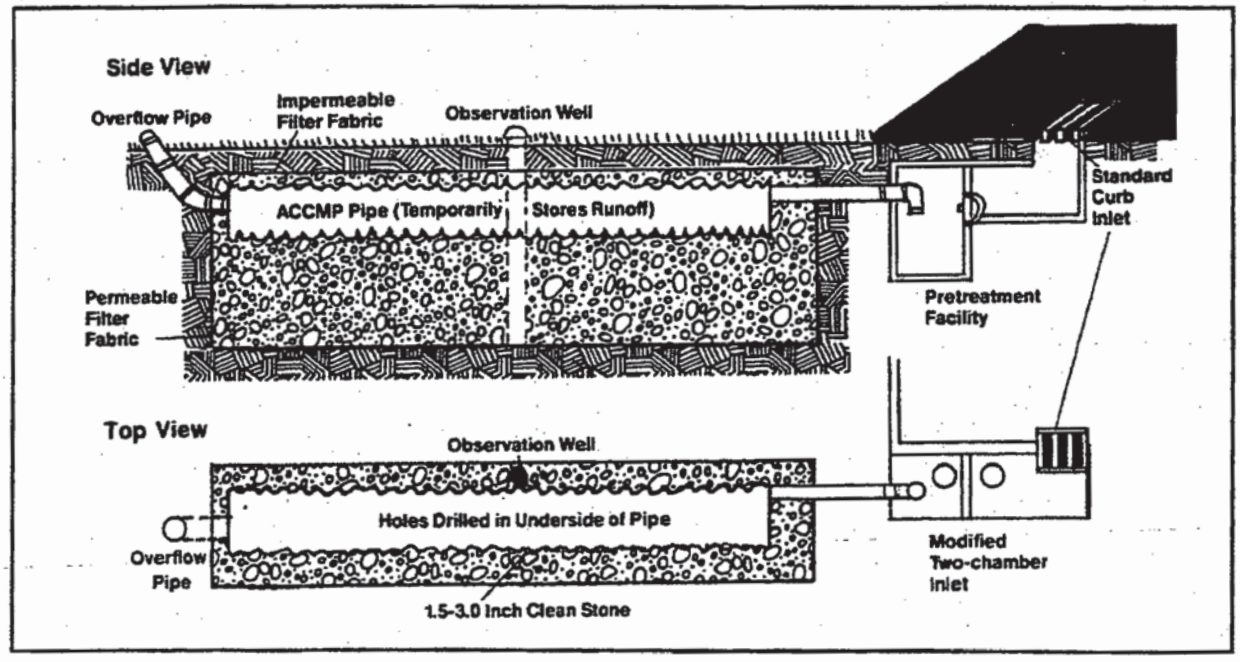
UNDERGROUND TRENCH APPLICATIONS

Underground trenches can be applied in a variety of development situations, and are particularly suited to accept concentrated runoff. However, it is important to pretreat concentrated runoff before it enters underground trenches, and to evenly distribute it within the trench. The top of the trench is protected by a layer of impermeable geo-textile, and is covered by topsoil and planted with grass. While the aesthetics of underground trenches may be better than surface trenches, maintenance can be more difficult and costly (particularly, if the trench must be covered by pavement or concrete). Often "out-of-sight" means "out-of-mind". Consequently, underground trenches should only be installed when strong, enforceable maintenance agreements can be secured from the property owner.

DESIGN 1:

Oversized Pipe Trench (Figure 5). In some designs, an oversized corrugated metal pipe is placed within the trench. Holes are drilled through the pipe to allow runoff to drain to the stone reservoir and then into the subsoil. The oversized pipe is protected from clogging by a layer of filter fabric. The primary advantage of this approach is that it increases the available temporary storage of the trench (i.e., more void space is provided within the pipe than if it was occupied by stone aggregate). The feasibility of the oversized pipe approach is governed by the exfiltration rate of the subsoil, as the pipe must completely drain within 72 hours. As with other underground trench designs, runoff must be pretreated. A two-chamber inlet design is shown in Figure 5.

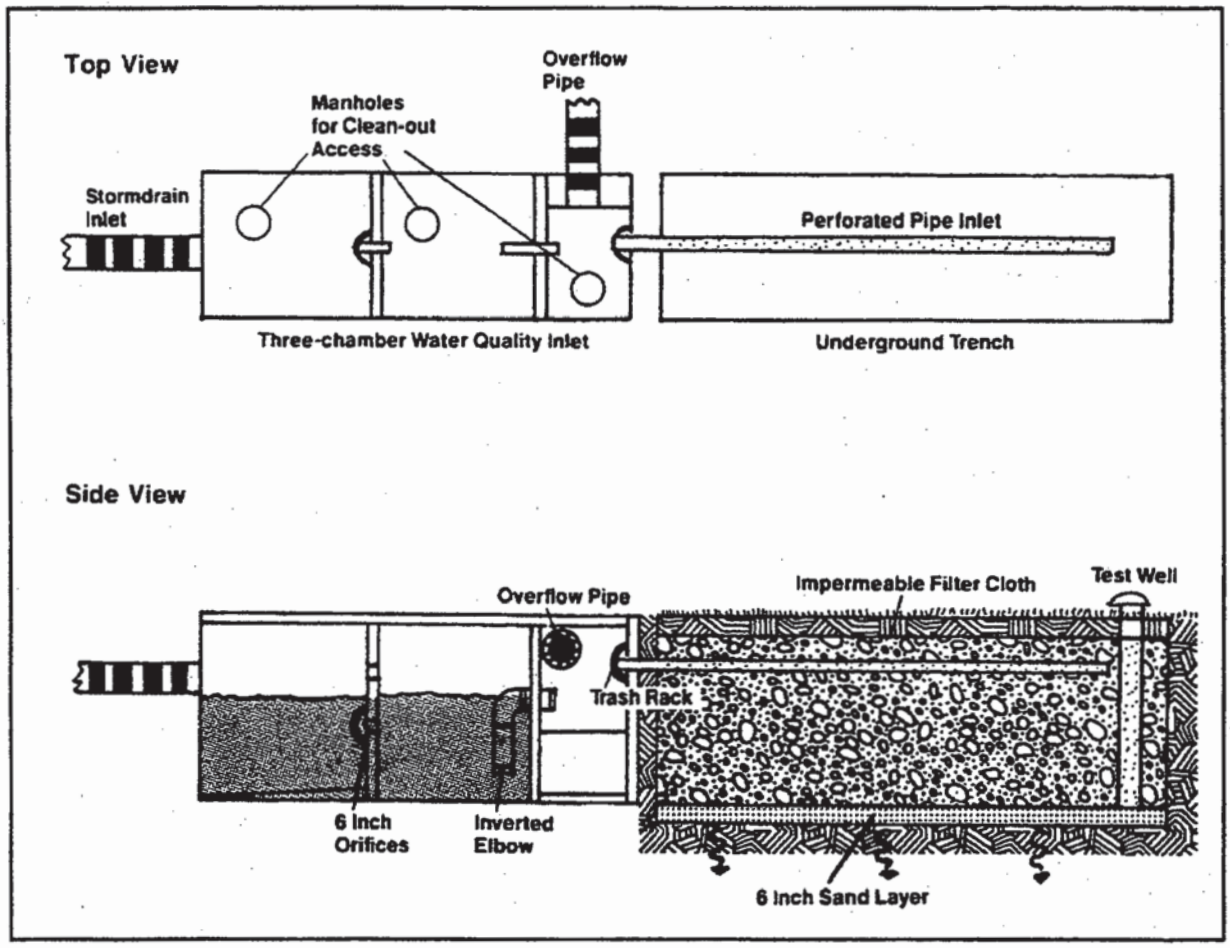
FIGURE 5: Oversized Pipe Trench Design



DESIGN 2:

Underground Trench with Oil/Grit Inlet (Figure 6). Commercial/ industrial parking lots produce significant loads of grit and oil that can and do rapidly clog the top of surface trenches, and also provide greater stormwater flows that must be collected by a storm drain. In those development situations, an oil/grit inlet may be used to pretreat the runoff before it enters the trench. Three chamber designs are popular, whereby the first chamber traps coarse sediment and litter, the second chamber separates out the oil and grease, and the third chamber serves as the inlet to the trench. If the trench is desired for either partial or water quality exfiltration, the third chamber must also have the capability to divert overflow to a storm drain network (see Water Quality Inlets section for more information). A perforated pipe extends along the top of the underground trench so the runoff can be evenly distributed across the stone reservoir.

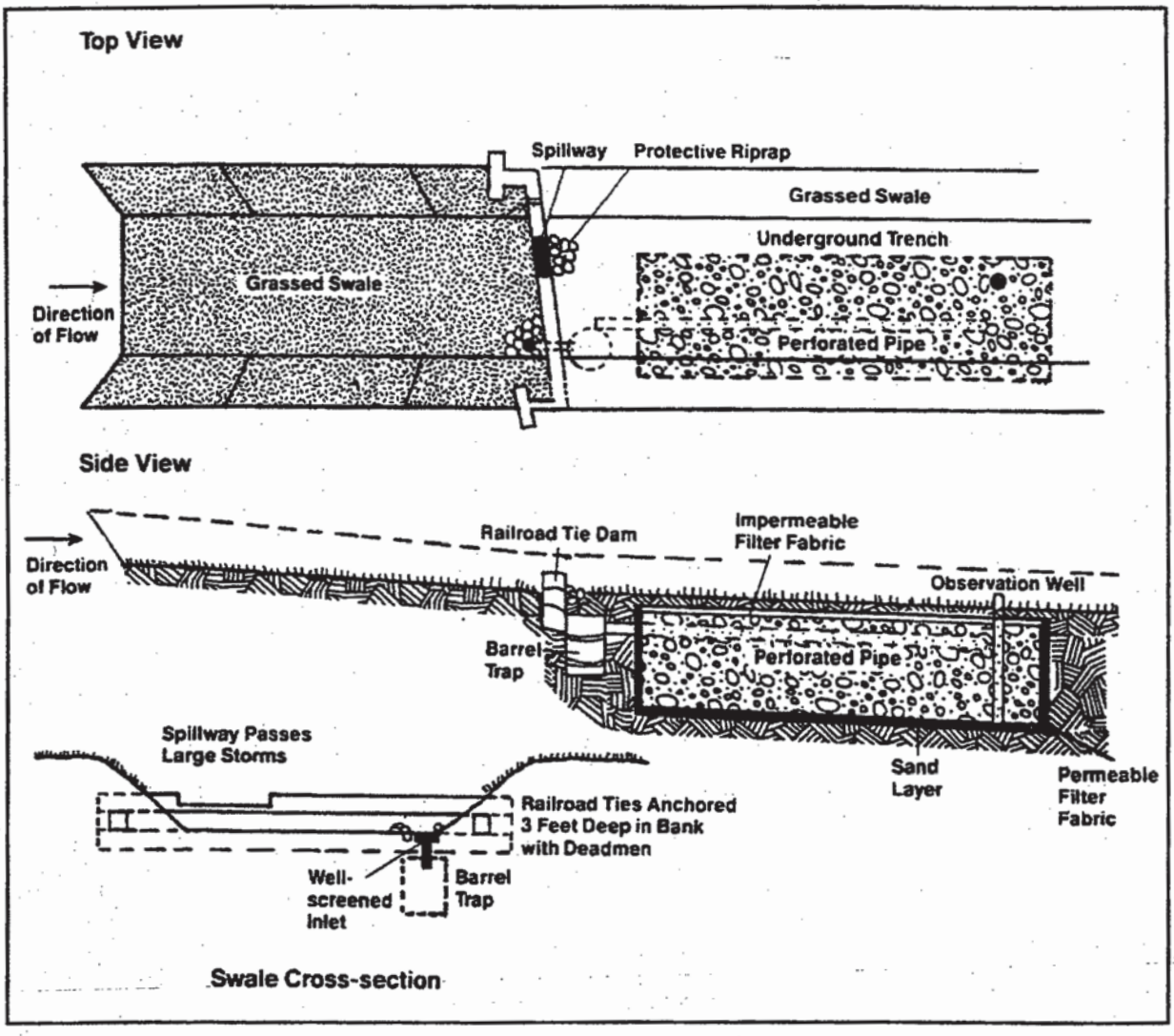
FIGURE 6: Underground Trench with Oil/Grit Chamber



DESIGN 3:

Under-the-Swale Design (Figure 7). A surface trench located in a swale may not always be a popular choice for nearby residents. An alternative approach is to place a railroad tie weir across the swale, drop a barrel inlet at the base of the weir to trap sediment, and extend a perforated pipe from the barrel and along the top surface of the trench to distribute runoff evenly. The top of the trench is then covered by at least two layers of nearly impermeable geo-textile, with a 6 to 12 inch layer of topsoil placed on top. After grass is established, only the test well and railroad tie weir will be visible to residents.

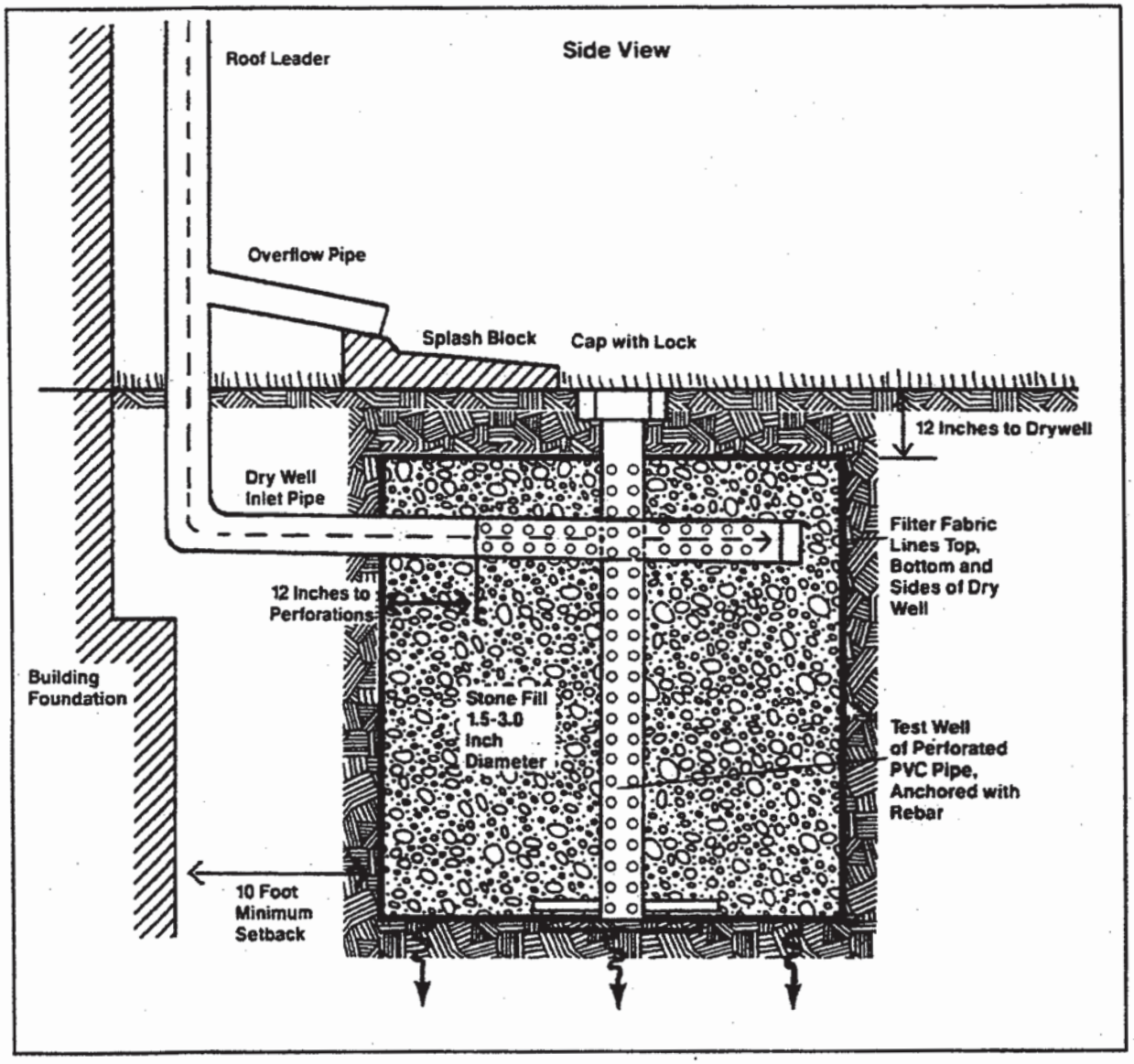
FIGURE 7: Under-the-Swale Trench Design



DESIGN 4:

Dry Well Designs (Figure 8). Dry wells are a basic trench variation which are designed exclusively to accept rooftop runoff from residential or commercial buildings. Additional guidance on dry well design is available from Md WRA (1984). Basically, the leader from the roof is extended into an underground trench, which is situated a minimum of ten feet away from the building foundation. Rooftop gutter screens are needed to trap any particles, leaves and other debris, and must be regularly cleared.

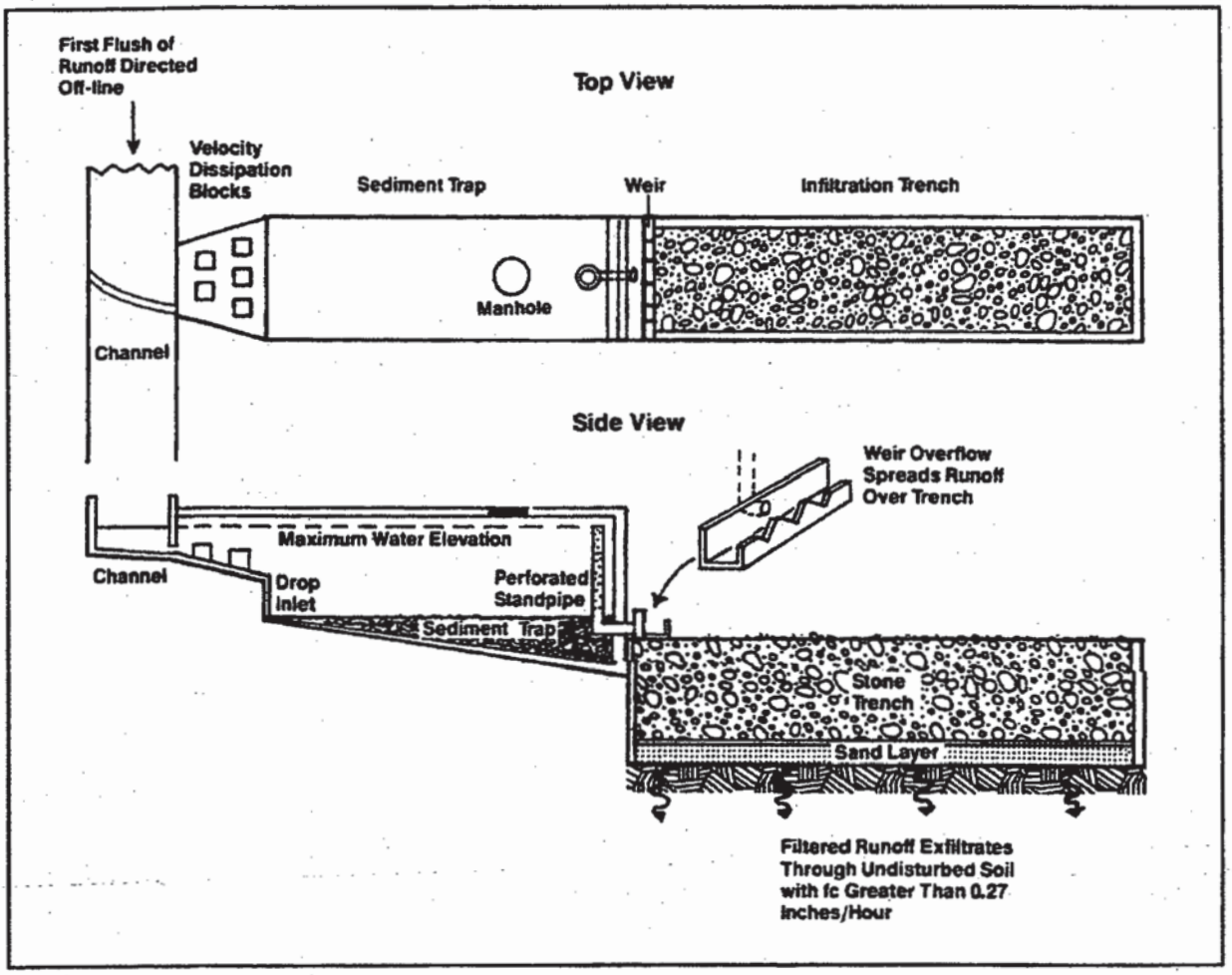
FIGURE 8: Dry Well Design (Adapted from Md WRA, 1986)



DESIGN 5:

Off-Line Trench System Designs (Figure 9). Several designs have been originated in Texas (Austin DPW, 1986) that utilize a combination of off-line sediment traps, sand filters and infiltration trenches to treat the first flush of runoff. In one design, a weir is placed across a natural or man-made channel that diverts runoff into an off-line sediment trap. After sediment drops out, the runoff enters a vertical perforated pipe that drains to a level-spreading weir. Runoff then passes over a sand filter to remove any fine particulates or grease remaining in the runoff. After percolating through the sand filter and a layer of permeable filter fabric, runoff is stored in a gravel or stone reservoir, and then exfiltrated into the subsoil (alternatively, runoff from the gravel or stone reservoir can be collected by an underdrain network and be returned to the stream). Some general sizing rules for the area of the sediment trap and trench surface area adapted from Austin DPW (1986) are shown in Figure 9.

FIGURE 9: Off-line Trench System Design



DESIGN SUMMARY: INFILTRATION TRENCHES

- **SITE ELEVATION**:
  Soils must be tested prior to design to determine whether infiltration is feasible for a site. Soil borings should be taken to a depth at least five feet below the anticipated bottom of the trench to check for soil infiltration capability, depth to seasonally high water table, and bedrock level. The minimum field infiltration rate (fc) of the underlying soils should be greater than 0.27 inches/hour.

- **WATERSHED SIZE**:
  The watershed area contributing to each trench should not exceed 5 acres.

- **DEGREE OF EXFILTRATION**:
  To achieve significant pollutant removal, at least ½ inch of runoff per contributing impervious acre should be exfiltrated into the underlying soils. A more efficient design will accommodate the runoff produced from a 1 inch storm over the contributing watershed.

- **CONSTRUCTION**:
  All trenches should be excavated using light equipment, taking care not to compact the underlying soils used for exfiltration. The sides of the trench should be lined with filter fabric to prevent the entry of sediment into the trench. A 6-inch layer of sand or filter fabric should be used to line the bottom of the trench. Clean, washed stone aggregate, 1.5 to 3.0 inches in diameter, should be used for fill, although wash pea-gravel may be an unacceptable alternate in some cases.

- **PRETREATMENT OF RUNOFF**:
  To prevent premature clogging of trenches, sediment, grit, and oil must be removed by a pre-treatment facility before they enter a trench. For surface tenches, a minimum 20-foot wide grass buffer is required as a filter. In addition, a layer of filter fabric placed 1 foot below the surface of the trench can be used to trap sediments that get through the grass buffer. Pretreatment technologies for underground trenches include barrel inlets, water quality inlets, and modified catch basins.

- **MAXIMUM DRAINING TIME:**
  All trenches should be designed to completely drain within 72 hours after the design exfiltration event. This enables the underlying soils to dry out (improving pollutant removal capability) and frees up storage capacity for the next storm. On sites with soils of marginal infiltration capacity (silt loams, loams), it may be advisable to design trenches to drain within 48 hours. This is done by maximizing the surface area of the trench floor, or reducing the depth of the trench, or both.

- **MINIMUM DRAINING TIME:**
  Partial exfiltration trenches should be designed so that all available storage space in the trench is filled before runoff is collected by the underdrain and routed out of the facility. This can be done by installing a perforated pipe (with holes drilled through the bottom) near the top of the trench to collect excess runoff. Perforated underdrains situated at the bottom of the trench may become too efficient at collecting runoff, and thus reduce pollutant removal.

- **OBSERVATION WELLS:**
  An observation well, consisting of a well-anchored vertical perforated PVC pipe, should be installed in every trench to monitor its performance. The well should be checked several times within the first few months after construction, by recording trench water depth at 0, 24 and 48 hours after a storm. The clearance rate of runoff (inches/hour) in the trench can be calculated by dividing the drop in water level (inches) by the time elapsed (hours) from the end of the storm. A measurement of trench clearance rate should be taken during each annual maintenance inspection. A series of such measurements over the years provides an excellent means of tracking any clogging within the trench.

- **EROSION CONTROL:**
  Trenches should not be constructed until the entire upland contributing area has been stabilized (i.e., after construction is completed). The planned area for the trench should be roped off to prevent compaction by heavy equipment. During construction, sediment and erosion controls such a diversion berms, for example, should be used to keep sediment and runoff completely away from the trench site.

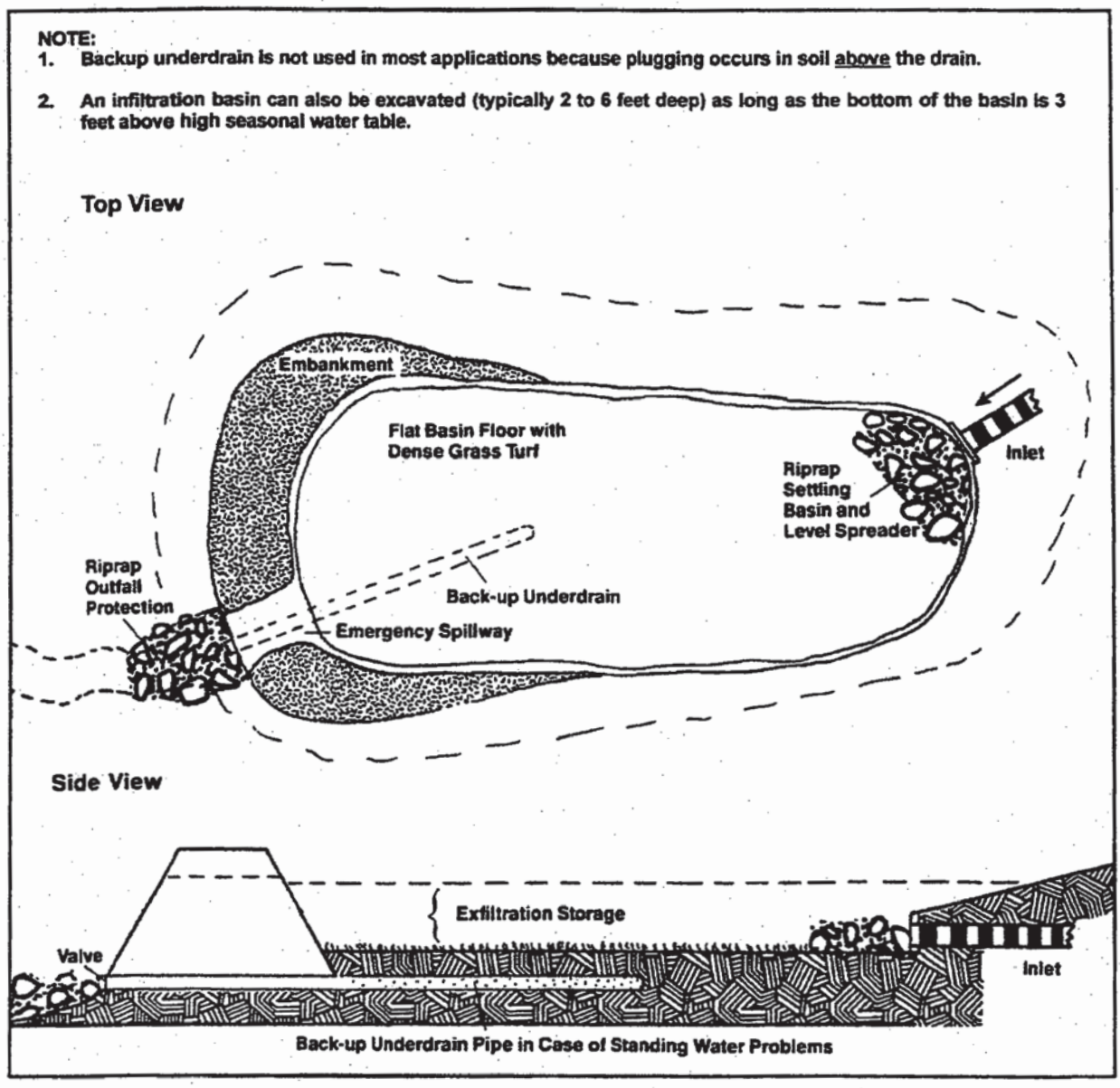
- **ANNUAL MAINTENANCE:**
  A legally enforceable and binding maintenance agreement should be included in the property deed for each trench that clearly spells out maintenance tasks and schedules. Annual public sector inspections should be conducted to check on the performance of the trench and the required maintenance tasks. These include maintaining a dense grass buffer strip for surface trenches, removing accumulated sediments within the pre-treatment devices of underground trenches, and partially or totally reconstructing the trench in the event of clogging.

SECTION V

INFILTRATION BASINS

Infiltration basins are effective in removing both soluble and fine particulate pollutants borne in urban runoff. Coarse-grained pollutants should generally be removed before they enter a basin. Unlike other infiltration systems, basins can be easily adapted to provide full control of peak discharges for large design storms. Also, basins can serve relatively large drainage areas (up to 50 acres). Depending on the degree of storage/exfiltration achieved in the basin, significant groundwater recharge, low flow augmentation and localized streambank erosion control can be achieved.

FIGURE 1: Schematic of an Infiltration Basin



Basins are a feasible option where soils are permeable and the water table and bedrock are situated well below the soil surface. Both the construction costs and maintenance requirements for basins are similar to those for conventional dry ponds. Infiltration basins do need to be inspected regularly to check for standing water. Experience to date has indicated that infiltration basins have one of the higher failure rates of any BMP.

Advantages of infiltration basins are that they preserve the natural water balance of the site, can serve larger developments, can be used as sediment basins during the construction phase, and are reasonably cost effective in comparison with other BMPs. Disadvantages of infiltration basins include a fairly high rate of failure due to unsuitable soils, the need for frequent maintenance, possible nuisances (e.g., odors, mosquitos, soggy ground), and some practical design problems.

INFILTRATION BASIN DESIGNS

A schematic of an infiltration basin is shown in Figure 1. The appearance and construction of infiltration basins is similar in many respects to conventional dry ponds. An impoundment is forced by excavation or by constructing an embankment. The impoundment stores a defined quantity of runoff, allowing it to slowly exfiltrate through the permeable soils of the basin floor. The floor is graded as flat as possible and a dense turf of grass is established to promote infiltration and bind up deposited sediments. Additional storage can be provided in the basin for temporary detention of the larger runoff volumes associated with the two year and/or ten year design storm, utilizing a conventional riser. An emergency spillway is used to pass runoff volumes in excess of the design storm controlled.

While simple in concept, infiltration basins do present some practical problems from a design standpoint. Problems emerge because infiltration methods are not very good at handling the concentrated flows and sediment loads that are generated from larger watersheds. Thus, basin design must incorporate measures that:

1. Trap excess loads of coarse grained sediment before they enter the basin and clog the surface soil pores on the basin floor.

2. Route design storm flows through the basin without scouring or eroding the basin floor.

3. Route base flow (if any exists) rapidly through the basin to prevent ponding or standing water.

4. Distribute storm runoff volume evenly over the floor of the basin to maximize exfiltration rates.

5. Provide a backup drainage system should the infiltration capacity of the basin fail.

Some variations in infiltration basin design that address these problems are discussed ahead.

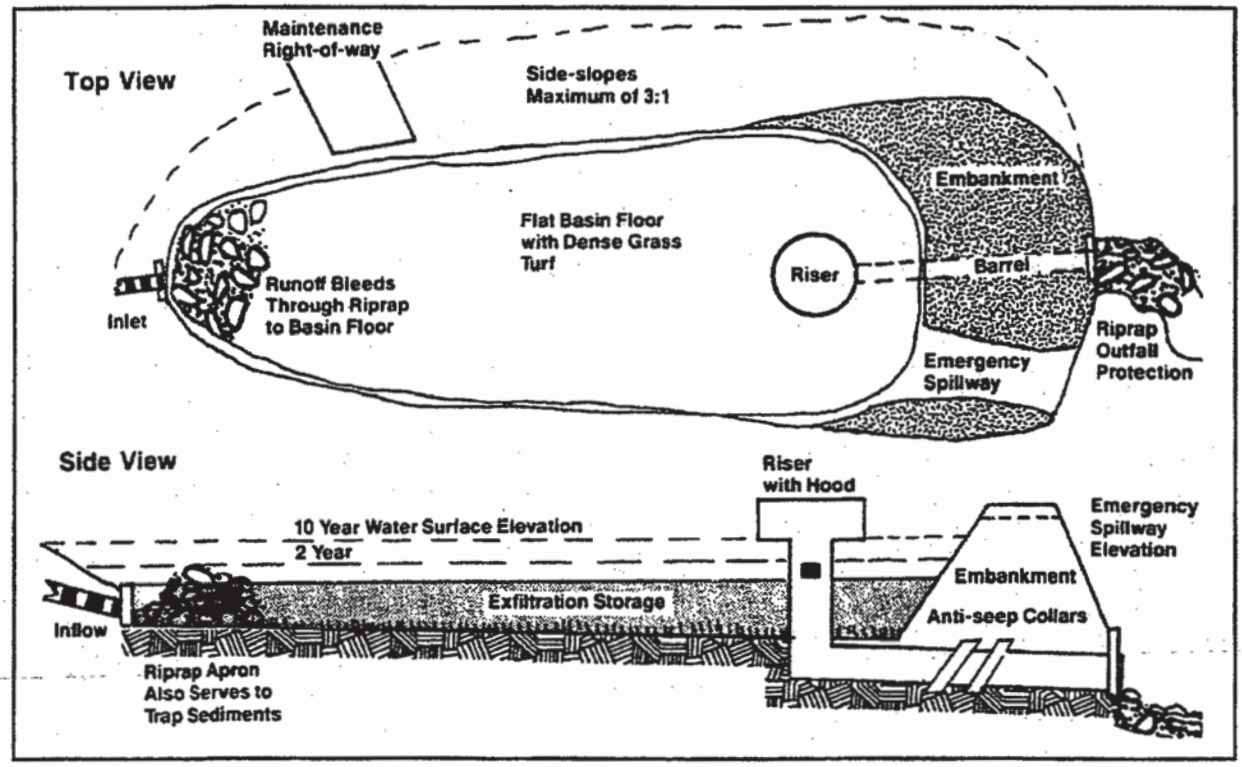
Full Infiltration Basin

This simple design is commonly used on sites with extremely permeable soils. The basin is sized to accommodate the entire runoff volume associated with the two year design storm, and the only outlet from the pond is an emergency spillway which passes larger storm events (Figure 1). A riprap apron is needed near the inlet to reduce incoming runoff velocities to promote more uniform infiltration. Otherwise, this rudimentary design has no other features for routing stormflow or baseflow through the structure. Consequently, the use of a full infiltration basin is generally restricted to smaller watersheds (5 to 20 acres) that do not have concentrated, erosive flows.

Combined Infiltration/detention Basin

This design is one of the more common infiltration basin designs in use today (Figure 2). Runoff entering the top of the basin is first trapped in a modified riprap settling basin. Coarse sediment drops out, and the remaining runoff filters through the riprap apron and is spread out over the level basin floor. The depth of runoff in the basin is controlled by a vertical riser. The 2 year control orifice is place several feet above the bottom of the pond, creating a zone of dead storage. The runoff within the dead storage zone will be completely exfiltrated. If any base flow exists, a low flow channel should be installed to pass it rapidly through the basin.

FIGURE 2: Combined Infiltration/Detention Basin Design



Runoff volume in excess of the dead storage volume drains through the low flow orifice, while the very large runoff volumes associated with the design storm spills over the drop inlet at the top of the riser. Extremely large storms (such as the 10 or 100 year storm) are routed through the basin and discharged via the emergency spillway. If the basin is located over soils with marginal infiltration capacity, it may be prudent to extend some capped underground perforated pipes from the riser to drain the basin floor in the event that exfiltration rates are overestimated. The pipes can then be uncapped later if it is found that the basin suffers from chronic standing water problems or local groundwater mounding.

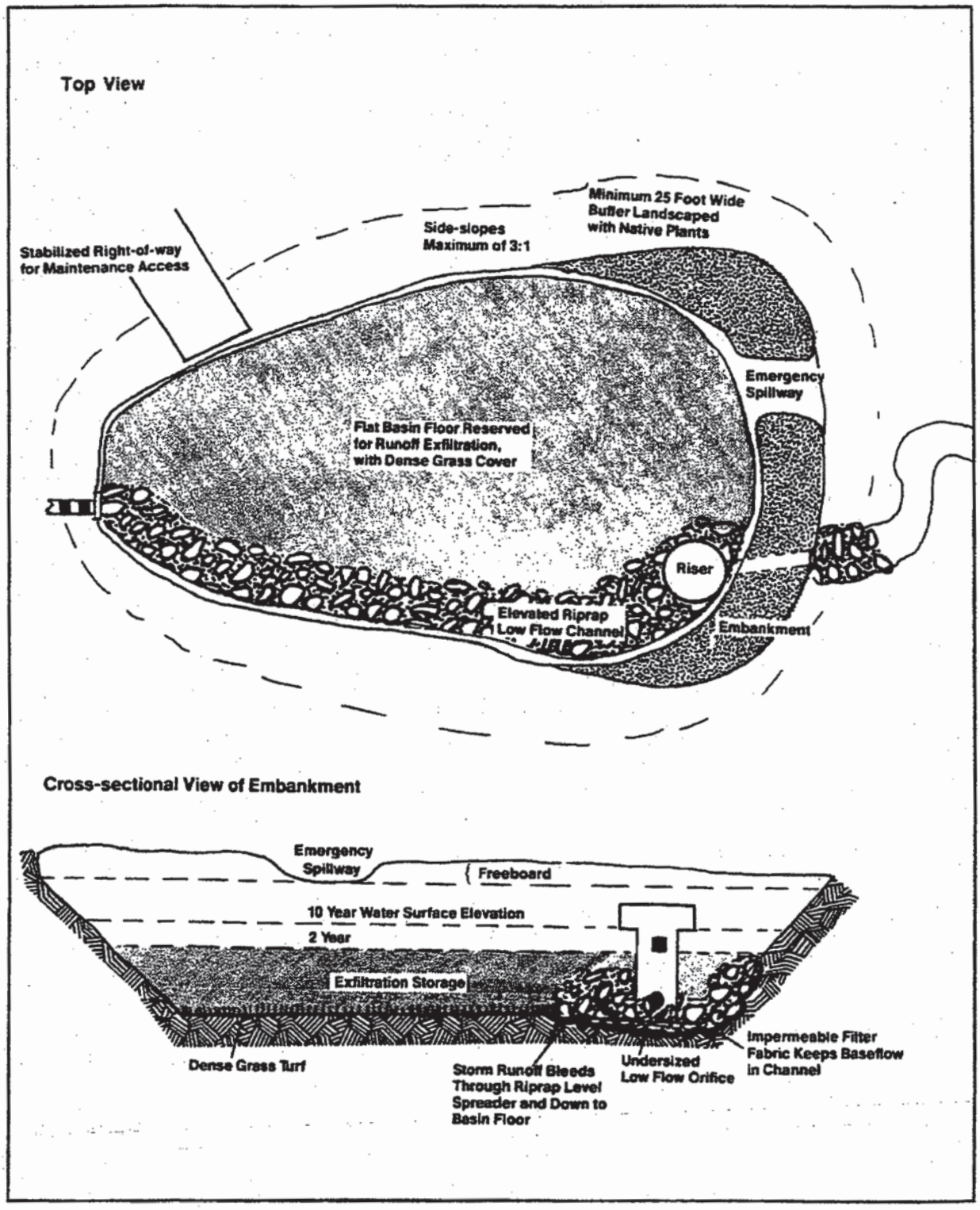
This basic design can be applied to serve most residential and commercial developments. However, it must be modified if the basin is expected to receive a sustained input of base flow or large sediment loads.

Side-by-side Basin

The design of larger infiltration basins must address the tricky problem of routing small baseflow and large storm flows through the basin, while still providing good exfiltration capability for small and moderate sized storm events. One solution is a side-by-side design (Figure 3), wherein a riprap pilot channel is constructed along one margin of the basin and extends all the way to the riser. The pilot channel is elevated several feet above the basin floor. Baseflow is confined to the pilot channel (by a layer of impermeable geo-textile) and travels directly to an undersized low flow orifice at the base of the riser and then out of the basin.

Stormflow pulses are also directed through the pilot channel. However, once incoming storm flows reach a given depth they are no longer confined by the impermeable geo-textile, and may leak through the riprap and down across the basin floor. Storm runoff that does travel all the way to the riser is then diverted down a riprap bench and back into the basin floor. The invert of the low flow orifice is set to form a dead storage zone down to the basin floor that stores the equivalent of the first flush runoff volume.

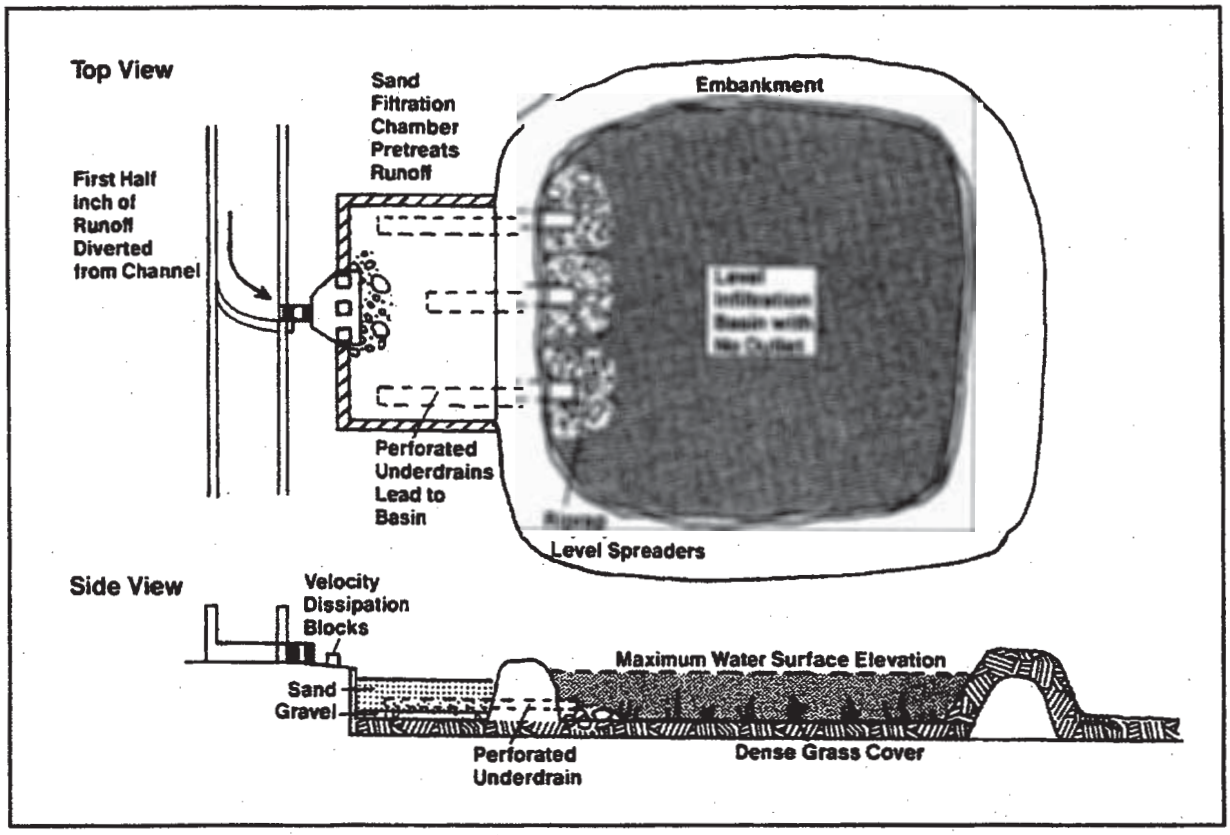
FIGURE 3: Side-by-Side Infiltration Basin Design



Off-line Infiltration Basins

Off-line designs are used to divert and exfiltrate the first flush runoff volume from a storm sewer or surface channel. They are particularly useful in development situations where exfiltration cannot be achieved by a downstream stormwater detention facility due to soil limitations. An off-line design modified from Austin DPW (1986) is shown in Figure 4. This design utilizes a combination of an off-line sand filter and infiltration basin to treat the first flush runoff volume. A weir is placed across a natural or man-made channel that diverts runoff into an off-line sand filter. After percolating through the sand filter, runoff is collected by underdrains which lead to a level, vegetated infiltration basin. This is a particularly appropriate design for sites that drain land uses which produce high sediment or hydrocarbon loads.

FIGURE 4: Off-line Infiltration Basin Design



DESIGN SUMMARY: INFILTRATION BASINS

- **SITE EVALUATION:**
  Soils must be tested prior to design to ensure that the site is capable of infiltration. Since soil characteristics vary spatially, a minimum of three soil borings and/or trenchings should be made within the basin. Each core should extend at least five feet below the anticipated floor of the basin. Soils within this zone (0 to 5 feet below basin floor) should have a minimum field infiltration rate of 0.5 inches/hr (fc), and be above the seasonally high water table and bedrock level. Basins should never be constructed over fill soils.

- **WATERSHED SIZE:**
  Full exfiltration basins can be applied on small watersheds (5 to 25 acres) that do not have a permanent source of base flow. Infiltration/detention basins can be used on larger watersheds (up to 50 acres) if there is a design feature for routing base flow through the structure without infiltrating (side-by-side design).

- **DEGREE OF EXFILTRATION:**
  To achieve significant pollutant removal and downstream channel protection, the basin should be capable of completely exfiltrating the first ½ inch of runoff per contributing impervious acre. When possible, even greater quantities of exfiltration are preferable.

- **SHAPE OF BASIN:**
  The floor of the basin should be graded as flat as possible to permit uniform ponding and exfiltration. Low spots and depressions should be leveled out. Side-slopes leading to the floor should have a maximum slope of 3:1 (h:v) to allow for easier mowing and better bank stabilization.

- **CONSTRUCTION:**
  The basin should be excavated with light equipment equipped with tracks or over-sized tires to minimize compaction of the underlying soils. After the basin is excavated to the final design elevation, the floor should be deeply tilled with a rotary tiller or disc harrow to restore infiltration rates, followed by a pass with a leveling drag. Vegetation should be established immediately. The riser, embankment, and emergency spillway should be sized and constructed to the normal specifications for conventional ponds.

- **VEGETATION:**
  The floor of the basin should be stabilized by a dense turf of water tolerant reed canary grass or tall fescue, immediately after basin construction. The grass turf promotes better infiltration, pollutant filtering, and prevents erosion of the basin floor.

- **BASIN INLETS:**
  All basins should have sediment forebays or riprap aprons that dissipate the velocity of incoming runoff, spread out the flow and trap sediments before they reach the basin floor.

- **INLET/OUTLET INVERT ELEVATIONS:**
  The storm drain inlet pipe (or channel) leading to the basin should discharge at the same invert elevation as the basin floor. Similarly, the low flow orifice in infiltration/ detention basins should be set at the same elevation as the basin floor to prevent base flow from ponding and thus impeding the function of the basin.

- **MAXIMUM DRAINING TIME:**
  As a general rule, the depth of storage should be adjusted so that the basin completely drains within 72 hours. On sites with marginal soils, or basins with a large floor, it is prudent to design the basin to drain within 48 hours. This can be accomplished by increasing the surface area of the basin floor, or by reducing the depth of storage, or both.

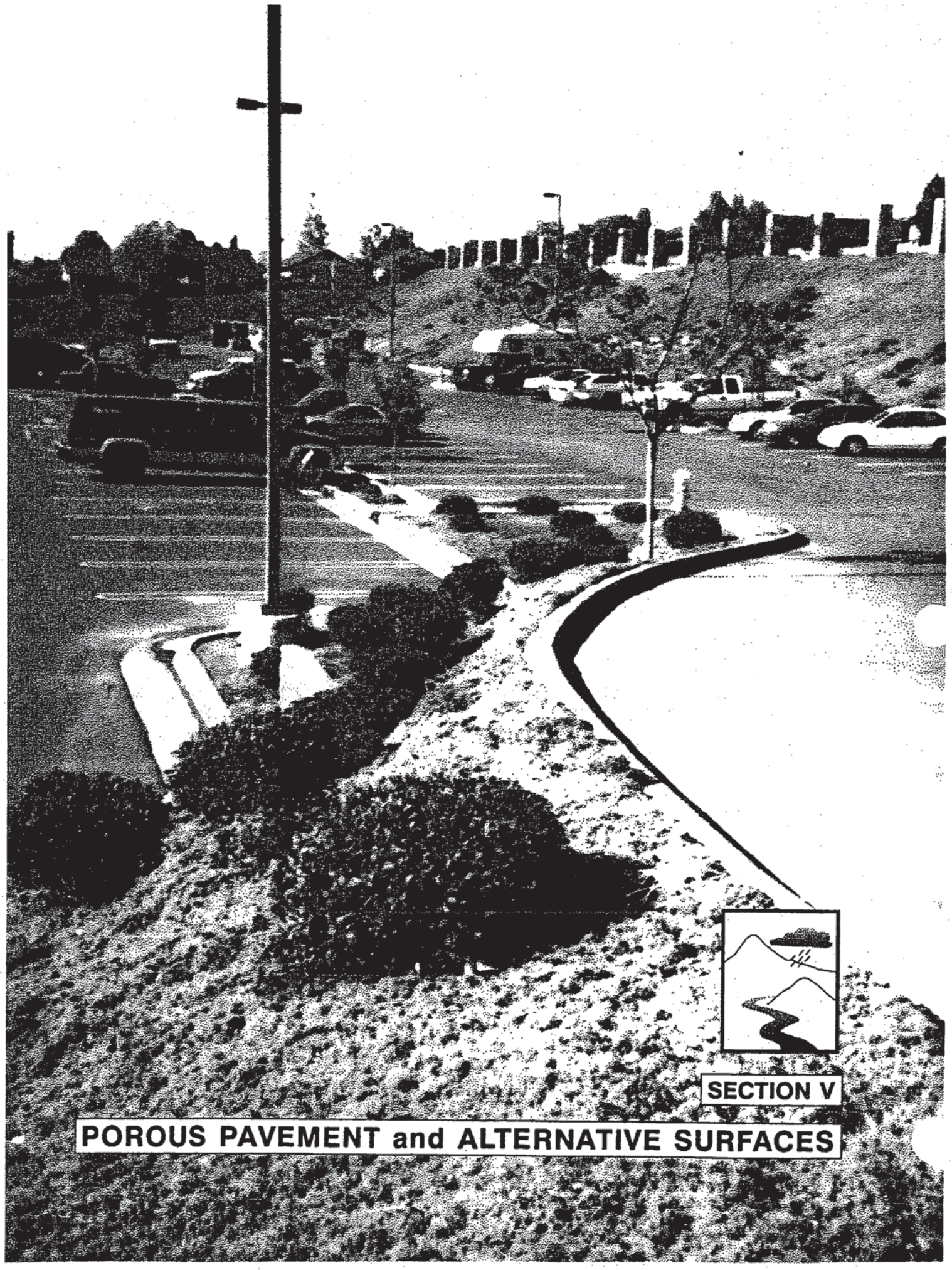
- **BASIN BUFFER:**
  A minimum buffer of 25 feet from the edge of the basin floor to the nearest adjacent lot should be reserved. A landscaping plan should be prepared for the basin buffer that emphasizes the use of low maintenance, water tolerant, native plant species that provide food and cover for wildlife, and when necessary, can act as a screen.

- **INSPECTIONS:**
  The change in standing water depth above the basin floor over time should be checked after each major storm in the first few months after basin construction to monitor exfiltration rates. Similar tests should be conducted annually to gage the degree of surface clogging that may occur over the years, and to help in scheduling restorative deep tilling operations.

- **EROSION CONTROL:**
  Infiltration basins can be used as temporary sediment control basins during the construction phase, as long as at least two feet or original soil is preserved (that will be excavated later for the basin). As with all infiltration facilities, upland construction areas should be completely stabilized prior to permanent basin construction.

- **ACCESS:**
  Adequate access to the basin floor should be provided for public or private right-of-way that can withstand light equipment. Such access should be at least 12 feet wide, and should not cross the emergency spillway.

- **MAINTENANCE:**
  Maintenance responsibilities should be clearly vested, and funds reserved for both routine and non-routine maintenance tasks. Wet weather inspections, with as-built plans in hand, should be conducted annually. The basin floor is best maintained as wet meadow, and should be mowed twice a year to prevent woody growth. If standing water becomes a problem over time due to gradual surface clogging, infiltration rates can be restored by deep tilling operations. If tilling does not solve the problem, it may be necessary to convert the basin into a wet pond or shallow marsh, or install underdrains to collect the water.



SECTION V

POROUS PAVEMENT and ALTERNATIVE SURFACES

POROUS PAVEMENT

Porous pavement has a high capability to remove both soluble and fine particulate pollutants in urban runoff, and also provides groundwater recharge, low flow augmentation, and a streambank erosion control. Its use is generally restricted to low volume parking areas, although it can accept runoff from rooftop storage or adjacent conventionally paved areas. As a BMP, porous pavement is only feasible on sites with gentle slopes, permeable soils, and relatively deep water table and bedrock levels. When these conditions are met, porous pavement is a reasonably cost effective BMP, particularly if off-site runoff contributions are not great.

When properly designed and carefully installed, porous pavement has load bearing strength, longevity, and maintenance requirements similar to conventional pavement. Some other advantages of porous pavement are reduced land consumption, reduction or elimination of the need for curb and gutters and downstream conveyance systems, the preservation of the natural water balance at the site, and a safer driving surface which offers better skid resistance and reduced hydroplaning.

The major drawback associated with porous pavement is that if it becomes clogged it is difficult and costly to rehabilitate. The risk of premature clogging of a pavement is fairly high, and can be prevented only if sediment is kept off of the pavement before, during and after construction. Other disadvantages include the need for extensive feasibility tests, inspections, very high levels of construction workmanship (which cannot always be assured), and a possible risk of groundwater contamination (probably slight).

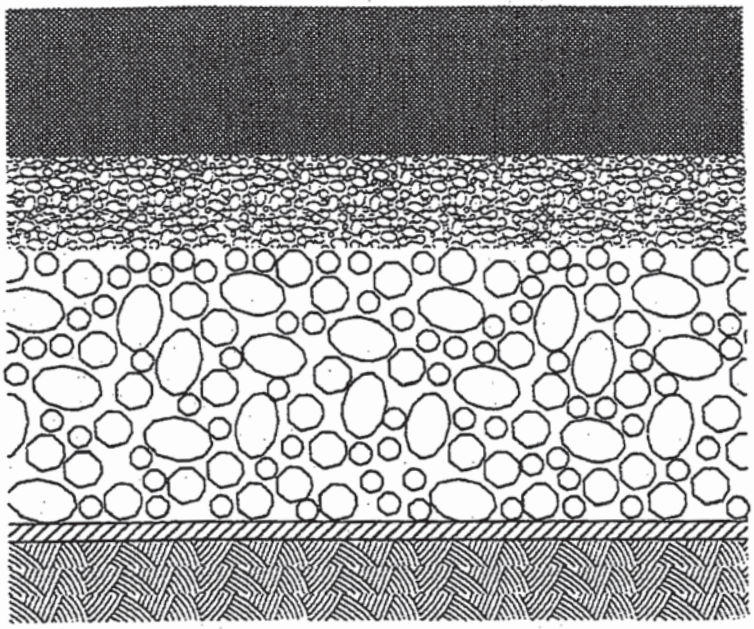
METHODS USED FOR POROUS PAVEMENT

A typical cross section of porous pavement is shown in Figure 1a. Runoff rapidly infiltrates through the pores of the 2½ to 4 inch porous asphalt layer into the void spaces of an underground stone reservoir. The reservoir is composed of two layers: a 2-inch filter course of ½-inch diameter gravel placed over a deeper reservoir course of 1 to 2 inch diameter stone. Runoff then exfiltrates out of the stone reservoir and into the underlying subsoil or is collected by perforated underdrain pipes and routed to an outflow facility. Thus, the storage capacity of porous pavement is primarily a function of the depth of the underground reservoir (plus any runoff lost via exfiltration through the subsoils). A typical layout is illustrated in Figure 1b.

Under normal conditions, the porous ashphalt layer merely acts as a rapid conduit for runoff to reach the stone reservoir (typical infiltration rates for open-graded porous asphalt are in excess of 150 inches/hour). A less preferable alternative for directing runoff into the stone reservoir is to install drop inlets or drill holes through a layer of conventional asphalt.

Porous pavement designs fall into three basic categories based on the runoff storage provided by the stone reservoir and the degree of reliance on exfiltration. These are described below and are illustrated in Figure 2.

Figure 1a: Porous Asphalt Paving Typical Section



◀ ***POROUS ASPHALT SURFACE COURSE***
1/2" to 3/4" Aggregate Asphaltic Mix
2 1/2" to 4" Thickness Typical

◀ ***FILTER COURSE***
1/2" Aggregate
2" Thickness

◀ ***RESERVOIR BASE COURSE***
1" to 2" Aggregate
Voids Volume is Designed for Runoff Retention

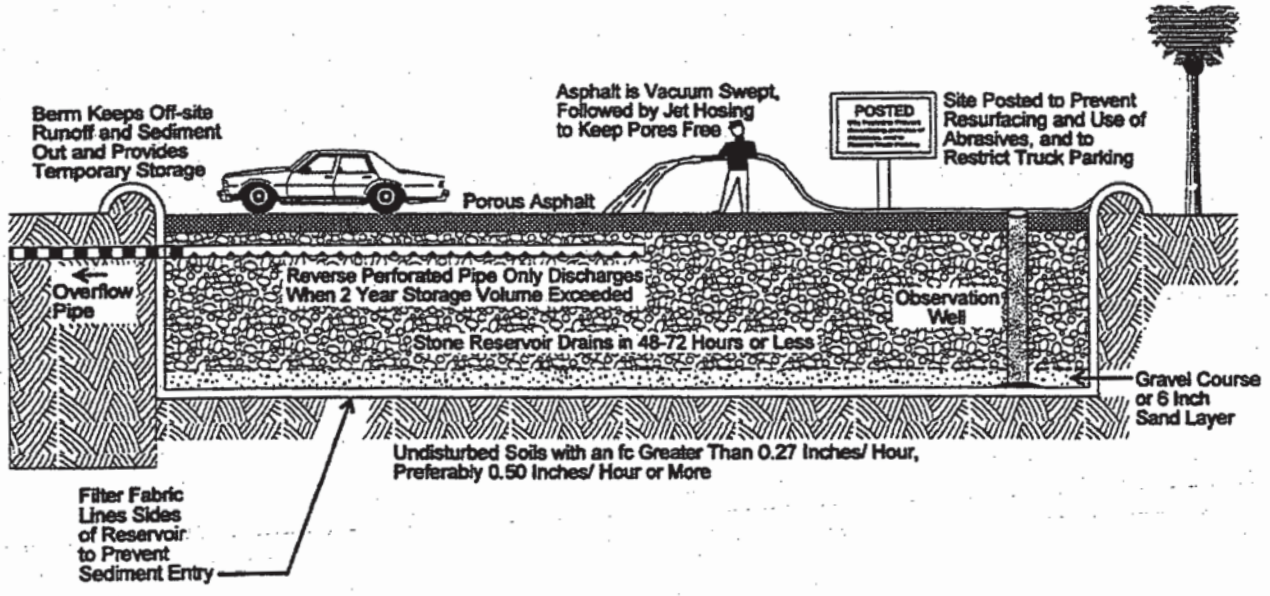
Thickness is Based on Storage Required

◀ ***FILTER FABRIC***

◀ ***EXISTING SOIL***
Minimal Compaction to Retain Porosity and Permeability

Source: City of Rockville, Maryland

Figure 1b: Porous Asphalt Paving Design Schematic



Full Exfiltration System

With this design, the only way runoff can exit the stone reservoir is to exfiltrate through the underlying subsoil (i.e., there is no positive pipe outlet draining the stone reservoir). Consequently, the stone reservoir must be large enough to accommodate the entire increase in runoff volume for the design storm, less any runoff volume which is exfiltrated during a storm. The complete exfiltration system provides total peak discharge, volume, and water quality control for all rainfall events less than or equal to the design storm. An emergency overflow channel (such as a raised curb) is located above ground to handle the excess runoff from storms greater than the design storm.

Partial Exfiltration System (Stone Filtration System)

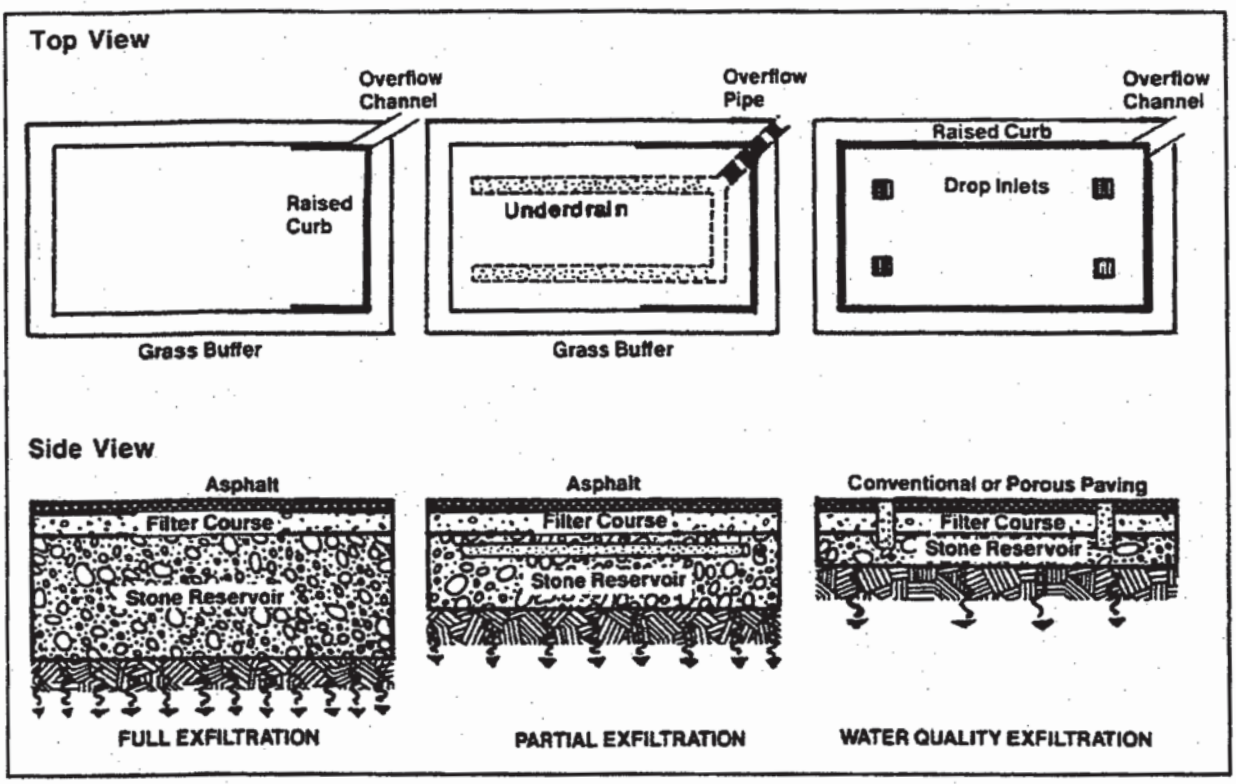
It may not always be feasible or prudent to totally rely on exfiltration to dispose of runoff. For example, there may be concerns about the long term permeability of the underlying soils, downstream seepage, or clogging at the interface between the filter fabric and subsoil. In these situations, an underground drainage system can be installed, comprised of regularly spaced perforated pipes located in shallow depressions that collect the runoff and direct it to a central outlet. The size and spacing of the underdrain network is set to pass the 2 year storm. However, most of the runoff volume from smaller storms will still be exfiltrated before it is collected, thereby providing significant water quality control.

An alternative method of controlling the design storm in partial exfiltration systems is to place perforated pipes (on the underside only) near the top of the stone reservoir (NVPDC, 1987). Runoff then must entirely fill up the stone reservoir before it is discharged from the facility. This design should promote a greater degree of exfiltration, particularly for smaller storms.

Water Quality Exfiltration System

With the water quality design, the storage volume of the stone reservoir is set to only handle the first flush of runoff volume during a storm. The first flush has been variously defined as 1) ½ inch of runoff per contributing impervious acre, 2) ½ inch runoff per contributing total acres, and 3) the volume of runoff produced by a 1-inch storm. Runoff volumes in excess of the first flush are not treated by the system, and instead, are conveyed to a conventional stormwater management facility further downstream. Water quality exfiltration system will not satisfy stormwater storage requirements, but may result in smaller, less costly facilities downstream. In most sites, the first flush runoff volume can fit within the normal 6-inch layer of stone aggregate required for conventional paving. Slot or drop inlets through conventional asphalt can be used in addition to porous asphalt to route the first flush into the stone reservoir.

FIGURE 2: Comparison of Selected Exfiltration Systems for Porous Pavement



A design variation that enables a porous pavement site to accept runoff contributed from off-site areas is shown in Figure 3. As shown, a series of underground perforated inflow pipes are used to convey runoff into the porous pavement and evenly distribute it throughout the stone reservoir. In addition, a pretreatment facility is needed to remove sediment, oil and grit before it reaches the reservoir. Some useful pretreatment techniques for porous pavement are shown in Figure 4.

FIGURE 3: Design Technique for Accepting Off-Site Runoff

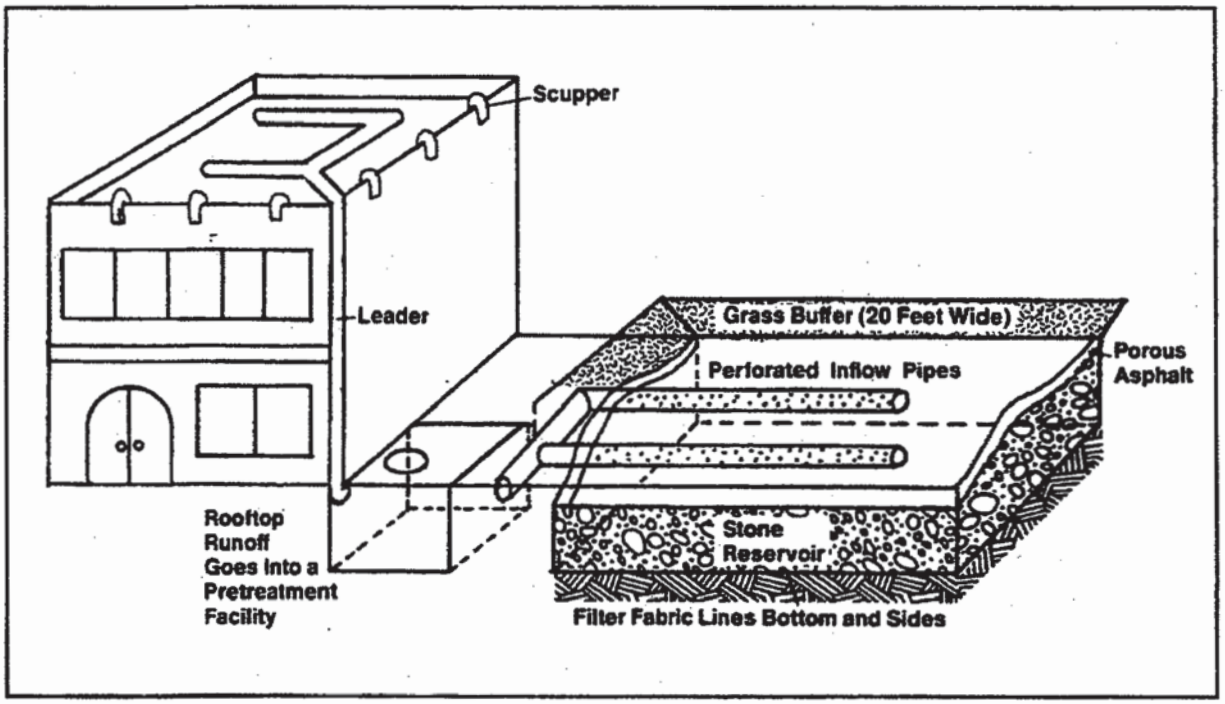
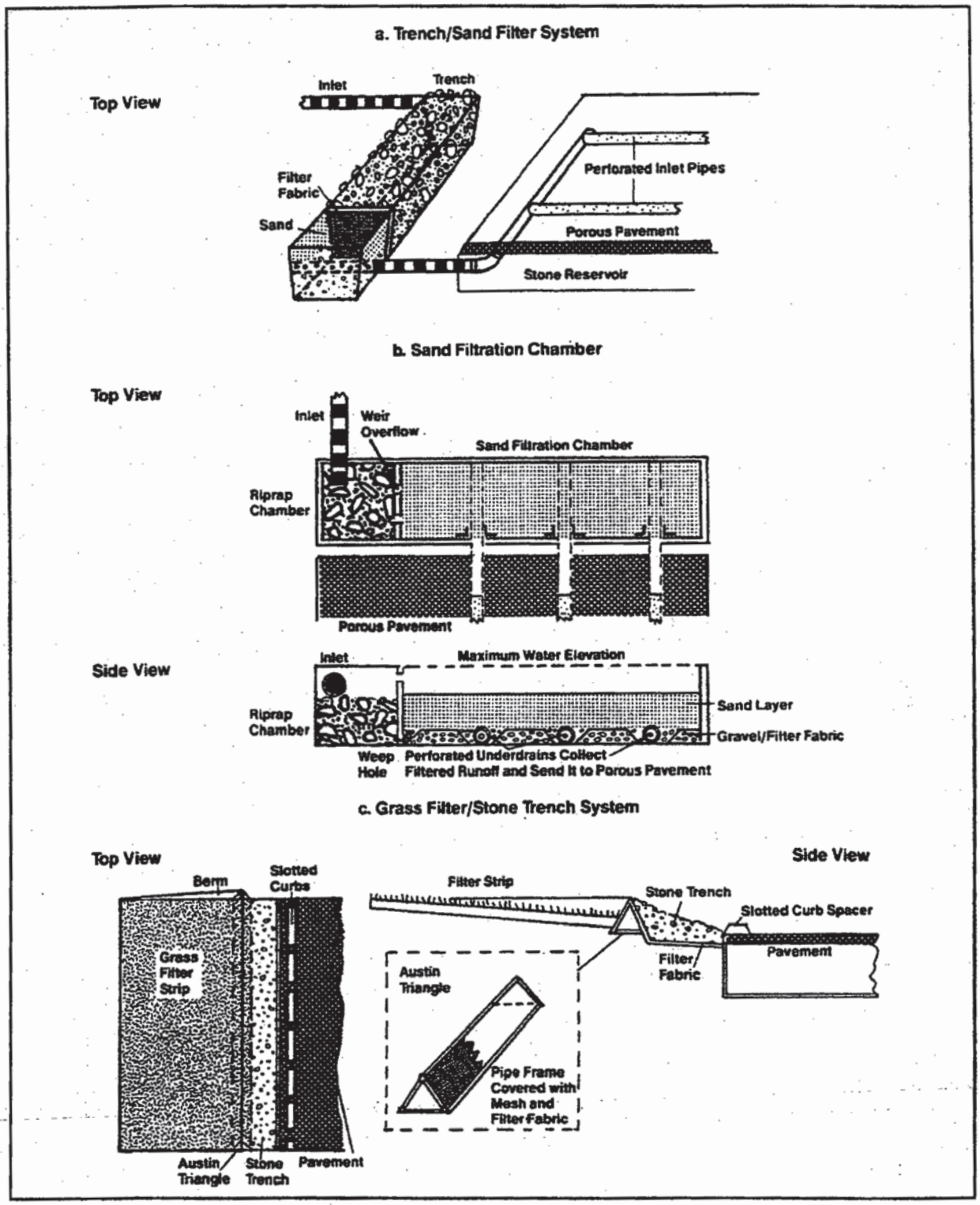


FIGURE 4: Pretreatment Methods For Porous Pavement Sites



DESIGN SUMMARY: POROUS PAVEMENT

- **SITE ELEVATION:**
  Prior to design, the site should be carefully evaluated to determine whether it is feasible for infiltration. This involves taking at least three soil borings or trenches, to a depth of 4 feet below the anticipated bottom of the stone reservoir. Evidence of the seasonally high water table, bedrock level, fill soils, or localized clay lenses should not be present in the cores. Underlying soils should have a minimum infiltration rate of 0.27 in./hr. (for partial exfiltration systems) or 0.52 in./hr. (for full exfiltration systems).

- **TRAFFIC INTENSITY:**
  Porous pavement is generally only feasible for low volume automobile parking areas (0.25 to 10.0 acres in size), and lightly used access roads. Areas within a large parking lot that are expected to receive moderate or heavy traffic intensity, or that will accommodate heavy trucks, can be conventionally paved and then sloped to drain over to an adjacent porous pavement area.

- **DEGREE OF EXFILTRATION:**
  Most porous pavement applications will be of the full or partial exfiltration variety, and should be designed to exfiltrate a minimum of runoff volume equivalent to the first ½ inch of runoff from contributing impervious areas.

- **SLOPE:**
  The slope of porous pavement should not exceed 5% and is best when as flat as possible. If low spots do develop in the parking lot, it may be advisable to install drop inlets to divert runoff into the stone reservoir more quickly.

- **CONSTRUCTION:**
  Probably more than any other BMP, porous pavement requires a high level of construction expertise and workmanship. The construction specifications presented in Reference 1 may be used as a guideline.

- **MAXIMUM DRAINING TIME:**
  The depth of the stone reservoir should be adjusted so it drains completely within 72 hours. This allows the underlying soils to dry out between storms (improving pollutant removal), and also preserves capacity for the next storm. If the site has marginal soils for infiltration (loams, silt loams), or covers a wide area, it may be prudent to design the reservoir to drain within 48 hours.

- **MINIMUM DRAINING TIME:**
  Care should be taken in spacing the underdrain network in partial exfiltration systems. If perforated underdrains are spaced too close together, runoff may be collected too efficiently to provide the exfiltration needed for high pollutant removal. As a general design rule, a minimum residence time of 12 hours (as determined by the modified TR-20 procedure for infiltration facilities) should be a target for the design event.

- **OBSERVATION WELLS:**
  An observation well, consisting of a well-anchored, vertical perforated PVC pipe with a lockable above ground cap, should be installed on the downslope end of the porous pavement area to monitor runoff clearance rates. The well should be checked several times in the first few months after construction. Water depth in the well should be measured at 0, 24 and 48 hour intervals after a storm. Clearance rates are calculated by dividing the drop in water level (inches) by the time elapsed (hours) from the end of the storm. A series of clearance rate measurements taken over the years provides a useful tool for tracking any clogging problems within the stone reservoir.

- **POSTING:**
  The porous pavement site should be posted with signs indicating the nature of the surface, and warning against resurfacing the site with conventional pavement, using abrasives (such as sand or ash) for snow removal, or parking of heavy construction equipment.

- **EROSION CONTROL:**
  Sediment must be kept completely away from a porous pavement site before, during and after construction. Diversion berms should be used to divert stormwater and sediment around the planned porous pavement site. Porous pavement construction should never begin until all contributing upland areas have been completely stabilized. Soil excavated during construction should be placed well away from the perimeter of the site to prevent it from washing back into the stone reservoir.

- **PRETREATMENT OF RUNOFF:**
  If the porous pavement site receives runoff from off-site areas, a pretreatment facility should be constructed to remove oil, grit and sediments before they can enter the stone reservoir and possibly clog it. Sand filters, water quality inlets, short trenches or barrel inlets (rooftop runoff only) can be used for this purpose.

- **VACUUM SWEEPING/JET HOSING:**
  The pavement surface should be vacuum swept at least four times per year to remove any grit or sediment trapped in the pores of the open-graded asphalt. This treatment should be immediately followed by high pressure jet hosing to wash off any remaining fine particles. Evidence of a regular service contract for performing this important maintenance activity should be required before any bonds are released on a project.

- **INSPECTIONS:**
  Each site should be inspected annually during wet weather to check the clearance rate of the stone reservoir, and to inspect the condition of buffer strips, pretreatment facilities, and any evidence of surface clogging.

- **CLOGGING/REPAIRS:**
  Potholes, cracks and other pavement defects can be patched with conventional paving mixes, as long as the cumulative total area repaired is less than 10% of the total area. If the regular vacuum sweeping/hosing routine does not relieve surface clogging, ½-inch diameter holes can be drilled through the asphalt course into the stone reservoir to facilitate drainage. If the stone reservoir or subsoil becomes clogged, the structure may have to be replaced, unless a backup system of underdrains is provided.

ALTERNATIVE SURFACES

As long as we depend on cars, we will need roads, parking lots, and driveways. Asphalt and concrete are the most common types of driving surfaces, but are very impervious (hard and water resistant). Alternative surfaces are more pervious than asphalt or concrete. Some let a little rain seep (infiltrate) into the ground, while others let 100 percent of the rain infiltrate. The more rain we infiltrate, the less runoff we create. The less runoff, the fewer pipes and storage systems we need to build in order to prevent flooding. Alternative surfaces include paving blocks, plastic matting, gravel, bark, and similar materials.

Paving Blocks

Interlocking high-strength blocks made of concrete, cement or recycled plastic with open areas for grass or gravel are commonly referred to as paving blocks. These blocks are typically set on a compacted base of sand or a mix of sand and gravel. No mortar is required. Sand is vibrated into the space between the units causing them to interlock and form a tough, attractive surface. They support fairly heavy traffic and concentrated loads, reduce stormwater runoff, enhance groundwater recharge, and increase infiltration.

Figure 5a shows typical blocks, with hollow centers which can be filled with sand or soil and planted with vegetation. Runoff quantity reduction occurs as infiltration takes place in the planted areas.

Plastic Matting

This type of system is usually a form of easily laid locking tiles made from recycled rubber tires and PVC, permitting thick grass to grow up through holes in the matting. It is often used to create safer, more natural playground, recreational, and sport surfaces, and can be an excellent application for pedestrian walkways. It typically infiltrates 100 percent and can be easily disassembled and relocated. Some plastic matting meets the Americans with Disabilities Act guidelines for wheelchairs.

Gravel, Bark, and Similar Materials

As long as these are placed over soil that is not already compacted, they will allow water to infiltrate back into the ground. Gravel, bark, and similar materials are practical for trails, bike paths, and walkways.

Application

Alternative Surfaces are appropriate for low traffic areas where there are few sources of pollutants, including:

* Fringe or overflow parking areas
* Emergency parking and stopping lanes
* Private roads, easement service roads, and fire lanes
* Driveways in residential or light commercial zones
* Bike paths, walkways, and patios

In parking lots for retail stores, sports arenas, civic theaters, and the like, where more than half of the parking area is used less than 20 percent of the time, the use of parking blocks in the less-used portions of such lots give them a much more attractive appearance and will considerably reduce runoff quantity, flow rates, and pollution from these areas.

Design Guidelines

There are some common problems that can arise if alternative surfaces are not installed and maintained properly. To avoid problems:

* Select the appropriate alternative surface to meet your objective (infiltration; reduce runoff, flooding, and erosion; aesthetics; soil stabilization; etc.).

* Locate paving blocks where they will not become clogged with dirt. If it is a new site, make sure the soil is stabilized before installing the blocks.

* Use alternative surfaces where there are few pollutants and where the water table is well below the ground surface. This will keep our groundwater and drinking water free from pollutants.

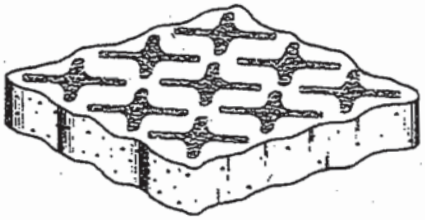
* Use alternative surfaces on gentle slopes and where the soil is porous or loose enough to let water soak in.

* Avoid using alternative surfaces for high traffic walkways and handicapped parking areas. Select paving blocks or plastic matting with small holes and locate them in "low traffic areas".

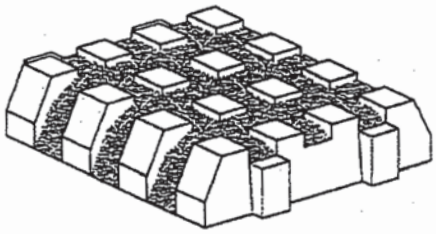
* In designing a paving block area, the block manufacturer should be consulted to determine the more suitable subbase to use. Also, it is suggested that only the actual parking spaces should be paved with the blocks, since they do not hold up well under traffic. A typical layout is illustrated in Figure 5b. The normal traffic lanes through the lot could be paved with porous pavement.

* Finally it should be noted that vegetated paving blocks are best suited for use where the natural frequency of rain is sufficient to keep the planted grass alive. In arid areas, this control should not be used unless provisions for watering is made. When the grassed areas are not well-maintained and the grass has been allowed to die, soil erosion inevitably occurs and use of the parking lot during rainstorms results in muddy shoes. Also, care must be taken when walking on this type of pavement in high heels.

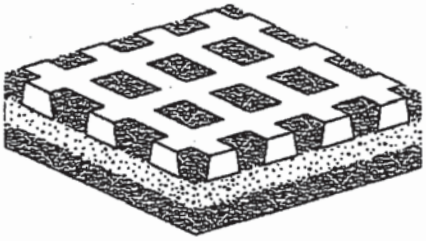
Figure 5a:	**Types of Grid and Modular Pavement**



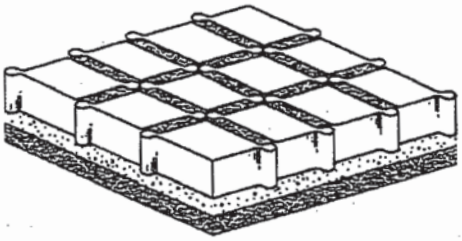
Poured-in-Place Slab



Castellated Unit



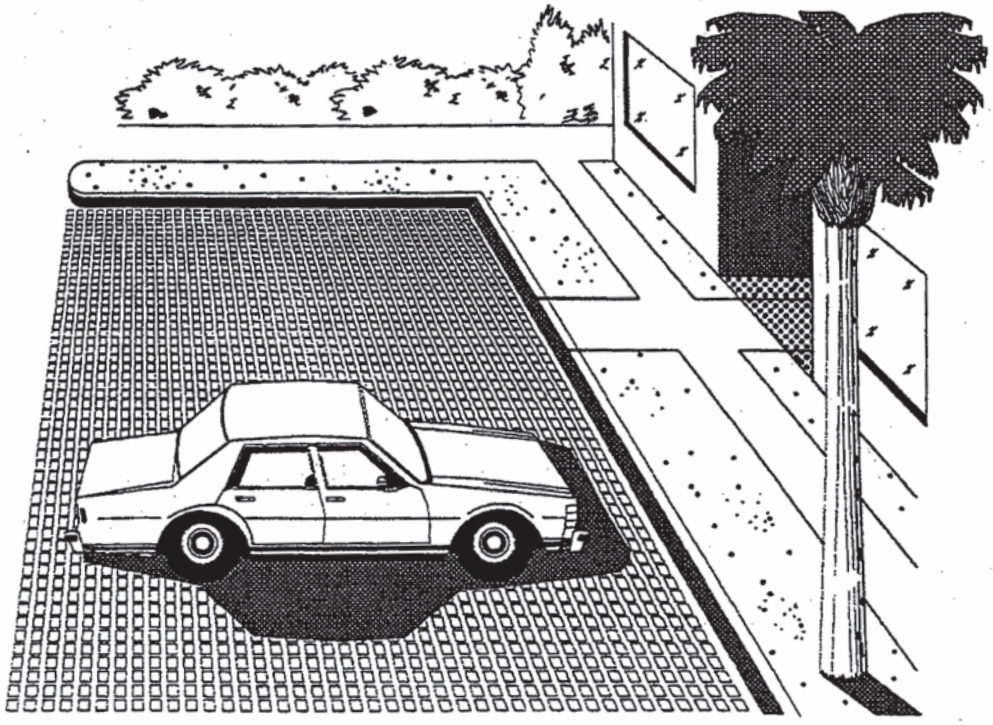
Lattice Unit

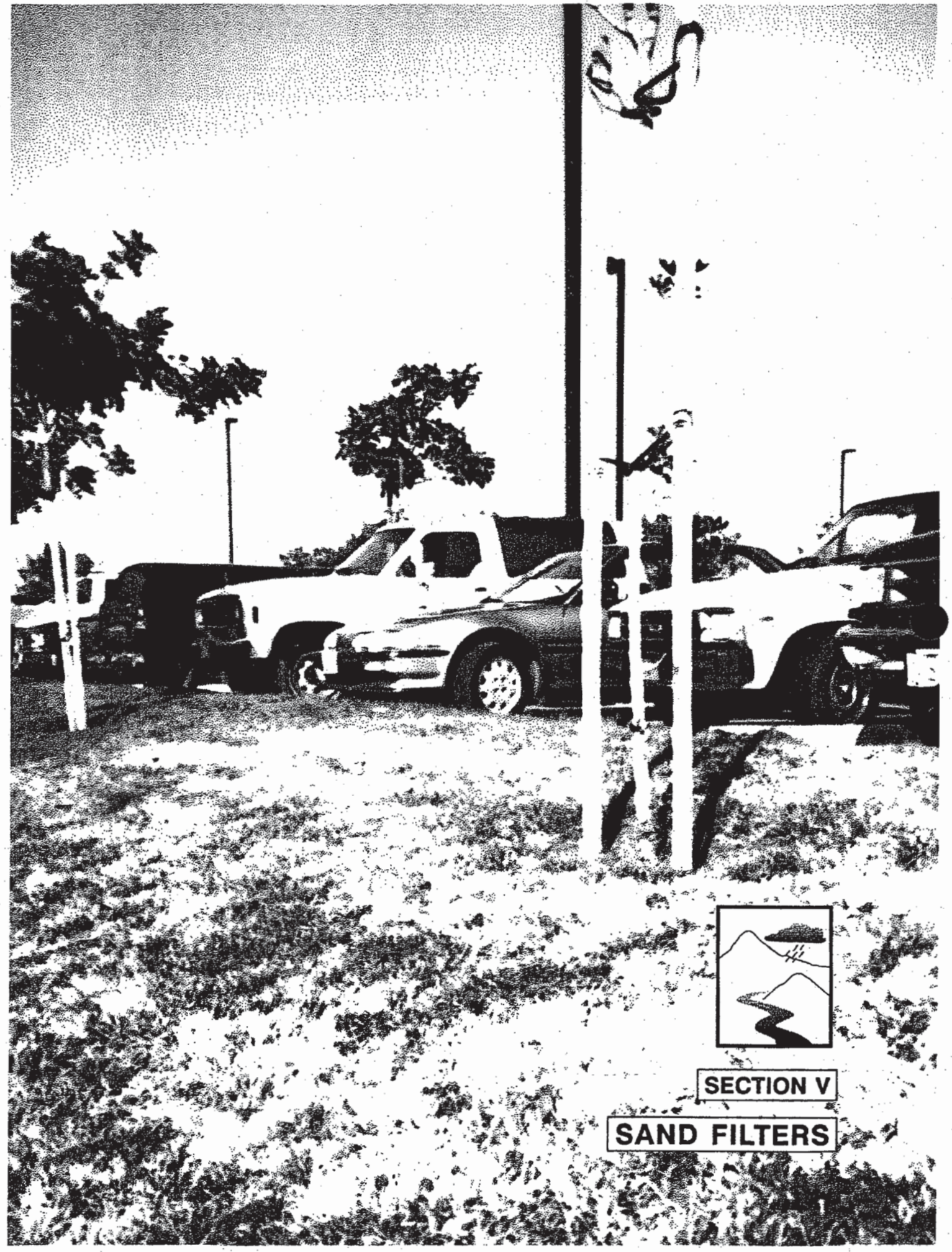


Modular Unit

Source: Virginia Soil and Water Conservation Commission

Figure 5b:	**Typical Parking Lot Layout Using Grid or Modular Pavements**





SECTION V

SAND FILTERS

Sand filters are a relatively new technique for treating stormwater, whereby the first flush of runoff is diverted onto a self-contained bed of sand. The runoff is then strained through the sand, collected in underground pipes and returned back to the stream or channel. Sand filters are useful in watersheds where concerns over groundwater quality prevent use of infiltration.

Sand filters have many advantages. They have a moderate to high pollutant removal capability, possess very few environmental limitations, require small amounts of land, and can be applied to most development sites, large or small. They can be used on areas with thin soils, high evaporation rates, low soils infiltration rates, and limited space. Most sand filters have been used on small parking lots.

Nearly a dozen variants of the basic sand filter design are currently in use, and engineers and practitioners continue to create more. Some of the more common designs are illustrated in Figure 1. Each sand filter design utilizes a slightly different profile within the filter bed.

The required surface area of the filter is usually a direct function of the impervious acreage treated, and varies regionally due to rainfall patterns and local criteria for the volume needed for water quality treatment. The drawback is that sand filters do not provide stormwater quantity control.

Feasibility

The primary physical requirement is a minimum of 2 or 3 feet of head differential existing between the inlet and outlet of the filter bed. This is needed to provide gravity flow through the bed. Otherwise, use of sand filters is only limited by their cost and local maintenance capability.

Pollutant Removal

Initial monitoring results suggest that sand filters are very effective in removing particulate pollutants such as total suspended solids, lead, zinc, organic carbon, and organic nitrogen. Removal rates in excess of 75% have been frequently observed for each of these parameters. Removal rates for coliform bacteria, ammonia, ortho phosphorus, and copper were moderate and quite variable. Results ranged from 20% to 75% in the four sand filters tested in Austin, Texas. Negative removal rates were frequently reported for total dissolved solids (TDS) and nitrate-nitrogen.

Design

Designers are constantly refining the basic sand filter design to increase the level and consistency of nutrient and bacteria removal. A popular approach has been to add an additional organic layer to the filter bed to increase pollutant removal capability. A series of organic media have been used including a top layer of grass/soil, grass/peat or compost, a middle layer of peat, activated carbon, and even zeolites.

The limited data on "sandwich systems" so far indicates that the sandwich layer could actually be a source for some pollutants, while effectively trapping others. Perhaps the most reliable option for improving sand filter performance is to combine a filter with another BMP such as a grass swale or filter strip. Since sand filters are basically similar to infiltration trenches, the reader is encouraged to look at the "Design Summary" of the Infiltration Trenches section in this manual for further guidance.

Maintenance

Regular maintenance is an essential component of the operation of a sand filter. At least once a year each filter should be inspected after a storm to assess the filtration capacity of the filter bed. Most filters exhibit diminished capacity after a few years due to surface clogging by organic matter, fine silts, hydrocarbons, and algal matter.

Maintenance operations to restore the filtration capacity are relatively simple and consistent of manual removal of the top few inches of discolored sand followed by replacement with fresh sand. The contaminated sand is then dewatered and landfilled. Testing by the Austin Department of Public Works indicates that the sediments are not toxic and can be landfilled. Based on one sample from a Delaware site, sand filter deposits appear to have the same degree of sediment contamination as pond muck and thus may not pose a risk for land disposal. This conclusion, however, should be considered provisional until further testing of more filter sediments are obtained from sites that are heavily influenced by automotive or industrial uses.

The key point is that the operation of the sand filter requires replacement of the surface sand layer on a relatively frequent basis. A number of techniques are being developed to reduce the frequency of sand replacement or to make the operation more convenient.

* Careful Selection of Sod. Some sand filters that are constructed with a grass cover crop have lost significant filtration capability soon after construction. The clogging is often traced to sod that has an unusually high fraction of fine silts and clays. In other situations, grass roots grow into the sand layer and improve the filtration rate.

* Limiting Use of Filter Fabric to Separate Layers. Often the loss of filtration capacity occurs where filter fabric is used to separate different layers or media within the filter bed, such as in "sandwich" filters. As a general rule, the less use of filter fabric to separate layers, the better. In many situations, layers of different media can be integrated together at the boundary (e.g., 50/50 peat/sand), or by a shallow layer of pea gravel.

* Providing Easier Access. During sand replacement operations, heavy and often wet sand must be manually removed from the filter bed. It is surprising that so few designs help a maintenance worker conveniently perform this operation. It is not uncommon that sand must be lifted 6 feet or higher to get it out of the filter bed. Yet typically no ramps, manhole steps, or ringbolts are provided to make the operation easier.

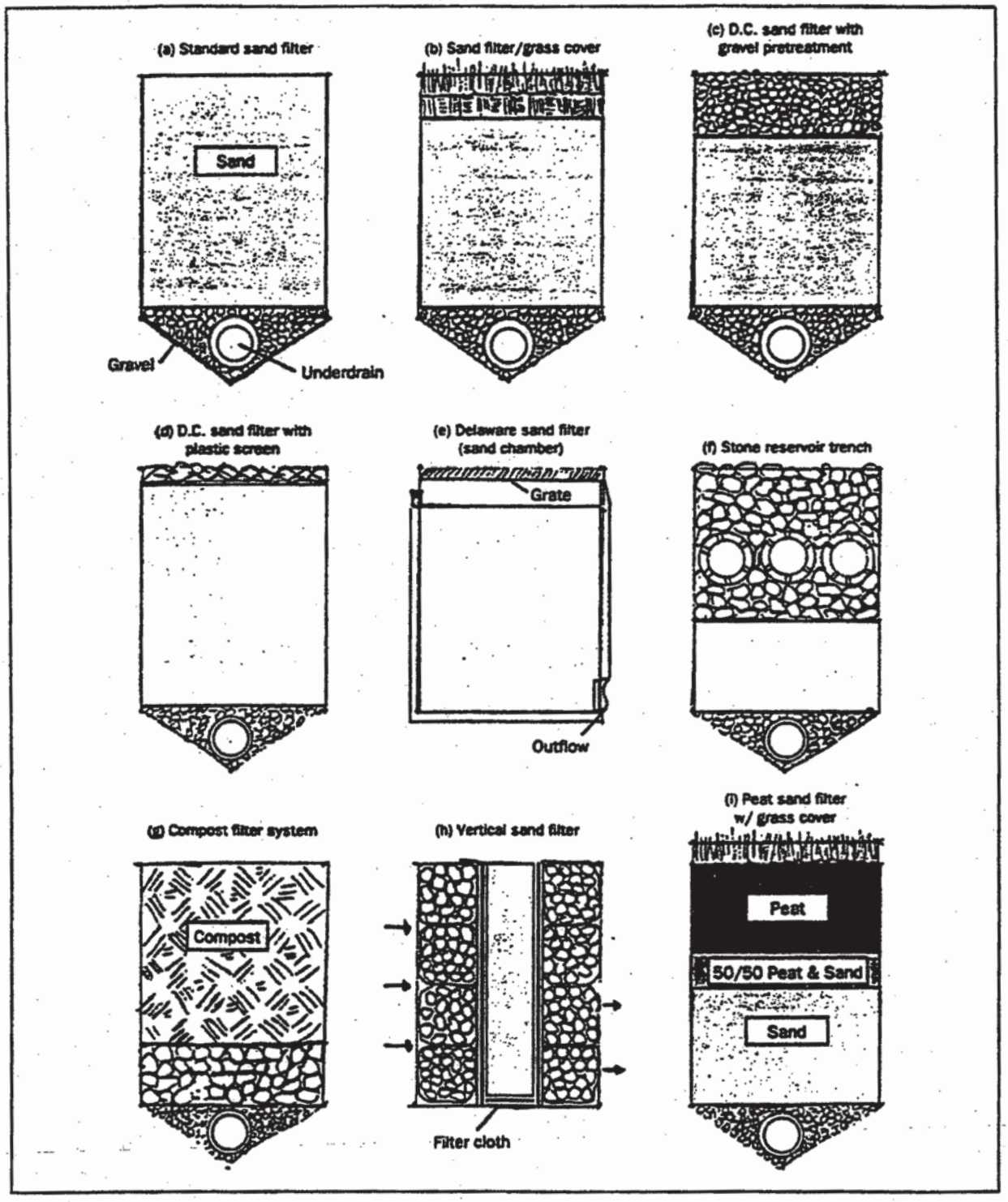
* Visibility and Simplicity. When tinkering with new sand filter designs, two key principles should be kept in mind. First, the filter should be visible, i.e., that it be easily recognized as a BMP (so that it can be routinely inspected). This often requires the designer to consider the appearance and aesthetics of the final product so that it does not come to resemble a concrete sand box. The surface of sand filters can be extremely unattractive; some sand filters have caused odor problems. The second principle is that the design should be kept as simple as possible. Experience has shown that overly complex designs create greater operation and maintenance costs.

Care should be exercised in approving sand filters for individual lots and residential developments, as most homeowners lack the incentives or resources to regularly perform needed sand replacement operations.

Economics

Sand filters are more costly than infiltration trenches (by a factor of two or three), but have lower regular maintenance/rehab costs. Ultimately, however, the growth in the application of sand filters will be constrained by cost and maintenance factors. Continued effort is needed to monitor the operation of sand filters. Such data could yield reductions in the costs of constructing and maintaining filters. If such cost reductions can be realized, sand filters will become an attractive option over a much wider range of development conditions.

FIGURE 1: Cross Section of Sand Filter Design Variations



Source: Watershed Protection Techniques. Vol. 1 No. 2 Summer 1994

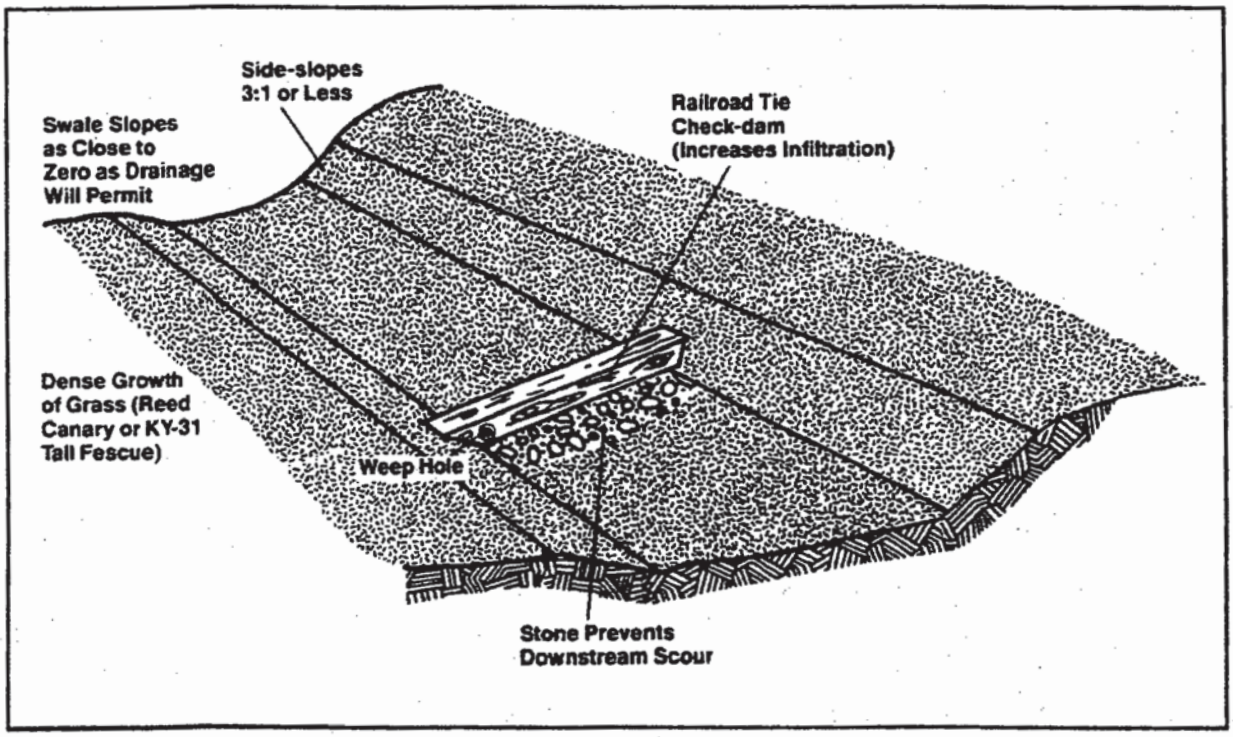
SECTION V

GRASSED SWALES

Vegetated swales are broad shallow channels which are enhanced with a dense layer of vegetation and are designed to promote infiltration, slow runoff velocities, and trap pollutants. Grassed swales are typically applied in single family residential developments and highway medians as an alternative to curb and gutter drainage systems (Figure 1).

Swales have a limited capacity to accept runoff from large design storms, and often must lead into storm drain inlets to prevent large, concentrated flows from gullying/eroding the swales. If check dams are placed across the flow path, swales can provide some stormwater management for small design storms by infiltration and flow attenuation. In most cases, however, swales must by used in combination with other BMPs downstream to meet stormwater management requirements. Grassed swales are usually less expensive than the curb and gutter alternative.

FIGURE 1: Schematic of a Grassed Swale



Stormwater Benefits

Swales act to control peak discharges in two ways. First, the grass reduces runoff velocity, depending on the length and slope of the swale. This, in turn, lengthens the watershed time of concentration (i.e., the time needed for runoff to reach the desired control point), and can, at least partially, attenuate the post-development peak discharge rate.

Second, a portion of the stormwater runoff volume passing through the swale infiltrates into the soil and does not appear at the downstream control point. However, as Wong and McCuen (1982) note, the volume of runoff that infiltrates into a swale is limited, seldom exceeding a few tenths of an inch, again depending on soils and slope.

Pollutant Removal

Pollutants are removed by the filtering action of the grass, deposition in low velocity areas, or by infiltration into the subsoil. Some modeling efforts and field studies indicate that swales can filter out particulate pollutants, under certain site conditions. However, swales are not generally capable of removing soluble pollutants, such as nutrients. In some cases, trace metals leached from swale culverts and nutrients leached from intensive lawn fertilization may actually increase the export of these pollutants.

In general, the higher the flow rate, the lower the efficiency. Thus, low velocity and shallow depth are key design criteria. A swale designed with a low bottom slope and check dams will perform much more efficiently than one without check dams. Raised driveway culverts are very effective as swale check dams. For maximum efficiency of pollutant removal during small storms, a trapezoidal swale with as large a bottom width as can be fitted into the site plan is desirable, since this will maximize the amount of runoff in contact with the vegetation and soil.

Maintenance

Maintenance is an important consideration, for reasons of both aesthetics and hydraulic efficiency. Care must be taken to ensure that flows through a swale used for drainage purposes during large storms are not impeded by an overgrowth of vegetation. To prevent this, vegetation planted in the channel should be suitable for mowing, and the channel designed so that mowing machines can be easily and efficiently operated along the swale. Permanent vegetated channels should be mowed periodically to maintain their capacity. Any areas where erosion is occurring should be repaired/revegetated as necessary.

DESIGN SUMMARY: GRASSED SWALES

* **FLOW CAPACITY:**
Design equations for flow are those used for open channel design for the small design storm, with the roughness coefficient suitably adjusted for the grass or vegetation on the channel hydraulic radius. If the soil is sufficiently permeable that infiltration through the bottom is significant, this may be taken into account in the channel design. Avellaneda (1985) and Wanilista et al. (1986) provides some guidance in this area.

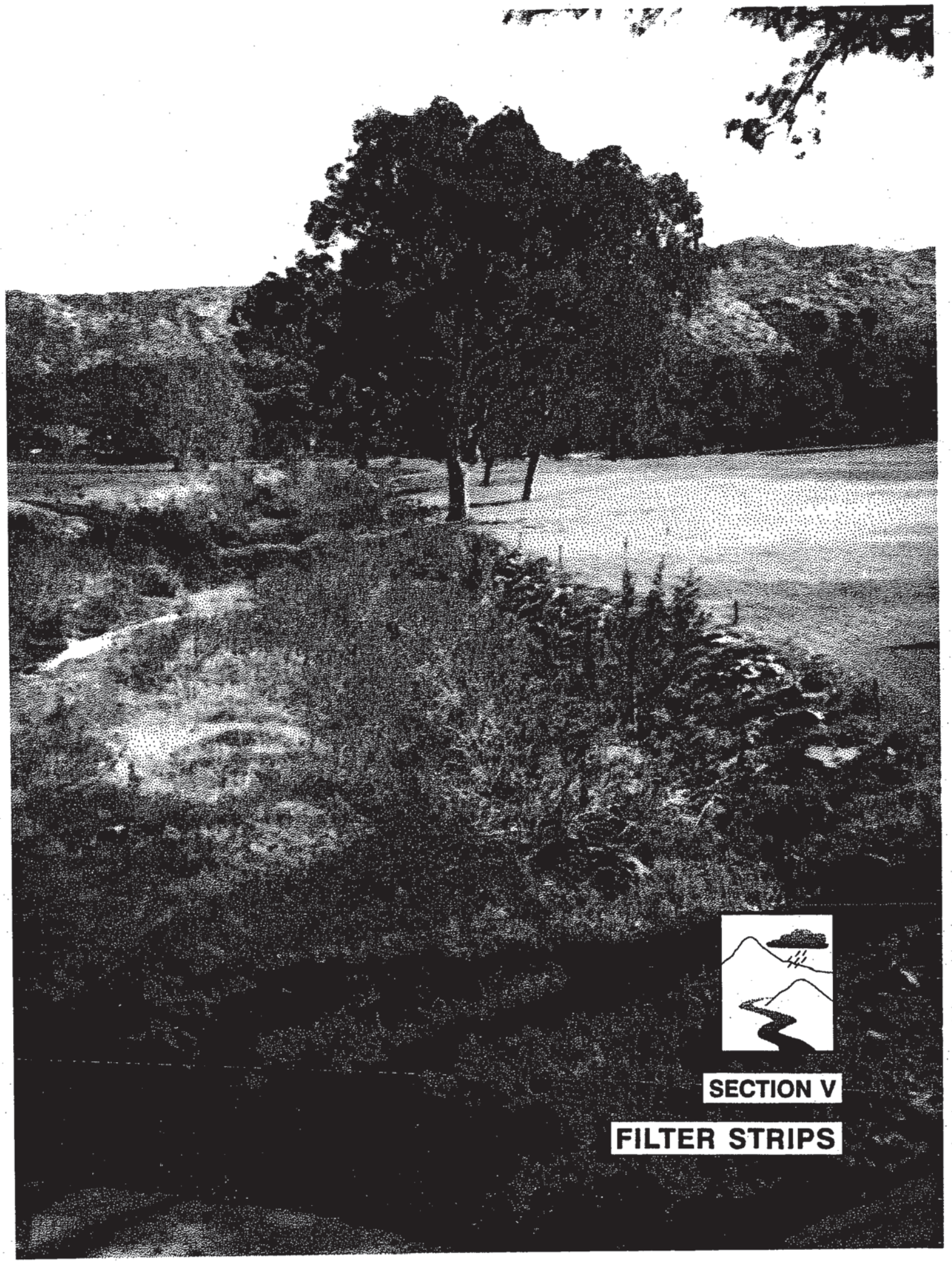
* **SLOPE:**
Swale slopes need to be graded as close to zero as drainage will permit. Side-slopes should be no greater than 3:1.

* **COVER:**
The grass type should be appropriate for the site conditions. The vegetation should have a dense root system, erosion resistant and be water tolerant. Reed canary grass should be considered. Swale grasses should never be mowed close to the ground, as this impedes the filtering and hydraulic functions of the swale.

* **SOILS:**
Underlying soils need to have an infiltration rate of 0.27 inches/hour or greater (Source: MNPCA, 1991). The swale should be tilled before the grass cover is established to restore infiltration capacity lost as a result of prior construction activities.

* **CHECK DAMS:**
Check dams can be installed in swales to promote additional infiltration. The best method is to sink a railroad tie halfway into the swale, and place stone on the downstream side of the tie to prevent a scour hole from forming. Earthen check dams are not strongly recommended as they tend to erode on the downstream side (which may lead to the eventual wash out of the dam). It is also quite difficult to establish and maintain grass on earthen check dams. If a check dam is used, the designer should make sure that the maximum ponding time of runoff backed up behind the check dam is less than 24 hours.

* **SUITABILITY:**
Swales are not likely to confer many stormwater or water quality benefits if constructed on slopes greater than 5%, or if groundwater extends to within two feet of the bottom of the swale. Long, relatively flat slopes where sheet flow occurs are ideal.



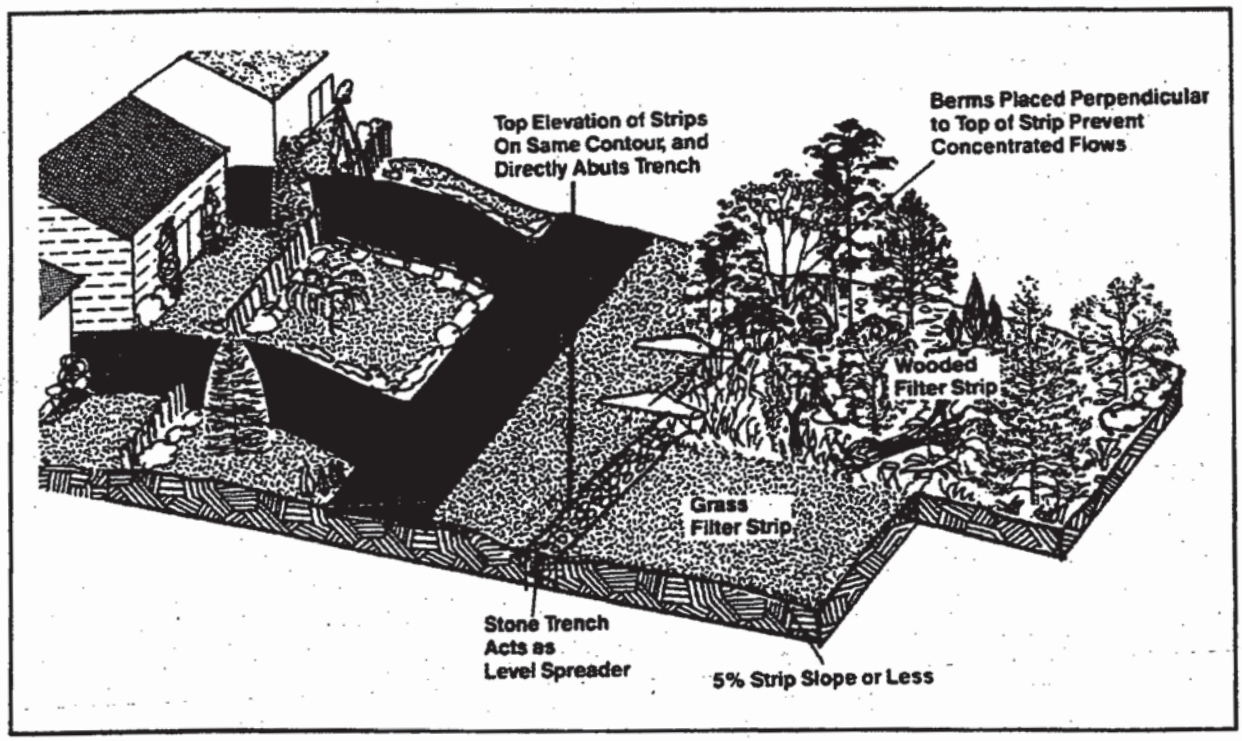
SECTION V

FILTER STRIPS

Vegetated buffer strips are dense areas of vegetation which are designed to decrease runoff velocity, promote (limited) infiltration and trap pollutants. Filter strips are similar in many respects to grassed swales (Figure 1), except that they are designed to only accept overland sheet flow. Runoff from an adjacent impervious area must be evenly distributed across the filter strips. This is not an easy task, as runoff has a strong tendency to concentrate and form a channel. Once a channel is formed, the filter strip is effectively by-passed and will not perform as designed. Such by-pass is a common problem. For example, over 60% of the agricultural filter strips installed in Virginia were reported to have been by-passed (Dilhalla et al., 1986).

To work properly, a filter strip must be 1) equipped with some sort of level spreading device, 2) densely vegetated with a mix of erosion resistant plant species that effectively bind the soil, 3) graded to a uniform, even, and relatively low slope (one technique that is effective in minimizing the grade in the direction of flow is terracing), and 4) be at least as long as the contributing runoff area. Filter strips are relatively inexpensive to establish, and cost almost nothing if preserved before the site is developed. If buffer strips are established through the preservation of existing vegetation, good site planning and site management are needed to protect against disturbances such as grade changes, excavation, damage from equipment and other activities. A creatively landscaped filter strip can become a valuable community amenity, providing wildlife habitat, screening, and stream protection.

FIGURE 1: Schematic of a Filter Strip



Stormwater Benefits

Filter strips do not provide enough storage or infiltration to effectively reduce peak discharges to predevelopment levels for design storms (Wong and McCuen, 1982). Typically, filter strips are viewed as one component in an integrated stormwater management system. Thus, the strips can lower runoff velocity (and, consequently, the watershed time of concentration), slightly reduce both runoff volume and watershed imperviousness, and contribute to groundwater recharge. At some sites, filter strips may help to reduce the size and cost of downstream control facilities. Filter strips are also of great value in preserving the riparian zone and stabilizing streambanks.

Pollutant Removal

Results from some small test plots (Barfield et al., 1977) and several modeling studies (Wong and McCuen, 1982, Pitt, 1986, Overcash et al., 1981; Tolner et al., 1982) all suggest that filter strips are effective in removing particulate pollutants such as sediment, organic material and many trace metals. The rate of removal appears to be a function of the length, slope and soil permeability of the strip, the size of the contributing runoff area, and the runoff velocity. Removal of soluble pollutants in filter strips is accomplished when the pollutants infiltrate into the soil and are subsequently taken up by rooted vegetation. The efficiency of soluble pollutant removal in strips is probably not great since only a modest portion of the incoming runoff will be infiltrated (Wong and McCuen, 1982).

Suitability

Filter strips will not function as intended on slopes greater than 15%. Those steeper slopes should still be vegetated but off-site runoff should be diverted around rather than through them. Filter strip performance is best on slopes with a grade of 5% or less. When the minimum length, 20-foot filter strips are used, slopes should be graded as close to zero as drainage permits. To prevent concentrated flows from forming, it is advisable to have each filter strip serve a contributing area of five acres or less.

Buffer strips are particularly effective on flood plains, next to wetlands, along streambanks and along the perimeter of other stormwater management facilities such as basins and retention ponds. Grass filter strips are also extensively used to protect surface infiltration trenches from clogging by sediment.

Maintenance

The maintenance required for a filter strip depends on whether or not natural vegetative succession is allowed to proceed. Under most conditions, the gradual transformation from grass to meadow to second growth forest will enhance rather than detract from the performance of longer filter strips. This process, which may be largely completed in a few decades, can be enhanced by intentional landscape plantings. Maintenance tasks and costs are both sharply reduced for these "natural" filter strips. However, corrective maintenance is still needed around the edge of the strip to prevent concentrated flows from forming.

Shorter filter strips must be managed as a lawn or short grass meadow. These strips should be mowed 2 to 3 times a year to suppress weeds and interrupt natural succession. Periodic spot repair, watering and fertilization may be required to maintain a dense, vigorous growth of vegetation. Weed and pest control may also be required. Accumulated sediments deposited near the top of the strip will need to be manually removed over time to keep the original grade.

All filter strips should be inspected on an annual basis. Strips should be examined for damage by foot or vehicular traffic, encroachment, gully erosion, density of vegetation, and evidence of concentrated flows through or around the strip. Extra strip maintenance must be devoted in the first few months and years to make sure the strip becomes adequately established. This may involve extra watering, fertilization and reseeding.

DESIGN SUMMARY: FILTER STRIPS

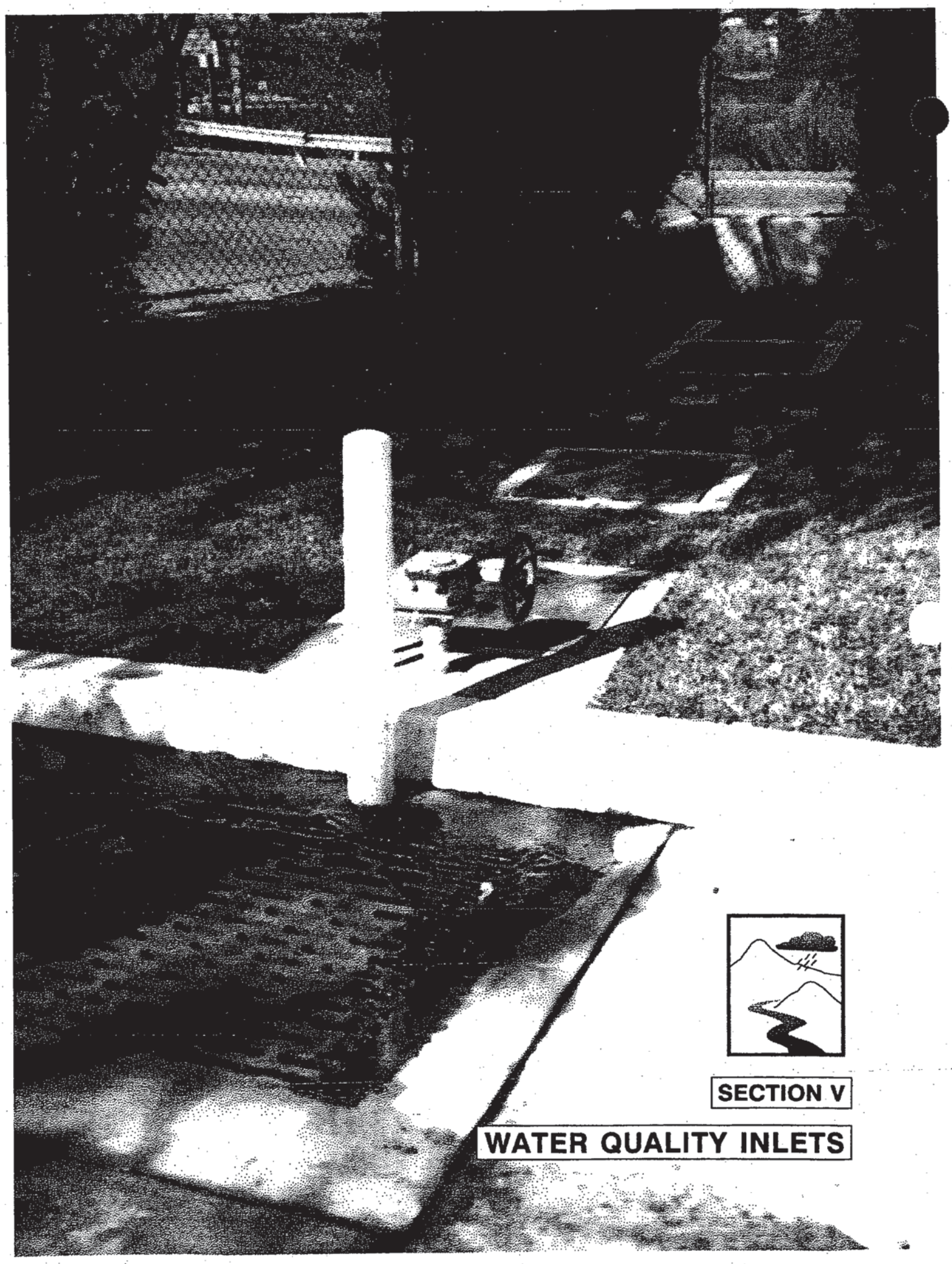
* **GRADING:**
The top edge of the filter strip should follow across the same elevational contour. If a section of the top edge of the strip dips below the contour, it is likely that runoff will eventually form a channel toward the low spot.

* **SPREADER:**
A shallow stone trench can be used as a level spreader at the top of the strip to distribute flow evenly. This also serves to protect the strip from man-made damage.

* **LENGTH:**
The appropriate length for filter strips is still the subject of some debate. As an absolute minimum, a grass strip should be at least 20 feet wide. Better performance can be achieved if the strip is 50 to 75 feet long, plus an additional 4 feet per each one percent of slope at the site (particularly if it is a forested strip).

* **VEGETATION:**
New buffer strips require the establishment of a dense layer of vegetation, including grasses, shrubs and trees. Successful establishment requires the selection of appropriate vegetation, proper seeded preparation and soil conditioning which may include the addition of topsoil. Planting vegetation during its regular growing season will increase the chances for success and may lessen the need for watering. Wooded filter strips are preferred to grassed strips. If an existing wooded belt cannot be preserved at the site, the grassed strip should be managed to gradually become wooded by intentional plantings.

* **SEDIMENT:**
If a filter has been used as a sediment control measure during the construction phase, it is advisable to regrade and reseed the top edge of the strip. Otherwise, the sediment trapped in the filter strip may effect the flow patterns across the strip, thereby reducing its effectiveness.



SECTION V

WATER QUALITY INLETS

You will need to consider installing advanced management practices if you have implemented all the recommended practices (BMPs in Supplement "A") that are reasonable and economically feasible and still have not controlled pollutants sufficiently to meet your local discharge requirements.

If your facility exterior is a significant problem, you may need to pretreat the stormwater before discharge into the storm drain system. This section describes controls that are more extensive and, in general, may be more costly than other recommended practices in this manual. Advanced pollution control practices take a number of forms, and may include a wide range of solutions that are not listed here. You may develop other approaches that are more effective for your facility.

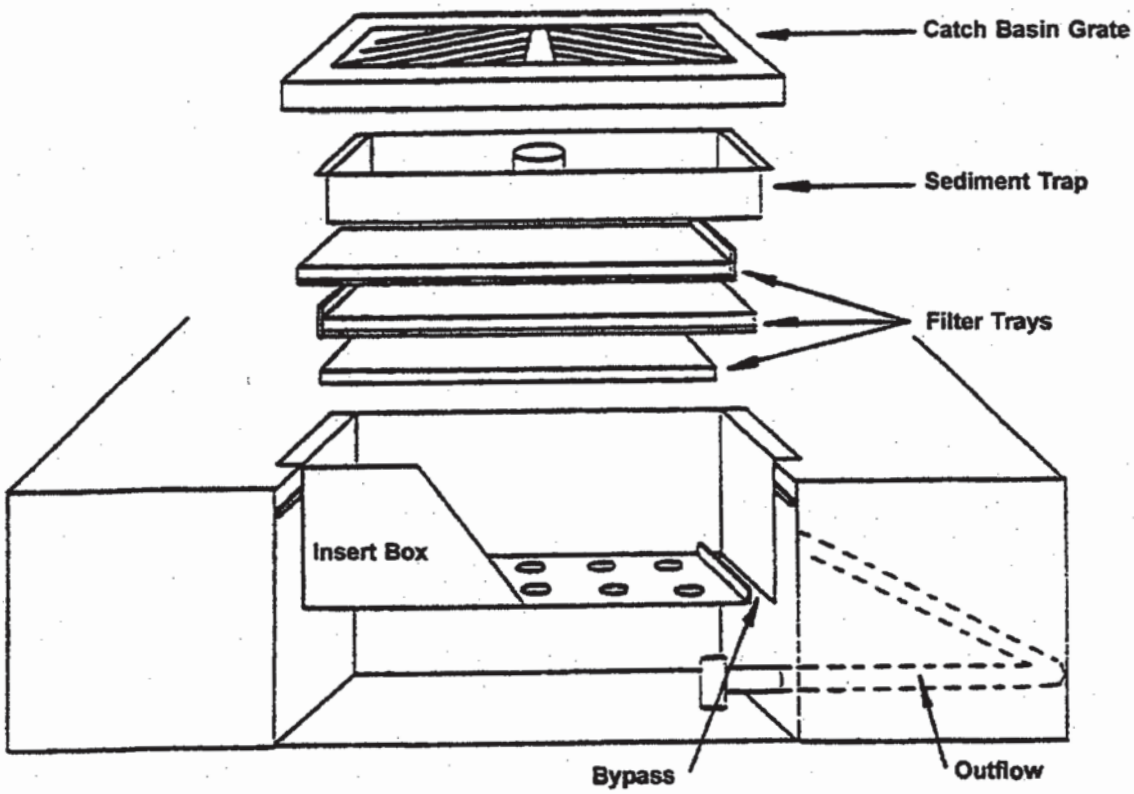
Storm drain filters is one type of pretreatment device that is generally the least expensive of these methods. As technology improves some of these devices are finding wide range acceptance. The more elaborate form of pretreatment device is the "water quality inlet", also known as oil/grit separators. Water quality inlets have baffles, in a variety of configurations, to prevent oils and grease from flowing to the storm drain. The baffles remove the bulk of floating oily wastes, but do not remove oil as completely as a more sophisticated treatment process (e.g., oil skimmer, coalescing plate separator). Although many inlet design variations exist, two are presented here for information purposes; the conventional rectangular concrete chamber Montgomery County design and the Canadian "Stormceptor" design.

It should be noted that actual pollutant removal is accomplished when trapped residuals are cleaned out of the inlet. The greatest environmental concern is the pollutant toxicity of trapped residuals and oily waters, and how the toxicity influences the ultimate disposal of the residuals.

STORM DRAIN FILTERS

A storm drain filter is a storm drain inlet or catch basin that has a filtering device to prevent sediment, debris, oils, and grease from flowing through the system. Filters can be fitted to inlets in a variety of configurations (Figure 1). Most designs allow you to use any variety or combination of filter medium for site specific pollutants, adding to their versatility. Generally, these filters can accommodate large-quantity, short-duration flows, such as stormwater from a parking lot or working area. The pollutant removal capability of these systems have been reported as very promising. A relatively new and innovative product for typical catch basin openings is called the Fossil Filter (Figure 2). The Fossil Filter was designed to capture contaminates that normally enter inlets during low to medium flows and does not inhibit flow during high flows when drain capacity is critical.

FIGURE 1: Catch Basin Filter.

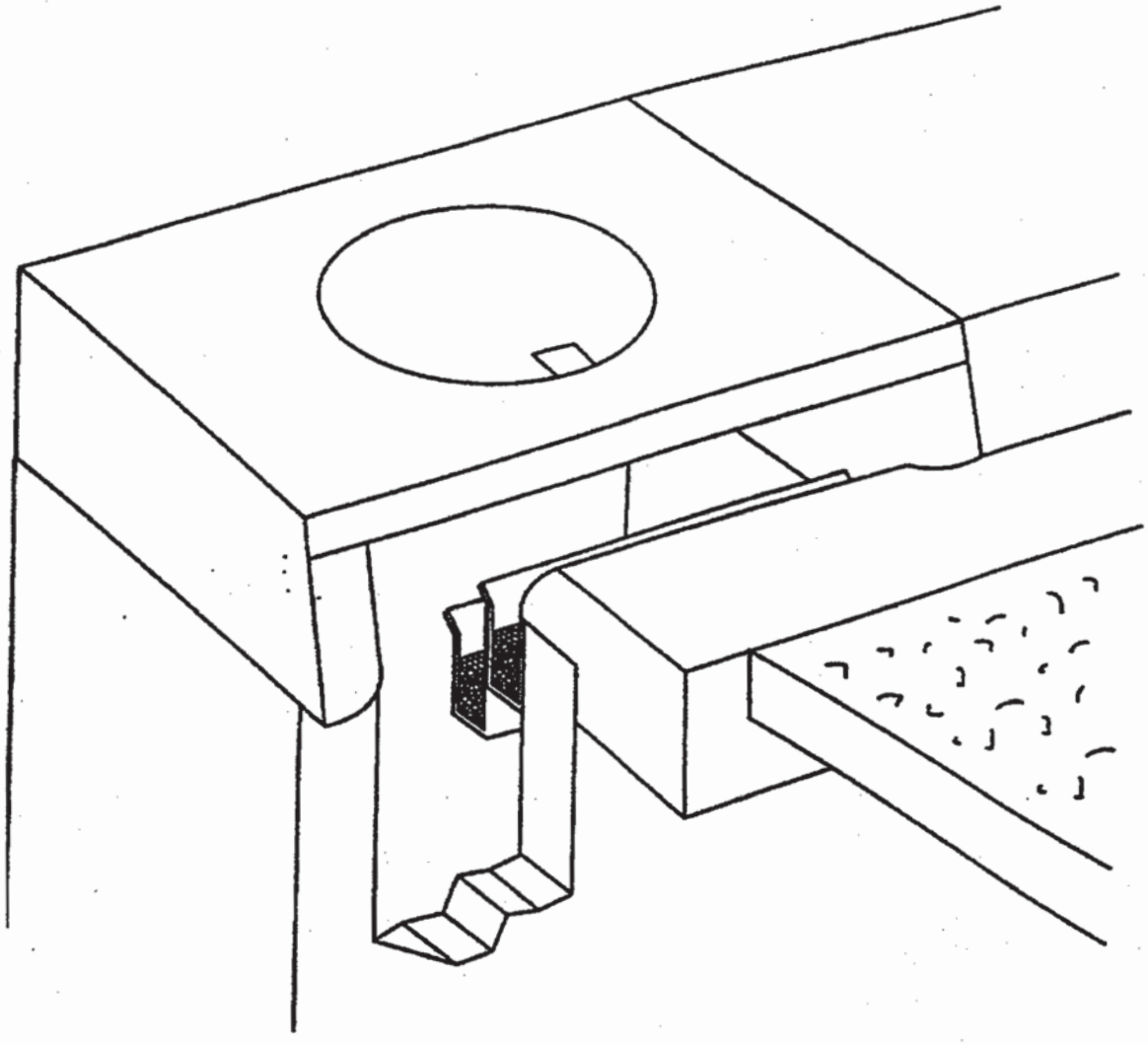


The following Manufacturers can be contacted for further information:

- Auqa-Net, Inc., produces the "Gullywashers" line of vinyl coated, wire baskets for placement in storm drain and sewer inlets. Their toll free number is 800/208-5447.
- Enviro-Drain, Inc., produces a catch basin stormwater filter that uses a combination of filter mediums. Their number is 206/820-1953.

FIGURE 2: Fossil Filter

The Fossil Filter has a trough area for retention of a removable and replaceable absorbent filter material in a filter cartridge. With the filter cartridge, this trough will allow water to flow unimpeded while removing undesirable and toxic materials that may be carried in the water. The Fossil Filter is designed to be adjusted to fit the numerous sizes of square or rectangular drainage inlets such as flat grated type inlets, curb opening type inlets, and combination curb opening and gutter grate type inlets.



For more information on this product please contact KriStar Enterprises, Inc., at 800-579-8819.

CONVENTIONAL WATER QUALITY INLET

Under current designs, conventional water quality inlets only store a small fraction of the two year design storm volume, and because of their limited capacity, these inlets play no role in modifying the post development peak discharge rate. The pollutant removal capability of these inlets has never been monitored in the field[1]. However, since runoff is only briefly retained in the inlets, only moderate removal of coarse sediment, oil/grease, and debris can be expected. Even more limited removal is likely for fine-grained particulate pollutants such as silt, clay and associated trace metals and nutrients. Soluble pollutants probably pass through inlets without modification. These inlets typically serve parking lots one acre or less in size, and sites that are expected to receive a great deal of vehicular traffic or petroleum inputs (e.g., gas stations, roads, loading areas).

Routine maintenance costs are high since the inlets must be cleaned out regularly to retain their effectiveness and to avoid spilling oily wastes. The collected oils and grease should be removed at least monthly, and disposed of as hazardous waste. Remove oils and grease more often during the rainy season so that heavy rainfall does not wash the pollutants through the trap into the drain.

Advantages of the water quality inlets lie in their unobtrusiveness, compatibility with the storm drain network, easy access, and capability to pretreat runoff before it enters infiltration BMPs. Disadvantages include their limited stormwater and pollutant removal capabilities, the need for frequent clean-outs (which cannot always be assured), and possible difficulties in disposing of accumulated sediments.

Montgomery County Design

A typical three chamber design for a water quality inlet, developed in Montgomery County, Maryland (MCDEP, 1984b), is shown in Figure 3. Basically, the inlet is a long rectangular concrete chamber connected to the storm drain system. Runoff passes through three chambers that are specifically modified to separate out sediment, grit and oil before exiting through a storm drain pipe.

The first chamber in the inlet contains a permanent pool of water that is three to four feet deep, and is connected to the second chamber by a pair of well-screened six inch holes. The first chamber is used for gravity settling of grit and sediments, and can also trap floatable debris, such as leaves and litter.

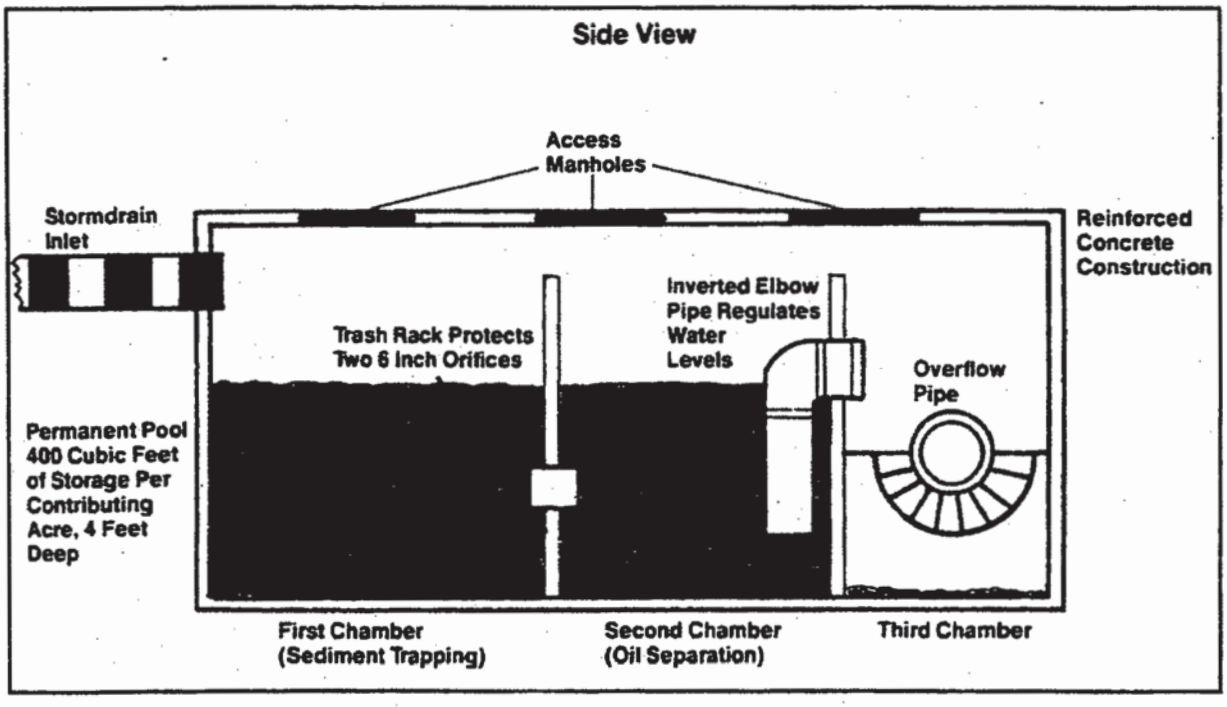
[1] The Metropolitan Washington Council of Governments has conducted a long-term study to provide data on many unknowns about water quality inlets. Their April 1993 report on Oil-Grit Separators should be considered before a design is selected.

The second chamber also holds a permanent pool of water. An inverted pipe elbow leads to the third chamber which regulates water levels in the inlet. Runoff must pass through the bottom opening of the inverted pipe, and then travel upward several feet before it enters the third chamber. This design feature discourages clogging, and more importantly, traps oil and gas films floating on the surface in the second chamber. Oil and gas films remain in the second chamber until they are gradually absorbed by sediment particles and settle out.

The third chamber contains a brick cradle that forms an opening to a storm drain outlet pipe. If the cradle is elevated from the floor of the chamber, a third permanent pool is created that may become an additional site for settling. Otherwise, the third chamber has little value in pollutant removal.

Water quality inlets are sized to provide 400 cubic feet of wet storage per contributing acre, and a pool at least four feet deep. Additional dry storage must also be provided to pass the design storm. Access to each chamber for inspections and regular clean out is provided by a separate manhole cover and step rings. Design criteria is summarized on the next page.

FIGURE 3: Schematic of a Water Quality Inlet, Montgomery County, MD. Three Chamber Design



DESIGN SUMMARY: CONVENTIONAL WATER QUALITY INLET

* **AREA SERVED:**
Inlets typically serve impervious areas of less than one acre.

* **PERMANENT POOL:**
The volume of the permanent pool should be maximized. At least 400 cubic feet of wet storage per impervious acre is suggested as an initial sizing rule. The permanent pool in each chamber of the inlet should be at least four feet deep.

* **CLEAN-OUT SCHEDULE:**
Accumulated sediment should be cleaned out from inlets at least twice per year. This can be done by vacuum pumping or siphoning of the permanent pool, and annually removing sediment deposits.

* **DISPOSAL METHODS:**
Disposal options for the sediment will probably range from disposal in a works yard to disposal in a sanitary landfill site (the sediment should be tested to determine the disposal options). Hazardous materials collected in the inlet (oil/chemical/fuel spills) should be removed by a licensed waste management company and disposed of accordingly. Runoff in the inlet can be siphoned over to an adjacent grass filter strip, or transported to a sanitary sewer line and routed to a treatment plant.

* **PREVENTING RESUSPENSION:**
Resuspension of deposited pollutants can be a problem in inlets. The use of vertical baffle plates on chamber floors may help alleviate this problem. Also, the floor of each chamber should slope slightly away from the outlet to the next chamber.

* **INVERTED ELBOW:**
An inverted pipe with a 90 degree elbow should connect the second and third chambers of the inlet. The elbow can be formed by welding two cut sections of aluminized CMP, and the vertical portion should extend to one foot from the bottom of the inlet.

* **USE WITH UNDERGROUND INFILTRATION:**
Inlets can be used to pretreat runoff before it enters an underground infiltration facility (e.g., porous pavement or an infiltration trench).

* **CLOGGING:**
The two 6-inch orifices that lead from the first to the second chamber should be screened by a half round of aluminized CMP, in which ½-inch holes have been drilled.

* **ACCESS:**
To facilitate clean-outs, access to each chamber should be provided by means of a separate manhole and step rings.

CANADIAN STORMCEPTOR

The Stormceptor is a pollution prevention device developed in Canada that removes oil and sediment from stormwater. The unit can replace a conventional manhole in the storm drain system.

The key advantage to the Stormceptor compared to other water quality controls in a storm drain is the bypass which prevents the resuspension and scour of settled material during subsequent storm events. The Stormceptor storage chamber is air tight so that any volatile petroleum products which are trapped by the interceptor are not released into the atmosphere. The device is applicable in a variety of development situations including:

* stormwater quality retrofits for existing development
* industrial and commercial parking lots
* automobile service stations
* airports
* areas susceptible to spills (of materials lighter than water), (bus depots, transfer stations, etc.)
* new residential developments (as part of a treatment train)
* re-development in the urban core

Design and Operation

The Stormceptor can be divided into two components: treatment chamber and the by-pass chamber. Stormwater flows into the by-pass chamber via the storm drain pipe. Low flows are diverted into the treatment chamber by a weir and drop pipe arrangement (Figure 4). The drop pipe is configured to discharge water tangentially along the treatment chamber wall. Water flows through the treatment chamber to the outlet pipe which is submerged similar to the drop inlet pipe. Water flows up through the outlet pipe based on the head at the inlet weir, and is discharged back into the by-pass chamber downstream of the weir. The downstream section of the by-pass chamber is connected to the outlet storm pipe.

Oil and other liquids with a specific gravity less than water will rise in the treatment chamber and become trapped since the outlet pipe is submerged. Sediment will settle to the bottom of the chamber by gravity and centrifugal forces. The circular design of the treatment chamber prevents turbulent eddy currents and promotes settling.

During high flow conditions, stormwater in the by-pass chamber will overtop the weir and be conveyed to the outlet sewer directly (Figure 5). Water which overflows the weir creates a backwater effect on the outlet pipe (head stabilization between the inlet drop pipe and outlet riser pipe) ensuring that excessive flow will not be forced into the treatment chamber which could scour or resuspend the settled material.

FIGURE 4: Stormceptor Operation During Average Flow Conditions

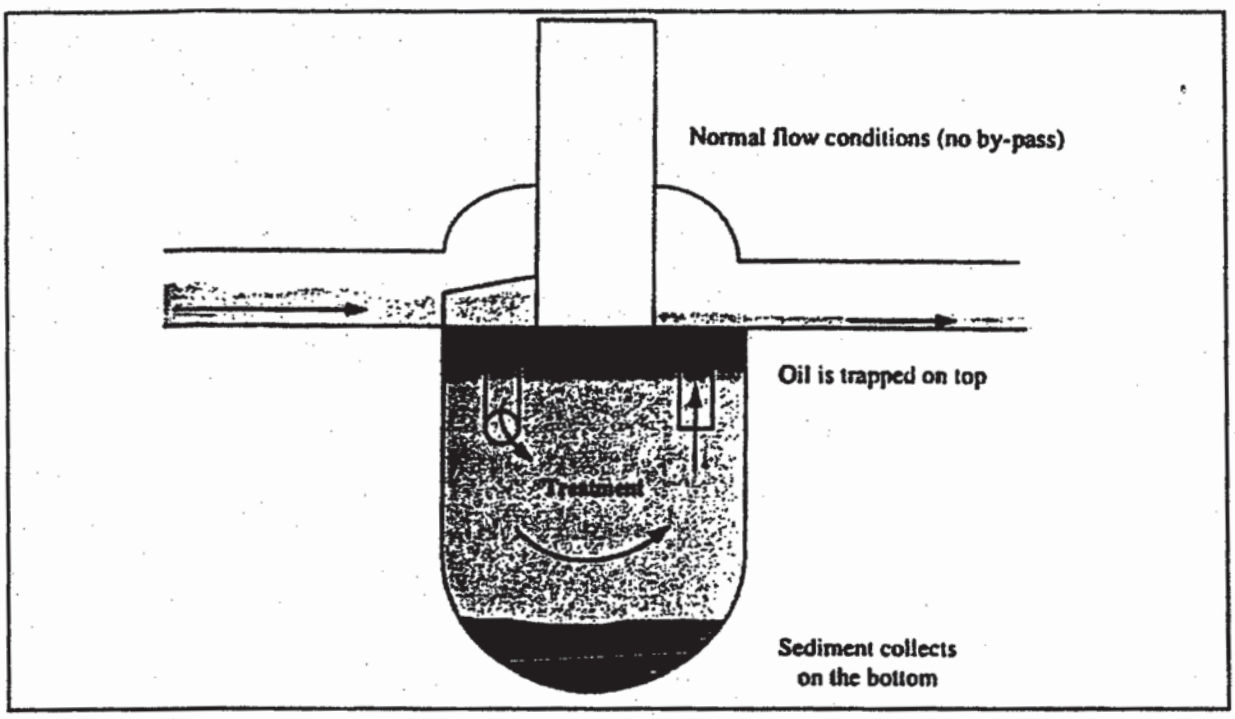
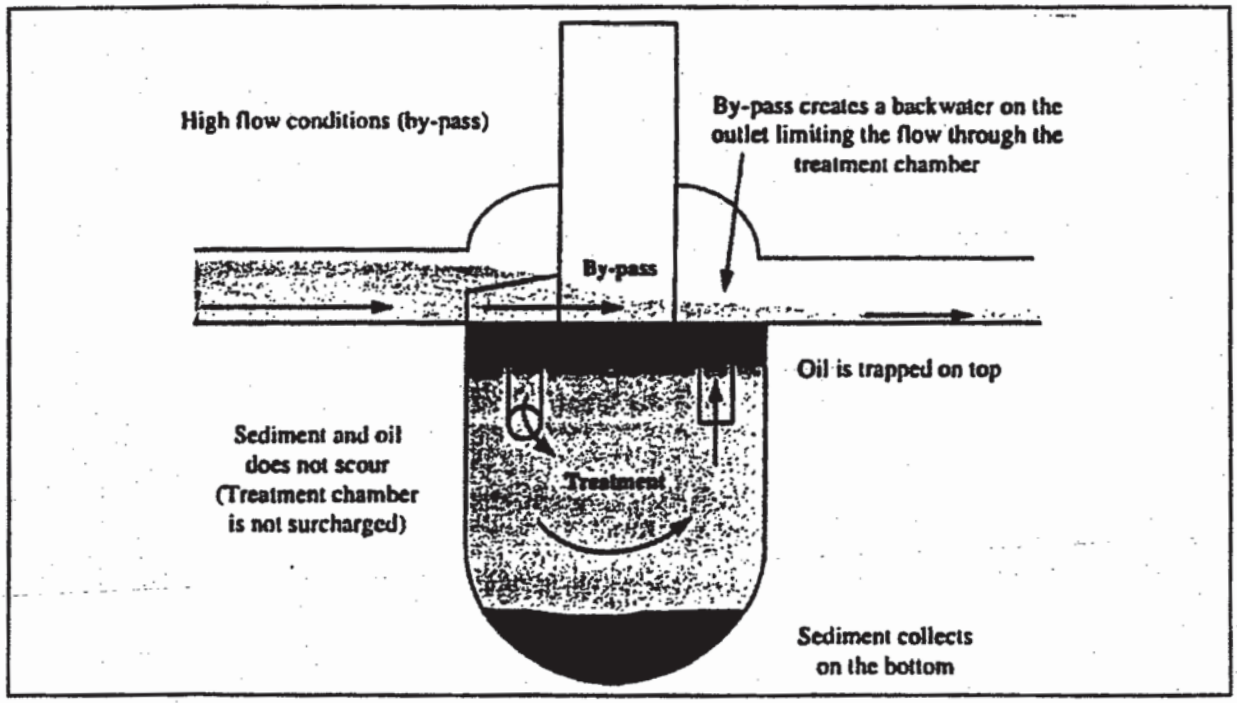


FIGURE 5: Stormceptor Operation During High Flow Conditions



Construction Material

The Stormceptor is manufactured in both fiberglass and concrete. Stormceptor Canada, Inc., manufactures fiberglass interceptors in its Mississauga, Ontario plant. Current interceptor sizes being manufactured range from 108 to 1,000 cubic feet (6 foot to 12 foot diameter interceptors).

Hydroconduit, Carder Concrete, and Wyoming Concrete manufacture the precast concrete Stormceptor in the United States under license to Stormceptor Corporation. The same sizes of interceptors are manufactured in concrete as well as in fiberglass.

Maintenance

Maintenance of the Stormceptor is performed using vacuum trucks. Costs to clean the Stormceptor vary based on the size of the unit, transportation distances and disposal.

Although annual maintenance is recommended, adequate data on the maintenance of Stormceptor units is not available. Accordingly, it is recommended that annual maintenance be performed initially, and that the frequency of maintenance be adjusted based on the local conditions (i.e., if the unit is filling up with sediment more quickly than projected, maintenance may be required semi-annually; conversely, once the site has stabilized maintenance, may only be required once every two years).

If the Stormceptor is implemented in areas where the potential for spills is great, the unit should be cleaned immediately after a spill occurs. Appropriate regulatory agencies should also be notified in the event of a spill.

Requirements for the disposal of material from the Stormceptor is similar to that of any other BMP (the sediment should be tested to determine the disposal options). Disposal options for the sediment will probably range from disposal in a works yard to disposal in a sanitary landfill site. Hazardous materials collected in the Stormceptor (oil/chemical/fuel spills) should be removed by a licensed waste management company and disposed of accordingly.

APPENDIX A

SCREENING FACTORS

SCREENING BMPs BASED ON PHYSICAL SUITABILITY

The nature of each of the physical factors outlined in the screening tools is described below.

Watershed Area Served

Pond[1] BMPs normally require a significant contributing watershed area (greater than ten acres) to ensure proper operation. The lower range of suitability for ponds is set by the minimum orifice size for dry extended detention ponds. By contrast, infiltration and vegetative BMPs are generally only applicable on sites less than ten acres, due to space, economic or flow velocity constraints.

It should be noted that the contributing area of a site does not always have to be fixed. By creatively using local topography and drainage, site area can be increased or decreased to better accommodate a particular BMP. For example, additional runoff generated away from the site (off-site runoff) can be routed to the BMP, thereby increasing total site area and making pond options more feasible. Conversely, various portions of the total runoff from a site can be routed to individual BMPs (decreasing site area, and making infiltration and vegetative BMPs more practical).

Soil Type

The permeability of the soil underlying a BMP has a profound influence on its effectiveness. This is particularly true for infiltration BMPs, which should not be applied on sites with soils that have infiltration rates less than 0.27 inch/hour (Source: MNPCA, 1991), as defined by the least permeable layer in the soil profile. This excludes most "C" and "D" soils (Soil Conservation Service Classification System) which cannot exfiltrate enough runoff through the subsoil. Pond BMPs tolerate a much broader range of soil conditions. Extremely permeable sandy soils may make it difficult to maintain water levels in wet ponds, and clayey soils may cause standing water problems in dry extended detention ponds.

Slope

Steep slopes restrict the use of several BMPs. For example, porous pavement and grassed swales must be situated in sites with slopes of 5% or less. Also, infiltration trenches and filter strips are not practical when slopes exceed 20%.

High Water Table

The water table acts as an effective barrier to exfiltration and can sharply reduce the ability of an infiltration BMP to drain properly. If the height of the seasonally high water table extends to within four feet of the bottom of an infiltration BMP, the site is seldom considered suitable.

[1] Ponds require a permanent pool of water for treating incoming stormwater runoff, thus they were not addressed in this document due to our arid western climate.

Proximity to Foundations and Walls

Since infiltration BMPs divert runoff back into the soil, some sites may experience problems with local seepage. This can be a real problem if the BMP is located too close to a building foundation. Another risk is that the runoff and pollutants diverted into the groundwater may contaminate water supplies. While relatively little research has been performed to evaluate this risk, it is advisable to keep infiltration BMPs located at least 100 feet away from drinking water wells.

Land Consumption

Some sites are so small or so intensively developed that no room is available for BMP options that consume a large amount of space. Pond BMPs and porous pavement both require a large surface area and a generous buffer, and, consequently, may not fit into extremely tight sites.

Maximum Depth

To preserve storage capacity and provide optimal pollutant removal conditions, infiltration BMPs must be designed to completely drain within 2 to 3 days after a storm. If the infiltration rates of the underlying soils are marginal, the depth of the infiltration facility may be limited. These restrictions vary depending on whether the facility is a trench, basin or porous pavement.

Restricted Land Uses

Certain BMPs can only be applied to particular land uses, and are not broadly applicable for all development sites. Porous pavement, for example, can only be used for sites with parking lots not expected to receive heavy car or truck traffic. Similarly, grassed swales can only be used in conjunction with low density residential areas or roads.

High Sediment Input

Most BMPs are unable to handle the large loads of sediment eroded during the construction phase of development. Infiltration BMPs are particularly susceptible to rapid clogging and subsequent failure if significant sediment loads are allowed to enter the structure. As a general rule, these BMPs should not be installed until all of the land disturbed by construction in the contributing watershed is effectively stabilized. Contractors must often take unusual steps during the actual installation of the infiltration BMPs to prevent soil compaction or sediment contamination. To prevent clogging of infiltration BMPs after construction, many designs call for the use of a pre-treatment device to filter out sediment and other coarse particles before they reach the facility.

Stream Warming

Shallow marshes and wet ponds warm up rapidly during the Summer months. Under certain circumstances, runoff leaving these BMPs can be 5 to 10 degrees warmer than the runoff entering the structure. Such warm water release can be a lethal thermal shock to aquatic organisms that are adapted to cold water conditions. Thus, the use of wet ponds and shallow marshes should be avoided in watersheds with sensitive cold-water streams.

SCREENING BMPs BASED ON STORMWATER BENEFITS PROVIDED

Urbanization tends to increase runoff and pollutant loadings to the receiving water body. The most effective runoff quality controls reduce the runoff peak and volume. Consideration involves a number of factors:

Peak Discharge Control

Some local regulations require that a nonpoint source control method be able to control the peak flow from a two year storm (a storm expected to produce a flood every two years). Some jurisdictions require control of even larger storms. Ponds are an excellent method for achieving this goal; infiltration basins are somewhat less effective. Even if a BMP does not control these larger design storms, they must still be designed to safely pass them through (e.g., using an emergency spillway or overflow pipe).

Control of First Flush

First flush is the disproportionately large amount of pollutants usually found in runoff during the early part of a high intensity or large volume storm, caused by the rapid runoff of accumulated pollutants. First flush control - the first ½ inch of rainfall - can also be required for a runoff area. However, if storms in an area are frequent, the first flush may not be significant and further monitoring may be needed.

Volume Control

Infiltration BMPs can help to reduce the increased runoff volumes generated from small and intermediate storms, since they divert a significant fraction of storm runoff volume back into the soil. Pond BMPs, on the other hand, are ineffective in reducing runoff volume. Ponds only detain or retain runoff for a short period of time before releasing it downstream.

Ground Water Recharge

Infiltration BMPs provide an excellent way to replenish groundwater lost because of development; however, this benefit must be weighed against the potential for groundwater contamination.

Streambank Erosion Control

While some nonpoint source pollution methods control streambank erosion to some extent during a two year storm if properly designed, installed, and maintained, more severe storms require large extended detention ponds and infiltration controls to prevent downstream erosion.

SCREENING BMPs BASED ON POLLUTANT REMOVAL BENEFITS

The nature of the pollutant being removed often sets an upper limit on the potential removal rate that can be achieved. From an operational standpoint, pollutants can be said to exist in either particulate or soluble forms, or more commonly, as a mix of both forms. Particulate pollutants, such as sediment and lead, are relatively easy to remove by common BMP removal mechanisms, including settling and filtering. Soluble pollutants, such as nitrate, phosphate, and some trace metals, are much more difficult to remove. Settling and filtering removal mechanisms have little or no effect, and biological mechanisms, such as uptake by bacteria, algae, rooted aquatic plants or terrestrial vegetation, must be used.

SCREENING BMPs FOR ENVIRONMENTAL AMENITIES

Local governments should consider the total environment in selecting a nonpoint source pollution strategy that will provide the maximum benefit to the environment and to consumers. These benefits usually depend not only on the method itself but also on its design, maintenance, and congruence with the surrounding landscape.

Low Flow Maintenance

Downstream aquatic life can be jeopardized when the natural low flow levels experienced during the Summer months decline even further because of reduced infiltration in urbanized watersheds. Infiltration BMPs contribute significantly to groundwater recharge and appear to be capable of sustaining low flows during the critical Summer months if widely applied in a watershed. Vegetative BMPs, such as swales and filter strips, appear to have modest potential in this regard, and pond BMPs have little effect in maintaining low flows.

Streambank Erosion Control

Streambank erosion not only contributes large sediment loads to receiving waters, but also has an adverse impact on the habitat quality for downstream aquatic life. Some BMPs, such as extended detention ponds and full exfiltration BMPs, can control erosive storm flows enough to keep downstream channels and banks relatively stable, whereas most other BMPs have only marginal capabilities.

Aquatic Habitat Creation

Some BMP options are attractive in that they can create wetland or open water areas utilized by waterfowl, marsh birds, and other wildlife. Shallow marshes and wet ponds are particularly well suited for this role, if relatively small investments are made in landscaping design and plant selection. "Volunteer" wetland plants may also colonize these BMPs (and poorly drained extended detention ponds) without intentional planting efforts, but may not provide high quality habitat.

Wildlife Habitat Creation

BMPs with generous buffers (wet ponds, extended detention ponds, infiltration basins and filter strips) present good opportunities for creating terrestrial wildlife habitat. The buffer areas (and sometimes the basin floors) can be managed as wet meadows, thus reducing mowing costs for the facility. Relatively diverse biological communities can be further enhanced through judicious planting of trees, shrubs and grasses that provide food and cover for wildlife. These communities have added value because of the general scarcity of wildlife habitat in urbanized areas.

No Thermal Enhancement

As noted earlier, wet ponds can be detrimental in some watersheds as they heat water passing through the structure during the Summer months. Their use is often restricted in watersheds that contain sensitive cold-water fisheries, such as those that support native trout populations.

Landscape Enhancement

Few BMPs will be an attractive feature of a community unless serious efforts are directed toward natural grading, landscaping and regular maintenance. If properly designed, pond options probably have the most potential to enhance the urban landscape. Wet ponds are frequently used to create a waterfront effect in residential developments, and may actually increase the value of adjacent property. Vegetative BMPs have a less dramatic effect on landscape values, and most infiltration BMPs and dry extended detention ponds have a neutral or negative effect.

Recreational Benefit

With the exception of large wet ponds, few BMPs provide active recreational opportunities (e.g., fishing, swimming, or skating). In fact most jurisdictions generally do not encourage such activities, as they may invite vandalism or liability problems. However, if properly landscaped, pond BMP options can provide passive recreation opportunities for adjacent residents such as walking, bird watching, or nature enjoyment, particularly when combined with bike or jogging paths, picnic areas, and tot-lots situated in nearby open space. In rare instances, the floors of extended detention ponds can even be used for ball fields and play areas.

Hazard Reduction

Careful design of pond BMPs is needed to reduce potential safety hazards. Plans should be analyzed to eliminate obvious hazards, such as steep side-slopes, deep water, sudden drop-offs from the shore, or dangerous outlet/pipe configurations. Most infiltration BMPs entail little if any safety risks, and some (porous pavement) are thought to reduce certain traffic safety problems.

Aesthetic Value

As shown in Table 2, most pond options have the potential to be either an attractive or an unattractive feature of a community, depending on the attention paid to their design, landscaping, and maintenance. Artificial contours should be avoided, and control structures (risers, low flow channels, outlets and riprap) should be concealed in the embankment, or by vegetation when feasible. Infiltration BMPs generally have little potential to be attractive, but can at least be designed to be unobtrusive.

Community Acceptance

Survey of resident perceptions about adjacent BMPs have revealed that most BMPs are acceptable if regular cosmetic maintenance is performed. Residents often indicate a preference for wet ponds over dry ponds. Their response to infiltration BMPs is not well documented. Residents' primary concerns often center around perceived nuisance conditions (algae blooms, odors, mosquitoes, weeds, trash, turbidity, etc.), most of which are temporary conditions which should seldom occur if the BMP is properly designed and maintained.

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APPENDIX H

Consolidated Program for Water Quality Monitoring

Riverside County Flood Control & Water Conservation District

Consolidated Program for Water Quality Monitoring

October 1994
- for permit renewal -

Submitted to: Region 7 of the California Water Quality Control Board, Colorado Region

Region 8 of the California Water Quality Control Board, Santa Ana Region

Region 9 of the California Water Quality Control Board, San Diego Region

National Pollutant Discharge Elimination System

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INTRODUCTION

This program is a required part of an area-wide municipal permit for stormwater mandated by the Federal Clean Water Act. Riverside County and the Flood Control District are both under the jurisdiction of three Regional Water Quality Control Boards:

1. Region 7(WW), Colorado Board for the desert watersheds including Whitewater River; City of Blythe is excluded. NPDES permit pending application process.

2. Region 8(SA), Santa Ana Board for the watershed of Santa Ana River. NPDES Permit No. CA8000192 till July 1995.

3. Region 9(SM), San Diego Board for the watershed of Santa Margarita River. NPDES Permit No. CA0108766 till July 1995.

A permit is expected to be issued by the Colorado Board in the Spring of 1995 for the Region 7 area of the Whitewater River Watershed.

The Flood Control District, by virtue of it's expertise and position as lead permittee, has developed the monitoring programs in the two regions with permits. This is a revised edition of the Monitoring Program originally submitted to the Santa Ana Board in 1991.

After four years experience from starting one of the earliest NPDES Programs, there have been many changes and modifications. The selection of monitoring stations has been especially volatile and complex. The District has gained valuable knowledge from the EPA guidance manuals, the local Water Quality Control Boards, and common field experience.

A second Monitoring Program was developed and submitted to the

San Diego Board in March 1993. A consolidated approach combining all three regions into one manual was chosen after facing the prospects of a third Program for the Colorado Board. Allowances will be made for any differences between the Boards but the District expects this layout will facilitate more uniformity.

Additional water quality data is also gathered by Coachella Valley Water District and the Regional Water Quality Control Boards. The purveyors of domestic water supplies do some analysis of samples from their reservoirs or other bodies of water under their jurisdiction.

The U.S. Geological Survey collects water quality data. One of their programs is known as the "Hydrologic Bench Mark Network". Another program is known as the "National Stream Quality Accounting Network" or NASQAN which includes four sites in Southern California:

1. Santa Ana River below Prado Dam
2. Los Angeles River at Long Beach
3. San Luis Rey River at Oceanside
4. Alamo River at No.3 near Calipatria

Program Objectives

The objectives of this monitoring program are:

1. Assessment of mass loading rates from urban storm drains to the receiving waters.
2. Assess the influence of land use on the water quality of runoff.
3. Verification and control of illicit discharges.
4. Compliance monitoring of water quality.
5. Assess the effectiveness of various urban practices designed to control pollution.
6. Identify problem areas and/or trends.
7. Establish a database for future reference, research, and analysis.

8. Identify baseline conditions.
9. Identify pollutants of concern.
10. Carryout programs for special studies as needed.

Identifying previously unknown point sources of pollution is a task under the Reconnaissance Survey Program. The problem of assessing "source identification of non-point pollution" is a separate program in itself.

Program Outline

The monitoring program consists of five sections:

1. Implementation Plan
2. Monitoring Plan
3. Quality Assurance Plan
4. Data Management Plan
5. Budget & Equipment Plan

1. The Implementation Plan describes the various sampling protocols followed for gathering water quality data along with the number of sites, sampling frequency, and list of locations.

2. The Monitoring Plan describes the details necessary for the organization of sample collecting as proposed by the Implementation Plan.

3. The Quality Assurance Plan describes the procedures needed for consistent application of the Implementation Plan and assures that the results of monitoring will be reliable.

4. The Data Management Plan describes the steps needed to manage the recording, reporting, and reviewing of the water quality data.

5. The Budget & Equipment Plan describes an overview of the process of funding and spending for the Monitoring Program along with maintaining an inventory.

IMPLEMENTATION PLAN

Introduction

The Implementation Plan is the starting basis of the whole program. It determines the budget and controls the future allocation of time for monitoring chores. It also serves as a convenient basis for comparisons with other programs.

The District has developed eight protocols for sample collecting. Each protocol has a different purpose and includes any number of implementation details chosen to achieve that purpose. The protocols serve as convenient classifications to facilitate overall management of the monitoring program.

The sampling protocols are as follows:

1. Basic Sampling
    a. Receiving waters
    b. Dry weather
    c. Wet weather
    d. Alternates
4. Sediment
5. Bioassays
6. Screening
7. Complaints
8. Special

The five year plan is outlined as follows:

Year One: Basic, Sediment, Bioassay (toxicity)
Year Two: Basic, Sediment, Screening one third of sites
Year Three: Basic, Sediment, Screening one third of sites
Year Four: Basic, Sediment, Screening one third of sites
Year Five: Basic, Sediment, Bioassay (toxicity)

Receiving Waters Protocol

An analysis of receiving waters is one of the gages or barometers for assessing the impact of a watershed's runoff water quality. In a vague sense, these waters are the "end-of-the-line" and should reflect the influence or impact of non-point source surface runoff. There is a general lack of precision about the definition of receiving waters and this matter is further discussed in the Site Selection section of the Implementation Plan.

The sampling protocol for the bodies of receiving waters is as follows:

1. Collect manual grab samples.
2. Analyze for the short list of parameters ('A' List).
3. Region 7(WW) - 2 sites 4 times per year plus none (0) by Coachella Valley Water District (CVWD).
   Region 8(SA) - 6 sites 4 times per year.
   Region 9(SM) - 3 sites 4 times per year.

Site List for Receiving Waters Stations

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1	UpperWhitewater(115)	Lake Elsinore(31)*	Upper Murrieta(95)
2	LowerWhitewater(116)	TemescalGrvlPit(66)	Lower Murrieta(94)
3		Lake Evans(32)	Temecula Crk(93)
4		SanJacintoRiver(68)	
5		SantaAnaRiver(67)	
6		Lake Mathews(33)	

* Station ID number assigned by the Flood District

Dry Weather Protocol

Dry weather flow indicates runoff that is not directly from a rain storm event. Storm drains, by definition, should always be dry during dry weather; if not, then that flow is a suspected illicit discharge.

Natural upwellings of groundwater and certain urban waters are acceptable flows during dry weather. However, monitoring of these flows is needed to verify that there is no illicit discharge mixed-in. Monitoring is also needed for estimating the annual rate of mass loading emitted from the watershed to the receiving waters. Mass loading is the total material of a specific parameter expressed in units of weight and is calculated by multiplying the material's average concentration times the total volume of flow.

The sampling protocol for dry weather testing is as follows:

1. Use a time-weighted (24 hours) auto composite where the equipment is available; otherwise, use a manual grab sample.
2. Analyze for the short list of parameters ('A' List).
3. Region 7(WW) - 2 sites 3 times per year plus 1 site by Coachella Valley Water District(CVWD).
   Region 8(SA) - 19 sites 3 times per year.
   Region 9(SM) - 4 sites 3 per year.

Site List for Dry Weather Stations

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1	Ramsey(98)	Arlington(1)	Wildomar(92)
2	Sunrise(102)	Anza(2)	EmpireCrk(84)
3	52ndAv(CVWD)	Bly(3)	Redhawk(83)
4		Box Springs(4)	Cal Oaks(91)
5		Hemet(5)	Montezuma (87)
6		La Sierra(6)	
7		Mag.Center(7)	
8		Sunnymead(9)	
9		Sunnyslope(10)	
10		Temescal Chan(34)	
11		University(12)	
12		Lower San Sevaine(14)	
13		North Norco(18)	
14		Corona(21)	
15		Fairmont(23)	
16		Four Corners(24)	
17		Canyon Springs(28)	
18		Hospital(29)	
19		Trailer Park(30)	
20		Perris Line J(65)	

Wet Weather Protocol

Wet weather flows occur in direct response to a rain storm event. It is assumed that wet weather flows wash-off all the streets, houses, and etc. carrying pollutants through storm drains out to the receiving waters.

Many people assume the following statement is true: "the solution to pollution is dilution". The results of stormwater monitoring seem to indicate that the statement is partially false - wet weather flows have higher concentrations of metals than dry weather flows even though the total dissolved solids may be nearly as pure as rain. The washing effect of rainwater seems to dissolve metals at a greater rate than it does common salts and those metals tend to cause toxicity problems in the receiving waters.

The sampling protocol for wet weather flows is as follows:

1. Collect a flow weighted auto composite where the equipment is available; otherwise, a manual grab is adequate any time after storm runoff begins to occur. A 'first flush' sample is not required for municipal permits.
2. Analyze for the short list of parameters ('A' List).
3. Region 7(WW) - 2 sites 1 time per year plus 1 site by Coachella Valley Water District (CVWD).
   Region 8(SA) - 10 sites min=3 or max=5 times per year.
   Region 9(SM) - 3 sites 3 times per year.

Site List for Wet Weather Stations

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1	Ramsey(98)	Anza(2)	Wildomar(92)
2	Sunrise(102)	Box Springs(4)	Cal Oaks (91)
3	(CVWD)	Mag.Center(7)	EmpireCrk (84)
4		San Sevaine(14)	
5		Corona(21)	
6		Fairmont(23)	
7		Four Corners(24)	
8		Canyon Springs(28)	
9		Hospital(29)	
10		Trailer Park(30)	

Alternate Testing Sites

Occaisionnally, trips to regular stations will not result in a sample being collected due to no flow or some other reason. Money has been budgeted for so many regular stations assuming there will not be a failure to collect it. When a sample is not collected then a test can be made at another site that is not routinely sampled but is of some interest. The following is a list of possible sites for alternate sampling.

Site List for Alternate Stations

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1		Canyon Lake (70)	Rancho Way (86)
2		Lee Lake (48)	Murrieta F-3 (90)
3		Day Creek (15)	Murrieta D (96)
4		Perris Val SD (74)	Temecula C (97)
5		BuenaVista FB (75)	'C'Street SD (85)
6		BeaumontCherry&8th(72)	
7		Calimesa Channel (71)	
8		Chandler Channel (69)	
9		Nuevo Channel	

Sediment Testing Protocol

Sediment testing is done as an Operations & Maintenance Class of "Best Management Practice" (BMP No. OM-3) in accordance with the Drainage Area Management Plan (DAMP). Also see the supplemental section describing a Sediment Testing Program.

The sampling protocol for sediment testing is as follows:

1. Manually collect a one pint surface sample from a spot near the site's outlet and on the edge of the talweg (the natural ditch that low flows create for themselves).
2. Analyze for moisture content, organic content, particle size distribution and heavy metals using a Toxicity Characteristic Leaching Procedure (TCLP).
3. Region 7(WW) - none
   Region 8(SA) - 14 sites 1 time per year
   Region 9(SM) - none

Site List for Sediment Testing

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1	-none-	North Norco(49)	I-215 FB (118)
2		Box Springs FB(77)	
3		Monroe Basin(52)	
4		Jurupa Basin(53)	
5		Rubidoux Basin(54)	
6		Kansas Basin(55)	
7		Marlborough Basin(56)	
8		Columbia Basin(57)	
9		Canyon Springs Basin(58)	
10		Perris Valley Drain(59)	
11		Salt Creek Channel Outlet(60)	
12		Hemet Channel(61)	
13		San Jacinto Drain(62)	
14		Buena Vista Basin(63)	

Protocol for Bioassays

Bioassays are all laboratory tests based on the reponse of live organisms and measurements of their growth, mortality, or teratology. Typical bioassays are tests for bacteria such as fecal coliforms, fecal streptococcus, Microtox, and toxcity. Toxcity testing is either for acute or chronic methods.

Common Microbe Testing

Analyzing for microorganisms requires a separate protocol because the recommended holding.times are very short - 6 hours or less; that six hours is intended more for the lab's convenience to schedule the test. More often than not, it takes a technician six hours or more just for travel time and miscellaneous chores if he has to do two or more sites. Therefore, if the Board is convinced that these tests are needed then quality samples of consistently reliable results can only be obtained by a separate protocol.

The sampling protocol for microbes testing is as follows:

1. Plan to collect only one site to keep travel time as minimal as possible. The lab must know the collector's schedule so they can plan their own testing schedule for producing quality results.
2. Collect a manual grab using a sterilized container with thiosulfate added to neutralize any chlorine disinfectant.
3. Collect one grab in the morning and another one in the afternoon for detecting diurnal variations. The morning sample must be delivered immediately and a return trip made for the afternoon sample.
4. Region 7(WW) - none
   Region 8(SA) - none
   Region 9(SM) - none

Site List for Microbe Testing

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1	- none -	- none -	- none -

Microtox Method

This method is under consideration and has not been adopted.

Aquatic Life Toxcity

This type of analysis measures the influence of a water sample's total combination of parameters on various organisms under controlled laboratory conditions. The results may show that some constituents are either more or less detrimental than is currently thought or there may be synergistic interactions. Toxicity testing is not required at the present time and additional research will be needed before these tests can be used for compliance determinations.

Screening Protocol

Screening tests are a kind of exploratory sampling where sites are randomly chosen and analyzed for a long list of parameters to discover what problems may exist in an area. This routine is required for the Part II application of a regular permit. The District has never done a long list screening in the Santa Ana Region.

For any one site, it is probably adequate to do a long list analysis no more than once every five years or so unless unusual results indicate otherwise. The frequency for repeating these tests is open for debate. One long list test in the past does not make a site immune to future contamination; at least a minimal effort should be shown along these lines for the sake of vigilance.

The sampling protocol for screening tests is as follows:

1. Collect a manual grab during wet or dry weather flows. The use of an automatic sampler will require an abbreviated long list of parameters.
2. A long list analysis may require nine or more separate containers - verify with the lab and follow their directions.
3. Region 7(WW) - Done in 92-93 and 93-94 season.
   Region 8(SA) - Two(2) sites per year.
   Region 9(SM) - Done in 93-94 season.

Site List for Screening Protocols

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1	- none -	Mag.Center(7)	- none -
2		Arlington(1)	

Complaints Protocol

During any one year, there will be miscellaneous complaints or reports from citizens related to water quality problems. Some of those cases will need a laboratory analysis for follow-up. The sampling protocol must be chosen to fit the case at that time. This protocol is intended mostly for budgeting extra moneys to cover these tests.

Take the following actions in response to a complaint:

1. Prepare for field trip by first doing a background check of assessor's maps, parcel ownership, street addresses for parcels, aerial photos, topograhic maps, watershed boundaries, existing facilities maps, and etc.
2. Evaluate the complaint and formulate a response; then proceed out to the site to verify your assessment.
3. Collect photographs.
4. Interviews
5. Sample and test
6. Compose a letter with your conclusions
7. Report to County Environmental Health Dept.
8. Report to the Regional Water Quality Control Board.

The Drainage Area Management Plans for both Santa Ana and Santa Margarita areas have a BMP to enlist government employees to record and report suspected violations. When this BMP is implemented then the number of complaints will increase considerably.

The sampling protocol for complaints testing is as follows:

1. Budget for the following number of tests per year (adjust as needed).
2. Region 7(WW) - 2 per year.
   Region 8(SA) - 4 per year.
   Region 9(SM) - 1 per year.

	Region 7(WW)	Region 8(SA)	Region 9(SM)
1	- none -	- none -	- none -

Special Protocols

This section is a catchall for miscellaneous studies including Tap Water Tests, Specific Goals, and finally any others added on informally.

1. Tap Water Testing

Discussion: Tap water, and domestic water in general, ends up in the District's receiving waters; the impact, if any, of domestic water discharges are currently unknown. The suppliers of domestic waters must prepare an annual water quality report as required by official regulations. Those reports, as currently available, are not entirely adequate for the purposes of "source identifications". However, the raw data used as the basis for the reports would be more informative.

Summary of Number of Sites (RCFC + CVWD)

Currently for 94-95 (RCFC + CVWD)

	Reg.7(WW)	Reg.8(SA)	Reg.9(SM)
1. Receiving Waters	2+0	6	3
2. Dry Weather	2+1	20	5
3. Wet Weather	2+1	10	3
4. Alternates	0	9	5
5. Sediment	0	14	0
6. Bioassays	0	0	0
7. Screening	0	2	0
8. Complaints	2	4	1
9. Special	0	0	0

MONITORING PLAN

Introduction

The Monitoring Plan describes various details of sample collecting and the choices that should be made prior to implementing a monitoring program. This includes standards and criteria for site selection, sampling procedure, frequency, scheduling, test parameters, storm selection, and etc.

Site Selection

Consideration of a site for a monitoring station is first based on the intended purpose of the sampling such as for a receiving water, a stormwater outfall, land use, sediment, a specific interest, or an history of previously collected water quality data.

Receiving Waters

Receiving waters are all those features of the landscape that collect, convey, or retain stormwater runoff before entering the oceans or groundwaters. This includes lakes, streams, reservoirs, flood basins, spreading grounds, gravel pits, rock quarries, channels, and storm drains. Notice that in the majority of cases, there is a receiving water to the receiving waters.

Storm drains, channels, and other improved drainage facilities are excluded from receiving waters because they are the focus of other sampling protocols.

Reservoirs, as a group, are excluded because they have very small tributary watersheds and their waters originate, not from runoff, but mostly from imported sources or pumped groundwater. A small watershed, in this case, means one that could never contribute enough runoff to match the basin's normal capacity.

Live bodies of water are rare in an arid climate like Southern

California. Therefore, most receiving waters are dry most of the year and contain a free water surface only in direct response to rainfall. All these ephemeral features are excluded from the receiving waters of concern.

General Outline of Receiving Water Features

I. Lake: a depression that holds a standing body of water derived from runoff or groundwater.
   A. Natural: not man-made.
   B. Artificial: man-made depression or blocked stream.

II. Reservoir: a basin that holds a standing body of water derived from imported sources.
   A. Major: large public works with regional influence.
   B. Minor: small semi-private developments with local influence.
   C. Scenic: small private tract enhancements.

III. Flood Basins: a facility for throttling down flood peaks.
   A. Primary: large facility by a State or higher agency.
   B. Secondary: smaller facilities by local agencies.

IV. Watercourses: a conduit where runoff concentrates and is conveyed to receiving waters.
   A. Un-improved: natural without public ownership.
      1. Primary: usually too big for local agencies to improve.
      2. Secondary: some modifications but no concrete or levees.
   B. Improved: an engineered and publicly maintained facility.
      1. Urban: located in developed non-agricultural areas.
      2. Rural: located in undeveloped or agricultural areas.

V. Miscellaneous
   A. Spreading Grounds: a facility to enhance infiltration for groundwater recharge.
   B. Gravel Pits: the basin remaining after removal of aggregate.
   C. Rock Quarries: the basin remaining after mining operations.

Monitoring Status of All Receiving Water Groups

1. Natural lakes: Candidates for Receiving Water Protocol.
2. Artificial lakes: Candidates for Receiving Water Protocol.
3. Major reservoirs: Excluded, monitored by owners.
4. Minor reservoirs: Excluded, monitored by owners.
5. Scenic reservoirs: Excluded, monitored by owners.
6. Primary flood basins: None at this time.
7. Secondary flood basins: Candidates for Sediment Protocol.
8. Primary natural watercourses: Candidates for Receiving Water Protocol.
9. Secondary natural watercourses: Candidates for Sediment Protocol.
10. Improved urban watercourses: Candidates for Wet and Dry Protocols at major outfalls.
11. Improved rural watercourses: None at this time.
12. Spreading grounds: None at this time.
13. Gravel pits: Candidates for Receiving Waters Protocol.
14. Rock quarries: Covered by Industrial Point Source Permits; private property often dangerous to enter because of extreme earth moving operations.

Comprehensive Outline of Receiving Water Features

VI. Lakes
- A. Natural Basins
  - 1. Region 7(WW)
    - a. Salton Sea
  - 2. Region 8(SA)
    - a. Elsinore
    - b. Cedar Sump (Mira Loma)
    - c. Mystic
    - d. Hog (Bautista Canyon)
  - 3. Region 9(SM)
    - a. Skunk Hollow (developed over)
    - b. Santa Rosa Ephemeral Ponds
- B. Artificial Basins
  - 1. Region 7(WW)
    - a. Cahuilla
  - 2. Region 8(SA)
    - a. Canyon - some imported water
    - b. Evans - significant imported water.
    - c. Lee
    - d. Mockingbird - significant canal water.
    - e. Hole - embankment is breached.
    - f. Fulmor
    - g. Hemet
    - h. Foster (Idyllwild)
  - 3. Region 9(SM)
    - a. Vail
    - b. Riverside (west of Anza)

VII. Reservoirs
- A. Major
  - 1. Region 7(WW)
    - a. none
  - 2. Region 8(SA)
    - a. Mathews
    - b. Perris
    - c. Domengoni (proposed for 1998)
  - 3. Region 9(SM)
    - a. Skinner - some natural runoff
- B. Minor
  - 1. Region 7(WW)
    - a. Tamarisk (Desert Center)
  - 2. Region 8(SA)
    - a. San Jacinto
  - 3. Region 9(SM)
    - a. Anza

C. Scenic
1. Region 7(WW)
a. The Pyramids
b. Mission Lakes
c. Desert Dunes
d. Seven Lakes
e. Mission Hills
f. Desert Island
g. Palm Valley
h. Bermuda Dunes
i. total number of golf course ponds = 63
2. Region 8(SA)
a. Norconia (Norco)
b. Brentwood (Corona)
c. Sunnymead (Moreno Valley)
d. Menifee (south of Sun City)
e. Reflection (west of San Jancinto)
f. Ski Land (east of Perris)
g. Moreno Valley Ranch
h. El Casco Lakes
3. Region 9(SM)
a. Bear Creek (between Wildomar & Murrieta)

VIII. Flood Basins
A. Primary
1. Region 7(WW)
a. Wide Canyon
b. Tachevah
2. Region 8(SA)
a. Prado
3. Region 9(SM)
a. none
B. Secondary
1. Region 7(WW)
a.Riverside Co. Flood Control District
(1) Tahquitz (PS)
(2) Farrell (PS)
b.Coachella Valley Flood Control District
(1) West Magnesia (RM)
(2) East La Quinta (LQ)
(3) Dead Indian (PD)
(4) Living Desert (IW)
(5) Cat Creek
(6) Oleander
(7) Upper Bear Creek
(8) Calle Tacate

2. Region 8(SA)
    a. Subarea One (above Lake Elsinore excluded)
        (1) Alessandro
        (2) Anza
        (3) Box Springs
        (4) Columbia
        (5) Harrison
        (6) Jurupa
        (7) Monroe
        (8) Main St.
        (9) Maybe
        (10) Rubidoux
        (11) Oak St.
        (12) Kansas
        (13) Marlborough
    b. Subarea Two (above Lake Elsinore only)
        (1) Bautista
        (2) Buena Vista
        (3) Lasselle
        (4) Little Lake
        (5) Metz
        (6) Nason Street
        (7) Parkhill
        (8) Pigeon Pass
        (9) Perris Third St.
        (10) Sedco
        (11) Canyon Springs
3. Region 9(SM)
    a. I-215 Basin
    b. Hancock
    c. Las Bresis

IX. Water Courses
A. Primary
1. Region 7(WW)
    a. Whitewater - upper=perennial, lower=ephemeral
2. Region 8(SA)
    a. Santa Ana - perennial
    b. Temescal - perennial
    c. San Jacinto - naturally ephemeral
3. Region 9(SM)
    a. Santa Margarita - perennial
    b. Murrieta - naturally ephemeral with perennial urban runoff.
    c. Temecula - naturally ephemeral with perennial urban runoff.

B. Secondary

1. Region 7(WW)

a. San Gorgonio - naturally perennial
b. Palm - upper ephemeral, lower perennial urban runoff.
c. Mission - upper perennial, lower ephemeral
d. Snow - naturally perennial
e. Little Morongo - ephemeral
f. Big Morongo - ephemeral
g. Smith - ephemeral
h. Long - ephemeral
i. Chino - upper naturally perennial
j. Tahquitz - upper=perennial, lower=ephemeral
k. CVWD -Thunderbird, West Magnesia, Palm Valley, Deep Canyon, La Quinta Evacuation, Thousand Palms, Detention Channel No.2, Detention Channel No.3, Avenue 64 Evacuation.

2. Region 8(SA)

a. San Sevaine - ephemeral
b. Day Creek - ephemeral
c. Jurupa Wash - ephemeral
d. Reche - ephemeral
e. Tequesquite - perennial urban runoff
f. Sunnyslope - naturally perennial
g. Arlington Valley - naturally perennial
h. Salt Creek - ephemeral
i. Bautista - ephemeral
j. Cottonwood - ephemeral
k. San Timeteo - ephemeral
l. Noble - ephemeral

3. Region 9(SM)

a. Warm Springs - ephemeral
b. Santa Gertudis - ephemeral
c. Wilson - naturally perennial
d. Tule - naturally perennial
e. Wildomar - ephemeral
f. Tucalota - perennial due to Skinner Reservoir
g. Cahuilla - ephemeral

C. Urban

1. Region 7(WW)

a. Barristo - perennial urban runoff
b. Palm Canyon
c. Tahquitz - upper naturally perennial
d. Cathedral - ephemeral
e. Verbena - ephemeral
f. DHS Channel - ephemeral
g. Sunrise Way - perennial urban runoff
h. CVWD - Sky Mountain, Peterson, Villas, South

Portola, North Portola, Cook Street, Highway 111.

2. Region 8(SA)
    a. Sub-area one (below Railroad Canyon Dam)
        (1) Anza - perennial urban runoff
        (2) Arizona - ephemeral
        (3) Bly - ephemeral
        (4) Buena Vista - ephemeral
        (5) Corona - ephemeral
        (6) Four Corners - ephemeral
        (7) La Sierra - naturally perennial
        (8) Mag.Center - perennial urban runoff
        (9) Main Street - ephemeral
        (10) Monroe - perennial urban runoff
        (11) North Norco - ephemeral
        (12) Phoenix - ephemeral
        (13) Pyrite - ephemeral
        (14) Rubidoux - naturally perennial
        (15) South Norco - ephemeral
        (16) University - perennial urban runoff
        (17) Victoria - ephemeral
        (18) Ortega - ephemeral
        (19) Lime St - ephemeral
        (20) Elsinore's Riverside - ephemeral
        (21) Box Springs Chan - perennial urban runoff.
        (22) Sunnyslope - naturally perennial
    b. Sub-area two (above Railroad Canyon Dam)
        (1) Edgemont - ephemeral
        (2) Elsinore Ln C - ephemeral
        (3) Sunnymead - ephemeral
        (4) Moreno Ln F - ephemeral
        (5) Stetson - ephemeral
        (6) Kitching - ephemeral
        (7) Whittier - ephemeral
        (8) Heacock - ephemeral
3. Region 9(SM)
    a. Empire(A) - ephemeral
    b. Montezuma(B) - ephemeral
    c. Line C - ephemeral
    d. Guava St(D) - ephemeral
    e. Ivy St(E) - ephemeral
    f. Kalmia St(F) - ephemeral
    g. Nutmeg (G) - ephemeral
    h. Line H - ephemeral
    i. Line J - ephemeral
    j. RnchoCalif(T) - ephemeral

D. Rural
    1. Region 7(WW)
        a. Cabazon - ephemeral
        b. Cottonwood - ephemeral
        c. Wide Canyon - ephemeral
        d. Mission - upper naturally perennial
    2. Region 8(SA)
        a. Chandler - perennial agricultural runoff
        b. El Cerrito - ephemeral
        c. Brown Canyon - ephemeral
        d. Lakeview - ephemeral
        e. Perris Valley - perennial urban runoff
        f. Hemet - ephemeral
    3. Region 9(SM)
        a. none

X. Miscellaneous
    A. Spreading Grounds
        1. Region 7(WW)
            a. Whitewater(DWA & CVWD)
            b. Banning
        2. Region 8(SA)
            a. Beaumont
            b. Hemet/San Jacinto
        3. Region 9(SM)
            a. none
    B. Gravel Pits
        1. Region 7(WW)
            a. none
        2. Region 8(SA)
            a. Temescal
            b. Belltown
        3. Region 9(SM)
            a. none
    C. Rock Quarries
        1. Region 7(WW)
            a. none
        2. Region 8(SA)
            a. Sierra Avenue
            b. Crestmore
        3. Region 9(SM)
            a. none

Official Receiving Waters

Bodies of water with officially designated *"beneficial uses"*.
(A suffix of -R2 means "Reach no. 2")

	Receiving Facility (outlet)	Tributary Outfalls (inlets)
Lakes & Reservoirs		
1. **Evans**	S.Ana R4	University,Fairmont
2. **Lee**	Temescal R2	Temescal R4
3. **Mathews**	none	Cajalco Creek
4. **Mockingbird**	Arlington Ch.	Uplands
5. **Norconia**	none	none
6. **Canyon**	S.Jacinto R1	S.JacintoR3, SaltCrk
7. **Elsinore**	Temescal R6	S.JacintoR1, 4-Corners, "C"St, Leach, Riverside, Lime, Ortega, Lakeland, Stoneman, Sedco.
8. **Fulmor**	Indian(SJ5)	Hall Canyon
9. **Hemet**	S.JacintoR7	Garner Valley, Hurkey Crk
10. **Perris**	none	none
Watercources		
1. **SantaAnaR3**	Prado Basin	S.Ana4, S.Sevaine, Day, Sunnyslope, Tequesquite, Phoenix, Mag.Center, HoleLake
2. **SantaAnaR4**	SantaAnaR3	S.Ana5, LakeEvans, Highland, Belltown, Reche
3. **SanTimeteoR1** (S.Bernardino Co.)	S.AnaR5	S.Timeteo R2
4. **SanTimeteoR2** (S.Bernardino Co.)	S.TimeteoR1	S.Timeteo R3, YucaipaCrk(LiveOakCyn)
5. **SanTimeteoR3**	S.Timeteo R2	S.Timeteo R4
6. **SanTimeteoR4**	S.Timeteo R3	Noble, Calimesa, Beaumont, CherryValley
7. **LittleSanGorgonio**	NobleCrk	Spreading grounds
8. **TequesquiteWash**	S.Ana R3	BoxSprgsChan, BoxSprgsFB, SycamoreFB, VictoriaSD, Edgemont, CanyonSprgsFB, KansasFB
9. **TemescalR1**	PradoBasin	Temescal2, OakSt, MainSt, Corona, Norco, Arlington
10. **TemescalR2**	TemescalR1	LeeLake(T3), ElCerrito, Bedford, Brown, Coldwater, Dawson, Cajalco
11. **T3(Lee Lake)**	TemescalR2	TemescalR4, Indian
12. **TemescalR4**	LeeLake(T3)	TemescalR5, Horsethief
13. **TemescalR5**	TemescalR4	TemescalR6, Rice
14. **TemescalR6**	TemescalR5	ElsinoreOutlet, Wasson, ArroyoDelToro
15. **Coldwater**	TemescalR2	none
16. **Bedford**	TenescalR2	none
17. **SanJacintoR1**	LakeElsinore	CanyonLake(SJ2), Cottonwood
18. **SJ2(CanyonLk)**	S.JacR1	S.JacR3, SaltCrk
19. **S.JacR3**	CanyonLk(SJ2)	S.JacR4, PerrisCity, Romoland, PerrisValSD
20. **S.JacR4**	S.JacR3	S.JacR5, Lakeview, Nuevo, Mystic,

		S.JacCity	
21.	**S.JacR5**	S.JacR4	S.JacR6, Poppet, Bautista, Massacre
22.	**S.JacR6**	S.JacR5	S.JacR7, NorthFork
23.	**S.JacR7**	S.JacR6	HemetLake, Strawberry
24.	**Bautista**	S.JacR5	none
25.	**NorthForkSJ**	S.JacR7	Stone, Logan, BlackMtn
26.	**Strawberry**	S.JacR7	Idyllwild
27.	**FullerMill**	NorthForkSJ	none
28.	**Stone**	NorthForkSJ	none
29.	**Salt**	CanyonLk(SJ2)	SunCity, Paloma, Menifee, GreenAcres, HemetChan

Note: The suffix -R3 means "Reach no. 3".

Other Purposes for Site Selections

Outfalls are the outlet or end of an improved drainage facility such as a storm drain or channel. Facilities with a primary purpose to convey runoff from an undeveloped watershed through an urban setting should be excluded because this program is concerned with urban runoff; but laterals that dump into the main line are candidates for monitoring.

There are a few facilities that drain areas of relatively uniform land use and are of interest for possible modeling purposes.

There are monitoring stations for water quality that were establish before the NPDES Program. Some of these sites would be considered as lower priority by today's standards except for their history of previous data. The old records have limitations such as poor documentation but the data may be useful for establishing baseline conditions or identifying long term trends.

Sediment monitoring stations are chosen as a kind of dry receiving water site at the outfalls of urban runoff. The Santa Ana Drainage Area Management Plan (DAMP) recommended BMP no. OM3 which states: "Develop and implement a pilot program to test, remove and properly dispose of sediment deposits accumulated in large detention and retention basins which may contain relatively high concentrations of pollutants."

Other Criteria for Site Selection

Miscellaneous factors that are also considered for site selections are access, security, safety, utilities, and space.

Receiving waters should be perennial bodies of water and have officially established "Beneficial Uses".

Features not publicly owned or under private ownership can only be monitored offsite at an upstream or downstream location. If it is determined, by some other standard, that monitoring such a location is needed then the owners should be given an order to do so. It may be possible to accept a formal agreement with the owners but the rules will most likely be in their favor.

Procedure Selection

Sampling procedures vary according to several factors as follows:

1. Type of collection - manual or automatic
2. Parameters - short list, long list, special
3. Conditions - wet weather or dry weather
4. Type of sample - first flush, discrete, or composite (mixture of aliquots based on time or flow weighting).

Federal Regulations

The NPDES Requirements according to Title 40 Code of Federal Regulations Part 122 (see ref.no.6) are as follows:

1. Collect a flow-weighted composite sample from at least three events per year (40 CFR 122.26 d,2,iii,A,1).
2. A "first flush" grab sample is not required for municipal permits (industrial permits are required to do this).
3. A sample is not required when rainfall is less than 0.1 inches (40 CFR 122.21 g,7).
4. A sample is not required if rainfall is less than 50% of the average or median for the area (40 CFR 122.21 g,7).
5. A sample is not required if rainfall is more than 150% of the average or median for the area (40 CFR 122.21 g,7).
6. There should be a minimum of 72 hours of dry weather between two sampling events (40 CFR 122.21 g,7).
7. The length of time for collecting a composite shall cover the entire event for a maximum of three(3) hours (40 CFR 122.21 g,7).

Local Adjustments

Given the above rules as a starting basis, then the following modifications are recommended. These suggestions are derived from particular conditions of automatic sampling equipment and practical experience managing a sampling tour.

1. The rainfall window (items 4 and 5 above) should be 61% to 139% from average. This will accommodate a 1.75 gallon minimum for testing all parameters and the four(4) gallon maximum capacity of the automatic samplers.

2. A sample may be held for up to 36 hours due to travel time and for a field crew to visit all sites.

3. Samples may be held on ice until the next business day because the lab is closed from 5PM Friday to 8AM Monday and closed holidays.

Summary of Routines

The following outline shows the conceivable combinations of monitoring styles possible.

XI. Routine Monitoring - several times a year at a few selected sites and for a selected short list of parameters; this style fits long term monitoring needs.

A. Dry weather short list
   1.Manual discrete grab
   2.Automatic time-weighted mixture (composite)

B.Wet weather short list
   1.Manual discrete grab
   2.Automatic flow-weighted mixture (composite)
   3.First flush - not required for municipal permits

XII. Field Screening - one time at many sites for a long list of parameters; this style fits short term monitoring needs.

A. Dry weather long list manual discrete grab

B. Wet weather long list

1. Manual

a. Discrete samples

(1) one-time grab

(2) sequential series of grabs

b. Time-weighted mixture (composite)

2. Automatic - abbreviated long list

a. Discrete samples - see manual methods

b. Composites

(1) Time-weighted mixture - used for dry weather.

(2) Flow-weighted mixture

3. First flush - not required under municipal permits but may be of scientific interest.

Frequency and Scheduling

The annual frequency of collecting samples is based on getting adequate information for calculating event mean concentrations (EMC's) and annual rates of mass loading to receiving waters. A minimum of three(3) storm water samples per year is commonly accepted as adequate for calculating the annual average concentrations or EMC's although a Regional Board may allow site specific exceptions.

Scheduling a reasonable distribution of samples over a year's period of time by some objective criteria is not established at this time in a satisfactory manner. One factor that is difficult to plan for is a wet year versus a dry one; a scheduling scheme can be created that's good in one case but not the other.

One possible distribution rule that is followed some of the time is: "one sample per month". This is modified so that the months are only during the wet season - December, January, February, and March. For any one month, after a storm is sampled then any other storms following it are ignored until the first of next month. It is easy to imagine a combination of events that would cause this scheme to fail and there's no consistent correction plan when that happens.

A significant rainstorm can and does occur during any month of the year including normally dry months. A storm during the typically dry months may discharge a significant portion of the wash load to receiving waters. Such an event is difficult to plan for sampling but also difficult to ignore.

Parameter Selection

Choosing a list of constituents for analysis involves the following considerations:

1. Grouping of related parameters according to any convenient classification such as field/lab, major/minor, etc.
2. Specify the method such as dissolved, recoverable, or total. Note that, for any one constituent there may be two or more methods of analysis with different levels of sensitivity.
3. Specify the sample preparation or preservative such as chilled, nitric acid, sulfuric acid, hydroxide, or thiosulfate.
4. Specify the container such as glass(clear or dark), plastic, brass, or teflon.
5. Specify whether the parameter can be composited or must be discrete samples only.
6. Note the recommended maximum holding time.

The following list shows the typical parameters that are commonly analyzed for stormwater purposes.

Common group - all water from natural conditions invariably have these constituents in various degrees.

Calcium(Ca)
Magnesium(Mg)
Sodium(Na)
Potassium(K)
Chloride(Cl)
Sulfate(SO4)
Carbonate(CO3)
Bicarbonate(HCO3)
Hydroxide(OH)

Conventionals - Typical parameters commonly analyzed for sanitary engineering purposes.

- Total Nitrogen(Tot-N)
- Organic Nitrogen(Org-N)
- Ammonium Nitrogen(NH4-N)
- Nitrite Nitrogen(NO2-N)
- Nitrate Nitrogen(NO3-N)
- Total Inorganic Nitrogen(TIN)
- Un-ionized Ammonia(UIA)
- Kjeldahl Nitrogen(Kj-N)
- Total Phosphorus(Tot-P)
- Organic Phosphorus(Org-P)
- Orthophosphate Phosphorus(Ortho-P)
- Biochemical Oxygen Demand(BOD)
- Chemical Oxygen Demand(COD)
- Total Organic Carbon(TOC)
- Total Petroleum Hydrocarbons(TPH)
- Oil and Grease(O&G), no composites
- Methylene Blue Active Substances(MBAS)
- Phenols(POH)
- Total Alkalinity(Tot-Alk), simultaneously measures carbonates and hydroxides.
- Total Hardness(Tot-Hard)
- Total Dissolved Solids(TDS,sum; TDS,cond; TDS,tfr)

Physical - Basic parameters for initial assessment of quality.

- Temperature(T)
- Hydrogen Ion Concentration(pH)
- Specific Conductivity(SC)
- Oxidation/Reduction Potential(ORP)
- Color
- Odor
- Turbidity

Metals - Common sources of toxicity in aqueous solutions.

Silver,total(Ag)
Arsenic,total(As)
Beryllium,total(Be)
Cadmium,total(Cd)
Chromium,total(Cr)
Copper,total(Cu)
Iron,total(Fe)
Mercury,total(Hg)
Manganese,total(Mn)
Nickel,total(Ni)
Lead,total(Pb)
Selenium,total(Se)
Thallium,total(Tl)
Vanadium,total(V)
Zinc,total(Zn)

Miscellaneous

Fluoride(F)
Boron(B)
Cyanide(CN)
Total Anions
Total Cations
Electrochemical Balance
Asbestos
Radiological

Microbes - Common parameters for basic bio-assay.

Total Coliforms, no composites
Fecal Coliforms, no composites
Fecal Streptococcus, no composites

Organics - Man-made complex organics and pollution indicators.

Total Volatiles(VOC), no composites - EPA Method 601/602 or 624.

Total Semi-volatiles, no composites

Base/Neutral/Acid Extractables(BNA), includes PAH, PCB, and Org-Cl Pesticides.

Polychlorinated Biphenyls(PCB) - EPA Method 608/8080

Organochlorine Pesticides

Organophosphorus Pesticides

Chlorinated Herbicides

Halogenated Volatiles, no composites

Non-halogenated Volatiles, no composites

Aromatic Volatiles, no composites

Polynuclear Aromatic Hydrocarbons(PAH) - EPA Method 625

Current Selections

A. The short list

Ca, Mg, Na, K
Cl, SO4, CO3, HCO3, OH
Tot-Alk, Tot-Hard, TFR, TSR
pH, SC, Color, Odor, Turbidity
Tot-N, Org-N, NH4-N, NO2-N, NO3-N
Tot-P, Ortho-P, BOD, COD, O&G, MBAS
F, TOC, TPH, Phenols
Ag, As, Ba, Cd, Cr, Cu, Fe, Hg, Mn, Pb, Se, Zn

B. The long list

Ca, Mg, Na, K
Cl, SO4, CO3, HCO3, OH
Tot-Alk, Tot-Hard, TFR, TSR
pH, SC, Color, Odor, Turbidity
Tot-N, Org-N, NH4-N, NO2-N, NO3-N
Tot-P, BOD, COD, O&G, MBAS, Ortho-P
B, F, CN, Phenols, TOC, TPH
Ag, As, Ba, Cd, Cr, Cu, Fe, Hg, Mn, Pb, Se, Zn
Sb, Be, Ni, Tl
Pesticides and PCB's (EPA 608/8080)
BNA Extractables (EPA 625)

Bottle Selections

A. Short list for routine monitoring - manual grabs & auto composites; currently used in SA areas and future use in WW and SM areas.

1. 500ml amber glass - O&G
2. 1000ml amber glass - PAH's
3. One quart plastic w/nitric - Ag, As, Ba, Cd, Cr, Cu, Fe, Hg, Mn, Pb, Se, Zn
4. One quart plastic w/sulfuric - Tot-N, Kj-N, NH4-N, NO2-N, NO3-N
5. Half gallon plastic - Ca, Mg, Na, K, Cl, SO4, CO3, HCO3, OH, BOD, COD, MBAS, B, F, Tot-Alk, Tot-Hard, TFR, TSR, pH, SC, Tot-P

B. Long list for manual composites - was used for field screening in the WW areas.

1. Four(4) discrete 500ml amber glass - O&G
2. Four(4) discrete 40ml VOC vials - Total Volatiles
3. One gallon clear glass(composite) - Organochlorine Pesticides, Polycholorinated Biphenyls, BNA Extractables, Ca, Mg, Na, K, Cl, SO4, CO3, HCO3, OH, Tot-Alk, Tot-Hard, TFR, TSR, pH, SC, Tot-N, Kj-N, NH4-N, Tot-P, BOD, COD, MBAS, Ortho-P, B, F, Phenols, Ag, As, Ba, Cd, Cr, Cu, Fe, Hg, Mn, Pb, Se, Zn, Sb, Be, Ni, Tl
4. Two(2) discrete sterile bact w/thiosulfate - Tot-Coli, Fecal-Coli, Fecal-Strep *

5. Recommended collection schedule:

Aliquot	Time	Composite	500ml	Vials	Bact's
no. 1	0:00	1/10gal	1	2	0
no. 2	0:20	1/10	0	0	0(T,pH,SC)
no. 3	0:40	1/10	0	0	0(T,pH,SC)
no. 4	1:00	1/10	1	0	0
no. 5	1:20	1/10	0	0	0(T,pH,SC)
no. 6	1:40	1/10	0	0	0(T,pH,SC)
no. 7	2:00	1/10	1	0	0
no. 8	2:20	1/10	0	0	0(T,pH,SC)
no. 9	2:40	1/10	0	0	0(T,pH,SC)
no. 10	3:00	1/10	1	2	(2)*

(2)* Optionally collect only if the samples can be returned to the lab within six(6) hours or less.

C. Long list manual grabs - was used for field screening in SM areas.

1. 500ml amber glass - O&G
2. 1000ml amber glass - BNA Extractables
3. Two(2) 40ml VOC vials - Total Volatiles
4. 1-quart plastic w/nitric - Ag, As, Ba, Cd, Cr, Cu, Fe, Hg, Mn, Pb, Se, Zn, Sb, Be, Ni, Tl
5. 1-quart plastic w/sulfuric - Tot-N, Kj-N, NH4-N, NO2-N, NO3-N
6. Half-gallon plastic - Ca, Mg, Na, K, Cl, SO4, CO3, HCO3, OH, BOD, COD, MBAS, Tot-Alk, Tot-Hard, Tot-P, Ortho-P, TFR, TSR, pH, SC, B, F, CN
7. Two(2) sterile bact's w/thiosulfate - Tot-Coli, Fecal-Coli, Fecal-Strep; optionally collect only if can be delivered to lab within six(6) hours or less.
8. 125ml amber glass - Phenols

Storm Selection

Hydrology

The fiscal year (July 1 to June 30) is used for dividing one annual rain season from the next. This is standard practice in the State of California for statistical analysis of precipitation data and also runoff data in Southern California. However, a water year (October 1 to September 30) is used for runoff analysis in regions prone to a winter snow pack and for major groundwater fed streams.

Most of Southern California's annual rainfall occurs during a 'wet' season. A typical wet season is the four months of December, January, February, and March. However, a significant storm can occur during any month of the year even during normally dry months.

It has been observed that runoff begins after an initial abstraction of about 0.2 inches of rainfall.

Storm Monitoring

Weather forecast information must be gathered for predicting when to activate the sampling crews. The following sources are available:

1. NOAA Weather Service Radio Broadcasts 24 hours a day on frequencies 162.4 and 162.9 MHz in southern California.
2. Radar information via Oxnard FAX; dial 1-805-988-6642, if busy do not redial - your call was automatically placed in queue for sending later. Palmdale was closed down in October 1994.
3. LA Weather Service ALERT Bulletin Board for downloading by computer modem. Use the batch program: WEATHER.BAT

4. GOES Satellite views by computer modem from a private vendor. Using the Flood Fight Computer Unit, enter NEWWX for downloading most recent satellite views or enter OLDWX for views already downloaded.
5. Recording barometer usually shows a distinctive pressure dive as a storm front approaches.

Storm Selection for Wet Weather Sampling

1. Leave automatic samplers in the Halted state until the first day of the month; on that day, reset them to the Ready state. Collect the first qualifying storm of the month then reset automatics to the Halted state until the first day of next month. All storms after the first event are skipped until the next month.

2. A qualifying storm should be between 0.4 to 1.8 inches of rainfall. Below this range there's not enough runoff to collect a minimum 1.75 gallons without reprogramming the automatics while at the other end of the scale the maximum capacity of the containers would be exceeded. The upper and lower bounds of rainfall must be reevaluated in the lower desert regions.

3. Monitor weather forecasts and look for indications of the next storm event.

4. Three days prior to the expected storm event:
   a. Collect a list of volunteers with their phone numbers. Note well that the word 'standby' is to used with extreme caution; under the rules of labor law it can imply payment of wages even when that was not intended.
   b. Verify there's an adequate supply of bottles and order more if needed.
   c. Obtain access keys, alarm codes, and etc.
   d. Visit automatics and verify condition.

5. The NWS issues Quantitative Precipitation Forecasts(QPF's)

updated every six hours but only covers the next 24 hours. The approximate beginning of a storm will show-up when the zeros change to 1's or greater(in tenths of inch); this is the expected time of arrival or ETA. Inform volunteers of the ETA.

6. If the QPF for 'Riverside' predicts less than five tenths(this is the sum of the four six-hour columns) for the next 24 hours then call-off the event. Do not use the Thompson Objective Rainfall System; the NWS is still developing it and there can be serious discrepancies. When the ETA arrives then notify volunteers whether or not they will be called-in.

7. When volunteers are called-in they should obtain forms and instructions from the monitoring foreman, load-up their vehicle, and proceed to assigned stations. If a crew arrives at a station when there's no flow but it has been and continues to rain then they should wait for up to 2 hours before giving up and leaving.

8. Automatic samplers will be serviced and samples collected the next working day.

Laboratory Selection

Certification

Contract Services

Equipment Selection

Flow Meters

ISCO 3200's

Automatic Samplers

ISCO 3700's

Rain Gages

ISCO

Instrumentation

1. Thermometers:
2. pH meters:
3. Conductivity meters:
4. Multi-meters:
5. Voltmeters:

Monitoring Shop

Miscellaneous

QUALITY ASSURANCE PLAN

Objective

The objective of the Quality Assurance Plan is to guarantee that the results of the monitoring program are based on data of the best quality possible. The QA Plan should give administrators and regulators trust in any conclusions drawn from the monitoring data and confidence to act on those results. This objective will be accomplished by a program emphasizing standard procedures and documentation. The primary concern of this plan is with sample handling and maintenance procedures. The application of this plan relies on communication, which also implies documentation, and an ongoing effort to upgrade and update the overall monitoring program according to experience.

Application

The preparation for sample collection involves education and training of sampling personnel including the division supervisor, the monitoring foreman, the technicians, and other field staff. The basic core of training is explained in a one page introduction to the standard procedures called the Field Manual. This introduction will quickly provide a minimal training for emergency volunteers that are often recruited during storm events. The introduction should enable any employee to complete a one day sample collection tour without previous experience.

There is also a manual for standardizing the procedures for routine maintenance.

For the experienced sampler interested in the finer details, see the references section at the end of this report.

Sample Handling

All containers must be clean and decontaminated. We assume that bottles provided directly from the lab are so.

The limits of holding times as recommended in "Standard Methods" (see references) will be observed.

The lab provides a choice of containers such as glass, plastic, teflon, or brass and will make their recommendations.

Simple mechanical and physical handling of samples should be minimized as much as possible.

We trust that the lab is following all the proper techniques and quality control measures. This trust is based on the State's annual examination of the lab for certification purposes. As a local county agency, we do not have the expertise to carry-out a statistically valid quality control inspection of the lab and it's analytical techniques.

Documentation

In keeping with the objective of the QA Plan, any exceptions to the above will be documented and reviewed annually. The findings will be discussed in the annual Monitoring Report. Any significant findings will be further discussed in the District's annual Program Analysis Report. It is up to the managers of the NPDES Program to be observant and aware of the possible exceptions that might occur.

Attachment

Field Manual

All samples collected for laboratory analysis requires a collector's thoughtful care during every step of the process. The care involves following standard procedures and making complete documentation. The process begins with this introduction and will end with samples delivered to the lab along with copies of notes and record documents. Before leaving headquarters, be sure to have the supplies listed on the Equipment Checklist. When your vehicle is stocked-up with supplies then return to the monitoring foreman for your assignment and leave for the field.

Use the following procedure for collecting samples:

1. Fill-out a "Field Data Sheet" and record the arrival time at the sampling station.
2. Make an inspection and verify that there is sufficient runoff for a sample to be collected. Record any notable observations. If there's no sample then complete the "Data Sheet" and proceed to the next station.
3. Set out the thermometer for an air temperature reading. Leave it to stabilize while you proceed to the next step.
4. Fill out labels for the sample containers and attach to dry bottles.
5. Go back to the thermometer and record the air temperature reading.
6. Rinse out a stainless steel or teflon-lined scooper removing all dirt and grime.
7. Wipe the bucket clean with a paper or cloth towel.
8. Establish a convenient spot next to the water to be sampled as a workstation. Carry the scooper, all sample containers, and the water quality meters for

temperature, conductivity, and pH measurements with you to the workstation.

9. Triple-rinse the scooper with the local water. Load the scooper and quickly fill the containers so that suspended matter doesn't settle-out and floatables don't concentrate on top. Do not overflow the containers except for VOC vials which must be sealed without any air bubbles. Replace the lid on each container immediately after it is filled. Do not put your hands or any thing else in the water until after all containers are filled; if you must, then refill it.
10. Collect a final fresh scoop and take the meter readings. This step is not required for automatic samplers.
11. Return to the vehicle, record the meter readings on the Field Data Sheet.
12. Store the samples in a dark cool carrying chest (preferably iced or refrigerated) for transport to the lab.
13. Record any exceptions from the above and complete the "Field Data Sheet".
14. Restore your supplies for traveling on the road ifnecessary.

On arrival at the lab, fill out a Chain-of-Custody form. The lab will provide a cart for you to transfer the containers. Sign the custody form releasing the samples to the lab's care. Be sure to leave with a copy of the form.

After arriving back at headquarters, turn-in all records and forms to the monitoring foreman. Return all supplies to their proper places.

Note well the following items:

1. Do not enter a confined space.
2. Do wear gloves to protect against infections.
3. Do use headlights 24 hours a day in stormy weather conditions.

Please sign the following affidavit verifying that you have read the above Field Manual and promise to follow it's directions.

NAME(print):_____

SIGNATURE:_____

DATE:_____

Maintenance Manual

Introduction

The Maintenance Manual concerns all the field and shop routines used for the upkeep of monitoring instruments and equipment. A Maintenance Log Book must be kept for documenting and recording the procedures performed during field trips and shop work. An Equipment Inventory must be kept with the model no., serial no., and the settings used for any programmable features of the equipment. A Monthly Planner must be kept for scheduling periodic routines. A list of Major Chores must be kept for scheduling a labor crew when needed for work beyond the means of one or two monitoring technicians.

Automatic Samplers

The pump tubing wears-out and needs replacing probably every two years. The glass jugs should be acid cleaned once a year during the dry season. The suction tubing should be cleaned once a year during the dry season.

Hydrolab Meters

Should be cleaned and loaded with fresh tap water for storage. Re-calibration is needed after more than a week of storage.

Equipment service following a storm event

1. Unlock and open enclosure
2. Remove lid from sampler
3. Press key: 'STOP'(red)
4. Connect computer cable to sampler
5. Start SAMPLINK
6. Disconnect from sampler
7. Turn-off computer
8. Press key: Enter Program Sampler (orange)
   Configure, Left arrow twice, Run diagnostics,
   Test distributor = yes, Re-initialize = yes.
9. Record approximate volume found in each jar and note any overflow.
10. Empty and clean jars
11. Connect computer cable to flow meter
12. Start FLOWLINK
13. Disconnect from flowmeter
14. Turn-off computer
15. Record condition of strainer and bubbler then clean as needed.
16. Record value of Totalizer
17. Press key: Enter Program Flow Meter (green), ..., set Sampler = Disabled, ..., reset Totalizer to zero.
18. Screw-on connector caps
19. Close and lock flow meter
20. Enter Program Sampler (use previous values from notes), Program, 'flow', ... , ... , etc.
21. Sampler Display = "Standby"
22. Press keys: "Start Sampling", 'enter', 'enter'
23. Wait 2 minutes for Start Time Delay
24. Verify display = "Sampler Inhibited"
25. Quickly remove battery connection at sampler, test with voltmeter, re-connect battery.
26. Record voltage reading
27. Re-install caps, cover, lid, and lock

DATA MANAGEMENT PLAN

Introduction

A monitoring program creates many pages of lab reports, field records, computer files, and etc. This section describes the management of all these documents.

Recording

Flow meter and sampler data are downloaded to computer files. The downloading is by either a semi-automatic phone modem or manually to a portable data logger or laptop field computer. The files are manipulated with ISCO's Flowlink and Samplink software.

The Lab Reports are grouped according to Regional Board, Station Number, date or event. Each event includes the Field Data Sheet, time series notes, results of analysis, and chain-of-custody form. Occasionally, an event is dry at some stations and the records will include only the Field Data Sheet as documentation.

The results of all chemical analyses are entered into a computer database. The database manager application was created by Mathew Furst of the District's Programming Staff based on an utility called Speedware. The database is accessed by logging on the HP System as DHT.NPDES and following the menus. The HP System can be accessed indirectly over a PC by entering R7 (a Reflections application).

Reporting

The monitoring results are reported in the annual Stormwaters and Receiving Waters Monitoring Report and submitted to the appropriate Regional Water Quality Control Board.

Interpretation

The 'Gold Book' (see references) is an important source for assessing all aspects of water quality. The District has developed it's own table of critical limits for in-house assessment of our data. The limits were arrived at through a combination of sources and are considered typical values for "Raw Surface Water".

BUDGET

Monitoring Budget for next year (94-95)

I. Region 7, Colorado Board, Whitewater River Watershed	
a. Staff support	$3,000
b. Laboratory costs	$18,000
c. Monitoring equipment	$29,000
d. Miscellaneous equipment	$2,500
Total	$52,500
II. Region 8, Santa Ana Board, Santa Ana River Watershed	
a. Staff support	$60,000
b. Laboratory costs	$80,000
c. Monitoring equipment(including Dams)	$51,100
d. Miscellaneous equipment	$3,000
Total	$194,100
III. Region 9, San Diego Board, Santa Margarita River Watershed	
a. Staff support	$3,000
b. Laboratory costs	$24,000
c. Monitoring equipment	$31,800
d. Miscellaneous equipment	$2,500
Total	$61,300

INVENTORY

The following list of items is an inventory of the major equipment purchased solely for NPDES. Each line has a number, the item's storage location, model number, serial number, FC number, and date received.

NO	LOCATION	MODEL	SERIAL	FC	REC'D
Vehicles					
1	NPDES CarPool	Ford 'Explorer'		1715	-
2	NPDES CarPool	Jeep 'Cherokee'		1843	Apr94
ALERT Gages					
1	BoxSprsFB(77)			1986	Feb95
Bubbler Flow Meters					
1	Anza(2)	60-3234-015	08829-040	1745	Jun92
2	BoxSp(4)	"	08829-136	1743	Jun92
3	LaSierra(6)	"	08829-120	1738	Jun92
4	Snymead(9)	60-3234-015	08829-119	1736	Jun92
5	Snyslope(10)	"	08829-022	1739	Jun92
6	SSevaine(14)	"	08829-042	1742	Jun92
7	Corona(21)	"	08829-103	1741	Jun92
8	FourCorn(24)	"	08829-143	1740	Jun92
9	Sycamo(64)	"	08829-094	1744	Jun92
10	?			1737?	?
11	Lab	60-3234-001	12377-003	1873	Mar94
12	Hemet(5)	"	12377-004	1874	Mar94
13				1979	Dec94
14				1980	Dec94
15	(Wildomar)			2009	Jul95
16	(Palm Springs)			2010	Jul95
17	(Temecula)			2011	Jul95

NO	LOCATION	MODEL	SERIAL	FC	REC'D
Sonic Flow Meters					
1	MagCenter(7)	60-3214-003	08826-052	1735	Jun92
2	FourCorn(24)	60-3214-047	11413-006	1919	Sep93
3	(Banning)			2012	Jul95
4	(Murrieta)			2013	Jul95
Automatic Samplers					
1	Anza(2)	60-3704-001	08918-139	1733	Jun92
2	BoxSp(4)	"	08918-107	1734	Jun92
3	MagCenter(7)	"	08918-123	1732	Jun92
4	Sevaine(14)	"	08918-137	1727	Jun92
5	Corona(21)	"	08918-136	1725	Jun92
6	FourCorn(24)	"	08918-131	1731	Jun92
7	Loft	"	08918-118	1726	Jun92
8	Loft	"	08918-126	1728	Jun92
9	Loft	"	08918-125	1729	Jun92
10	Loft	"	08918-142	1730	Jun92
11	Loft	"	11352-105		Oct93
12	Loft	"	11352-122		Oct93
Rain Gages					
1	Corona(21)	60-3284-001			Jun93
2	Sycamo(64)	"	11879-001		Jun93
3	Lab	"	11998-014		Mar94
4	Hemet(5)	"	11998-019		Mar94
5	Sunymd(9)	"	11998-027		Mar94
6					Dec94
7					Dec94
Solar Panels					
1	Corona(21)	60-3004-100			Apr93
2	Sycamo(64)	"	11841-006		Aug93
3	Corona(21)	"	11841-014		Aug93
4	Sycamo(64)	"	09833-016		Oct93
5	Hemet(5)	"	11841-017		Oct93
6					

NO	LOCATION	MODEL	SERIAL	FC	REC'D
Cellular Telephones					
1	Sycamo(64)	PCM-300	82BA1849		Feb94
2	Corona(21)	PCM-300	82ACC6B7		Mar94
Power Converters					
1	Lab	60-1684-088	08802-005	3-93	
2	Lab	"	11060-233	8-93	
3	Lab	"	11060-216	8-93	
4	LaSierra(6)	60-1684-046	08725-206		
5	MagCenter(7)	60-1684-088	08802-031		
6	Lab	"	11275-048	10-93	
7	Lab	"	11275-065	10-93	
Hydrolab Meters					
1	Lab Probe	H20,11000	14105		92
	Stirrer		14092		
	Logger	SVR3-DL	14073		
2	Lab Probe	H20,11000	14104		92
	Stirrer		14089		
	Logger	SVR3-DL	12995		
3	Lab Probe	DS-3		1983	Nov94
	Stirrer				
Computers					
1	DHT 486 EISA			1762	Aug92
2	DHT Toshiba T3300SL		08215419	1748	Nov92
3	AD Texas Instr 4000E		12737402554		Apr94
4	DHT ISCO 583	60-2544-036	11228-011		Jan94
5	TD 486 GST				Dec94
6	CRG 486 GST				Dec94
7	JRC Texas Instr 4000E				Nov94
Chemistry Kits					
1	Lab Chemetrics	M-1000			92
2	Lab Chemetrics	M-1000			92

RV Batteries

1	Sevaine(14)	Group 24	3-93A
2	Lab	"	3-93B
3	Snyslope(10)	"	5-93A
4	Lab	"	5-93B
5	Lab	"	5-93C
6	Sycamo(64)	"	5-93D
7	Lab	"	5-93E
8	Corona(21)	"	5-93F
9	Snymead(9)	"	12-93A
10	BoxSp(4)	"	12-93B
11	FourCorn(24)	"	12-93C
12	Anza(2)	"	12-93D

ISCO Batteries

1	Lab	60-3004-106	08745-122
2			08745-102
3			08745-120
4			08745-105
5			08745-073
6			08745-106
7			08745-124
8			08745-048
9			08745-123
10			08745-111
11			08745-106
12			08745-097
13			08745-113
14			08745-108
15			08745-109
16			08745-099
17			08745-074
18			08745-104
19			08745-035
20			08745-036
21			08745-126
22			08745-096

NO	LOCATION	MODEL	SERIAL	FC	REC'D

ISCO Batteries continued

23	08745-100
24	08745-089
25	08745-115
26	08745-078
27	08745-047
28	08745-125
29	08745-075
30	08745-110

ABBREVIATIONS

AF	acre-feet of volume
APHA	American Public Health Association
AWWA	American Water Works Association
CAS RN	Chemical Abstracts Service Registry Number
CF	cubic feet of volume
CFR	Code of Federal Regulations
CVWD	Coachella Valley Water District
CWA	Clean Water Act
DWA	Desert Water Agency
EP	extraction procedure
FB	flood basin
FY	fiscal year
GS	gas chromatography
HPLC	high performance liquid chromatography
ISWP	Inland Surface Water Plan
LF	lineal feet of length
MPN	most probable number
NASQAN	National Stream Quality Accounting Network
NAWDEX	National Water Data Exchange
NPDES	National Pollutant Discharge Elimination System
SDWA	Safe Drinking Water Act
RCRA	Resource Conservation and Recovery Act
RO	runoff
SA	Santa Ana River watershed
SF	square feet of area
SJ	San Jacinto
SM	Santa Margarita River watershed
STORET	an EPA database system
TCLP	toxicity characteristic leaching procedure
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WATSTORE	National Water Data Storage and Retrieval System
WPCF	see reference no. 4
WQCA	Water Quality Control Act
WW	Whitewater River watershed

REFERENCES

1. "Methods for Collection and Analysis of Water Samples"; USGS Water Supply Paper 1454; by Rainwater & Thatcher.

2. "Study and Interpretation of the Chemical Characteristics of Natural Water"; USGS Water Supply Paper 1473; by John D. Hem.

3. "NPDES Stormwater Sampling Guidance Document"; by USEPA; July 1992.

4. "Standard Methods for Examination of Water & Wastes"; by APHA, AWWA, WPCF; 1989.

5. Gold Book; "Quality Criteria for Water 1986"; by USEPA; May 1, 1986.

6. Federal Regulations; "Federal Register Volume 55 Number 222"; Part II EPA; Title 40 CFR Parts 122, 123, and 124; November 16, 1990.

7. "Water Quality - prevention, identification, and management of Diffuse Pollution"; by V. Novotny and H. Olem; 1994.

SUPPLEMENTS

1. List of Parameters
2. List of Criteria for Water Quality
3. List of Watersheds
4. List of Monitoring Stations
5. Sediment Testing Program Notes
6. List of Rainfall Stations
7. List of Facilities
8. Maps
    a. Riverside County
    b. Flood Control District
    c. Monitoring Stations

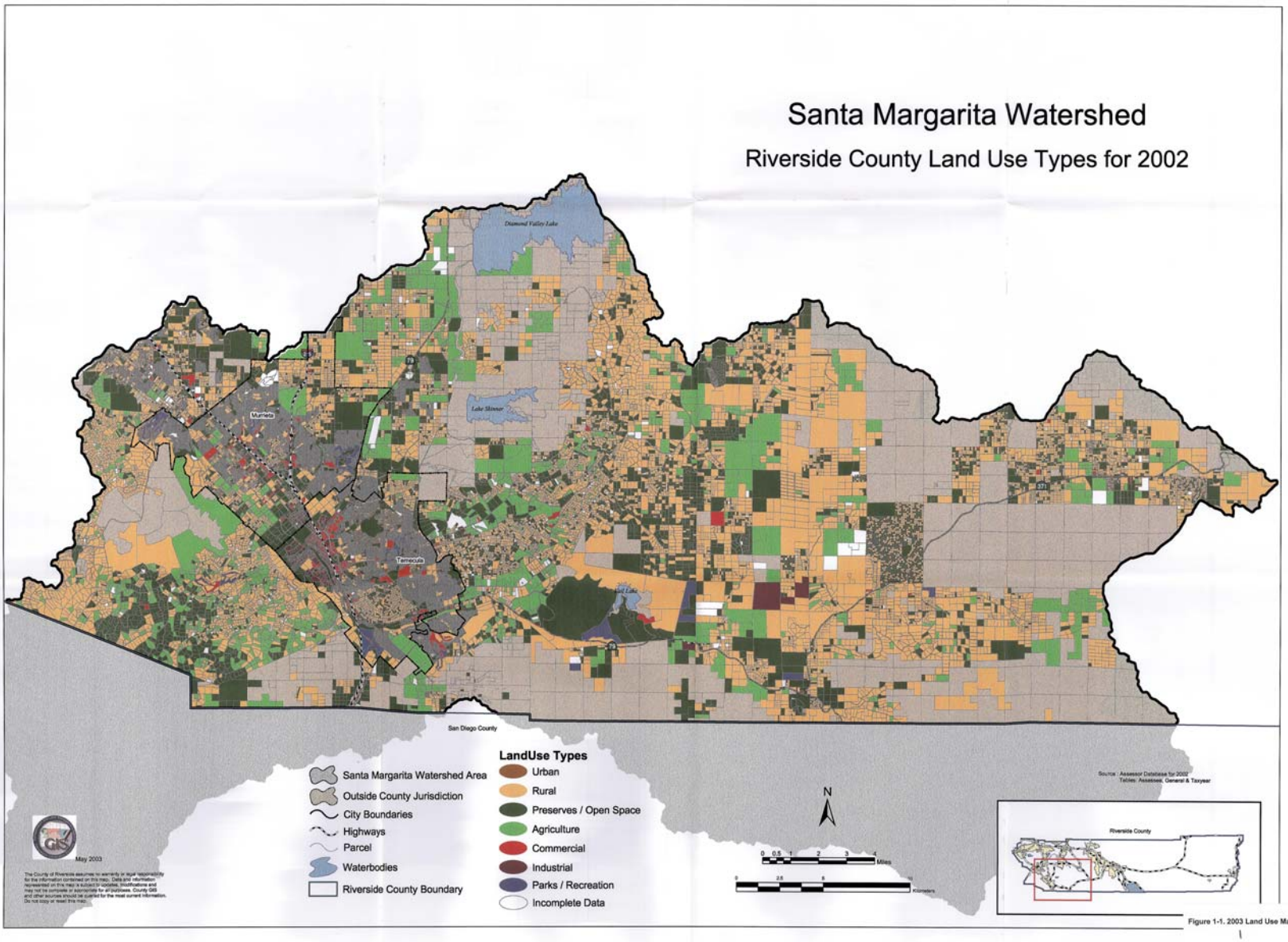


Figure 1-1. 2003 Land Use Ma

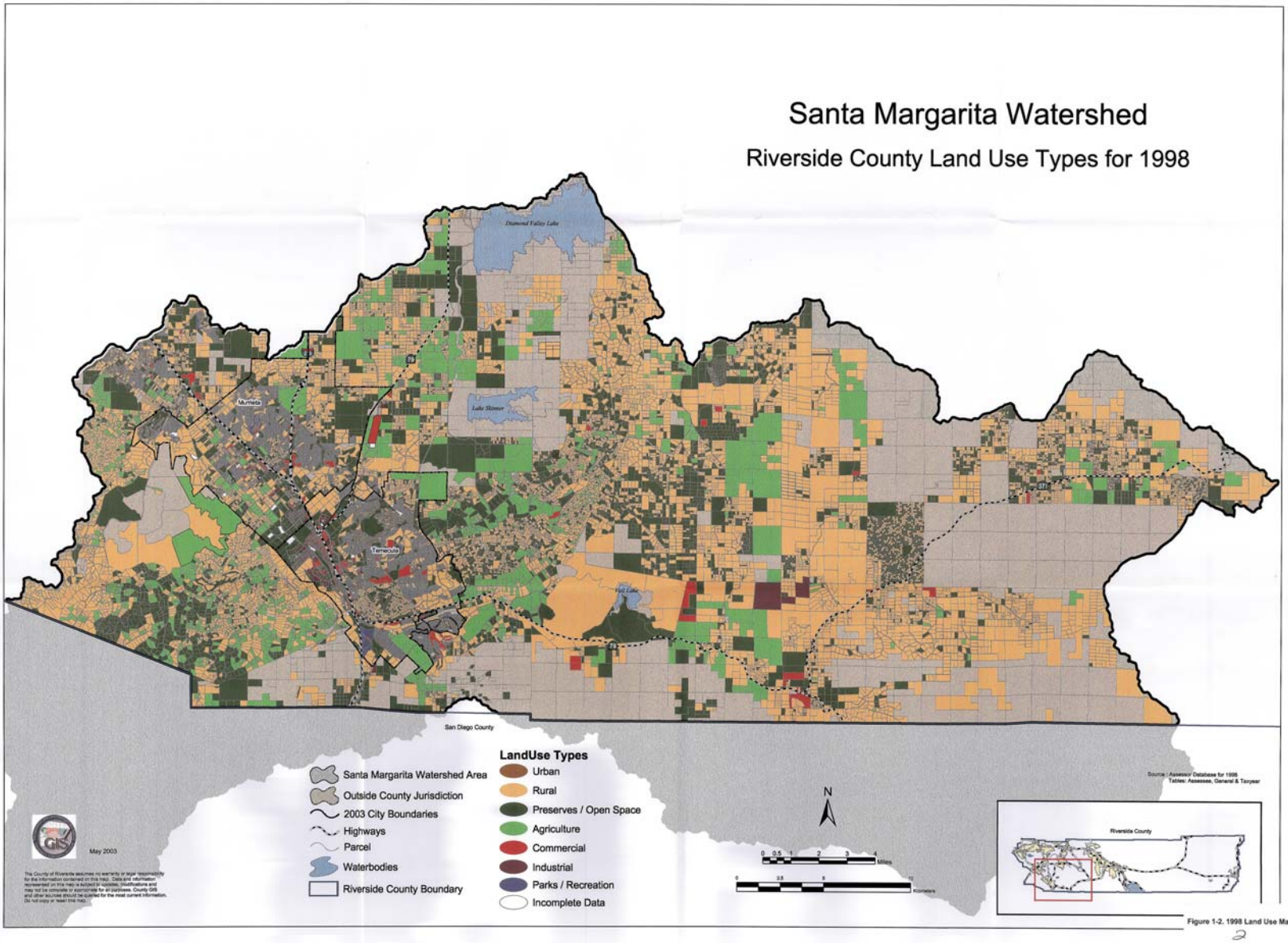
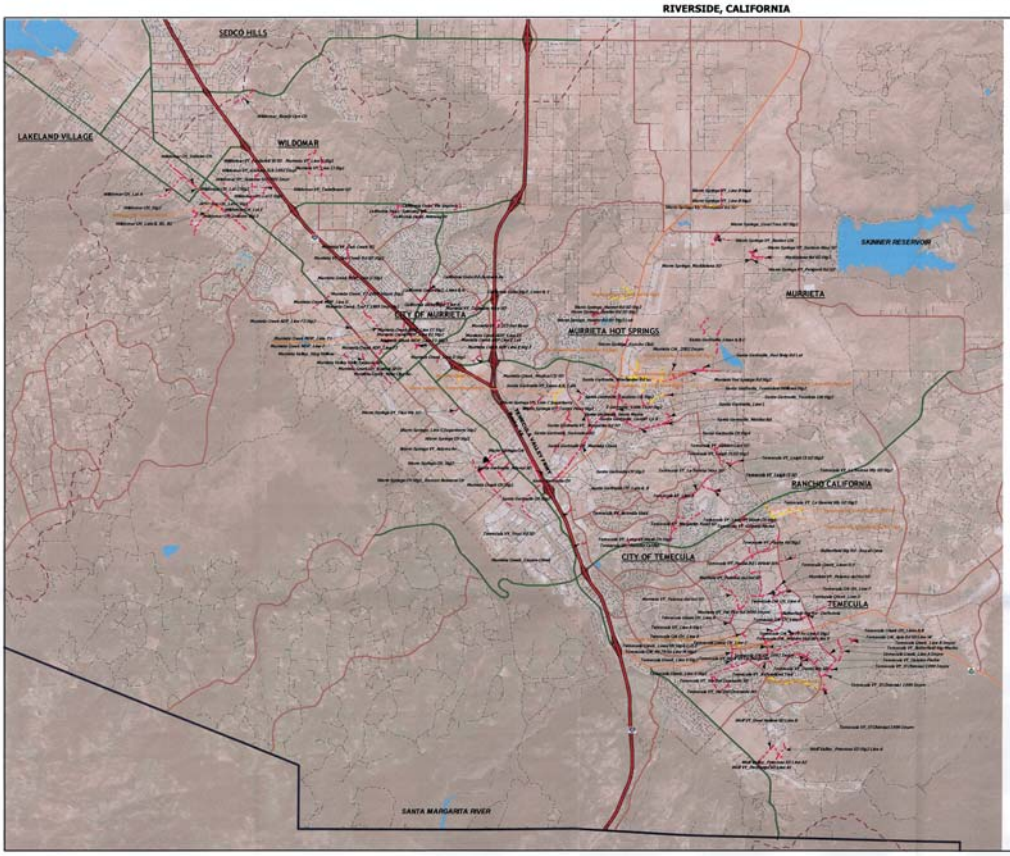


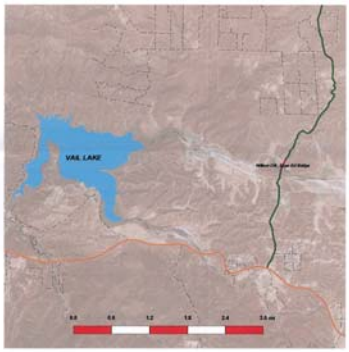
Figure 1-2. 1998 Land Use Map

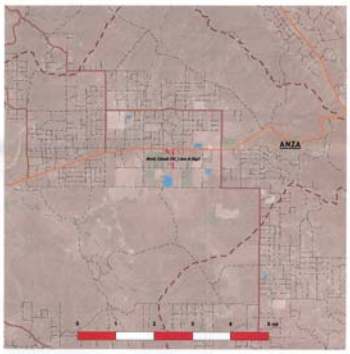
2

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RIVERSIDE, CALIFORNIA







MAP LEGEND

- Post June 1998 *RCFC Facilities*
- Pre July 1998 *RCFC Facilities*
- Santa Margarita River *Watershed*
- Riverside County *Political Boundary*
- Freeways
- Highways
- Arterial Roads
- Collector Roads
- Residential Streets
- Railroads
- Major Hydrology
- Minor Hydrology
- Incorporated Areas

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT GEOGRAPHIC INFORMATION SYSTEM

The graphical and tabular information shown on this document may be derived from a variety of public agency and/or private commercial sources such as Riverside County Transportation and Land Management Agency, Thomas Brothers Mapping, the Stephen P. Teale Data Center, GIS Technology Center, State of California, the United States Geologic Survey and the United States National Atlas. These sources may possess varying levels of accuracy and precision and this product is meant only as a guide to the relative position and scale of the depicted features. This GIS document is in no case to be interpreted as fundamental or decisive for purposes of land surveying, field engineering, plan drafting, code enforcement, land boundary determination and/or land acquisition.

Riverside County Flood Control and Water Conservation District

Facilities within the Santa Margarita River Watershed

Figure 1-3. District MS4 Map

(3)

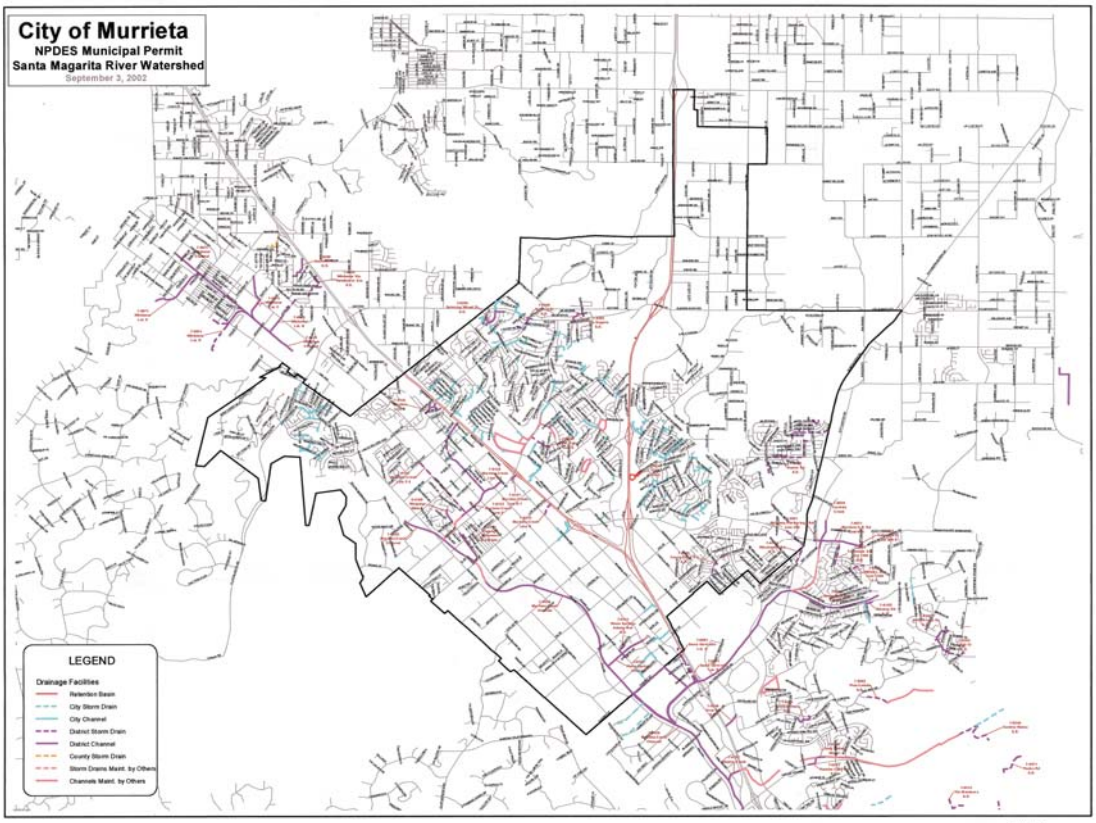
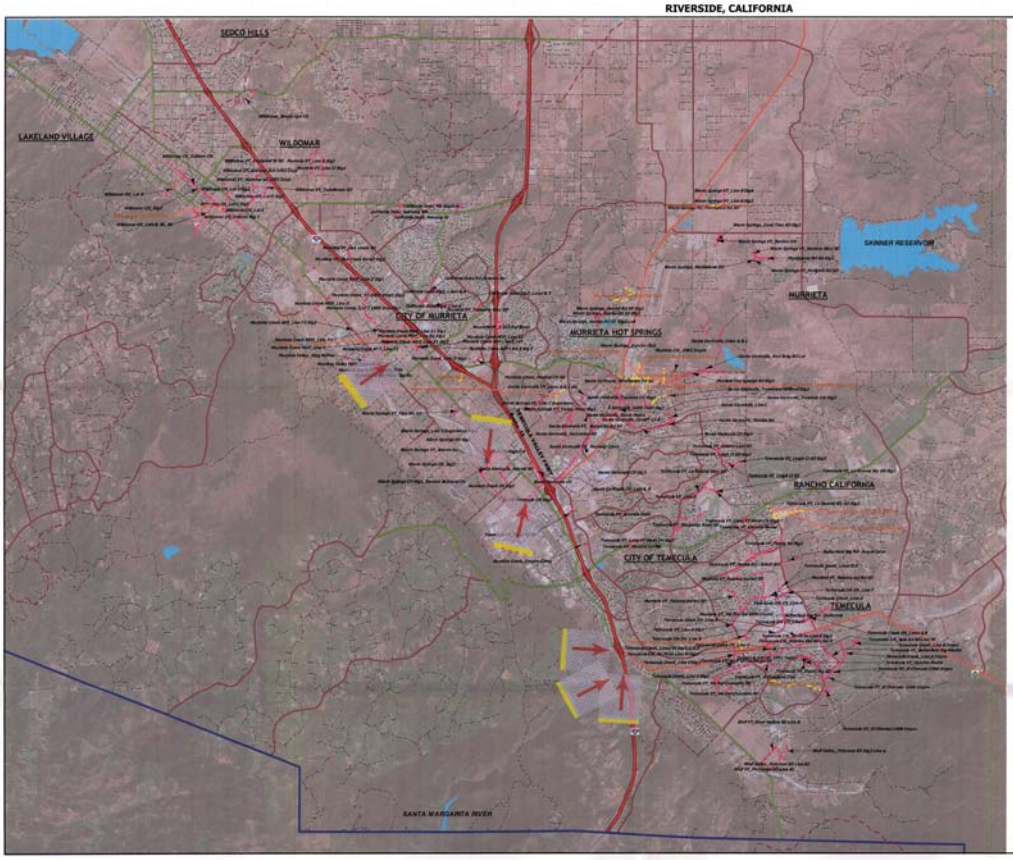


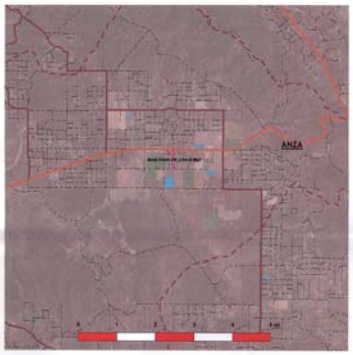
Figure 1-4.
City of Murrieta MS4 Map

(4)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RIVERSIDE, CALIFORNIA





MAP LEGEND

- Post June 1998 RCFC Facilities
- Pre July 1998 RCFC Facilities
- Santa Margarita River Watershed
- Riverside County Political Boundary
- Freeways
- Highways
- Arterial Roads
- Collector Roads
- Residential Streets
- Railroads
- Major Hydrology
- Minor Hydrology
- Incorporated Areas

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT GEOGRAPHIC INFORMATION SYSTEM

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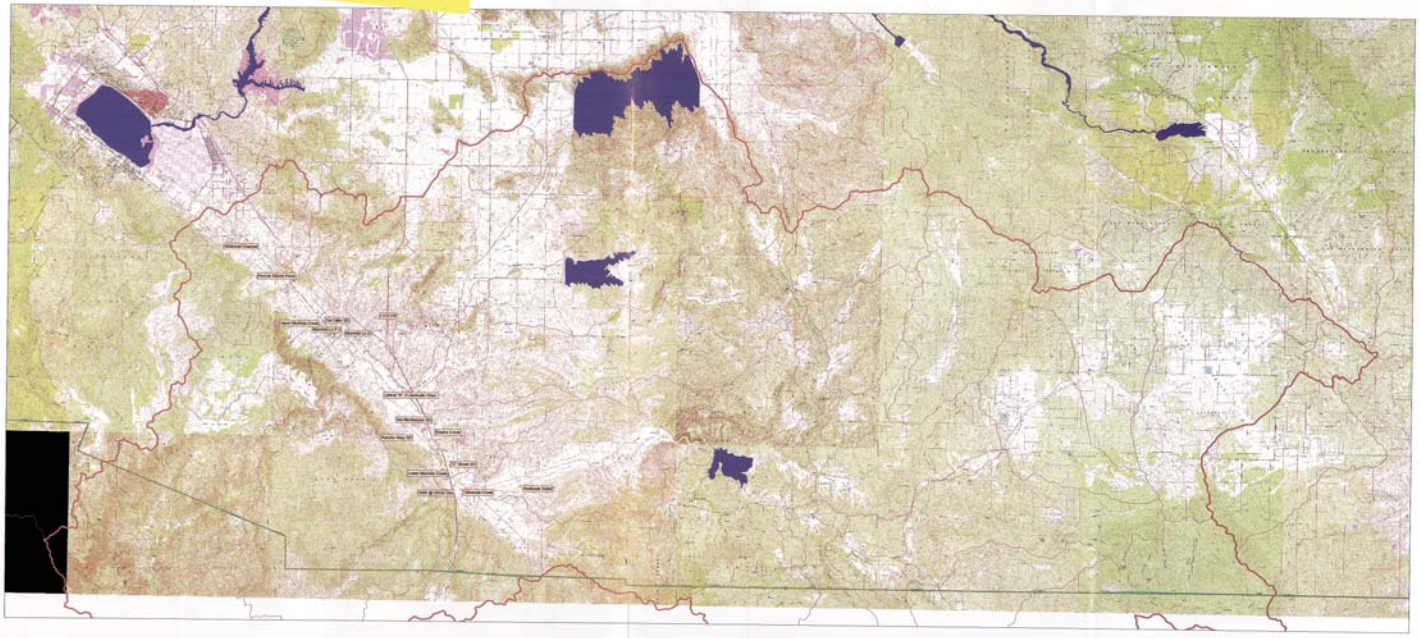
Riverside County Flood Control and Water Conservation District

Facilities within the Santa Margarita River Watershed

Revised 20 May 2013

RIVERSIDE COUNTY
STORM WATER CONVEYANCE SYSTEM
NPDES ORDER: 99-02
REPORT RUE: 14 05/2002-05/2003
10-7000.03 STATUS: C



Legend

- Rain Fall Stations
- NPDES Monitoring Stations
- Santa Margarita River Watershed
- City Boundaries
- Highways
- Watershed Sub Basins
- Major Hydrologic Water Features
- Riverside County Flood Control District Boundary
- Coachella Valley Water District Boundary

Background Image is 7.5m USGS Quad Imagery

Riverside County Flood Control and Water Conservation District
Geographic Information System

The graphics and tabular information shown on this document are derived from a variety of public agency and/or private commercial sources. These sources may possess varying levels of accuracy and precision and this product is meant only as a guide to the relative position and scale of the depicted features. This GIS document is in no case to be interpreted as fundamental or decisive for purposes of land surveying, field engineering, plan drafting or land acquisition and determination.

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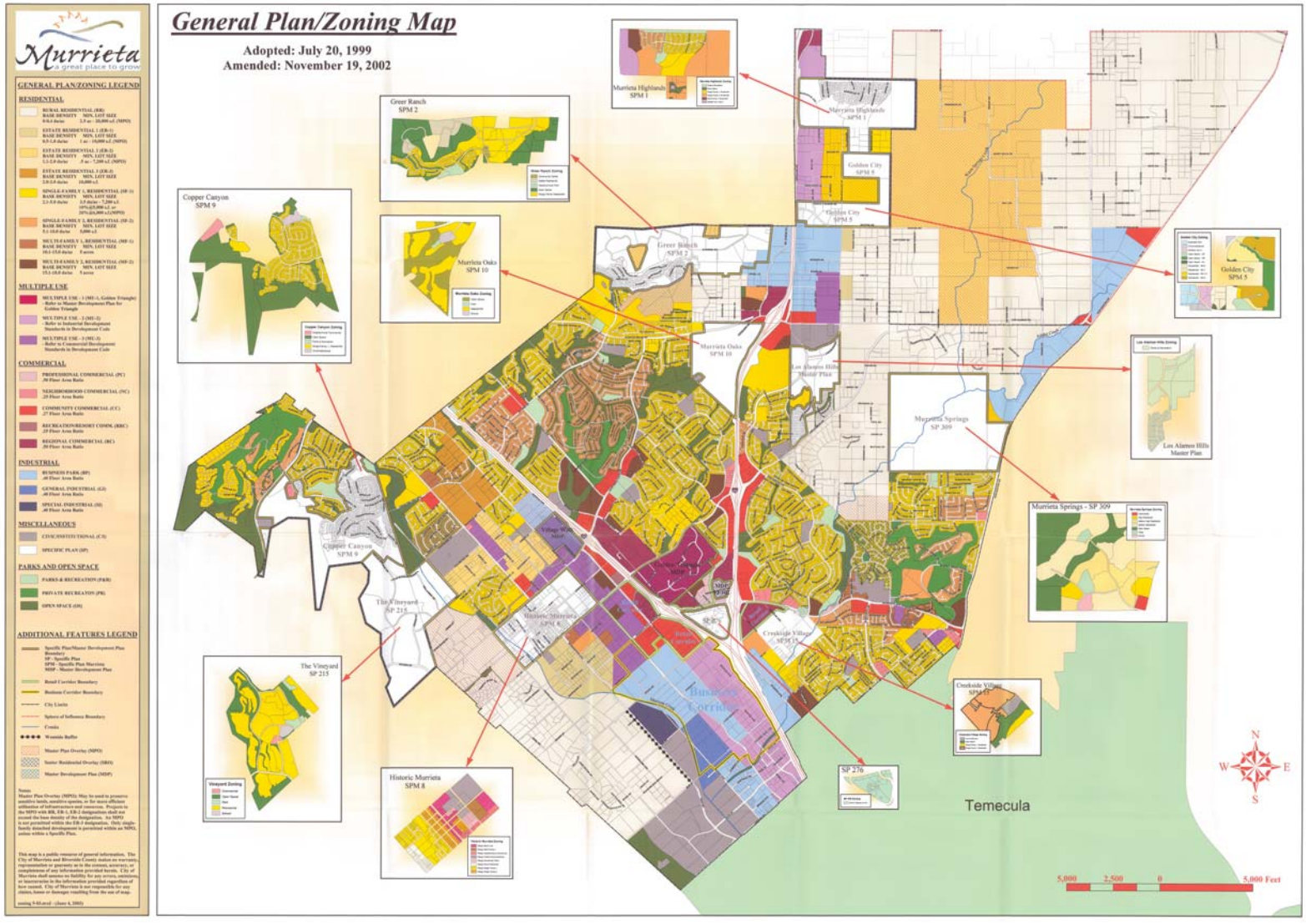
N W E S

NPDES Monitoring Stations
Santa Margarita River Watershed

August 2005


General Plan/Zoning Map
Adopted: July 20, 1999
Amended: November 19, 2002
Murrieta
a great place to grow
GENERAL PLAN/ZONING LEGEND
RESIDENTIAL
MULTIPLE USE
COMMERCIAL
INDUSTRIAL
MISCELLANEOUS
PARKS AND OPEN SPACE
ADDITIONAL FEATURES LEGEND
Murrieta Highlands SPM 1
Greer Ranch SPM 2
Copper Canyon SPM 9
Murrieta Oaks SPM 10
Golden City SPM 5
Los Alamos Hills Master Plan
Murrieta Springs SP 309
The Vineyard SP 215
Historic Murrieta SPM 8
Creekside Village SPM 17
SP 276
Temecula
N
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ATTACHMENT H-6

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
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FAX 951.788.9965
www.rcflood.org
123267

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

January 15, 2009

Mr. John Robertus, Executive Officer
California Regional Water Quality
Control Board – San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123

Dear Mr. Robertus:

Re: Report of Waste Discharge for the Santa Margarita River Region of Riverside County Order No. R9-2004-001, NPDES No. CAS0108766

This letter and the enclosures comprise the Report of Waste Discharge (ROWD) for the area-wide municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, San Diego Regional Water Quality Control Board Order No. R9-2004-001. This ROWD is an application for renewal of the area-wide MS4 NPDES Permit for Riverside County Flood Control and Water Conservation District (RCFC&WCD), the County of Riverside (County), and the incorporated cities of Riverside County within the upper Santa Margarita River watershed (Menifee, Murrieta, Temecula, and Wildomar) collectively referred to herein as "Permittees."

Order No R9-2004-001 does not specify the requirements of the ROWD. However, the attached ROWD includes the following information:

- Applicant information, including Permittee contacts, legal authorities, description of the Permit Area, and funding sources;
- Overview of the upper Santa Margarita River watershed, including population, land use, Receiving Waters, and the MS4;
- Changes in land use and/or population over the 2004 MS4 Permit term and projections for changes over the next MS4 Permit term;
- Highlights of the Permittee compliance programs over the 2004 MS4 Permit term;
- Evaluations of the Permittees existing compliance programs based on water quality data collected to date; and

- Activities the Permittees propose to undertake during the next MS4 Permit term, including implementation of Low Impact Development (LID) requirements and compliance assessments and targets.

In addition, the ROWD includes an assessment of the economic conditions and the projected impact of these conditions on sources of compliance program funding. Based on this assessment, it appears that the major challenge facing the Permittees over the next MS4 Permit term will be maintaining existing compliance programs. In 2004 both the Permittees and the San Diego Regional Water Quality Control Board (Regional Board) staff invested significant time and resources in the development of the current MS4 NPDES Permit (hereinafter referred to as the 2004 MS4 Permit) which define the current compliance program. The Permittees believe, with exceptions outlined in the ROWD, that the existing Permit is protective of water quality and should be reissued as is.

Permittee representatives met with Regional Board staff on September 8, 2008 to obtain guidance for preparation of the ROWD. In that meeting, Regional Board staff provided their expectations regarding the ROWD. Based on the Permittee internal discussions and discussions with Regional Board staff, the Permittees propose to maintain the provisions of the 2004 MS4 Permit and DAMP with limited modifications to reflect:

- Updated references to related orders by the San Diego Regional Board and State Water Resources Control Board (State Board);
- Identification of impairments to Receiving Waters in the Santa Margarita Region;
- Evolution of compliance programs;
- Further standardization and definition of terms;
- Deletion of requirements in the 2004 MS4 Permit that described the development of compliance program elements which were incorporated into the 2005 DAMP;
- Implementation of LID/Hydromodification requirements for New Development projects;
- Implementation of compliance assessments and action levels;
- Necessary modifications to the Watershed SWMP and Individual SWMPs for the 2004 - 2009 MS4 Permit term; and
- Regional Board staff comments made during the term of the 2004 MS4 Permit, including comments received during the September 8th ROWD coordination meeting.

Especially given the existing and projected economic conditions, the Permittees goal is to work with the Regional Board staff to further refine the provisions of the 2004 MS4 Permit to enhance the effectiveness of existing compliance programs within available funding. In addition, the Permittees will work with the Regional Board staff to ensure that the requirements and expectations of the fourth term MS4 NPDES Permit are clear and unambiguous and that the focus is on addressing identified water quality problems in the Receiving Waters

We look forward to working with the Regional Board staff in the renewal of the area-wide MS4 NPDES Permit. If you have any questions, please call Jason Uhley at 951.955.1273 or Claudio Padres at 951.955.8602.

Very truly yours,

WARREN D. WILLIAMS
General Manager-Chief Engineer

Enclosures: ROWD (one hard copy and one CD)

c: Santa Margarita River Region MS4 Permittees, w/CD
Eugene Bromley, USEPA Region IX, w/CD
James Smith, CRWQCB – San Diego Region
Ben Neill, CRWQCB – San Diego Region
David Huff, Riverside County Office of Legal Counsel, w/CD
Robert Collacott, URS, w/CD

CP:JU:bjp

REPORT OF WASTE DISCHARGE

Submitted To

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD
(Order No. R9-2004-001)

and

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION IX
(NPDES No. CAS0108766)

JANUARY 15, 2009

SANTA MARGARITA RIVER REGION

RIVERSIDE COUNTY

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT,
COUNTY OF RIVERSIDE, CITY of MENIFEE, CITY of MURRIETA,
CITY of TEMECULA, and CITY of WILDOMAR

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1.0 Executive Summary

On July 14, 2004 the San Diego Regional Water Quality Control Board (Regional Board) adopted Order No. R9-2004-001, an area-wide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit (2004 MS4 Permit); this permit expires on July 14, 2009. A Report of Waste Discharge (ROWD) for renewal of the 2004 MS4 Permit must be submitted no later than 180 days in advance of the expiration date (i.e., by January 15, 2009).

This ROWD is an application for renewal of the 2004 MS4 Permit (NPDES No. CAS0108766) for the MS4 owned and operated by the Riverside County Flood Control and Water Conservation District (District), the County of Riverside (County), and the incorporated cities of Riverside County within the upper Santa Margarita River watershed (collectively, the Permittees). The newly incorporated cities of Menifee and Wildomar are included in this application as a Notice of Intent to participate in the updated MS4 Permit.

The content of this document is structured to identify:

- Information about the applicants (Section 3.0),
- Information on the area to be covered under the MS4 Permit (Section 4.0),
- An overall evaluation of the Permittees' existing programs based on water quality trends (Section 5.0),
- Accomplishments and recommendations for the Permittees' regionally implemented programs (Section 6.0) and
- Accomplishments and recommendations for the programs implemented as part of the Individual Stormwater Management Plans (SWMPs) (Section 7.0).

The Riverside County Drainage Area Management Plan (DAMP) documents the model implementation plan from which each of the existing Permittees has developed their respective Individual SWMP to implement the DAMP. In addition a Watershed SWMP has been developed to describe the programs that will be implemented regionally. The Annual Reports submitted to date describe the implementation of these SWMPs and document how they have evolved over time.

This ROWD builds on these Annual Reports by highlighting the major accomplishments of these programs, evaluating the long-term effectiveness of the programs and recommending revisions to the programs to enhance the efficiency and effectiveness of the programs to manage Urban Runoff to protect Receiving Water quality. To promote clarity of intent, terms defined in the 2004 MS4 Permit are capitalized in this ROWD.

Due to the impacts of the current economic recession on Permittee budgets and the effectiveness of existing Urban Runoff management programs, the Permittees' primary focus during the next MS4 Permit term will be on maintaining existing compliance programs in the face of significant cuts in basic municipal programs and services. Riverside County is one of the areas most affected by the mortgage crisis and the Santa Margarita Region is one of the most impacted areas of Riverside County. This crisis is having significant impacts on Permittee resources and projections for a deepening recession promises to exacerbate these impacts. Further, monitoring data indicates that the existing compliance programs have been effective in maintaining water quality. This ROWD focuses on maintaining the fundamental

structure and content of the Riverside County DAMP and the Individual SWMPs. However, the Permittees have identified several enhancements and/or alterations to their programs that can be implemented to continue to increase the effectiveness of these programs, without increasing costs.

1.1 Highlights of Program Implementation

Sections 6 and 7 of this ROWD describe the numerous accomplishments of the Permittees programs during the 2004 MS4 Permit term. Some highlights of the major accomplishments for the Permittees include:

- Development and implementation of a Water Quality Management Plan (WQMP) that addresses post-construction Urban Runoff management for New and Significant Re-Development.
- Development and implementation of the Watershed SWMP and the Permittee's Individual SWMPs.
- Development of handbook to standardize post-construction Best Management Practice (BMP) selection and design in Riverside County. Ongoing updates to the handbook include a plan to incorporate and promote low impact development design concepts.
- Development and enhancements to the design template for developing project-specific WQMPs
- Development of a Frequently Asked Question (FAQ) document to assist developers and plan review staff in understanding WQMP requirements and expectations.
- Development of coordinated BMP manual for firefighting agencies.
- Development, implementation and maintenance of Permittee databases to track construction sites 1-acre or larger. In addition, the Permittees have standardized a construction reporting spreadsheet used for Annual Reports, updated inspection forms, and enhanced the construction outreach program.
- Creation of Permittee databases to track industrial and commercial facilities.
- Creation and maintenance of the Storm Water Protection website that offers educational resources and free brochures targeting residents, businesses, developers, contractors, and elementary school children.
- Partnership with the Mission Resource Conservation District to provide an educational outreach programs targeting both schools and adults.
- Continued participation in the Consolidated Program for Water Quality Monitoring (Consolidated Monitoring Program) that includes collection of water quality samples at MS4 outfalls and Receiving Waters.
- Participation in regional and statewide monitoring efforts such as the Southern California Monitoring Committee (SMC), Southern California Coastal Water Commission and National Water Resources Institute.
- Participation in the California Stormwater Quality Association (CASQA), including the leadership roles of Officer, Director, and Legislative Chair.
- Development of the Upper Santa Margarita Region Integrated Regional Watershed Management Plan

- Continued partnership and coordination with the Bureau of Reclamation on a watershed plan and water quality model for the Santa Margarita watershed
- Continued participation in the Santa Margarita Lagoon nutrient Total Maximum Daily Load (TMDL) development process
- Participated in a stakeholder workgroup process led by Regional Board staff to revise REC 1 Basin Plan requirements for TMDLs

1.2 Summary Evaluation of Program Implementation

The trend analysis presented in Section G-8.2 of the FY 2007/2008 Watershed Annual Report and reviewed in Section 5.3 of this ROWD indicates that after almost 14 years of active Permittee involvement in MS4 Permit related Urban Runoff management programs, the significant increase in population (over 300 percent) and associated rapid urbanization that the area has experienced has not resulted in any statistically significant increases in Pollutant concentrations in Receiving Waters in the Santa Margarita Region. This indicates that the Permittees MS4 programs are and have been protective of Receiving Water quality. Pyrethroid pesticides, the one Pollutant that does appear to be linked to urbanization, has been addressed through a Toxicity Reduction Evaluation process, outreach programs, and Permittee participation to address pyrethroid pesticides and other pesticide sources at the state and federal level.

To enhance the effectiveness of the MS4 Permit compliance programs, the Permittees have agreed to implement compliance program revisions as described in sections 6 and 7 of this ROWD.

1.3 Summary of Major Recommendations for Program Revision

As described in section 3.4 of this ROWD, the Permittees are facing unprecedented fiscal impacts resulting from the national and state economic crises. The impacts on the Permittees are especially severe due to the disproportionate impact of home foreclosures in the Santa Margarita Region coupled with plummeting sales tax revenue. Unfortunately, it is anticipated that the economic conditions will persist for a significant portion of the term of the next MS4 Permit. During this period, the Permittee's MS4 compliance programs will increasingly compete with more fundamental public services for finite and dwindling resources. The challenge and priority for the Permittees will be to maintain the existing compliance programs in the face of cuts in basic programs and services.

Nevertheless, and although the various programs implemented as part of the Watershed SWMP and the Riverside County DAMP have been determined to be effective overall, Sections 6 and 7 of this ROWD identify certain areas wherein the Permittees are proposing changes to improve the effectiveness, efficiency, and transparency of these programs.

The program revisions recommended in this ROWD reconfigure existing programs in a manner that will increase the Permittees' overall ability to protect Urban Runoff quality, while limiting additional costs that would make these revisions cost-prohibitive in light of the current and foreseeable economy. Some of the major recommendations include:

Enhance Program Effectiveness Assessments and Incorporate Action Levels (Section 6.1.2.1)

The Permittees have carefully evaluated their MS4 Permit compliance programs and annual reporting forms. Based on this review the Permittees determined that:

- The overarching goal of the program is to ensure that Urban Runoff does not cause or contribute to non-attainment of Beneficial Uses in the upper Santa Margarita River watershed;
- Permittee compliance programs are process based and, consistent with the Maximum Extent Practical (MEP) approach, are incrementally adjusted as part of the annual reports and comprehensively reevaluated and if necessary, revamped as part of each ROWD;
- Monitoring data should be used to drive long term program assessments and assess goal attainment as part of the ROWD; and
- Process based Municipal Action Levels (MALs) should be used to evaluate annual program implementation to ensure that programs are implemented to the MEP and identify the needs for incremental adjustments.

The Permittees have proposed revised Effectiveness Assessment metrics and MALs for use in Permittee Annual Reports consistent with the aforementioned findings and as described further in Section 6.1.2.1. The MALs are intended to function as triggers, or minimum bars that if breached, would require the Permittees to evaluate the appropriate program elements to determine if adjustments are necessary to attain the MEP standard. The Permittee proposal will not only add transparency to the Permittees compliance programs but assist Permittees in evaluating and adjusting their Permit compliance programs to assist in attaining Water Quality Standards. Further, the proposed effectiveness assessment metrics can be implemented without significantly increasing the Permittees' program costs.

Revisions to the IC/ID Program (Section 7.8.2)

During the 2007/2008 MS4 Program audits conducted by PG Environmental and Regional Board staff, several questions were raised regarding the Permittees existing Illicit Connection/Illegal Discharge(IC/ID) field monitoring programs. The Permittees have evaluated the Regional Board and PG Environmental staff's comments and proposed a revised IC/ID Program based on the following:

- Random selection of MS4 outfalls throughout the Santa Margarita Region;
- Rotating MS4 outfall sites annually to maximize coverage of the MS4;
- Partnering one District staff person with one city/county code enforcement officer for data collection to ensure consistency in sampling procedure/collection and quick response to detected IC/ID events.

Implementation of a Post-Construction Treatment Control BMP Inspection Program (Section 7.2.2.6)

Consistent with Regional Board staff's request to consider development of a post-construction Treatment Control BMP inspection program, the Permittees have developed a proposal that they plan to implement when economic conditions allow. This proposal would enhance the existing business and Permittee facility inspection programs described in the Riverside County DAMP by incorporating inspections and maintenance verification of Treatment Control BMPs. Treatment Control BMPs constructed as part of residential developments, or other developments not captured by the Permittees' existing business inspections would be addressed through an annual self-certification program.

Revisions to the Dry Weather Monitoring Program (Section 6.4.4.1)

The Permittees have committed to participating in the Regional Watershed Monitoring Program developed in conjunction with the Southern California Coastal Water Research Project (SCCWRP). Six annual monitoring events were scheduled for the upper Santa Margarita River watershed. Consistent with the agreement reached by SCCWRP, Permittee, and Regional Board staff, three of these sites would be collected by the Permittees and three through the Surface Water Ambient Monitoring Program (SWAMP). The costs for implementing the three sites to be implemented by the Permittees would be offset by reducing the Permittees existing dry weather triad monitoring events (three stations) from twice a year to annually.

Development of a LID Manual (Section 7.2.2.1)

The Permittees have committed to develop a Low Impact Development (LID) Implementation Manual based on the LID Manual currently being developed by the SMC and CASQA.

Hydromodification Management Plan (Section 7.2.2.2)

The Permittees have committed to develop a revised hydromodification management plan based on the findings of the final SCCWRP Hydromodification Management report currently under development.

Participate in a Watershed Based TMDL for the Santa Margarita Lagoon (Section 6.4.4.7)

The Permittees understand that, due to economic conditions, State funding for the Santa Margarita Lagoon watershed-based TMDL has been withdrawn. As described in Section 3.4, economic conditions are also impacting the Permittees' funding sources and the Permittees are struggling to maintain sufficient resources to fund their existing compliance programs. Therefore, the Permittees cannot currently support committing additional funds toward a third party TMDL effort. The Permittees are, however, agreeable to discussing with the Regional Board a elimination or reduction of various required compliance activities that are not measurably enhancing the their ability to attain Water Quality Standards, which in turn could allow the Permittees to redirect some of their existing resources into the third party TMDL effort. Some program elements that could be considered for discussion are described in Section 6.4.4.7.

Pyrethroid Pesticide BMP Implementation

The Permittees have committed to implementing several BMPs to address possible urban sources of pyrethroid pesticides. In addition the Permittees have committed to working through CASQA to facilitate regulatory change in pyrethroid pesticide use to curtail potential causes of receiving water impairment.

Adjustments to the Monitoring Program

The Permittees have proposed additional revisions to the monitoring program to streamline implementation and increase its utility.

2.0 Introduction

The Regional Board adopted Order No. R9-2004-001 (NPDES No. CAS0108766), an area-wide NPDES MS4 permit (2004 MS4 Permit) on July 14, 2004. This ROWD is a required component for renewal of the 2004 MS4 Permit. The 2004 MS4 Permit authorizes discharges of Urban Runoff from the MS4 owned and operated by the Permittees.

Capitalized terms used in this ROWD are defined in the glossary of the Riverside County DAMP. The Riverside County DAMP serves as the model compliance document used by the Permittees to develop the Watershed and Individual SWMPs. To save costs and increase the effectiveness of the MS4 Permit compliance programs, the Permittees will maintain the Riverside County DAMP as the primary document that describes Permittee compliance programs. The Permittees individual and regional compliance programs are then described in more detail in the Individual and Watershed SWMPs.

This ROWD has been written and formatted to address the requirements outlined in United States Environmental Protection Agency (USEPA) *Interpretative Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems* contained in the Federal Register, Volume 61, page 41698 (61 FR 41698), and to include commitments made in the various compliance documents, annual reports and in meetings with the Regional Board.

Additionally, as discussed in the meeting with Regional Board staff on September 9, 2008 and as supported by the above mentioned USEPA guidance, this ROWD relies on the fourth year Annual Reports to document the programs implemented by the Permittees. The fourth year Annual Report also includes a comprehensive evaluation of Permittee monitoring data to date and includes preliminary recommendations for Permittee compliance programs based on that data. As part of the ROWD process, the Permittees have reassessed their existing programs that are described in the Annual Reports, the monitoring conclusions and program recommendations contained in the fourth year Annual Reports, and in this ROWD, are making additional recommendations for revisions to improve the efficiency and effectiveness of these programs at improving and protecting the quality of our Receiving Waters.

The following sections of the ROWD are summarized as follows:

Section 3.0 - Information about the Permittees, their legal authority to implement the existing and proposed programs, the Permit Area, and the Permittee's funding sources and economic outlook relative to continued funding of the MS4 Permit compliance programs.

Section 4.0 – Information about the upper Santa Margarita River watershed, including physiography and geology, hydrology, climate, population, land use, surface water bodies and their Beneficial Uses and Impairments, and the MS4. This information provides context for the MS4 Permit compliance program in the Santa Margarita Region.

Section 5.0 – An overall evaluation of the Permittees existing programs based on water quality data collected to date and proposed compliance program modifications.

Section 6.0 – Evaluation of regional compliance programs, including a summary of accomplishments and proposed program revisions.

Section 7.0 – Evaluation of compliance programs individually implemented by the Permittees, including a summary of accomplishments and proposed program revisions.

3.0 Applicant Information

3.1 Permittee Contact Information

Table 1 provides the contact information for each of the Permittees in the Santa Margarita Region.

Table 1. Permittee Contact Information

	Primary Contact	Staff Contact	Address
District	Warren D. Williams General Manager, Chief Engineer 951.955.1275	Jason Uhley Engineering Project Manager 951.955.1273 juhley@rcflood.org	1995 Market Street Riverside, CA 92501
City of Menifee[1]	George Wentz City Manager 951.672.6777	Addison Smith Building Official 951.672.6777	29683 New Hub Drive, Suite C Menifee, CA 92586
City of Murrieta	Patrick A. Thomas Director of Public Works 951.304.2489	Bill Woolsey 951.461.6073 WWoolsey@murrieta.org	1 Town Center 24601 Jefferson Avenue Murrieta, CA 92562
City of Temecula	Daniel A. York City Engineer 951.694.6411	Aldo Licitra 951.694.6411 aldo.licitra@cityoftemecula.org	43200 Business Park Drive Temecula, CA 92589
City of Wildomar[1]	John Danielson City Manager 951.677.7751	Michael Kashiwagi, P.E. Director of Municipal Services (916) 683-3340 X 15 (Office) (916) 206-2238 (Cell) Local Cell 909.200.0523	23873 Clinton Keith Road, Suite 111 Wildomar, CA 92595
County of Riverside	Gary Christmas Chief Deputy County Executive Officer	Mike Shetler Senior Management Analyst 951.955.1110 mshetler@rceo.org	4080 Lemon Street, Suite 400 Riverside, CA 92501

3.2 Statement of Legal Authority

The Co-Permittees have adopted ordinances regarding the management of Urban Runoff. The ordinances provide the Permittees with the legal authority to implement the requirements of the 2004 MS4 Permit and 40 CFR Section 122.26(d)(2)(i)(A-F). The Permittees also provided certification of adequate legal authority to comply with the 2004 MS4 Permit and to implement the Riverside County DAMP to the

[1] As the Cities of Menifee and Wildomar are recently incorporated, the County of Riverside is currently handling their stormwater and MS4 permitting issues. Once these cities are fully established and staffed, updated contact information will be provided to the Board. The cities will assume responsibility for their programs on October 1, 2009.

Regional Board. However, it is noted that the newly incorporated cities of Menifee and Wildomar will submit their certifications following adoption of the updated MS4 Permit.

However, there are limitations to the authority the Permittees have for enforcement actions. The Permittees do not have legal authority over discharges into their respective MS4 facilities that originate from agricultural activities, state and federal facilities, utilities and special districts, Native American tribal lands, wastewater management agencies and other point and non-point source discharges otherwise permitted by, or under the jurisdiction of, the Regional Board or USEPA. Examples of non-point sources of Pollutants not under the control of the Permittees include materials from operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from lawful application of pesticides, nutrient runoff from agricultural activities, and leaching of naturally occurring minerals from local geography.

Also, the Permittees do not have the authority to enforce the provisions of California's General Permit for Storm Water Discharges Associated with Industrial Activities (General Permit-Industrial) or California's General Permit for Storm Water Discharges Associated with Construction Activity (General Permit-Construction). The State Water Resources Control Board (State Board) issues these NPDES permits, and neither the State Board nor the Regional Board has the authority under the Clean Water Act to delegate responsibility for administering these NPDES permit programs to the Permittees. However, the Permittees' local storm water and erosion control ordinances may address items similar to those identified in these statewide NPDES permits.

3.3 Permit Area

The Permit Area is defined as the urbanized area serviced by the Permittee's MS4 facilities. The Permit Area is located within the area delineated by the County boundary line on the south and the limits of the jurisdiction of the San Diego Regional Board on the north, east, and west. It is important to recognize that the Clean Water Act exempts agricultural activities from regulation under NPDES and the Permittees do not have legal jurisdiction over storm water discharges into their MS4 facilities from:

- California and federal facilities,
- Areas under the jurisdiction of San Diego County,
- Utilities and special districts, and
- Native American tribal lands.

These areas are not included in the Permit Area. In addition, other point and non-point source discharges otherwise permitted by or under the jurisdiction of the Regional Board or USEPA may affect water quality in the Murrieta and Temecula Creek watersheds.

The area of Riverside County under the jurisdiction of the Regional Board is less than 8 percent of the 7,300 square miles within Riverside County. Of the 27 municipalities within the whole of Riverside County, only five include areas under the jurisdiction of the Regional Board.

3.4 Funding Sources and Economic Projections

3.4.1 Funding Sources

The costs incurred by the Permittees in implementing the SWMPs fall into two broad categories:

- **Shared Costs**. These are costs that fund activities performed mostly by the District under the Implementation Agreements. These activities include coordinating the overall storm water program, coordinating other interagency cooperative efforts such as the Compliance Assistance Program (CAP), participating in CASQA activities, representing Permittees at meetings of the Regional Board or State Board and other public forums; preparing and submitting compliance reports and other reports required under the MS4 Permit, conducting Urban Runoff monitoring and public education outreach programs, responding to Water Code Section 13267 requests, providing other program documentation, and coordinating consultant studies, Permittee meetings, and training seminars.
- **Individual Permittee Costs for Individual SWMP Implementation**. These are costs incurred by each Permittee for implementing within its jurisdiction the BMPs (drainage facility inspections for illicit connections, drainage facility maintenance, drain inlet/catch basin stenciling, emergency spill response, street sweeping, litter control, public education, construction activity inspection, development of implementation plans, etc.) comprising the Individual SWMPs.

Historically, the Permittees have employed several funding methods to finance their MS4 Permit compliance activities. Unfortunately, the mortgage crisis, collapse of the housing market, and the economic recession has resulted in the cessation of virtually all development activity and has significantly reduced property and sales tax revenue. Property tax revenues have been reduced by the high level of foreclosure activity, reduced property values and a significant decline in assessed valuations. Property tax revenues have been further reduced by homeowner requests for reassessments to reflect the reduced property values. The impact of these economic conditions on the Permittees in the Santa Margarita Region has been particularly severe. As a result, the aggregate funding available to the Permittees has been severely reduced, and it is anticipated that this condition will continue well into and possibly throughout the next Permit term. The funding methods historically used and the effects of the economic situation on the availability of funds through these sources are summarized as follows:

- **Santa Margarita Watershed Benefit Assessment Area**. In 1991, the District established the Santa Margarita Watershed Benefit Assessment Area to fund its MS4 Permit compliance activities. Currently, the Benefit Assessment revenues fund the District's share of the area-wide MS4 Permit program activities and the District's individual compliance activities as a Permittee. Under the Benefit Assessment each parcel is taxed based on the impervious area of each parcel at a set rate established by District Ordinance 14. This rate has not been increased since 1991 due to Proposition 218. In 2007/08 the Santa Margarita Benefit Assessment generated approximately $410,000 dollars in revenue.

  Outlook: The District expects at best to maintain, if not see temporary reductions in Benefit Assessment revenues due to the significant number of homes that are not paying property tax due to foreclosure. Pursuant to Article 13.D of the California Constitution, an increase in the established Benefit Assessment rate to compensate for these reductions requires approval of 2/3

of the voters or 50 percent of the property owners and is highly unlikely given the current economic climate. Revenues will not increase until the development industry recovers.

- **General Fund /Other Revenues**. The County and the cities utilize general fund revenue to finance most of their MS4 Permit compliance activities. General fund revenue is generated by property tax, sales tax, and auto license taxes.

  Outlook: The Permittees expect a continued reduction in th**e funds** available through General Fund / Other Revenues through at least FY 2009 /2010. Although optimistic that conditions will begin to stabilize toward the end of 2009, the Permittees cannot speculate as to when revenues will recover to previous levels.

- **Fees**. Several Permittees charge fees for services such as inspections, plan check, and other recoverable costs related to compliance with the 2004 MS4 Permit. These fees cover both the direct and indirect costs associated with conducting these inspections/reviews including associated compliance tracking and reporting.

  Outlook: It is notable that, with the virtual collapse of the development industry in the Santa Margarita Region, the fees received by the Permittees have been significantly reduced. With this reduced level of fee-based income, maintenance of the existing inspection and plan review programs will place an increased burden on overall funding of the compliance programs. The Permittees do not expect revenues from fees to recover until the development industry recovers. Even with recovery of the development industry, it is anticipated that over the long-term, revenues from fees will be reduced for the City of Temecula and the County due to the reduced area remaining for development within their jurisdictions.

- **Grants.** The Permittees have actively pursued and, as available, used Grants to fund compliance programs.

  Outlook: In December the state's budget crisis resulted in a directive to state agencies from the Department of Finance to halt projects that rely on bond funds, including those funded by Prop 40, Prop 50, or Prop 84. The State of California is the primary source of grant funding for water quality projects. Future availability of funds to resume grant-funded projects is uncertain.

It is clear that the current economic climate and that of the foreseeable future is creating a significant burden upon the Permittees that will make the continuance of all existing MS4 Permit compliance programs increasingly difficult. New funding sources or alternative combinations of funding sources will likely be required to ensure continued funding of even the current MS4 Permit compliance programs.

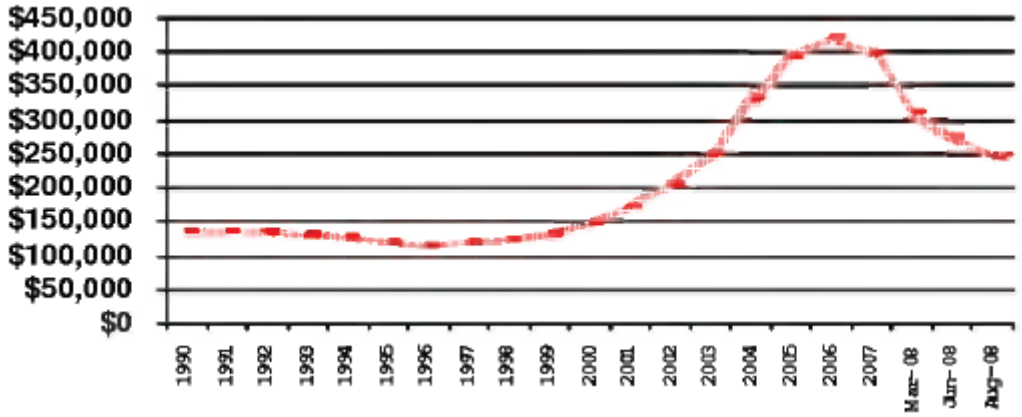
3.4.2 Economic Projections

According to Chicago Title, Southwest Riverside County has experienced a very significant increase in supply of single-family residential units on the market. As a result, housing price indicators are very negative. In the majority of the Southwest Riverside submarket, the pending price is less than the closing price indicating general price weakness. The October, 2008 count of bank owned (REO) properties for Riverside County as a whole was 12,078. The number of home in foreclosure was 23,480. The presence of high levels of REO properties will continue to negatively affect home prices. In addition, the level of foreclosures is increasing.

With regard to other sectors of the economy, Riverside County has taken a serious turn for the worst in 2008, with projections indicating that the severe downturn will continue through 2009 at the very least.

The economic difficulties being faced in the Southwest Riverside submarket is the result of the dramatic downturn in the housing market in this area, the national financial turmoil, the worldwide credit crisis, and the increasing consumer debt crisis. According to Beacon Economics, a respected economics consulting firm in Los Angeles, Inland Southern California is clearly at the epicenter of this economic turmoil, with extremely high rates of unemployment at present. Unemployment rates in Inland Southern California are expected to reach 12.4 percent before this deep recession is over. Housing prices are expected to continue their precipitous decline from their peak levels in the two Inland Southern California counties through at least 2011. According to Dataquick, median home prices in Riverside County peaked at $415,000 in January 2007. At the end of this cycle, the median home price in Riverside County is expected to be $198,000. Figure 1 depicts the median housing price in Riverside County over the period 1990 to August 2008.

Figure 1. Riverside County Median Housing Price (1990 – August 2008)

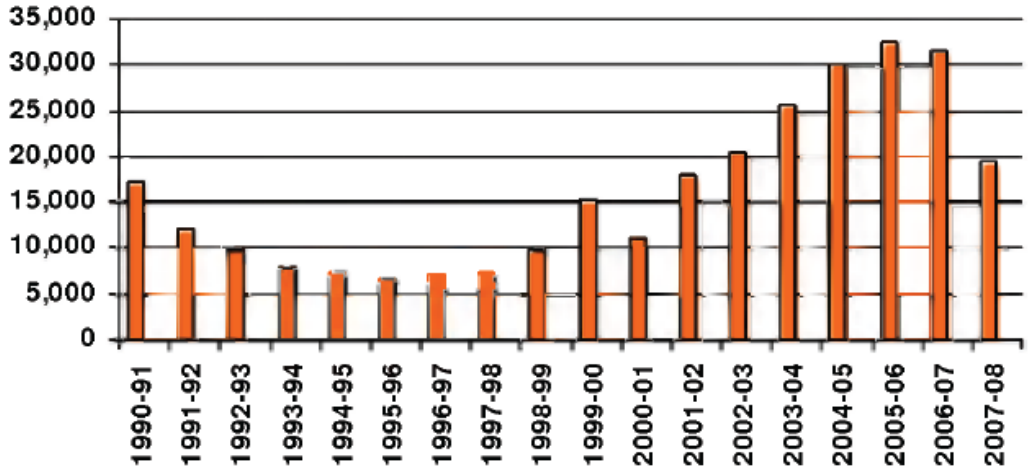


Source: Riverside County Center for Demographic Research. 2008. Riverside County Progress Report, pg 14.

Local Government sales tax revenues remained fairly stagnant through 2006 and began to decline in early 2007, according to Beacon. By the second quarter of 2008, taxable sales in Riverside County declined by 7.7 percent. The decline is expected to continue with taxable sales possibly bottoming out by 2010. Recovery of these reduced revenue streams will likely not occur within the next permit term.

As a direct outcome of the current economy and the economic outlook into the next MS4 Permit term, the number of New Developments proposals has plummeted and any significant rebound is not forecast. New and redevelopment projects will likely remain minimal. As shown in Figure 2, the number of housing units being added each year has dropped below the levels seen at any point in time during the 2004 MS4 Permit. These numbers will likely continue to decrease for a significant portion of the new MS4 Permit term.

Figure 2. Riverside County Housing Units Added (1990 – 2008)



Source: Riverside County Center for Demographic Research. 2008. Riverside County Progress Report, pg 12.

These economic issues and projections directly affect and limit both:

1. The need for including enhanced new and re-development requirements in the new MS4 Permit, and
2. The Permittees ability to fund, and even seek new funding sources for additional MS4 Permit requirements for new and re-development projects.

Therefore, as described in Section 7.2, the Permittees are not recommending and cannot financially support any significant increases to their Development Planning activities. Permittee specific projections are as follows:

3.4.2.1 County of Riverside

The County is operating with a structural deficit of $12 million and plans a 25 percent budget reduction from FY 2008/2009 through FY 2011/2012. The County's current budget of $4.7 billion represents a 5 percent reduction from the previous year and next year's budget is expected to be cut by 10 percent. These cuts are directly associated with the overall decline in property values and the high number of foreclosures. There are concerns about having to use discretionary funds to meet State mental health and social service mandates. In addition, the County is dependent on funds from federal and state sources. If during this time of economic crisis federal and state funding sources are reduced or eliminated, any unfunded State and Federal programs will be terminated. Only core County programs will continue.

The primary source of general fund revenue is from property taxes and sales tax. With the unprecedented number of foreclosures, reduced property values, and declining sales tax revenue, general fund revenue is in a downward spiral. Another source of funding is through the Solid Waste Tipping Fees paid at the County landfills. Volume is down 15 percent since 2006 with anticipated downward trend to 40 percent reduction in solid waste through 2014. Programs that are partially funded through tipping fee allotments will be impacted. Due to the declining economy the recycling market has collapsed. Virtually no recyclable materials are being shipped for reprocessing. This loss of revenue and increased disposal costs is further impacting the general fund.

Cuts of 25 percent for all Net County Cost general fund programs will translate into reduction of County services and elimination of unfunded state and federal programs. Only core value programs will be provided (including public safety and fee programs)

The County has instituted a hiring freeze and required each department to create a report outlining the projected effects of the budget cuts. The County currently employs over 20,000 people, and layoffs are expected to result from the findings of these departmental reports. It is anticipated that this will impact program delivery for stormwater related activities. No County department will be able to sustain current staffing levels as they try to meet the 25 percent budget reduction strategy.[2] [3]

3.4.2.2 City of Menifee

The newly incorporated City of Menifee FY 2008/2009 initial budget was estimated from their comprehensive fiscal analysis that was submitted to the Local Agency Formation Commission during the incorporation process. Because of the economic uncertainty, and the fact that the City is only now beginning to staff positions, it is unknown what the immediate impact of the fiscal crisis will be. The County is responsible for assisting the City in meeting its MS4 Permit compliance requirements during the first year of incorporation which expires October 1, 2009. Currently, the level of property tax revenue that will be available to the City is uncertain. Funding for MS4 Permit compliance requirements was not explicitly budgeted. A financial hardship currently exists because of the costs associated with incorporation.

3.4.2.3 City of Murrieta

The City of Murrieta's FY 2008/2009 budget did not increase compared to FY 2007/2008. Adjustments were made to reflect less revenue and to absorb any operating costs. However, budget cuts are anticipated for FY 2009/2010 because the immediate economic outlook is not good. There have been approximately 2,000 home foreclosures within the City. Sales tax revenue is estimated to drop 12.5 percent, property tax revenue will drop, and the State took approximately $525,000 out of redevelopment funds. Murrieta did not receive any vehicle licensing fees from the State and it appears likely that the State will take more revenue from the Cities to solve its budget problems. New NPDES requirements that increase compliance costs will create a financial hardship for the City.

3.4.2.4 City of Temecula

Various ongoing tax and investment revenues adopted in the City of Temecula's FY 2008-09 general fund revenues are projected to decrease from FY 2007-08. Sales and use tax revenues are expected to decrease in FY 2008-09 compared to FY 2007-08. This decrease is primarily the result of the decline in general consumer goods, electronic retail, and auto sales. Property tax revenue is also expected to decrease due to decreases in supplemental tax receipts attributed to the impact of the housing crisis. Investment interest revenue is also anticipated to decrease due to a decline in interest rates.

As a result of the 2008/2009 State budget, Temecula's redevelopment agency will have to shift existing funds from property taxes to the State's Education Revenue Augmentation Fund coffer for schools and

[2] "The Realities of Recession in California: A Statewide Report by U.S. Senator Barbara Boxer, December, 2008, p. 18.

[3] Riverside County Executive Office, January, 2008.

colleges. As such, the amount due from the Temecula Redevelopment Agency is expected to be $898,685. As the State of California continues to address its budget deficit, the City of Temecula faces the possibility of additional revenue shifts to State coffers, further losing future revenue streams and threatening existing service levels.

In addition, a Press-Enterprise article dated December 9, 2008, reported that "Between 25 and 30 part-time Temecula employees will be without work in the new year as City officials deal with a lack of revenue and less work to go around." Furthermore, "the city is not immune to the economic slowdown, which has forced its neighbors to lay off workers and slash spending to counter drops in sales tax receipts and building permit fees. In May, the City's Finance Director reported that revenues were down $3 million compared to two years ago."

With these current and projected reductions in revenue and staff, additional requirements in the MS4 Permit or upcoming TMDL-related requirements, without any corresponding cost-equivalent offsets, will exceed the City's ability to effectively implement these new requirements and will begin to compromise the City's existing efforts to manage the existing MS4 Permit requirements.

3.4.2.5 City of Wildomar

The newly incorporated City of Wildomar FY 2008/2009 initial budget was estimated from their comprehensive fiscal analysis that was submitted to the Local Agency Formation Commission during the incorporation process. Because of the economic uncertainty, and the fact that the City is only now beginning to staff positions, it is unknown what the immediate impact of the fiscal crisis will be. The County is responsible for assisting the City in meeting its MS4 Permit compliance requirements the first year of incorporation that expires July 1, 2009. Currently, the level of property tax revenue that will be available to the City is uncertain. Funding for MS4 Permit compliance requirements was not explicitly budgeted. A financial hardship currently exists because of the costs associated with incorporation.

4.0 Overview of the Upper Santa Margarita River Watershed

4.1 Physiography and Geology

The upper Santa Margarita River watershed is defined as that portion of the Santa Margarita River watershed above the confluence of Murrieta and Temecula Creeks and includes the City of Temecula and portions of the Cities of Menifee, Murrieta, Wildomar, unincorporated County areas, portions of the Cleveland and San Bernardino National Forests, the Cahuilla, Ramona, Pauma, and Pechanga Indian Reservations and properties under the jurisdiction of Caltrans and a variety of special districts. The watershed is bounded by several mountain ranges, including the Santa Ana and Santa Margarita mountains to the North and the Palomar Mountains to the South. The upper Santa Margarita watershed includes areas in Riverside and San Diego Counties and encompasses approximately 588 square miles.

The upper Santa Margarita watershed includes two major sub-basins, drained by Temecula and Murrieta Creeks. Temecula Creek has a drainage area of 366 square miles, with steep rugged topography in the Palomar and Thomas Mountain areas and rolling hills below. The upper 316 square miles of this basin is controlled by Vail Lake (completed in 1949). Murrieta Creek has a drainage area of 222 square miles, with over 50 square miles controlled by Skinner Reservoir (completed in 1974). Although the watershed area is somewhat smaller and less rugged than the Temecula Basin, flood flows have the potential to create greater damage as they flow through the Cities of Temecula and Murrieta.

Temecula and Murrieta Creeks join along the Elsinore fault zone at the head of Temecula Canyon to form the Santa Margarita River. The Temecula Canyon is approximately five miles long, and is a steep, narrow, and rocky canyon. The San Diego-Riverside county line crosses through the Temecula Canyon. From here, the river traverses 27 miles to the Pacific Ocean.[4]

4.1.1 Watershed Characteristics

Over 50 percent of the Santa Margarita watershed has been controlled by the construction of Vail Dam in 1949 and Skinner Reservoir in 1974, which created a significant storage capacity in the upper watershed.[5] [6] 52 percent of the upper Santa Margarita River watershed is controlled by the dams. Due to this storage capacity, peak flow rates during major flow events for both existing and future land use conditions will be lower than under natural conditions.[7] [8]

[4] Santa Margarita Watershed Study: Hydrologic and Watershed Processes, Phillips, Williams and Associates, Ltd., October 26, 1998, page 1.

[5] Santa Margarita Watershed Study: Hydrologic and Watershed Processes, Phillips, Williams and Associates, Ltd., October 26, 1998, page 14.

[6] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 14.

[7] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 20.

[8] Santa Margarita Watershed Study: Hydrologic and Watershed Processes, Phillips, Williams and Associates, Ltd., October 26, 1998, page 20.

4.1.2 Stream Flow Characteristics

Murrieta and Temecula Creeks are perennial interrupted streams, i.e., they include reaches in which the flow is continuous and others where flow is ephemeral. The areas of perennial flow are located in mountain area tributaries outside of the urbanized areas serviced by the MS4s. The perennial flows disappear by seepage into the sands and gravels and resurface upstream of the confluence of Murrieta and Temecula Creeks. The creeks in the urbanized areas of the watershed, located primarily in the valley, are ephemeral and flows are only observed during and immediately after significant storm events. During major storms, after initial wetting, periods of intense rainfall result in rapid increases in stream flow in steep foothill and mountain areas.[9] "Runoff in streams in the watershed is derived primarily from rainfall, and as a result, stream flows exhibit monthly and seasonal variations similar to those shown by the precipitation records. Absence of snow pack in the tributary watershed results in a rapid decrease in flow of streams at the conclusion of the winter precipitation season. Following severe storms, discharge in the larger streams often increases in a few hours time from practically no flow to a rate of thousands of cubic feet per second. Stream flows vary greatly from month to month and from season to season."[10]

Rising groundwater is currently observed in Murrieta Creek below its confluence with the Santa Gertrudis Channel. This is consistent with the observations with the rising groundwater conditions observed by the State of California in 1956.[11] Rising groundwater is also observed in Temecula Creek approximately one quarter mile upstream of the Interstate 15 bridge. In 1956, the State of California observed more extensive rising groundwater conditions occurring as far upstream as the Highway 79 bridge. Based on the virtual absence of non-storm water flows and the rising groundwater conditions in lower Murrieta and Temecula Creeks observed prior to development of the watershed, there is no evidence that the rising groundwater is due to Urban Runoff nor that Urban Runoff has affected the quality of rising groundwater. However, use and disposal of reclaimed water and agricultural and landscape irrigation in the watershed may affect groundwater quality. Until October 2002, the Rancho California Water District augmented the flow of the Santa Margarita River with reclaimed water at a point about five miles upstream from the Temecula gauging station. Since that time, the Rancho California Water District has diverted reclaimed water to the Santa Ana watershed and instead discharged imported water at a location downstream of the confluence of Murrieta and Temecula Creeks in order to meet water supply obligations to Camp Pendleton.

For the average annual event, it is estimated that approximately 89 percent of the volume of runoff in the Santa Margarita Region is due to non-urban land uses not regulated under the federal storm water program. For the 100-year 24-hour event, 93 percent of the volume of runoff will be due to non-urban land uses. These estimates are based on the assumption that precipitation is constant across the watershed. However, precipitation (and resultant runoff volumes) in the non-urbanized upland areas is as much as four times greater than that from the urbanized valley areas.[12]

[9] Riverside Flood Control and Water Conservation District, "Hydrologic Data for 1975-76 Season," March 1982, p. 49.

[10] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 48.

[11] State of California Department of Public Works Division of Water Resources, Bulletin No. 57, "Santa Margarita River Investigation," Volume I, June 1956, p. 48.

[12] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 11

4.2 Climate

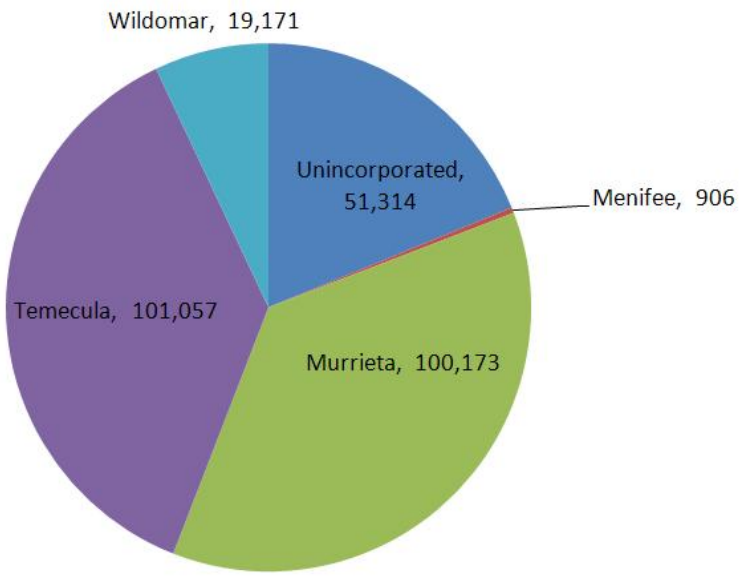
"The climate of the Santa Margarita River watershed is typically Mediterranean, being characterized by warm dry summers and cool rainy winters. About 75 percent of the precipitation occurs during the four-month period from December through March. Mean annual depth of precipitation ranges from less than 10 inches near Vail Reservoir to over 40 inches west of Palomar Observatory, varying with elevation and topographic influences."[13] Precipitation increases with increases in elevation to the summit of the Coastal range. Shading effects of the Coastal range lead to a marked decrease of precipitation throughout the lower portions of the Inland area. Precipitation increases again farther away from the Coastal range in the northeastern area of the Inland area.[14] The significant and varied orographic features also make rainfall prediction particularly challenging in the urbanized portion of the watershed.

4.3 Population and Land Use

4.3.1 Population

The California Department of Finance estimates that as of January 1, 2008, the total population of Riverside County was about 2,088,322. Of the 2.1 million people, approximately 272,621 persons (or 13 percent) reside within the portion of Riverside County under the jurisdiction of the San Diego Regional Board. As shown in Figure 3, approximately 51,314 persons[15] reside in the unincorporated area while approximately 221,307 persons reside within the cities of Menifee, Murrieta, Temecula and Wildomar.

Figure 3. Santa Margarita Region Population by Permittee (2008)



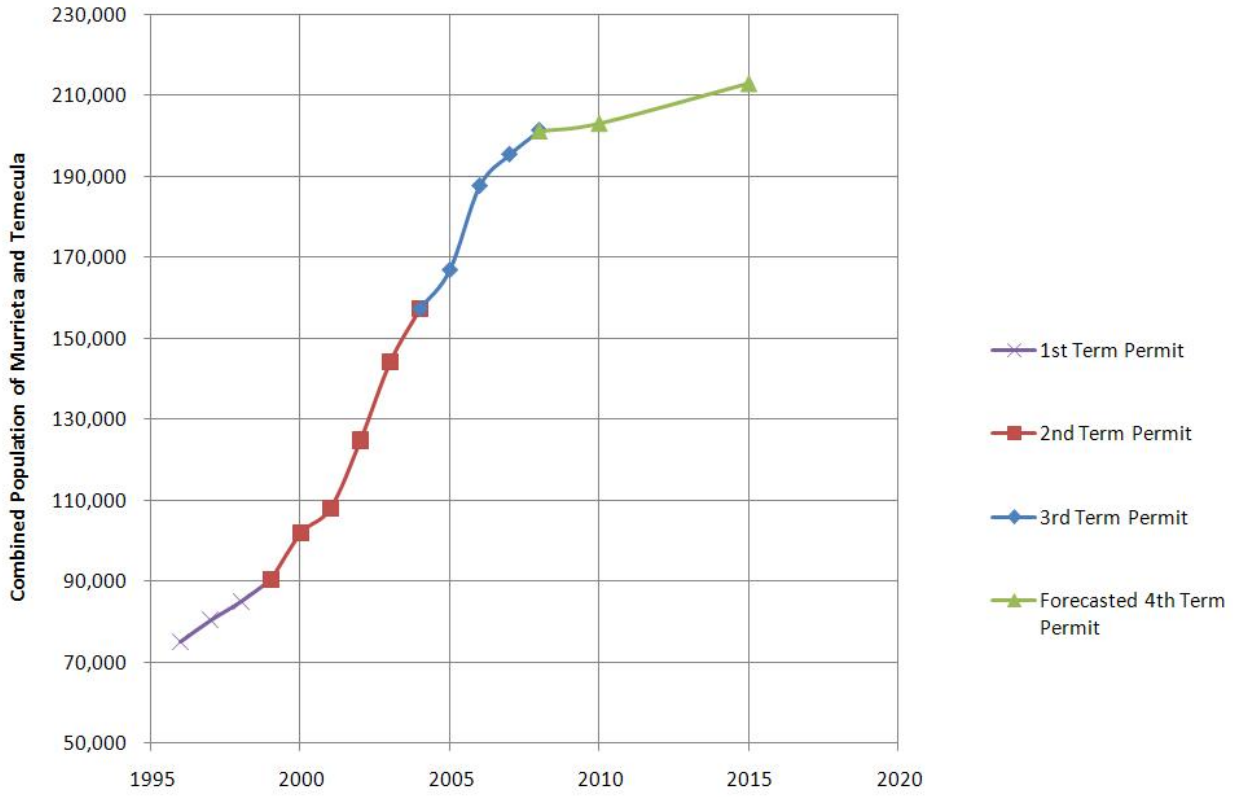
[13] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 11.

[14] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 38.

[15] Population estimate for the portion of unincorporated Riverside County within the Santa Margarita River watershed developed by the County TLMA GIS Demographics Unit based on the 2000 Census.

Although the second term and 2004 MS4 Permits covered a period of time that saw a significant amount of growth, due to the current and foreseeable economic conditions described in Section 3.4.2 of this report and decreasing areas available for development, growth during the next MS4 Permit term will be quite limited. In fact, the projected growth rate through 2015 will be significantly less than has been seen since the early 1990s. Figure 4 shows the combined populations of the Cities of Murrieta and Temecula since 1997 and projected through 2015. Similar trends are expected for the unincorporated areas and the portions of the cities of Wildomar and Menifee within the watershed.

Figure 4. Cities of Murrieta and Temecula Combined Population (1997 – 2015)



Source: Riverside County Center for Demographic Research. 2008. Riverside County Progress Report, pgs 92 & 124.

Figure 4 clearly demonstrates the dramatic reduction in growth that is expected for the term of the next MS4 Permit when compared to previous permit terms.[16] Establishing trend lines for the population in these cities further demonstrates that the growth rate (population added per year) will be lower than the previous growth rate by approximately 86 percent.

[16] 2008 Riverside County Progress Report

Table 2 shows population projections for the all of the Permittees into the year 2015.

Table 2. Population of Santa Margarita Region Co-Permittees

Co-Permittee	Year			Change (2009 to 2015)
	Estimate 2008 (a)	Estimate 2009 (b)	Projected 2015 (b)	
City of Menifee	906[c]	927[c]	5,232[c]	464%
City of Murrieta	100,173	102,277	109,715	7.3%
City of Temecula	101,057	101,356[d]	103,150	1.8%
City of Wildomar	19,171[c]	19,589[c]	20,127[c]	2.7%
Unincorporated County of Riverside	51,314[c]	52,436[c]	53,793[c]	2.6%
Total	272,621	276,585	292,017	5.6%

Notes:

(a) Unless otherwise noted, populations were obtained from the State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, May 2008.

(b) Unless otherwise noted, projected populations were obtained from Riverside County Center for Demographic Research. Riverside County Progress Report, 2008

(c) Data provided by County of Riverside, Executive Office.

(d) Data provided by City of Temecula.

Since the District is not a general purpose government, it is not included in this listing. Although the current population of the City of Menifee in the Permit Area is small, it is anticipated that the population will increase as it annexes unincorporated areas. Similarly, it is anticipated that the cities of Murrieta and Temecula will gain population as they annex unincorporated areas. It is not anticipated that Wildomar will see significant population increases as it is bounded on all sides by other cities and lands reserved under the MSHCP.

4.3.2 Land Use

Land uses in Riverside County within the Santa Margarita Region include open space, residential, commercial, light industrial, heavy industrial, and agriculture. The agricultural land uses include row crops, nurseries, citrus groves and vineyards, dairies, ranches, poultry and hog farms, and other agricultural related uses with one single-family residence allowed per 10 acres (County of Riverside General Plan, Land Use Element 2003). The conversion of agricultural lands and open space to other "developed" land uses has been ongoing and will continue, although at a much lower rate than previously experienced. Land uses in the Santa Margarita Region are shown in Table 3. These land uses are based on the County of Riverside Assessor Parcel Data, current as of February 2006. It should be noted that the land uses below represent ***zoned*** land uses rather than ***actual*** land uses. This overstates the actual area of urban land use in the Santa Margarita Region. Also, changes in zoning designations can cause odd fluctuations in year-to-year date.

A map of the zoned land uses is provided in Appendix A.

In 1956, only 0.3 percent of the Santa Margarita River watershed (less than two square miles) was urbanized.[17] Although there has been a significant rate of growth in population relative to the State and

[17] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956.

neighboring counties, half a century later, approximately 88 percent of the Santa Margarita River watershed remains as non-urban land uses (rural residential, agriculture, preserves and open space, state lands, federal lands, and tribal lands). Further, almost one-third of the upper Santa Margarita River watershed consists of federal, state, and tribal lands that are not under the jurisdiction of the Permittees' MS4 programs. It is projected that the population of Riverside County will increase approximately 5.6 percent by 2015. If the urbanized area increases proportional to population, 87 percent of the upper Santa Margarita River watershed would remain in non-urban land uses in 2015.

Table 3. 2009 Santa Margarita Region Land Uses

Urban Land Use	Acreage[(a)]	% of Land Use Subtotal	% of Total Land Use
Commercial	8,339	20.0%	2.5%
Industrial	963	2.3%	0.3%
Urban Residential (< 1 acre)	12,656	30.4%	3.7%
Parks & Recreation Facilities	4,291	10.3%	1.3%
Streets & Roads	15,439	37.0%	4.6%
Subtotal – Urban Land Use	41,688		12.3%
Non Urban Land Uses			
Preserves & Open Space	54,141	18.2%	16.0%
Rural Residential (> 1 acre)	106,773	35.9%	31.5%
Agriculture	36,389	12.2%	10.7%
Federal/State/Tribal Lands/Non-County Jurisdiction	100,076	33.7%	29.5%
Subtotal Non Urban Land Use	297,379		87.7%
Total Urban & Non Urban Land Use	339,067		100%

(a) As reported in the FY 2007/2008 Watershed Annual Report.

4.3.3 Conserved Lands

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) was adopted in June of 2003. It is a comprehensive, multi-jurisdictional Habitat Conservation Plan focusing on conservation of species and their associated habitats in western Riverside County. The MSHCP is one of several large, multi-jurisdictional habitat planning efforts in southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region. The MSHCP will allow Riverside County and its cities to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of the state and federal Endangered Species Acts. Further, as floodplains and streams tend to support critical habitat, the MSHCP will preserve many of the remaining natural streams and establish significant buffer areas between those systems and urban land uses.

Much of the remaining non-urbanized lands in the Santa Margarita Region will ultimately be incorporated into the MSHCP. The MSHCP will result in a conserved area in excess of 500,000 acres and focuses on conservation of 146 species. The MSHCP Conservation Area includes approximately 347,000 acres on

existing Public/Quasi-Public Lands and approximately 153,000 acres of Additional Reserve Land. A large portion of the conserved lands are in the upper Santa Margarita watershed (at least 145,000 acres). There are approximately 72,318 acres of existing public or quasi-public lands preserved within the upper Santa Margarita River watershed area located in Riverside County.

4.3.4 Anticipated Development 2009-2015

Proposed development during the next MS4 Permit term is an important indicator of potential new Urban Runoff sources. To the extent possible, the Permittees have identified significant New Development projects that, if constructed, will result in the conversion of primarily undeveloped land to developed land. This section describes the expected development within Permittee cities. Consistent with the current and forecasted economic conditions and population estimates, and as supported by the population information and forecasts presented in Section 4.3.1, the Permittees anticipate that the term of the upcoming MS4 Permit will be a time of little development. Following are summaries of anticipated development during the upcoming MS4 Permit.

4.3.4.1 County of Riverside

Projected trends for the County of Riverside's land use can be referenced in the Riverside County General Plan. Maps depicting the areas of future development and type of land use can be found in the General Plan maps that are accessible at http://www.rctlma.org/generalplan/area_maps.html.

- With the incorporation of the cities of Wildomar and Menifee the remaining unincorporated County area to be built out in the Santa Margarita Region during the upcoming MS4 Permit term is going to be considerably smaller.
- It is anticipated that, over the next five years, additional annexations will occur in each of the four city areas (Temecula, Murrieta, Wildomar and Menifee) that will further reduce the unincorporated County area in the Santa Margarita Region.
- The unincorporated County area in the upper Santa Margarita River watershed (east of Temecula, Menifee and Murrieta) will remain in rural, open space and additional MSHCP land uses. In addition, due to drought conditions and depletion of aquifers the prospects of New Development is unlikely. Water districts in the region cannot offer "will serve" letters to provide for water resources they do not have. Infrastructure for water supply and municipal water treatment, MS4 and flood control facilities are virtually non-existent in this area.
- Due to downturn in economy, Development Impact Fees (DIF) and Transportation Uniform Mitigation Fees (TUMF) are and will continue to be significantly under funded. This reduction in transportation funding will result in fewer road and infrastructure projects during the term of the upcoming MS4 Permit. The Transportation Department has projected limited projects for the Santa Margarita Region. The Clinton Keith Road widening project is still in the planning stages. Due to budgetary constraints, unless projects are fully funded through County finance mechanisms (TUMF, DIF, state and federal pass through from bonds and grants) most projects will be put on hold through 2012.

4.3.4.2 City of Menifee

Projected development trends for the City of Menifee are unknown, sphere of influence and annexation opportunities will allow for limited growth once the economic uncertainty of the region is resolved.

4.3.4.3 City of Murrieta

The area north of Clinton Keith Road along the east side of the I-215 freeway should see some construction towards the end of the next MS4 Permit term. Grading for the construction of a hospital has started along the freeway and it is anticipated that supporting development will follow once the hospital is open. Overall the Planning Department is receiving few applications for New Development projects. For example, a Planning Commission meeting scheduled for January 2009 has been cancelled because there are no New Development items to discuss. In light of the current and foreseeable economic conditions, the City does not anticipate any substantial New Development activity for the next few years, with limited growth possibly resuming toward the end of the next MS4 Permit term.

4.3.4.4 City of Temecula

The City of Temecula is currently experiencing a significant leveling trend in development. Throughout 2008, fewer applications were being processed than in previous years. As such, Temecula does not anticipate processing any substantial number of New Development applications within the next MS4 Permit term. It is anticipated that applications from hereon will be limited to smaller in-fill and redevelopment projects. In addition, proposed annexation areas will be limited to areas that will be set aside mostly for conservation. As Temecula is on the verge of build-out, approximately 1 percent of developable land remains available throughout the City for New Development.

4.3.4.5 City of Wildomar

Projected trends for the City of Wildomar are unknown, sphere of influence opportunities will allow for limited growth once the economic uncertainty of the region is resolved.

4.4 Surface Water Bodies, Beneficial Uses, and Impairments

Approximately eight percent of Riverside County drains into surface water bodies within the jurisdiction of the Regional Board. Those surface water bodies (or portions thereof) are listed in Sections 4.4.1 and 4.4.2.

Rivers and Streams

Santa Margarita River (Hydrologic Unit Basin Number 2.22)
- Murrieta Creek
  - Slaughterhouse Canyon
- Cole Canyon
  - Warm Springs Creek
    - Diamond Valley Reservoir
- Santa Gertrudis Creek
  - Tucalota Creek
  - Lake Skinner
- Temecula Creek (Hydrologic Unit Basin Number 2.92)
  - Iron Spring Canyon
- Temecula Creek (Hydrologic Unit Basin Number 2.84)
  - Tule Creek
    - Million Dollar Canyon
  - Cottonwood Creek
- Vail Lake
  - Wilson Creek
    - Cahuilla Creek (Hydrologic Unit Basin Number 2.73)
      - Hamilton Creek
    - Cahuilla Creek (Hydrologic Unit Basin Number 2.71)
      - Elder Creek
  - Arroyo Seco Creek
  - Kolb Creek
- Temecula Creek (Hydrologic Unit Basin Number 2.52)
  - Pechanga Creek

Santa Margarita River (Hydrologic Unit Basin Number 2.21)
- DeLuz Creek

4.4.1 Beneficial Uses

The upper Santa Margarita River watershed supports a variety of ecosystems and provides many Beneficial Uses (Table 4)[18]. The ultimate goal of the Riverside County DAMP and the Watershed and Individual SWMPs is to manage Urban Runoff in a manner protective of the Beneficial Uses of these Receiving Waters.

Table 4. Beneficial Uses of Receiving Waters
Upper Santa Margarita River Watershed

Beneficial Use	Murrieta Creek	Cole Canyon	Warm Springs Creek	Santa Gertrudis Creek	Long Valley	Temecula Creek	Santa Margarita River
Municipal and Domestic Supply	X	X	X	X	X	X	X
Agricultural Supply	X	X	X	X	X	X	X
Industrial Service Supply	X	X	X	X	X	X	X
Industrial Process Supply	X	X	X	X	X	X	
Ground Water Recharge	X					X	
Contact Water Recreation				X	X	X	X
Non-contact Water Recreation	X	X	X	X	X	X	X
Warm Freshwater Habitat	X	X	X	X	X	X	X
Cold Freshwater Habitat							X
Wildlife Habitat	X	X	X	X	X	X	X
Rare, Threatened or Endangered Species							X

4.4.2 Current Water Quality Concerns and Issues

Urban Runoff discharged to MS4s in Riverside County ultimately flows to various surface water bodies (inland streams, lakes, and reservoirs) and typically carries Pollutants that originate from numerous dispersed and uncontrolled sources. Examples of Pollutants that may be present in Urban Runoff are fertilizer, heavy metals, nutrients, petroleum products, sediment, bacteria, chemicals, and litter.

Because the upper Santa Margarita River watershed is large and has many land uses, the water quality concerns in sub-watersheds vary. However, each land use can potentially contribute Pollutants to nearby streams, rivers, and lakes. The infrastructure that supports people's activities (e.g., roads, parks, MS4, and wastewater collection and treatment facilities) may contribute to water quality concerns if not properly managed. Other sources of stormwater runoff, including agricultural areas, are exempt from the requirements of the NPDES permitting program established under the Clean Water Act. In addition, some Pollutants, such as total suspended solids, may be found at elevated levels in runoff from non-urban land uses. Further, certain activities that generate Pollutants present in Urban Runoff are beyond the ability of the Permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from lawful application of pesticides, nutrient runoff from agricultural activities, and leaching of naturally occurring minerals from local geography.

[18] www.waterboards.ca.gov/rwqcb9/programs/

As required by Section 303(d) of the Clean Water Act, the State Board maintains a list all waters in the State that do not meet the Water Quality Standards established in the Basin Plans prepared by the Regional Boards for protection of Beneficial Uses. This list, referred to as the "303(d) List," details the Pollutant or stressor on each named water body, the potential source of Pollution, estimated affected area, as well as a priority for development of the associated TMDL. A TMDL is a plan that identifies how much Pollutant load a specific Impaired Waterbody can sustain without impacts to its Beneficial Uses. In addition to identifying the maximum Pollutant load, a TMDL is used to develop implementation plans to meet Water Quality Standards for a designated water body. Table 5 summarizes the 2006 303(d) List of Impaired Waterbodies within the upper Santa Margarita River watershed, as well as the year in which a TMDL is proposed for approval. No TMDLs have been established for Receiving Waters in the upper Santa Margarita River watershed.

Table 5. 2006 303(d) Listings for the Santa Margarita Region

Water Body	Pollutant	Potential Sources	Area Affected	Proposed TMDL Completion
Santa Margarita River (Upper)	Phosphorus	Urban runoff/storm sewers Unknown nonpoint source Unknown point source	18 miles	2019
Murrieta Creek	Iron Manganese Nitrogen Phosphorous	Source unknown Source unknown Source unknown Urban runoff/storm sewers Unknown nonpoint source Unknown point source	12 miles 12 miles 12 miles 12 miles	2019 2019 2019 2019
Temecula Creek	Nitrogen Phosphorus Total dissolved solids	Source unknown Source unknown	44 miles 44 miles	2019 2019

Table G-35 of Appendix G to the Annual Report 2007-2008 additionally identifies pyrethroid pesticides (bifenthrin and permethrin), bacteria (E. coli and fecal coliform), lead, and sediment (turbidity) as Pollutants of Concern in the upper Santa Margarita River watershed that warrant focused attention by Permittee implementation programs. These constituents have been detected intermittently or persistently at Triad and Tributary monitoring stations.

4.5 Municipal Separate Storm Sewer System

A map depicting the MS4 facilities owned and operated by the Permittees is provided in Appendix B.

5.0 Program Evaluation Based on Water Quality Trends

The overall effectiveness of the Permittees programs is assessed based on the analysis of water quality data obtained as part of the Consolidated Monitoring Program. Approximately 14 years of data have been collected through this program and have been cumulatively analyzed in the fourth-year monitoring Annual Report.

5.1 Inherent Limitations to Analyzing Water Quality Data

There are inherent limitations to analyzing water quality data from storm water. Storm water runoff is very different from mechanical wastewater or water treatment processes that usually incorporate water quality monitoring. Discharges from mechanical processes such as treated wastewater effluent and industrial discharges usually:

- Come from a single or a few readily identifiable sources;
- Are generally consistent in flow rate and chemical character from day to day; and
- Can be easily instrumented.

Conversely, Urban Runoff non-point source flows, such as those collected and analyzed as part of the MS4 Permit monitoring programs usually:

- Come from multitudes of unidentifiable or hidden sources, many of which are non-Urban in nature:
  - State, federal or tribal lands
  - Natural leaching of soils
  - Wildlife
  - Aerial deposition
  - Wildfires
- Vary widely in flow rate in response to precipitation events
- Vary widely in chemical character at any given moment due to:
  - Unidentified episodic issues related to natural phenomena
  - Magnitude of rainfall and extent of contributing area
  - Potential one-time illicit discharges that were not identified at the time of sampling
  - Unforeseen or unidentified consequences of changes in numerous land use policies (fire management, development, etc)
- Are subject to significant natural random variation; and
- Cannot be easily instrumented due to the wide variation in depth and velocity and associated impacts of natural or unnatural aggradation and degredation of natural stream beds.

Because ephemeral storm water flows are, by their very nature, particularly random in character, it may take many years before monitoring data trends can be detected or to determine the effectiveness of an

Urban Runoff control measure. Power analyses were conducted for fecal coliform, metals, and nutrients at the stations monitored in the Santa Ana Region during the 2005/06 reporting period. Power analysis is used to determine how many years of monitoring would be required to detect a given trend in the data. This tool was developed by the SCCWRP. Based on the results, for biennial monitoring, and having an 80 percent chance of detecting a change in concentration, it would take about 5-10 years of data collection to detect a change of 50 percent in concentration, 10-15 years of data to detect a 25 percent change, and 15-30+ years of data to detect a 10 percent change. It is expected that results would be similar for other parameters measured in the monitoring program in the Santa Margarita Region.

5.2 Focus Area Constituents of Concern

During the 2004 MS4 Permit term, monitoring data indicated that one or more receiving water samples have been found to contain the following constituents at levels that exceeded Basin Plan Objectives (BPO). As such they have been identified as constituents of concern.

- Nutrients (Ammonia as N, Phosphorus
- Pyrethroid Pesticides (Permethrin, Bifenthrin)
- Pathogen Indicators (E.coli, Fecal Coliform)
- Lead
- Turbidity (lab)

5.3 Analysis of Water Quality Trends

As discussed in the 2008 Santa Margarita Region Annual Monitoring Report, the results of the trend analysis and regression calculations indicate that there are no statistically significant trends in the water quality monitoring data. The lack of trends in the data presented in the Annual Monitoring Report contrasts with the rapid population growth over the same time frame. As discussed in the Annual Monitoring Report, population growth from 1990 to 2008 was approximately 300 percent for the Santa Margarita Region. This significant growth in population and resulting urban land use area contrasts sharply with the lack of statistically significant increases in concentrations of constituents of concern that would otherwise be expected in stormwater runoff from urbanized areas.

These results demonstrate and can be attributed to the effectiveness of the Permittees' programs at addressing the Focus Area Constituents of Concern, which are targeted and designed to prevent the discharge of these constituents into the Receiving Waters.

5.3.1 Recommended Compliance Program Modifications to Address Focus Area Constituents of Concern

Based on the analysis described above and in Appendix G of the 2008 Watershed Annual Report, no significant program modifications are necessary to continue to protect and improve the quality of the Receiving Waters.

Although the Permittees programs have been shown to be protective of Receiving Water quality, through continual evaluation of the programs being implemented and on-going water quality monitoring, additional measures are being proposed as part of this ROWD to address changing conditions and ensure

the ongoing effectiveness of the programs. Recommended changes to ensure the ongoing effectiveness of the Permittees programs are described in Sections 6 and 7 of this report.

6.0 Evaluation and Recommendations for Regionally Implemented Programs

6.1 Program Management

The District is the Principal Permittee for each of the three MS4 permits issued by the three Regional Boards that have jurisdiction in Riverside County. As Principal Permittee, the District performs management functions including coordination with the Regional Boards, preparation of compliance documents and Annual Reports, participation in studies and external cooperative efforts and dissemination of information to the Permittees. The Permittees implement some compliance programs that are common to all of the Permittees and which are implemented on a Countywide or regional basis to increase cost effectiveness and efficiency. Typically, the District also manages Countywide and regional programs.

6.1.1 Program Management Accomplishments and Programmatic Improvements

During the term of the 2004 MS4 Permit the following accomplishments were achieved.

- Updated the Implementation Agreement that sets forth the responsibilities of the Principal Permittee and the Co-Permittees.
- Revised the Riverside County DAMP to reflect requirements in the 2004 MS4 Permit, which served as a model document for the Permittees Watershed and Individual SWMPs.
- Developed Santa Margarita Region Watershed SWMP
- Participated in the Santa Margarita River Executive Management Team (SMREMT) to identify and address the highest priority water quality concerns in the Santa Margarita watershed, including development of a watershed model to assist with land use planning and TMDL development, coordinating watershed monitoring, and developing formal agreements between interested stakeholders for the purposes of evaluating impairment listing and data gaps in the watershed.
- Continued progress with the SMREMT on a uniform watershed plan and model for the Santa Margarita Watershed through the Santa Margarita Watershed Supply Augmentation, Water Quality Protection, and Environmental Enhancement Program.
- Participated in the Santa Margarita Lagoon TMDL workgroup in funding and overseeing the development of a comprehensive program to collect data and model the various inputs to the lagoon to be used to develop a TMDL to address nutrients.
- Participated in the Santa Margarita Watershed Water Quality Monitoring Group to coordinate the monitoring efforts of various stakeholders in the Santa Margarita watershed.
- Participated in the SMC to improve stormwater monitoring science, coordinate data collection efforts, and evaluate the effects of stormwater discharges to receiving waters specific to Southern California.
- Participated actively in various efforts of CASQA.

- Participated in the completion of an Integrated Regional Water Management Plan for the upper Santa Margarita Watershed to help pave the way for greater watershed-wide coordination and management of water resources within the upper watershed as a whole, as well as adjoining watershed and regional planning efforts.
- Participated in the development and implementation of the MSHCP for Western Riverside County which contains a comprehensive land use plan that ultimately conserves the environmental resources and habitat of approximately half of the Santa Margarita Region.
- Participated in the development of a Special Area Management Plan (SAMP) to further manage receiving waters at a watershed scale for the upper Santa Margarita Watershed by identifying, prioritizing and protecting the highest priority Waters of the U.S., while considering the broader needs of growth and transportation improvements.
- Developed and updated methods to track program effectiveness such as resident surveys, tracking hotline inquiries, and web counters.
- Enhanced Public Education program through development of new outreach materials and programs.

6.1.2 Proposed Revisions to Regional Program Management

6.1.2.1 Enhanced Program Effectiveness Assessments and Municipal Action Levels

To ensure that the Permittee's programs continue to be effective at managing the effects of Urban Runoff on Receiving Water quality, the Permittees will revise the Program Effectiveness Assessments for both the Individual SWMP and the Watershed SWMP as part of their implementation of the new MS4 Permit. An assessment strategy based on the CASQA Municipal Stormwater Program Effectiveness Assessment Guidance has been established including the establishment of:

- Measurable goals for each component,
- Measurable metrics to assess progress toward those goals,
- CASQA Effectiveness Levels for each metric; to indicate the level at which each metric can demonstrate the effectiveness of the Permittee's programs at addressing each goal.
- Timeframes in which the Permittees expect to be able to assess effectiveness using each metric.
- Municipal Action Levels (MALs) for appropriate metrics to ensure a minimum level of program implementation and identify shortcomings that could affect the Permittee's progress toward the established goals. The MALs would not be permit compliance measures, but triggers for further Permittee evaluation of the affected compliance program.

If a MAL for a metric is exceeded, the Permittees will review implementation of that program component to identify the cause of the exceedance and identify needed adjustments to avoid future exceedances. The findings of these reviews and any recommended adjustments to the Permittees programs will be reported in the corresponding section of the Annual Report submitted the following year. Further research is particularly needed to establish appropriate Municipal Action Levels for the various program areas.

After a review of the stormwater program, the Permittees have established an initial Assessment Methodology for each component including preliminary goals, measurable metrics, effectiveness levels,

timeframes and MALs for each. These initial assessment methodologies are included in tabular format in Appendix C. Although the Permittees believe the basic proposal is viable, The Permittees will review and finalize these Assessment Methodologies and associated metrics within one year following adoption of the new MS4 Permit as additional data and analysis is necessary to support specific action levels.

6.1.2.2 Revised Reporting Format

The Permittees recommend substantial revisions to the MS4 Permit requirements for the layout of the Annual Report. The Permit requires substantial duplication of reporting, which either increases the volume of the Annual Report, or requires substantial cross-referencing. In either case, it is confusing to write, and most likely, confusing to read. The Permittees recommend a meeting with Regional Board staff in the development of the new MS4 Permit to discuss methods to streamline and clarify reporting requirements.

6.1.2.3 Maintain Enhanced Watershed / MS4 Map

The Permittees are in the process of collecting data to support an enhanced MS4 facilities map. Updates completed to date are provided in the map in Appendix B. This enhanced map demonstrates initial efforts to identify the locations of:

- Receiving Waters
- MS4 facilities
- Areas of historical perennial flows
- Known blow off locations
- Wastewater storage ponds
- Sub-drainage areas
- Known non-Permittee facilities
- 36-inch diameter and larger outfalls

This map will be used to help in the tracking of IC/ID events and issues and continued updates will be submitted with the Annual Reports. The Permittees will continue to enhance this map over the next MS4 Permit term. As described in the Annual Report, the District is in the process of upgrading their web page that offers public access the District's various NPDES activities. Along with these web site upgrades, additional layers will be added to the Web-based GIS map.

6.1.2.4 Elimination of the Watershed SWMP as a separate compliance document from the Riverside County DAMP

The Santa Margarita Region is comprised of only a single watershed. Further, the Permittees' regional compliance programs are described in the Riverside County DAMP. Maintenance of a separate and duplicative Watershed SWMP is confusing, cumbersome, and does not contribute to protection of Receiving Water quality. The Permittees request that the next MS4 Permit be drafted in a fashion that allows the Permittees to maintain the Riverside County DAMP as the primary document describing regional compliance programs for western Riverside County including the Santa Margarita Region. Any

necessary changes for requirements included in the new MS4 Permit will be updated /added to the Riverside County DAMP.

6.2 Permittee Training Programs

6.2.1 Summary

The Permittees jointly fund comprehensive training and education programs for Permittee staff. These training programs are designed to train Permittee employees on the proper use and implementation of BMPs appropriate for their field of work. There are four distinct training courses currently offered including Construction Inspection, Municipal Maintenance, Industrial-Commercial Facility Inspection, and New Development Planning.

6.2.2 NPDES Training Program Accomplishments and Programmatic Improvements

- Evaluated and tested various knowledge retention methods.
- Performed Training Enhancement Analysis study (2005-2006)
- Created an on-line training registration web page where attendees can also obtain training materials.
- Annually updated training materials to address Pollutants of Concern (2005-2007)
- Added component to training to address proper use, application and timing of application of Pesticides (2007-2008)
- Began developing a formalized testing and effectiveness analysis approach (2008)

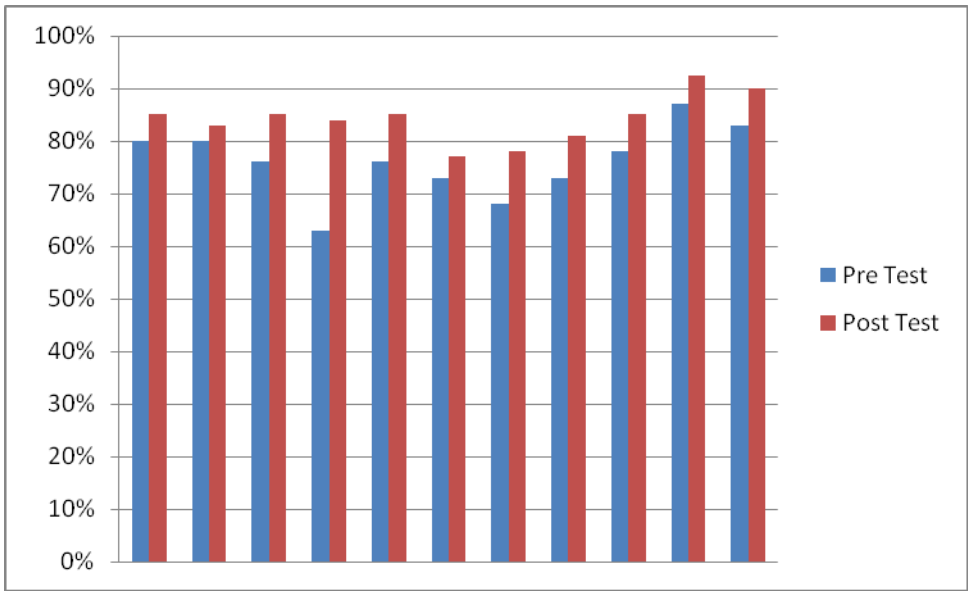
Highlights
Municipal Training: **14** Training Sessions; **900** Attendees
Construction Training: **22** Training Sessions; **626** Attendees
Industrial-Commercial Training: **11** Training Sessions; 426 Attendees
New Development Training: **13** Training Sessions; **345** Attendees

6.2.3 Long-Term Effectiveness Assessment

Throughout the term of the 2004 MS4 Permit the Permittees have evaluated and implemented various quizzes as part of the NPDES training courses. These efforts were intended to assess the retention of knowledge of the attendees and, as described in Provision K.2.m of the Watershed SWMP, serve as a component of the assessment of the long term effectiveness of the Watershed SWMP.

The quizzes used to assess employees' retention of knowledge have evolved over time as the Permittees found what worked and what did not. Quiz questions that were found to be confusing or misleading were refined or eliminated. Thus, a question-by-question analysis of the results is not possible. Instead, results from a number of the training courses with reasonably comparable quizzes were aggregated and an average score (percent correct) was established for each of these training sessions. The results of this analysis are presented in Figure 5.

Figure 5. Training Pre-Test and Post-Test Analysis



Although the required random-sample nature of this analysis is not conducive to the analysis of trends across time, two findings become evident from this analysis:

1. Permittee inspection, maintenance and planning staff generally have a high level of understanding of issues related to stormwater Pollution in their field of work.
2. Average scores on quizzes administered after the training sessions were always higher than scores on quizzes administered before the training session.

Finding 1 above can be attributed to the Permittee's proactive efforts to ensure that their employees are aware of the issues in their field of work that could contribute to stormwater Pollution. This includes annual attendance at the NPDES training courses, and on-the-job training, reminders and meetings. This fact alone is a strong indicator of the effectiveness of the Permittees training programs.

Finding 2 above demonstrates that after attending the NPDES training courses, the attendees have a higher level of understanding of the issues in their field of work related to stormwater Pollution. This indicates that the training materials, delivery and content were effective.

Based on these analyses, general feedback from the training programs, and the overall effectiveness of the Permittees' programs (as described in Section 5.3 herein) the Permittees believe their training programs to be effective. Nevertheless, the following revisions to the training programs have been identified and are proposed for implementation with the new permit to ensure ongoing effectiveness.

6.2.4 Proposed Revisions

6.2.4.1 Continued focus on Focus Area Pollutants of Concern

The Permittees commit to continue to revise the Permittee training programs to focus on Pollutants of Concern.

6.2.4.2 Standardized Effectiveness Quizzes

Over the course of the 2004 MS4 Permit, the Permittees have evaluated various methods of assessing the retention of knowledge and are now recommending a standardized approach to assessing the effectiveness of the training program.

The Permittees plan to create standardized quizzes to assess the retention of knowledge and increased understanding as a result of the Permittees' training sessions. This includes establishing core messages that the Permittees want to impart upon the attendees and, creating clear and understandable quiz questions for each core message.

This approach will help the Permittees identify if any core training messages are not being retained by attendees and to subsequently modify the training. The Permittees also hope that this approach will yield results that will, over time, demonstrate that the knowledge among Permittee staff of issues related to storm water Pollution is increasing, thus clearly demonstrating that the NPDES Training program is effective.

As a necessary part of this effort, a database to track responses will also be created.

6.2.4.3 Attendance Tracking Mechanism

At each training session a sign-in sheet is provided to track attendance to the session. Included in the sign-in sheet is an indication of the Permittee that each attendee is representing. After each training session, these sign-in sheets are scanned to PDF files and sent to each Permittee for their records. This approach requires that each Permittee manually review the sign-in sheets to determine who and how many of their staff attended the training.

The District, on behalf of the Permittees, is currently investigating various form scanning and recognition software packages to determine the feasibility of creating a sign-in sheet that, when scanned, will automatically transfer the attendance list into a database. This would facilitate tracking of staff attendance by each Permittee. At this time the District has not determined if a feasible and cost efficient program is available that will accomplish their needs.

6.3 Public Education

6.3.1 Summary

To leverage finite resources, the Permittees jointly fund a public education program. The District implements this program to disseminate information about Urban Runoff issues and to provide education on how activities may impact Receiving Waters.

The Permittees have established an ongoing watershed-based public education and outreach program known as the **Only Rain Down the Storm Drain** Pollution Prevention Program. The specific objectives of this program include:

- Fostering a broad public awareness of water Pollution concerns;
- Increasing public acceptance of Pollution Prevention activities to curtail everyday human behaviors that contribute to water quality problems;
- Educating/informing the general public, regulators and key local government and state decision makers on Urban Runoff conditions in Riverside County; and
- Promoting stewardship of local water resources.

The **Only Rain Down the Storm Drain** Program implements the public awareness objectives by focusing on three areas of Pollutant reduction/prevention:

- Public behavior;
- Proper management of Pollutants; and
- Business specific education outreach.

In addition, when attempting to make use of the finite resources available to the Public Education Program, the Permittees use these management goals to ensure that resources are used effectively:

- Focusing on Pollutants of Concern specific to each watershed region;
- Coordinating public education efforts with adjacent storm water management programs and other related education programs to share resources, coordinate outreach efforts, and avoid duplication of effort; and
- Adapt public education programs and objectives, based on effectiveness analysis, to address changing MS4 program requirements and objectives.

6.3.2 Public Education Program Accomplishments and Programmatic Improvements

The Public Education Program has developed and distributed the following educational materials during the 2004 MS4 Permit term:

- *After the Storm* – a citizen's guide to understanding MS4 Pollution in your neighborhood or when performing daily activities.
- *Automotive Maintenance & Car Care* – guidelines for keeping your auto shop or retail fuel facility in environmental shape.

- *Outdoor Cleaning Activities* – guideline for outdoor cleaning activities and wastewater disposal.
- *Pools, Spas and Fountains* –Environmental maintenance suggestions for pool, spa, and fountain owners.
- *What's the Scoop* – tips for a healthy pet and a healthier environment.
- *Household Hazardous Waste* – A schedule of collection locations for proper disposal of HHW.
- *Stormwater Pollution Found in Your Neighborhood* – door hanger.
- *Equestrian Management* – Recommendations for BMPs related to equestrian activities.
- *Spray Bottles* – Including directions to make environmental friendly recipes for pest control and household cleaning

The Permittees also initiated development of the following outreach materials

- *Landscaping and Gardening Brochure* – Initiated development a new brochure to address outdoor residential landscaping and gardening activities.
- *Septic System Management Brochure* – initiated development of a brochure to assist with septic system management.

In addition to the information provided on the Storm Water Protection website, the Public Education and Outreach Program has:

- Updated the Public Education and Outreach Program web page.
- Tested and/or implemented several new Public Education and Outreach Program effectiveness tracking mechanisms including call tracking, web counters, testing, and bilingual surveys.
- Enhanced the toll free storm water Pollution reporting hot line to include public education information and support for the public and other interested stakeholders.
- Obtained a trailer with "**Only Rain Down the Storm Drain**" graphics specifically designed for transporting materials to outreach events. It is also used as part of the booth at outreach events.
- Initiated billboard advertising within the Santa Margarita Region.
- Worked with the Mission Resource Conservation District to implement presentations to elementary and middle schools and staff to raise public awareness of Urban Runoff management issues and source control methods and to encourage volunteers, partners, and groups to gather annually for a trash and debris clean-up day in the Santa Margarita Region.
- Developed special newspaper and billing inserts, fliers and advertisements to raise public awareness of Urban Runoff management issues and source control methods. A radio advertising campaign was also developed and implemented for a time.
- Developed and presented workshops regarding household hazardous waste use and proper disposal at major home improvement stores throughout Riverside County.
- Placed advertisements in the Penny Saver and Bargain Bulletin to raise public awareness of Urban Runoff management.

- In cooperation with certain County Service Areas or other programs, pet waste signs with bag dispensers have been installed at various parks to help encourage the proper disposal of animal waste.
- Cooperated with the Western Riverside Council of Government in the Used Oil Block Cycle Grant that decreases the amount of illegally dumped motor oil by promoting the addition of new Certified Oil Collection Centers.
- Established a partnership with County Environmental Health whereby businesses cited by Environmental Health for violations of ordinances related to stormwater issues may be allowed to implement a Supplemental Environmental Project in conjunction with the **Only Rain Down the Storm Drain** program.

6.3.3 Long-Term Effectiveness Assessment

Effectiveness metrics of the Public Education and Outreach Program during the 2004 MS4 Permit term are presented in Section J.1.3 of the FY 2007/2008 Watershed Annual Report. The data indicates that overall impressions have continually exceeded the number of residents in the watershed, HHW/ABOP pounds of waste collected and pounds of waste collected per person have steadily increased over the term of the 2004 MS4 Permit.

In 2005, the **Only Rain Down the Storm Drain** program developed and implemented a survey to be distributed at Public Outreach events to assess the public's level of knowledge related to stormwater Pollution. This original "long" survey contained 13 questions in both English and Spanish as shown in Figure 6.

This survey was used for fiscal years 2005-06 and 2006-07. Through this period of implementation it was found that the survey took too much time to complete and reduced the level of response from event attendees. Therefore, the survey was subsequently revised to a shorter version with revised questions for the 2007-08 fiscal year. The revised "Short" survey that is currently used is shown in Figure 7.

Figure 6. Original "Long" Survey Utilized at Public Outreach Events

Zip Code_____ **Age**_____ **Sex F**__ **M**__ **Date:**_____

THINK YOU KNOW ABOUT STORM DRAIN POLLUTION PREVENTION?

1. Where do you think **storm drain** contents go or flow to? __Treatment Plant __Streams, rivers & lakes
2. Where do you think **sewer pipes** contents go or flow to? __Treatment Plant __Streams, rivers & lakes
3. Are storm drains and sewers part of the same or separate systems? __Same __Separate __Don't know
4. Have you ever been to a Household Hazardous Waste **(HHW)** Collection Event? __Yes __No
5. Did you know that **A.B.O.P.** Antifreeze, Batteries, Oil, and Latex Paint locations and mobile **HHW** Collection Events provide safe havens for the disposal of pollutants? __Yes __No
6. If you have a lawn or garden, where do you (or your gardener) dispose of the green waste (grass, clippings or other)? **(Check all that apply)**

   ☐Trash/garbage ☐Compost/Mulch pile ☐Take to compost facility
   ☐Leave on lawn ☐Removed by gardener ☐Other:_____

7. Where is the best location to wash your vehicles?
   (Check only one)

   ☐Pavement (driveway, street) ☐Dirt Area
   ☐Lawn or Grass ☐Other_____

8. Do you change the motor oil in your vehicle yourself? __Yes __No

   If **Yes**, where do you dispose of it? **(Check all that apply)**

   __in the garbage __at a curbside collection program
   __down the storm drain __collection center (Jiffy Lube, Kragen, etc.)
   __pour it on the ground __Other_____

9. If you have a pet, how often do you pick up after your pet?

   9. a) in your yard? ☐Always ☐Sometimes ☐Never

   9. b) when you walk the pet? ☐Always ☐Sometimes ☐Never

10. Do you think, anything ,other than rainwater, that flows into the storm drains (i.e., trash, chemicals, pet waste, etc.) considered a pollutant? __Yes __No
11. Have you seen or heard the slogans "Only Rain Down the Drain" or "Only Rain Down the Storm Drain"?
    __Yes __No If yes, where? __Radio __Newspaper __ Flier __Billboard __Street Fair, Festival, etc.
12. Are there State laws and local ordinances which STRICTLY PROHIBIT the dumping of pollutants **(EVERYTHING, EXCEPT RAIN WATER)** into the storm drain systems or waterways? ___Yes ___No
13. After this booth visit, have you increased your understanding of storm drain pollution prevention? __Yes __No

Thank you for your time and input… Remember, YOU can do your part by calling our Toll Free Line (1-800-506-2555) to report illegal storm drain pollutant disposal anywhere in Riverside County, or to get more information about storm drain pollution protection to help promote "ONLY RAIN DOWN THE STORM DRAIN".

Figure 7. Revised "Short" Survey Utilized at Public Outreach Events

DO YOU KNOW HOW TO PROTECT OUR STREAMS, RIVERS and LAKES?

City_____ Zip Code_____ Age____ Sex □ F □ M Date: _____

1) Water that leaves your lawn from **Irrigation (water sprinklers), Car washing** and **Rain** flows down streets and/or storm drains and then directly to…

☐ Sewage Treatment Plants ☐ Streams, rivers & lakes

2) Which of the following can LEGALLY be disposed into the storm drain? (*Circle all that apply*)

- **Useable Household Chemicals**
- **Yard waste/clippings/leaves**
- **Paint**
- **Cigarette butts**
- **Empty Household Chemicals containers**
- **Pet Waste**
- **Motor Oil / antifreeze**
- **None of these**

3) Do you feel you are well informed and aware of illegal dumping into the storm drain and its impact in your community or streams, rivers and lakes?

☐ Yes ☐ No

HOW DID YOU DO?

1) Water that leaves your lawn from irrigation, washing your car, or rainwater runoff can pickup motor oil and grease from vehicles, excess fertilizer from your lawn, bacteria from pet waste, and excess pesticides from your yard. These pollutants can be carried down streets and storm drains directly to our streams, lakes, and rivers without treatment! That is why we must take care to properly dispose of waste, maintain our vehicles, and use fertilizers, pesticides and other chemicals only as specified on their labels.

2) It is illegal to dispose of any chemical, constituent or waste into a storm drain! Report illegal disposal of chemicals, constituents, or waste to storm drains at **1(800) 506-2555.** You may properly dispose of many of the wastes listed above by doing the following things:

- **Usable and empty household chemicals, paint, motor oil** – Properly dispose these at Household Hazardous Waste and/or Antifreeze, Batteries, Oil and Paint disposal facilities and events. Call **1 (800) 506-2555** for information on disposal locations and special drop off events near you.
- **Pet waste** – Carefully pick up and dispose in the nearest trash receptacle.
- **Grass, clippings, leaves and yard waste** – Collect and dispose in green waste bins or composting areas that are designed to prevent the compost from mixing with excess irrigation water and/or rainwater runoff.

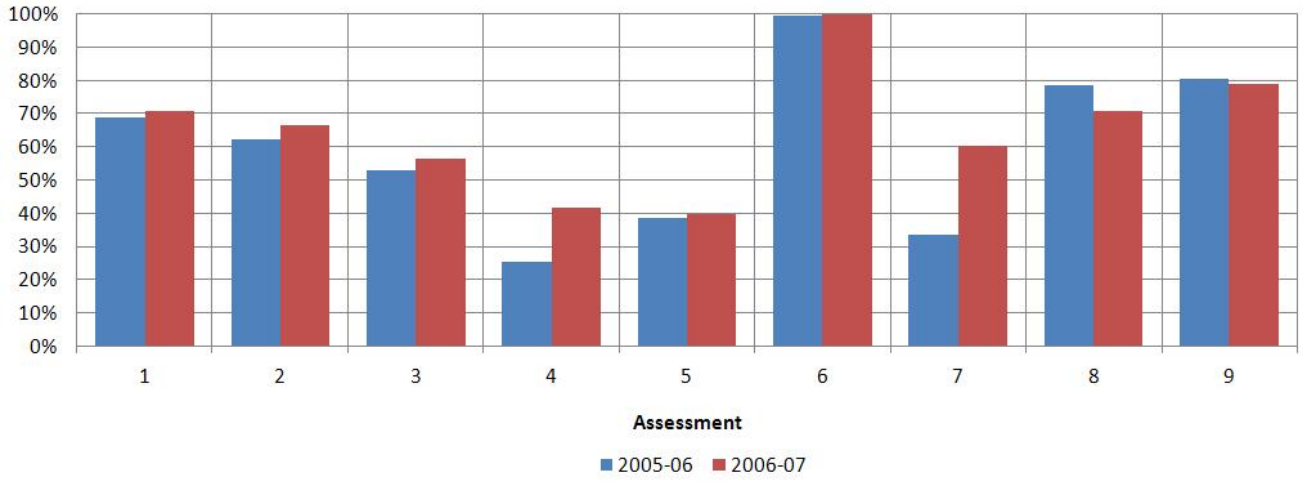
3) Would you like to learn more about protecting our streams, rivers and lakes or wish to report on a illegal storm drain disposal in your area or request a classroom or group demonstration……

Visit www.rcflood.org or call 1 (800) 506-2555.

Remember…Only Rain Down the Storm Drain!

Results have been tabulated for all of the "Long" surveys received and they have been analyzed to determine trends in public awareness. The "Short" survey has been used at two events to date, one of which was quite recent and its results have not yet been tabulated. Using the "Long" survey results, nine questions were used to assess any trends in public awareness. The remaining questions were determined to be either confusing or not applicable to the intent of the assessment. The results of this assessment of survey results are shown in Figure 8.

Figure 8. Assessment of Survey Results (2005-06 vs. 2006-07)



The results shown in the chart in Figure 8 are percent of survey takers that responded as described below:

- Assessment 1: Percent of respondents that understood that storm drains do not go to treatment plants.
- Assessment 2: Percent of respondents that understood that sewer lines go to treatment plants.
- Assessment 3: Percent of respondents that understood that sanitary sewers and storm drains are separate systems.
- Assessment 4: Percent of respondents that had attended a Household Hazardous Waste collection event.
- Assessment 5: Percent of respondents that understood that the best place to wash a car is on the lawn or grass.
- Assessment 6: Percent of respondents that change their own oil that reported that they properly dispose of it.
- Assessment 7: Percent of respondents that have heard of the "Only Rain Down the Storm Drain" program.
- Assessment 8: Percent of respondents that dumping of anything except storm water is a violation of laws and ordinances.
- Assessment 9: Percent of respondents that felt that visiting the Outreach Booth at the event increased their understanding of storm drain Pollution Prevention.

Although implementation of the "Long" survey was limited before it was modified to its current form, the results available do indicate an increase in understanding of these basic principles and can be attributed to the effectiveness of the Permittee's Public Education program. As additional survey results are collected and tabulated, further analysis will be performed to ensure the ongoing effectiveness of the program.

6.3.4 Proposed Revisions

To better address residential sources of pesticides, the Permittees are proposing to coordinate with the University of California Extension Program to enhance the implementation of the U.C. Extension's Master Gardener program in the Santa Margarita Region. Along with information regarding use of drought tolerant landscaping techniques and appropriate methods of fertilizer and irrigation application, the U.C. Master Gardeners also provide residents with information on integrated pest management techniques that minimize pesticide application. The Permittees are proposing to establish an agreement with the U.C. Extension's Master Gardener program in fiscal year 2010-2011 to support master gardener hotline staffing, local presentation and other outreach by the U.C. Master Gardeners.

In addition, through the Permittee's ongoing efforts to internally assess the efficiency and efficacy of their MS4 compliance programs, it was determined that an overhaul of the District's web site was needed. The District's web site contains the public education web site and a technical resource site with the various compliance documents for the program. It was found that information available through the site was often difficult to find and was not user friendly and sometimes was out of date. The Permittees are now reviewing this site to identify and implement needed changes

6.4 Receiving Water Monitoring Program

6.4.1 Summary

A Summary of the Monitoring Program is contained in Appendix G of the Watershed Monitoring Report.

6.4.2 Monitoring Program Accomplishments and Programmatic Improvements

The Monitoring Program accomplished the following goals during the term of the 2004 MS4 Permit:

- Subcontracted monitoring data collection and analysis to MACTEC, Inc. to enhance data collection and reporting capabilities.
- Developed and implemented a Triad Monitoring Program (bioassessment, Toxicity and chemical monitoring) consistent with the goals of the SMC Model Monitoring Program
- Developed watershed boundaries and land use information for all monitoring stations
- Updated the format and technical content of the monitoring Annual Report
- Added fire map information to assist with assessing potential Pollutant sources
- Enhanced monitoring data databases to be compatible with SCCWRP/SMC standard reporting protocols.
- Enhanced monitoring methods to incorporate use of automatic sampling equipment where appropriate

- Conducted several Toxicity Identification Evaluations that led to the identification of pyrethroid pesticides as a cause of wet weather Toxicity in Murrieta and Temecula Creeks and a Toxicity Reduction Evaluation that identified additional BMPs necessary to control sources of pyrethroid pesticides.
- Coordination with the CASQA Pesticide Committee on comments and presentations to California Department of Pesticide Regulation, UC Riverside and others regarding the impacts of pyrethroid pesticides and the need to change regulatory requirements regarding the use of pyrethroid pesticides.
- Participation in or coordination of several BMP studies, including coordination of new development BMP treatment studies (as required by conditions of approval) and the District's LID BMP Demonstration and Testing Facility.
- Continued to update and enhance the Consolidated Monitoring Program to incorporate new monitoring collection methods and data analysis protocols.

6.4.2.1 Participation in Regional Monitoring Efforts

- Participation in the monitoring programs to support development of the Santa Margarita Lagoon TMDL.
- Continued participation in regional and statewide Monitoring and Science efforts such as the Southern California Monitoring Committee to develop:
  - Lab inter-calibration of chemical, bioassessment and Toxicity testing methods
  - Testing methods for bioassessment and Toxicity in Southern California streams
  - Bacterial Reference Watershed Study
  - A storm water research needs report for southern California
- Partnered with SCCWRP on developing hydromodification guidance for Southern California including participation in a series of hydromodification workshops for a CASQA conference.
- Coordination with SCCWRP on the development of the Regional Watershed Monitoring Program for Southern California.

6.4.3 Effectiveness Assessment

The Watershed Monitoring Program was evaluated as part of the Regional Board audits in 2007-2008. As a result of those audits several enhancements were made to the monitoring program, including update of constituent lists, subcontracting of data collection to a monitoring consultant with automatic sampling capabilities, and updates to the Consolidated Monitoring Program and Monitoring Annual Report formats. The Permittees believe that as a result of these changes, the overall monitoring program is effective. However, the revisions presented in section 6.4.4 are recommended to increase monitoring data utility or overall program effectiveness.

6.4.4 Proposed Revisions to Monitoring Program

In updating the Monitoring and Reporting Program, the Permittees request that Regional Board staff meet with them to discuss the following proposed modifications to the monitoring program:

6.4.4.1 Revise Dry Weather Monitoring Program

As noted in Section G.7 (Special Studies) of Appendix G of the FY 2007-2008 Watershed Monitoring Annual Report, the Permittees participated in a SMC Study to develop a regional approach to watershed assessment. The Permittees, in conjunction with Regional Board staff, committed to participating in the resulting watershed monitoring program. The Permittees agreed to monitor three rotating dry weather stations identified for the Santa Margarita Region. Additionally, three stations are to be collected by Regional Board (or SCCWRP staff) using SWAMP funds, and the remaining three will be located in the Santa Ana Watershed region of Riverside County. In exchange for the commitment to participate in the program, the Regional Board staff agreed to reduce the current dry weather monitoring requirements in the new MS4 Permit from two (2) events annually to (1) event annually for each Triad monitoring stations. This would effectively eliminate three existing dry weather samples. The Permittees recommend a meeting with Regional Board staff to discuss these options prior to the release of the draft Permit.

6.4.4.2 Clarify Analyte List

As described in Section G-8.1.5 of the 2008 Monitoring Report (Appendix G of the FY 2007/2008 Watershed Annual Report), 168 analytes have never been detected in samples collected under the current program. The Permittees request that requirements to analyze for these constituents be eliminated unless or until a reason to believe they may be present in stormwater arises.

Basin Plan Objectives are expressed in terms of total metals, while California Toxics Rule (CTR) criteria are expressed in terms of dissolved metals. Although the Permittees do not support comparison of stormwater data to CTR values, the Permit requires it. The Permittees recommend deletion of this requirement. However, if this language is to remain, in order to properly compare results for metals to both sets of objectives, both total and dissolved fractions will be analyzed by the laboratory for the following metals: arsenic, cadmium, chromium (III), chromium (VI), copper, lead, mercury, nickel, selenium, silver, and zinc.

6.4.4.3 Clarify Mobilization Criteria

The District is proposing the following amendment to the monitoring mobilization criteria based on experience and the difficulties faced collecting the first storm and the analysis of the USEPA criteria specific to the Temecula National Weather Service weather station (Consolidated Monitoring Program, Section 4.C.2):

> "Note: If the QPF indicates that more than 0.3-inch is predicted for any 6-hour period, mobilization for sampling will occur."

The District's experience over the past three years indicates that intensities greater than 0.3" in six hours are likely to produce runoff and would warrant mobilization, even on a dry watershed. Further, these mobilization criteria are consistent with EPA-833-B-92-001 guidance regarding minimum depths/durations for storm sampling.

The Permittees recommend that the Regional Board amend the MS4 Permit to reflect these Mobilization Criteria. Due to issues with stream gauges operated by the United States Geological Survey (USGS), the Permittees have concluded that preparing post-storm forensics based on USGS data is not of significant value. A simple test of comparing Quantitative Precipitation Forecast (QPF) reports with actual rainfall and the mobilization criteria should be sufficient to determine compliance with the MS4 Permit.

Mobilization criteria should also reflect practical limitations to storm water monitoring by excluding national holiday periods (Thanksgiving, Christmas, and New Year's Day in particular) and quantifying the probability and the lead time between the forecast and actual rainfall that must be met in order to mobilize.

6.4.4.4 Reduce Wet Weather Events

As was noted in the audits, the Permittees have experienced consistent difficulty collecting three storm events in the upper Santa Margarita River watershed. The Permittees also noted that the San Diego County MS4 Permit only requires the collection of samples from two wet weather events. The Permittees request that the monitoring program for Riverside County be revised to require collection of two storm events. This would not only reduce opportunities for unavoidable non-compliance, it would also be a prudent cost saving measure that would not alter the overall effectiveness of the Permittees monitoring programs.

6.4.4.5 Clarify Triad Method and Follow-up Actions

The MS4 Permit included an early draft of the Triad method envisioned by the Model Monitoring Program (MMP) developed by the SMC. The result was a misapplication of the final Triad approach envisioned by the MMP. Toxicity is currently required to be sampled for at the Triad stations during wet weather events, but not during dry weather when the bioassessments occur. According to the SMC MMP, the three components of the Triad approach (chemistry, Toxicity, and bioassessment) should be conducted at the same time. Bioassessments cannot be conducted during wet weather due to safety concerns and the planning necessary. For this reason the MMP recommends the full triad for dry weather and only chemistry and Toxicity for wet weather.

In an effort to be proactive and supportive of good science, the Permittees have taken the following actions to ensure proper application of the Triad approach:

- Beginning with the 2007-2008 season, Toxicity sampling will be conducted during dry weather, at the same time as the bioassessments and dry weather chemistry sampling events are conducted. Thus, the full Triad approach will be conducted during dry weather. Wet weather monitoring will focus on Toxicity and chemistry. This action will modify the current program to be consistent with the MMP approach.
- The 2006-2007 Annual Report established the framework for proper application of the Triad method (full triad for dry weather, chemistry and Toxicity only for wet weather) by adding new tables (G-21 through G-27), in anticipation of properly applying the Triad method in the 2007-2008 Annual Report.

The Permittees further recommend clarifying the definitions of "persistent", "consistent", and "magnitude" as used in the MS4 Permit to be consistent with the intent of the MMP. In addition, the MS4 Permit inappropriately limits Triad analysis by defining a "fair" Index of Biological Integrity scores as automatically indicative of benthic alteration. This limitation needs to be corrected to prevent Permittee

resources from being inappropriately diverted to expensive source assessment studies. The MMP (and the SMC) envision that watersheds will be prioritized for follow up action based on their relative quality to one another. The envisioned analysis would compare watersheds from throughout southern California. The Permittees support this coordinated and comprehensive approach to addressing water quality.

6.4.4.6 Recognize Limitations of Laboratory Analysis of Bacteria

Babcock Labs prefers to accept bacteria samples between the hours of 7:00 a.m. and 4:00 p.m. during normal business days, and 9:00 a.m. and 12:00 p.m. on weekends. Although Babcock will accept bacteria samples outside those hours, acceptance is contingent upon payment of substantial overtime rates to ensure laboratory staff availability to receive and analyze the samples.

The timing of bacteria sample collection, particularly within the context of automatic sampling, will require consideration of the sample's four-hour holding time and available laboratory receiving hours. The Permittees request that the Permit be modified to only require collection of bacteria samples such that they can be delivered during the regular working hours of the lab to avoid excessive laboratory costs.

6.4.4.7 Participate in a Watershed Based TMDL for the Santa Margarita Lagoon

The Permittees understand that, due to economic conditions, State funding for the Santa Margarita Lagoon Watershed-Based TMDL has been withdrawn. As described in section 3.4, these economic conditions are also impacting the Permittee's funding sources and they are struggling to maintain resources to fund existing compliance programs. The Permittees currently cannot support additional expenditures associated with assisting in funding a watershed-based TMDL effort. However, the Permittees are agreeable to discussing a re-prioritization of compliance activities in order to reallocate existing Permittee resources for this purpose. For example, where current MS4 Permit compliance programs elements are not measurably enhancing attainment of Water Quality Standards, the Permittees would consider reduction or elimination of those requirements to support reallocation of the associated funding to the development of the watershed based TMDL. Program elements that may be considered for discussion include:

- Toxicity/Pyrethroid Monitoring – Under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) local regulation of pesticides, including pyrethroid pesticides is pre-empted. The Permittees are expending significant resources at the State and Federal level to facilitate regulatory changes in the allowable uses of pyrethroid pesticides, which have been implicated in causing toxicity in receiving waters throughout California. The Permittees have also recognized pyrethroid pesticides as a Pollutant of Concern for the upper Santa Margarita River watershed. The Permittees believe that public education and outreach regarding use and more stringent regulation/management of pesticides, including pyrethroid pesticides, represents the most effective means of controlling pesticides in Urban Runoff. However, continued Toxicity tests, Toxicity Identification Evaluations, and direct monitoring for pyrethroid pesticides are not likely to enhance the Permittee's ability to reduce/eliminate pyrethroid pesticides in Receiving Waters. Greater Receiving Water quality benefits may be realized by reallocating the resources currently allocated to these activities to the development of the watershed-based TMDL.
- Reduction in General Monitoring Requirements – The Permittees continue to expend significant resources on Receiving Water and outfall monitoring and the benefits of these monitoring activities are limited. Further, these costs have more than doubled over the term of the 2004 MS4

Permit due to audit findings recommending the implementation of automatic sampling equipment. Revised MS4 Permit requirements that provide for a simplified monitoring program may allow cost savings to be reallocated from data collection and processing to development of the watershed-based TMDL.

- Watershed/Individual Annual Reporting – The current Annual Reporting requirements are time, labor and cost-intensive exercises. Revised MS4 Permit requirements that provide for a simplified Annual Report requirements would not necessarily produce substantial cost savings (because is the reports are typically produced in-house); however, they would free up staff resources to assist with TMDL development.
- IC/ID Monitoring – Although the Permittees support regular visual inspection of MS4 facilities to identify IC/IDs, field measurements and sampling has not proven to be effective for this purpose. Although sampling of identified IC/IDs for later enforcement purposes may be appropriate, IC/IDs that have been identified and eliminated in the Santa Margarita Region typically result from visual observations and subsequent follow-up efforts by Permittee staff, not field measurements and water quality samples. Revised MS4 Permit requirements that provide for visual inspections of MS4 facilities to identify IC/IDs may yield cost savings that could be reallocated to development of the watershed-based TMDL.

There may be additional opportunities for modification of MS4 Permit requirements to focus the expenditure of Permittee funds on those activities that are most effective at protecting Receiving Water quality. Although the resources available for Permittee compliance activities are finite, the Permittees are supportive of modifications to the MS4 Permit that, while working within available funding limitations, enhance their ability to protect and enhance the quality of Receiving Waters.

7.0 Evaluation and Recommendations for Individual SWMP Programs

The Riverside County DAMP is a programmatic document developed by the Permittees in the Santa Ana and Santa Margarita Regions. It outlines the major programs and policies that the Permittees individually and/or collectively implement to manage Urban Runoff for the protection of Receiving Waters in Western Riverside County, including the Santa Margarita Region. The Riverside County DAMP provides a model for the development of a Permittees' Individual SWMPs in the Santa Margarita Region.

The Permittees continue to support a uniform approach to the implementation of MS4 Permit compliance programs in order to facilitate increased transparency and understanding for residents, regulated entities, and Permittee staff. For this reason, the discussions below focus on programmatic changes to the compliance programs that are necessary to maintain the effectiveness of the model compliance programs described in the Riverside County DAMP. Upon adoption of the new MS4 Permit, the Riverside County DAMP and Individual SWMPs will be revised accordingly.

7.1 Program Management

There are typically multiple Permittee departments that are responsible for implementing the elements of the Individual SWMPs. Each Permittee has designated an NPDES Coordinator who coordinates the overall Permittee compliance programs, collects and analyzes compliance program data, develops and maintains the Individual SWMPs, compiles and submits necessary reports, coordinates with other Permittees, stakeholders and Regional Board staff, and conducts other necessary duties as assigned.

To facilitate inter-Permittee coordination and funding of regional compliance activities such as the Public Education and Monitoring programs, the Permittees have entered into an Implementation Agreement that defines the roles and responsibilities of each Permittee and assigns cost shares for regional programs defined in the agreement. The Implementation Agreement also requires each Permittee to designate an NPDES Coordinator who is also responsible for representing the Permittee's interest at Permittee coordination meetings such as the monthly Santa Ana/Santa Margarita Technical Advisory Committee.

The Permittees in the Santa Margarita and Santa Ana Regions participate in a Management Steering Committee made up of the City Managers, County Executive Officer, and the District's Chief Engineer; or their assigned alternate. Participation in the Management Steering Committee is not mandatory; however, it provides a management-level forum to address Urban Runoff management policies for the Permit Area and coordination of the review, and necessary revisions to the Riverside County DAMP and Implementation Agreement. In addition, the Management Steering Committee promotes a higher level of awareness of the MS4 Permit compliance program by each Permittee's senior management staff.

7.1.1 Accomplishments and Programmatic Improvements

Collectively, the Permittees Program Management activities have achieved:

- Development of the Riverside County DAMP, WQMP and Individual SWMPs following adoption of the 2004 MS4 Permit.
- Revised the Implementation Agreement to account for necessary program enhancements resulting from the new MS4 Permit.

- Established and held monthly meetings of a Technical Advisory Committee comprising of each Permittee's NPDES coordinator, to discuss and coordinate response to issues that arise through the ongoing implementation of the Riverside County DAMP-based programs.
- Voluntarily participate in a Management Steering Committee comprised of Permittee upper management (City Manager or equivalent) to provide a forum to discuss major policy issues related to MS4 Permit compliance program implementation. This also helps the major decision makers within each organization to stay abreast of the status of the implementation of the Riverside County DAMP and aware of upcoming issues and approaches taken by other Permittees.
- Enhanced enforcement and compliance elements of the Riverside County DAMP.
- Developed the Integrated Regional Watershed Management Plan (IRWMP) for the Upper Santa Margarita Watershed.
- Continued progress with the Bureau of Reclamation, San Diego County and other stakeholders on a uniform watershed plan and model for the Santa Margarita River watershed.

7.1.2 Recommended Revisions and Enhancements to Program Management Efforts

7.1.2.1 Assessment Metrics and Municipal Action Levels

To ensure that the Permittee's programs continue to be effective at managing the impact of Urban Runoff on Receiving Water quality, the Permittees will revise the Program Effectiveness Assessments for both the Individual SWMP and the Watershed SWMP following adoption of the new MS4 Permit. These planned changes are further described in Section 6.1.2.1 of this ROWD. The Permittees also recommend streamlining of the reporting forms to focus on the revised Program Effectiveness Assessments.

7.1.2.2 Revised Reporting Format

As a result of continued program effectiveness assessment, following adoption of the new MS4 Permit, the Permittees will update annual reporting forms to incorporate specific reporting requirements for the effectiveness assessment metrics and to remove inappropriate, outdated, or ineffective reporting requirements.

7.2 Development Planning

This program element links each Permittee's General Plan, environmental review process, and development approval and permitting processes to the later phases of detailed design, construction and operation. The development approval and permitting processes carries forth project-specific requirements in the form of conditions of approval, project plans, and design specifications that support tracking, inspection, and enforcement actions.

7.2.1 Development Planning Program Element Accomplishments and Programmatic Improvements

During the term of the 2004 MS4 Permit, the development planning program accomplishments and programmatic improvements included:

- Developed the WQMP to address post construction stormwater runoff quality for New and Significant Re-Development Projects.
- Development of a FAQ for WQMP projects to assist with implementing the WQMP program.
- Developed and subsequently enhanced a BMP design guidance manual to standardize the construction of post construction BMPs.
- Participation in the SMC efforts to develop a LID manual.
- Participation in SCCWRP's hydromodification studies to develop scientifically based hydromodification design guidance for Southern California.
- Enhanced online watershed maps to assist developers and the public with identifying areas tributary to Impaired Waterbodies.
- Adopted and implemented a MSHCP to ensure the regional-scale protection of habitat and natural resources in the approval process for New Developments.

7.2.2 Proposed Revisions to the Development Planning Program Element

7.2.2.1 Low Impact Development

The Permittees will revise the Riverside County Storm Water Quality Best Management Practice Design Handbook to (1) better incorporate LID design concepts, and (2) incorporate guidance to describe how developments can offset Treatment Control and hydromodification impacts with LID concepts including infiltration, evapo-transpiration, reuse, and onsite stormwater management. These revisions will follow the completion of the SMC LID BMP Manual and SCCWRPs Hydromodification Study. See the FY 2007-2008 Watershed Annual Report, Appendix G, Section G.7.2 for additional detail.

7.2.2.2 Hydromodification

As committed to in the 2004 WQMP (now Appendix O to the Riverside County DAMP), the Permittees have developed numeric guidance for hydromodification and are now working with SCCWRP to develop enhanced hydromodification guidance for Southern California. The Permittees will use the completed guidance to update the WQMP, BMP Design Handbook and other guidance as necessary to effectively mitigate hydromodification impacts. See the FY 2007-2008 Watershed Annual Report, Appendix G, Section G.7.2 for additional detail.

7.2.2.3 BMP Design Criteria

The Permittees will revise the Riverside County Storm Water Quality Best Management Practice Design Handbook to incorporate additional design guidance to clarify those Treatment Control BMPs that are effective at removing sediment-bound pesticides such as pyrethroid pesticides (consistent with the recommendations of the Toxicity Reduction Evaluation contained in Appendix D.

7.2.2.4 TMDLs

The Permittees will revise the DAMP to identify and include BMPs that are necessary to mitigate the impacts of Urban Runoff on Impaired Waterbodies.

7.2.2.5 Roads

The Permittees believe that standard WQMP requirements for public works road projects create potential avenues for unavoidable non-compliance. The Permittees would like to review this priority development category with Regional Board Staff to develop a better system to manage public works road projects.

7.2.2.6 Inspect and Verify Maintenance of Post Construction Treatment Control BMPs to Ensure Ongoing Effectiveness

As economic conditions allow, the Permittees propose to implement the following approach to inspect and/or verify maintenance of Treatment Control BMPs implemented on Priority Development Projects to ensure their ongoing effectiveness. The development of the program described below will require the Permittee resources that are unavailable in the current economic climate, particularly considering that it would likely require the Permittees to abandon the CAP in lieu of a local Permittee inspection program. The resources that will be required to ramp up new inspection programs are unavailable and may not become available during the term of the new MS4 Permit; however when the economy recovers sufficiently the Permittees propose to implement the program described below.

Integrated Management Practice (IMP) Exemption:

For the purposes of this program, IMPs include BMPs that are landscape based or otherwise serve an additional purpose other than Treatment Control. IMPs will be exempted from Inspection and Maintenance Tracking / Certification requirements if solely through the regular maintenance of the feature's secondary (non-treatment) functions and with Permittee concurrence, it can reasonably be expected that the treatment efficacy of the IMP will be ensured in perpetuity. An example that may satisfy this exemption would be a grassy swale that is mowed as part of regular landscape maintenance, whereas a BMP with a media filter which requires periodic resetting or replacement to maintain treatment effectiveness would not be exempted.

Priority Development projects will be exempted from all Treatment Control BMP Inspection and Maintenance Tracking / Certification requirements if they completely meet their Treatment Control requirements by implementing only IMPs that meet these criteria.

Priority Industrial and Commercial

The following requirements will apply to new priority Commercial and Industrial developments subject to the Permit's Commercial and Industrial business inspection requirements.

- Inspection

  Sites will be inspected per the Individual SWMPs current inspection frequency requirements that are based on the potential of the site to contribute to water quality impairments. At these inspections, in addition to the normal inspection requirements, all Treatment Control BMPs at the site will be inspected. In other words, all Treatment Control BMPs at high-priority facilities will be inspected annually; Treatment Control BMPs at medium-priority facilities will inspected biennially and Treatment Control BMPs at low-priority facilities will be inspected once during the term of the MS4 Permit. Improperly maintained BMPs may subject the maintenance entity to license suspension or administrative citations.

- Proof of Maintenance

  Maintenance records demonstrating compliance with the O&M procedures in the WQMP must be available for review at the time of the inspection. Failure to demonstrate that the BMPs have been maintained appropriately may result in license suspension or other enforcement actions.

Other Priority Developments

The following requirements will apply to new priority residential developments and businesses not otherwise subject to the Permit's Commercial and Industrial business inspection requirements.

- Proof of Maintenance and Self Certification

  The maintenance entity identified in the WQMP will be required to submit maintenance records including a signed certification to the Co-Permittee. The frequency of these submittals will be based on the relative maintenance requirements of the Treatment Control BMPs implemented on that site. BMPs will be categorized into groups as having High, Medium or Low maintenance requirements. If a WQMP project utilizes high-maintenance Treatment Control BMPs it will be categorized as a High-priority residential development, etc. High-Priority residential developments will be required to submit records annually, Medium – biennially, and Low – once every five years. Failure to report will result in administrative citations against the maintenance entity.

Permittee Projects and Permittee Maintained Treatment Control BMPs

This requirement will be included as part of the existing Permittee facility inspection program and inspected per the frequency requirements specified in the Riverside County DAMP.

7.3 Private Development Construction Activities

The Permittees have reviewed their ordinances to ensure that they are adequate to control discharges to the MS4 from construction sites to the MEP. For construction projects that will disturb one acre or more, the Permittees require proof of compliance with the General Permit-Construction prior to issuance of building/grading permits (a copy of the Notice of Intent filed with the State Board). Each of the Co-Permittees provides training for their construction inspectors regarding the proper installation and

maintenance of erosion and sediment control BMPs. Education and outreach to the building industry (developers, construction contractors, engineering firms, etc.) regarding managing discharges from construction sites is also incorporated into the "**Only Rain Down the Storm Drain** Pollution Prevention Program," the Permittees' area-wide public education and outreach program.

7.3.1 Private Development Construction Activities Program Element Accomplishments and Programmatic Improvements

- The Permittees annually distribute construction activities posters to construction sites as part of construction outreach program.
- A standardized construction activity reporting spreadsheet was developed for the Annual Reports.
- The construction inspection forms were updated.
- The Co-Permittees developed and maintained inventory databases of construction sites 1-acre or larger for which they have issued a building or grading permit.
- Prioritized inspections to help target construction activities that present the highest risk to water quality.

Highlights
Conducted over **17,000** construction site inspections
Initiated over **3,800** enforcement actions to gain compliance
626 attendees to NPDES Construction training

7.3.2 Proposed Revisions to the Private Development Construction Activities Program Element

The Permittees are not proposing revisions to their existing construction inspection programs at this time. As previously described, the Permittees expect that development activity will be greatly reduced during the term of the new MS4 Permit. Regional Board staff has however raised the issue of abandoned construction sites. Regulation of abandoned construction sites has proven challenging due to bankruptcy of project proponents, non-responsiveness or inability to locate underlying investment banks that actually own the developments, and the practical limitations encountered by the Permittees in calling bonds. As the Regional Board has enforcement capabilities that often surpass those of the Permittees, to ensure that this issue is effectively addressed the Permittees ask for the close cooperation and support of the Regional Board. Nonetheless, the Permittees are committed to continuing the use of their IC/ID programs, code enforcement tools, and other ordinance authorities to control, to the extent allowable under law, abandoned parcels that are not properly stabilized.

7.4 Existing Development – Permittee Facilities and Activities

The Municipal Facilities Strategy which has been consolidated into Section 5 of the Riverside County DAMP provides guidance for identifying potential storm water Pollutant sources and for selecting appropriate BMPs for implementation at identified facilities of concern owned and operated by the Permittees. The Permittees are implementing the provisions of the Municipal Facilities Strategy within their respective jurisdictions via processes described in their Individual SWMPs. To assist the Permittees in implementing this program, training focused on storm water regulatory requirements and BMPs related

to Permittee maintenance facilities and roadway maintenance activities were conducted twice annually during the 2004 MS4 Permit term.

7.4.1 Permittee Facilities and Activities Program Element Accomplishments and Programmatic Improvements

- The District coordinated preparation of GIS-based maps for Permittee MS4 facilities. The MS4 maps are updated annually with new information provided by the Permittees as part of the Annual Reporting process.
- Development of a GIS Browser that allows interested parties to view MS4 Facilities from the District's website.
- Updated Model Facilities Pollution Prevention Plan for Permittee facilities not requiring coverage under the Industrial General Permit.

Highlights
900 attendees to Municipal NPDES training

7.4.2 Proposed Revisions to Permittee Facilities and Activities Program Element

7.4.2.1 FPPP Guidance

The Permittees commit to developing a revised WQMP template for Permittee projects that better facilitates translation of WQMP BMP requirements into Facility Pollution Prevention Plans, where appropriate.

7.4.2.2 Integrated Pest Management

The Permittees commit to including Ecowise's standardized language for contracted pesticide management services in Permittee pesticide management contracts.

7.5 Commercial and Industrial Sources

The Principal Permittee and the County have implemented the CAP through which the County Department of Environmental Health makes use of existing inspection programs to address storm water compliance survey/inspections of restaurants and facilities that must secure a hazardous materials permit for either storing, handling or generating hazardous materials. As the responsible Certified Unified Program Agency in Riverside County, the County Department of Environmental Health is responsible for regularly inspecting all sites within the County that handle hazardous waste. The CAP is implemented in those cities and unincorporated areas that do not maintain an individual industrial/commercial inspection program through other mechanisms such as POTW waste pre-treatment programs or business license inspection programs.

Revisions to the inspection program requirements contained within the 2004 MS4 Permit expanded the scope of the overall commercial/industrial inspection program beyond the ability of the CAP to address. Each Co-Permittee now implements a supplemental inspection program for facilities not covered by the CAP. In addition, the 2004 MS4 Permit required inventories/databases of facilities, prioritization of

industrial and commercial sources relative to the potential to impact water quality, and specified inspection frequencies based upon facility priority.

The revised industrial and commercial sources program continues to have both regional and local jurisdiction components. Although the overall industrial/commercial inspection program has grown beyond the CAP, the CAP still addresses most of the facilities identified in the 2004 MS4 Permit. With its low overhead cost, it remains a cost effective approach to mitigating the impacts of industrial and commercial facilities on the MS4 and Receiving Waters.

7.5.1 Commercial and Industrial Program Element Accomplishments and Programmatic Improvements

- Reviewed and updated several educational brochures for distribution to inspected facilities.
- Developed outreach posters for gas and automotive service stations.
- Developed standardized inspection reporting forms for Annual Reports.
- Updated food service surveys.
- Extended the agreement with the County's Department of Environmental Health executed in 1999 for the area-wide CAP for the inspection of commercial and industrial facilities through June 30, 2009.
- Created Permittee databases for the inspected commercial and industrial facilities.
- Revised the Riverside County DAMP to reflect development of the industrial and commercial facility database that contains the following information: facility name, address, city, zip code, and Standard Industrial Classification (SIC) codes.
- Provided public education information regarding NPDES storm water permits to any new businesses listed in the Press Enterprise.

Highlights
3,974 inspections of Industrial and Commercial facilities
Over **1000** enforcement actions taken
426 attendees to Municipal NPDES training

7.5.2 Proposed Revisions to Commercial and Industrial Sources Program Element

The expected future expansion of the Commercial and Industrial Inspection Program to address Treatment Control BMPs as described in Section 7.2.2.6 would likely result in an expansion of the CAP that is beyond the ability of Environmental Health staff to accommodate and still achieve their own mandated inspection requirements. The Permittees are therefore proposing to amend the Riverside County DAMP and Individual SWMPs to recognize not only the CAP inspection program but also Permittee specific alternative programs that may develop during the term of the next MS4 Permit.

7.6 Residential Sources

The residential program focuses on educating residents about activities that can potentially contribute to beneficial use impairment. The residential program outreach is focused on Pollutants of Concern. The residential program is primarily implemented through the Regional Public Education Program; however, each Permittee typically conducts additional outreach. In those cases where residential Illegal Discharges are identified, appropriate code enforcement actions are also taken.

7.6.1 Accomplishments and Programmatic Improvements

The residential program achieved the following accomplishments during the term of the 2004 MS4 Permit:

- Developed several new outreach brochures and tools to promote changes in knowledge and behavior regarding activities that potentially generated Pollutants of Concern including landscape and gardening brochure, spray bottles with non-toxic pest control or cleaner recipes, septic system management brochure, updated outdoor activities brochure, and pet waste brochure.
- Implemented billboard advertising promoting "**Only Rain Down the Storm Drain**" message
- Purchased a new trailer to transport public education materials. The trailer is wrapped in graphics supporting the "**Only Rain Down the Storm Drain**" message.
- Point of Sale Outreach Programs to customers of hardware stores regarding paint, pesticides and fertilizers.
- Partnership with Valley Greeters to deliver "**Only Rain Down the Storm Drain**" information to new residents in the Santa Margarita Region.
- Promotion and participation in the annual Santa Margarita Watershed Clean Up Day.
- Continued supplemental support of the HHW/ABOP waste collection programs
- Continued update and revision of the public education information page
- Continued implementation and enhancement of school outreach programs conducted by Mission Resource Conservation District
- Reproduction and distribution of the After the Storm poster

7.6.2 Recommended Revisions

Although the Permittees continue to annually assess and modify outreach materials and programs, the Permittees are not recommending any substantive revisions to this program element at this time.

7.7 Public Education and Outreach

Although the bulk of public education and outreach activities are conducted by the District on behalf of the Permittees, the Permittees also conduct outreach activities. These activities include providing informational pamphlets at counters, conducting presentations for local businesses or developers, maintaining a stormwater page or appropriate stormwater links on their individual websites, conducting employee training programs, and attending various public events.

7.7.1 Public Education and Outreach Program Element Accomplishments and Programmatic Improvements

The Public Education and Outreach Program Element had the following accomplishments and improvements over the term of the 2004 Permit (not including those identified in Section 7.6.1):

- Use of a CEQA-style public participation process to develop the Riverside County DAMP, SWMPs, and WQMP
- Duplication and use of the USEPA construction site poster to educate construction site operators
- Distribution of stormwater outreach information to various businesses and construction sites through code enforcement, and building and grading inspectors
- Development and distribution of a automotive shop BMP poster
- Advertisements in the Business Press
- Update of the outdoor activities brochure for mobile operators

7.7.2 Recommended Changes

Although the Permittees continue to annually assess and modify outreach materials and programs, the Permittees are not recommending any substantive revisions to this program element at this time.

7.8 Elimination of Illicit Connections and Illegal Discharges

The Riverside County DAMP describes the discharge limitations and prohibitions applicable to the Permittee's MS4 (Section 4.1), procedures to be implemented when persistent exceedances of Water Quality Standards are identified (Section 4.2), responding to and reporting Illegal Discharges (Section 4.4), enforcement measures for IC/IDs (Section 4.5), measures to control litter (Section 4.6), measures to manage sanitary wastes (Section 4.7), and programs to promote collection and proper disposal of hazardous waste (Section 4.8).

7.8.1 IC/ID Program Element Accomplishments and Programmatic Improvements

- Developed Sanitary Sewer Overflow Procedures in coordination with the sanitary sewer operators in the Santa Ana and Santa Margarita Regions and implemented annual updates to Sanitary Sewer Overflow Procedures to ensure proper contact information for outside agencies.
- Established an electronic tracking system for NPDES complaints received through the toll free "Report Storm Water Pollution" hotline, OES or otherwise reported to the District.
- Enhanced public outreach regarding illegal dumping including brochures for: Outdoor Activities, Fountains & Swimming Pools, and Pet Waste, establishment of a Santa Margarita watershed Clean-Up Day and coordination with the County of Riverside Trash Task Force.

- Initiated a cooperative program with the County Environmental Health Department to promote Environmental Enhancement Projects in lieu of fines for environmental crime cases. This initiative resulted in a billboard advertising campaign and BMP posters addressing appropriate BMPs for gas stations and garages.
- Established IC/ID Monitoring Program

Highlights
1,263 potential IC/ID reports received and responded to
Over **5,500** calls received on stormwater pollution hotlines
94 IC/ID Monitoring events
5 monitoring events where field screening exceeding criteria

7.8.2 Proposed Revisions to IC/ID Program Element

The Permittees re-evaluated their existing IC/ID monitoring programs as part of this ROWD. The Permittees believe that the overall monitoring program is effective. However, the Permittees plan to revise their approach to the implementation of the Illicit Discharge monitoring program to increase monitoring data utility or overall program effectiveness.

7.8.2.1 Revise IC/ID Monitoring Program

The Permittees plan to revise their approach to the implementation of the IC/ID monitoring program. The goals of the recommended revisions are to:

- Relocate the IC/ID monitoring sites at MS4 outfalls.
- Distribute the monitoring sites throughout the Santa Margarita Region to detect Illicit Discharges closer to their source before they become excessively diluted.
- Increase efficiency and consistency in sampling resulting in enhanced data quality.
- Enhance response time to identify IC/IDs.

A model Illicit Discharge monitoring plan that accomplishes these goals is described below; a final plan will be incorporated into updated compliance documents with the new MS4 Permit.

7.8.2.2 Model Illicit Discharge Monitoring Plan

The Municipal Permittees will identify MS4 outfalls that could be used for monitoring sites based on maps of the MS4 facilities. This list of preliminary sites will be then field checked to determine the accessibility of the sites and feasibility for inclusion in the IC/ID monitoring program. Inaccessible sites or sites determined to be otherwise infeasible will be removed from the list.

Each Municipal Permittee except Menifee will then divide the list of the viable sites within their jurisdiction into groups of four. As Menifee only has one MS4, it will only monitor that one site. Each group of four sites will be monitored for a period of one year, twice during the dry season. Once all sites have been monitored for a year, sites will be repeated.

A monitoring team will be formed including one District and one Municipal Permittee staff member. The District staff will perform all monitoring/screening activities. The Municipal Permittee staff will be available to assist and will be responsible for initiating any necessary follow-up actions. This approach will provide consistency in screening and monitoring data collection and will allow the Municipal Permittee with jurisdiction over the tributary land use to be immediately aware of exceedances and initiate appropriate follow-up actions.

REPORT OF WASTE DISCHARGE

Submitted To

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD
(Order No. R9-2004-001)

and

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION IX
(NPDES No. CAS0108766)

JANUARY 15, 2009

SANTA MARGARITA RIVER REGION

RIVERSIDE COUNTY

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT,
COUNTY OF RIVERSIDE, CITY of MENIFEE, CITY of MURRIETA,
CITY of TEMECULA, and CITY of WILDOMAR

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1.0 Executive Summary

On July 14, 2004 the San Diego Regional Water Quality Control Board (Regional Board) adopted Order No. R9-2004-001, an area-wide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit (2004 MS4 Permit); this permit expires on July 14, 2009. A Report of Waste Discharge (ROWD) for renewal of the 2004 MS4 Permit must be submitted no later than 180 days in advance of the expiration date (i.e., by January 15, 2009).

This ROWD is an application for renewal of the 2004 MS4 Permit (NPDES No. CAS0108766) for the MS4 owned and operated by the Riverside County Flood Control and Water Conservation District (District), the County of Riverside (County), and the incorporated cities of Riverside County within the upper Santa Margarita River watershed (collectively, the Permittees). The newly incorporated cities of Menifee and Wildomar are included in this application as a Notice of Intent to participate in the updated MS4 Permit.

The content of this document is structured to identify:

- Information about the applicants (Section 3.0),
- Information on the area to be covered under the MS4 Permit (Section 4.0),
- An overall evaluation of the Permittees' existing programs based on water quality trends (Section 5.0),
- Accomplishments and recommendations for the Permittees' regionally implemented programs (Section 6.0) and
- Accomplishments and recommendations for the programs implemented as part of the Individual Stormwater Management Plans (SWMPs) (Section 7.0).

The Riverside County Drainage Area Management Plan (DAMP) documents the model implementation plan from which each of the existing Permittees has developed their respective Individual SWMP to implement the DAMP. In addition a Watershed SWMP has been developed to describe the programs that will be implemented regionally. The Annual Reports submitted to date describe the implementation of these SWMPs and document how they have evolved over time.

This ROWD builds on these Annual Reports by highlighting the major accomplishments of these programs, evaluating the long-term effectiveness of the programs and recommending revisions to the programs to enhance the efficiency and effectiveness of the programs to manage Urban Runoff to protect Receiving Water quality. To promote clarity of intent, terms defined in the 2004 MS4 Permit are capitalized in this ROWD.

Due to the impacts of the current economic recession on Permittee budgets and the effectiveness of existing Urban Runoff management programs, the Permittees' primary focus during the next MS4 Permit term will be on maintaining existing compliance programs in the face of significant cuts in basic municipal programs and services. Riverside County is one of the areas most affected by the mortgage crisis and the Santa Margarita Region is one of the most impacted areas of Riverside County. This crisis is having significant impacts on Permittee resources and projections for a deepening recession promises to exacerbate these impacts. Further, monitoring data indicates that the existing compliance programs have been effective in maintaining water quality. This ROWD focuses on maintaining the fundamental

structure and content of the Riverside County DAMP and the Individual SWMPs. However, the Permittees have identified several enhancements and/or alterations to their programs that can be implemented to continue to increase the effectiveness of these programs, without increasing costs.

1.1 Highlights of Program Implementation

Sections 6 and 7 of this ROWD describe the numerous accomplishments of the Permittees programs during the 2004 MS4 Permit term. Some highlights of the major accomplishments for the Permittees include:

- Development and implementation of a Water Quality Management Plan (WQMP) that addresses post-construction Urban Runoff management for New and Significant Re-Development.
- Development and implementation of the Watershed SWMP and the Permittee's Individual SWMPs.
- Development of handbook to standardize post-construction Best Management Practice (BMP) selection and design in Riverside County. Ongoing updates to the handbook include a plan to incorporate and promote low impact development design concepts.
- Development and enhancements to the design template for developing project-specific WQMPs
- Development of a Frequently Asked Question (FAQ) document to assist developers and plan review staff in understanding WQMP requirements and expectations.
- Development of coordinated BMP manual for firefighting agencies.
- Development, implementation and maintenance of Permittee databases to track construction sites 1-acre or larger. In addition, the Permittees have standardized a construction reporting spreadsheet used for Annual Reports, updated inspection forms, and enhanced the construction outreach program.
- Creation of Permittee databases to track industrial and commercial facilities.
- Creation and maintenance of the Storm Water Protection website that offers educational resources and free brochures targeting residents, businesses, developers, contractors, and elementary school children.
- Partnership with the Mission Resource Conservation District to provide an educational outreach programs targeting both schools and adults.
- Continued participation in the Consolidated Program for Water Quality Monitoring (Consolidated Monitoring Program) that includes collection of water quality samples at MS4 outfalls and Receiving Waters.
- Participation in regional and statewide monitoring efforts such as the Southern California Monitoring Committee (SMC), Southern California Coastal Water Commission and National Water Resources Institute.
- Participation in the California Stormwater Quality Association (CASQA), including the leadership roles of Officer, Director, and Legislative Chair.
- Development of the Upper Santa Margarita Region Integrated Regional Watershed Management Plan

- Continued partnership and coordination with the Bureau of Reclamation on a watershed plan and water quality model for the Santa Margarita watershed
- Continued participation in the Santa Margarita Lagoon nutrient Total Maximum Daily Load (TMDL) development process
- Participated in a stakeholder workgroup process led by Regional Board staff to revise REC 1 Basin Plan requirements for TMDLs

1.2 Summary Evaluation of Program Implementation

The trend analysis presented in Section G-8.2 of the FY 2007/2008 Watershed Annual Report and reviewed in Section 5.3 of this ROWD indicates that after almost 14 years of active Permittee involvement in MS4 Permit related Urban Runoff management programs, the significant increase in population (over 300 percent) and associated rapid urbanization that the area has experienced has not resulted in any statistically significant increases in Pollutant concentrations in Receiving Waters in the Santa Margarita Region. This indicates that the Permittees MS4 programs are and have been protective of Receiving Water quality. Pyrethroid pesticides, the one Pollutant that does appear to be linked to urbanization, has been addressed through a Toxicity Reduction Evaluation process, outreach programs, and Permittee participation to address pyrethroid pesticides and other pesticide sources at the state and federal level.

To enhance the effectiveness of the MS4 Permit compliance programs, the Permittees have agreed to implement compliance program revisions as described in sections 6 and 7 of this ROWD.

1.3 Summary of Major Recommendations for Program Revision

As described in section 3.4 of this ROWD, the Permittees are facing unprecedented fiscal impacts resulting from the national and state economic crises. The impacts on the Permittees are especially severe due to the disproportionate impact of home foreclosures in the Santa Margarita Region coupled with plummeting sales tax revenue. Unfortunately, it is anticipated that the economic conditions will persist for a significant portion of the term of the next MS4 Permit. During this period, the Permittee's MS4 compliance programs will increasingly compete with more fundamental public services for finite and dwindling resources. The challenge and priority for the Permittees will be to maintain the existing compliance programs in the face of cuts in basic programs and services.

Nevertheless, and although the various programs implemented as part of the Watershed SWMP and the Riverside County DAMP have been determined to be effective overall, Sections 6 and 7 of this ROWD identify certain areas wherein the Permittees are proposing changes to improve the effectiveness, efficiency, and transparency of these programs.

The program revisions recommended in this ROWD reconfigure existing programs in a manner that will increase the Permittees' overall ability to protect Urban Runoff quality, while limiting additional costs that would make these revisions cost-prohibitive in light of the current and foreseeable economy. Some of the major recommendations include:

Enhance Program Effectiveness Assessments and Incorporate Action Levels (Section 6.1.2.1)

The Permittees have carefully evaluated their MS4 Permit compliance programs and annual reporting forms. Based on this review the Permittees determined that:

- The overarching goal of the program is to ensure that Urban Runoff does not cause or contribute to non-attainment of Beneficial Uses in the upper Santa Margarita River watershed;
- Permittee compliance programs are process based and, consistent with the Maximum Extent Practical (MEP) approach, are incrementally adjusted as part of the annual reports and comprehensively reevaluated and if necessary, revamped as part of each ROWD;
- Monitoring data should be used to drive long term program assessments and assess goal attainment as part of the ROWD; and
- Process based Municipal Action Levels (MALs) should be used to evaluate annual program implementation to ensure that programs are implemented to the MEP and identify the needs for incremental adjustments.

The Permittees have proposed revised Effectiveness Assessment metrics and MALs for use in Permittee Annual Reports consistent with the aforementioned findings and as described further in Section 6.1.2.1. The MALs are intended to function as triggers, or minimum bars that if breached, would require the Permittees to evaluate the appropriate program elements to determine if adjustments are necessary to attain the MEP standard. The Permittee proposal will not only add transparency to the Permittees compliance programs but assist Permittees in evaluating and adjusting their Permit compliance programs to assist in attaining Water Quality Standards. Further, the proposed effectiveness assessment metrics can be implemented without significantly increasing the Permittees' program costs.

Revisions to the IC/ID Program (Section 7.8.2)

During the 2007/2008 MS4 Program audits conducted by PG Environmental and Regional Board staff, several questions were raised regarding the Permittees existing Illicit Connection/Illegal Discharge(IC/ID) field monitoring programs. The Permittees have evaluated the Regional Board and PG Environmental staff's comments and proposed a revised IC/ID Program based on the following:

- Random selection of MS4 outfalls throughout the Santa Margarita Region;
- Rotating MS4 outfall sites annually to maximize coverage of the MS4;
- Partnering one District staff person with one city/county code enforcement officer for data collection to ensure consistency in sampling procedure/collection and quick response to detected IC/ID events.

Implementation of a Post-Construction Treatment Control BMP Inspection Program (Section 7.2.2.6)

Consistent with Regional Board staff's request to consider development of a post-construction Treatment Control BMP inspection program, the Permittees have developed a proposal that they plan to implement when economic conditions allow. This proposal would enhance the existing business and Permittee facility inspection programs described in the Riverside County DAMP by incorporating inspections and maintenance verification of Treatment Control BMPs. Treatment Control BMPs constructed as part of residential developments, or other developments not captured by the Permittees' existing business inspections would be addressed through an annual self-certification program.

Revisions to the Dry Weather Monitoring Program (Section 6.4.4.1)

The Permittees have committed to participating in the Regional Watershed Monitoring Program developed in conjunction with the Southern California Coastal Water Research Project (SCCWRP). Six annual monitoring events were scheduled for the upper Santa Margarita River watershed. Consistent with the agreement reached by SCCWRP, Permittee, and Regional Board staff, three of these sites would be collected by the Permittees and three through the Surface Water Ambient Monitoring Program (SWAMP). The costs for implementing the three sites to be implemented by the Permittees would be offset by reducing the Permittees existing dry weather triad monitoring events (three stations) from twice a year to annually.

Development of a LID Manual (Section 7.2.2.1)

The Permittees have committed to develop a Low Impact Development (LID) Implementation Manual based on the LID Manual currently being developed by the SMC and CASQA.

Hydromodification Management Plan (Section 7.2.2.2)

The Permittees have committed to develop a revised hydromodification management plan based on the findings of the final SCCWRP Hydromodification Management report currently under development.

Participate in a Watershed Based TMDL for the Santa Margarita Lagoon (Section 6.4.4.7)

The Permittees understand that, due to economic conditions, State funding for the Santa Margarita Lagoon watershed-based TMDL has been withdrawn. As described in Section 3.4, economic conditions are also impacting the Permittees' funding sources and the Permittees are struggling to maintain sufficient resources to fund their existing compliance programs. Therefore, the Permittees cannot currently support committing additional funds toward a third party TMDL effort. The Permittees are, however, agreeable to discussing with the Regional Board a elimination or reduction of various required compliance activities that are not measurably enhancing the their ability to attain Water Quality Standards, which in turn could allow the Permittees to redirect some of their existing resources into the third party TMDL effort. Some program elements that could be considered for discussion are described in Section 6.4.4.7.

Pyrethroid Pesticide BMP Implementation

The Permittees have committed to implementing several BMPs to address possible urban sources of pyrethroid pesticides. In addition the Permittees have committed to working through CASQA to facilitate regulatory change in pyrethroid pesticide use to curtail potential causes of receiving water impairment.

Adjustments to the Monitoring Program

The Permittees have proposed additional revisions to the monitoring program to streamline implementation and increase its utility.

2.0 Introduction

The Regional Board adopted Order No. R9-2004-001 (NPDES No. CAS0108766), an area-wide NPDES MS4 permit (2004 MS4 Permit) on July 14, 2004. This ROWD is a required component for renewal of the 2004 MS4 Permit. The 2004 MS4 Permit authorizes discharges of Urban Runoff from the MS4 owned and operated by the Permittees.

Capitalized terms used in this ROWD are defined in the glossary of the Riverside County DAMP. The Riverside County DAMP serves as the model compliance document used by the Permittees to develop the Watershed and Individual SWMPs. To save costs and increase the effectiveness of the MS4 Permit compliance programs, the Permittees will maintain the Riverside County DAMP as the primary document that describes Permittee compliance programs. The Permittees individual and regional compliance programs are then described in more detail in the Individual and Watershed SWMPs.

This ROWD has been written and formatted to address the requirements outlined in United States Environmental Protection Agency (USEPA) *Interpretative Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems* contained in the Federal Register, Volume 61, page 41698 (61 FR 41698), and to include commitments made in the various compliance documents, annual reports and in meetings with the Regional Board.

Additionally, as discussed in the meeting with Regional Board staff on September 9, 2008 and as supported by the above mentioned USEPA guidance, this ROWD relies on the fourth year Annual Reports to document the programs implemented by the Permittees. The fourth year Annual Report also includes a comprehensive evaluation of Permittee monitoring data to date and includes preliminary recommendations for Permittee compliance programs based on that data. As part of the ROWD process, the Permittees have reassessed their existing programs that are described in the Annual Reports, the monitoring conclusions and program recommendations contained in the fourth year Annual Reports, and in this ROWD, are making additional recommendations for revisions to improve the efficiency and effectiveness of these programs at improving and protecting the quality of our Receiving Waters.

The following sections of the ROWD are summarized as follows:

Section 3.0 - Information about the Permittees, their legal authority to implement the existing and proposed programs, the Permit Area, and the Permittee's funding sources and economic outlook relative to continued funding of the MS4 Permit compliance programs.

Section 4.0 – Information about the upper Santa Margarita River watershed, including physiography and geology, hydrology, climate, population, land use, surface water bodies and their Beneficial Uses and Impairments, and the MS4. This information provides context for the MS4 Permit compliance program in the Santa Margarita Region.

Section 5.0 – An overall evaluation of the Permittees existing programs based on water quality data collected to date and proposed compliance program modifications.

Section 6.0 – Evaluation of regional compliance programs, including a summary of accomplishments and proposed program revisions.

Section 7.0 – Evaluation of compliance programs individually implemented by the Permittees, including a summary of accomplishments and proposed program revisions.

3.0 Applicant Information

3.1 Permittee Contact Information

Table 1 provides the contact information for each of the Permittees in the Santa Margarita Region.

Table 1. Permittee Contact Information

	Primary Contact	Staff Contact	Address
District	Warren D. Williams General Manager, Chief Engineer 951.955.1275	Jason Uhley Engineering Project Manager 951.955.1273 juhley@rcflood.org	1995 Market Street Riverside, CA 92501
City of Menifee[1]	George Wentz City Manager 951.672.6777	Addison Smith Building Official 951.672.6777	29683 New Hub Drive, Suite C Menifee, CA 92586
City of Murrieta	Patrick A. Thomas Director of Public Works 951.304.2489	Bill Woolsey 951.461.6073 WWoolsey@murrieta.org	1 Town Center 24601 Jefferson Avenue Murrieta, CA 92562
City of Temecula	Daniel A. York City Engineer 951.694.6411	Aldo Licitra 951.694.6411 aldo.licitra@cityoftemecula.org	43200 Business Park Drive Temecula, CA 92589
City of Wildomar[1]	John Danielson City Manager 951.677.7751	Michael Kashiwagi, P.E. Director of Municipal Services (916) 683-3340 X 15 (Office) (916) 206-2238 (Cell) Local Cell 909.200.0523	23873 Clinton Keith Road, Suite 111 Wildomar, CA 92595
County of Riverside	Gary Christmas Chief Deputy County Executive Officer	Mike Shetler Senior Management Analyst 951.955.1110 mshetler@rceo.org	4080 Lemon Street, Suite 400 Riverside, CA 92501

3.2 Statement of Legal Authority

The Co-Permittees have adopted ordinances regarding the management of Urban Runoff. The ordinances provide the Permittees with the legal authority to implement the requirements of the 2004 MS4 Permit and 40 CFR Section 122.26(d)(2)(i)(A-F). The Permittees also provided certification of adequate legal authority to comply with the 2004 MS4 Permit and to implement the Riverside County DAMP to the

[1] As the Cities of Menifee and Wildomar are recently incorporated, the County of Riverside is currently handling their stormwater and MS4 permitting issues. Once these cities are fully established and staffed, updated contact information will be provided to the Board. The cities will assume responsibility for their programs on October 1, 2009.

Regional Board. However, it is noted that the newly incorporated cities of Menifee and Wildomar will submit their certifications following adoption of the updated MS4 Permit.

However, there are limitations to the authority the Permittees have for enforcement actions. The Permittees do not have legal authority over discharges into their respective MS4 facilities that originate from agricultural activities, state and federal facilities, utilities and special districts, Native American tribal lands, wastewater management agencies and other point and non-point source discharges otherwise permitted by, or under the jurisdiction of, the Regional Board or USEPA. Examples of non-point sources of Pollutants not under the control of the Permittees include materials from operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from lawful application of pesticides, nutrient runoff from agricultural activities, and leaching of naturally occurring minerals from local geography.

Also, the Permittees do not have the authority to enforce the provisions of California's General Permit for Storm Water Discharges Associated with Industrial Activities (General Permit-Industrial) or California's General Permit for Storm Water Discharges Associated with Construction Activity (General Permit-Construction). The State Water Resources Control Board (State Board) issues these NPDES permits, and neither the State Board nor the Regional Board has the authority under the Clean Water Act to delegate responsibility for administering these NPDES permit programs to the Permittees. However, the Permittees' local storm water and erosion control ordinances may address items similar to those identified in these statewide NPDES permits.

3.3 Permit Area

The Permit Area is defined as the urbanized area serviced by the Permittee's MS4 facilities. The Permit Area is located within the area delineated by the County boundary line on the south and the limits of the jurisdiction of the San Diego Regional Board on the north, east, and west. It is important to recognize that the Clean Water Act exempts agricultural activities from regulation under NPDES and the Permittees do not have legal jurisdiction over storm water discharges into their MS4 facilities from:

- California and federal facilities,
- Areas under the jurisdiction of San Diego County,
- Utilities and special districts, and
- Native American tribal lands.

These areas are not included in the Permit Area. In addition, other point and non-point source discharges otherwise permitted by or under the jurisdiction of the Regional Board or USEPA may affect water quality in the Murrieta and Temecula Creek watersheds.

The area of Riverside County under the jurisdiction of the Regional Board is less than 8 percent of the 7,300 square miles within Riverside County. Of the 27 municipalities within the whole of Riverside County, only five include areas under the jurisdiction of the Regional Board.

3.4 Funding Sources and Economic Projections

3.4.1 Funding Sources

The costs incurred by the Permittees in implementing the SWMPs fall into two broad categories:

- **Shared Costs**. These are costs that fund activities performed mostly by the District under the Implementation Agreements. These activities include coordinating the overall storm water program, coordinating other interagency cooperative efforts such as the Compliance Assistance Program (CAP), participating in CASQA activities, representing Permittees at meetings of the Regional Board or State Board and other public forums; preparing and submitting compliance reports and other reports required under the MS4 Permit, conducting Urban Runoff monitoring and public education outreach programs, responding to Water Code Section 13267 requests, providing other program documentation, and coordinating consultant studies, Permittee meetings, and training seminars.
- **Individual Permittee Costs for Individual SWMP Implementation**. These are costs incurred by each Permittee for implementing within its jurisdiction the BMPs (drainage facility inspections for illicit connections, drainage facility maintenance, drain inlet/catch basin stenciling, emergency spill response, street sweeping, litter control, public education, construction activity inspection, development of implementation plans, etc.) comprising the Individual SWMPs.

Historically, the Permittees have employed several funding methods to finance their MS4 Permit compliance activities. Unfortunately, the mortgage crisis, collapse of the housing market, and the economic recession has resulted in the cessation of virtually all development activity and has significantly reduced property and sales tax revenue. Property tax revenues have been reduced by the high level of foreclosure activity, reduced property values and a significant decline in assessed valuations. Property tax revenues have been further reduced by homeowner requests for reassessments to reflect the reduced property values. The impact of these economic conditions on the Permittees in the Santa Margarita Region has been particularly severe. As a result, the aggregate funding available to the Permittees has been severely reduced, and it is anticipated that this condition will continue well into and possibly throughout the next Permit term. The funding methods historically used and the effects of the economic situation on the availability of funds through these sources are summarized as follows:

- **Santa Margarita Watershed Benefit Assessment Area**. In 1991, the District established the Santa Margarita Watershed Benefit Assessment Area to fund its MS4 Permit compliance activities. Currently, the Benefit Assessment revenues fund the District's share of the area-wide MS4 Permit program activities and the District's individual compliance activities as a Permittee. Under the Benefit Assessment each parcel is taxed based on the impervious area of each parcel at a set rate established by District Ordinance 14. This rate has not been increased since 1991 due to Proposition 218. In 2007/08 the Santa Margarita Benefit Assessment generated approximately $410,000 dollars in revenue.

  Outlook: The District expects at best to maintain, if not see temporary reductions in Benefit Assessment revenues due to the significant number of homes that are not paying property tax due to foreclosure. Pursuant to Article 13.D of the California Constitution, an increase in the established Benefit Assessment rate to compensate for these reductions requires approval of 2/3

of the voters or 50 percent of the property owners and is highly unlikely given the current economic climate. Revenues will not increase until the development industry recovers.

- **General Fund /Other Revenues**. The County and the cities utilize general fund revenue to finance most of their MS4 Permit compliance activities. General fund revenue is generated by property tax, sales tax, and auto license taxes.

  Outlook: The Permittees expect a continued reduction in th**e funds** available through General Fund / Other Revenues through at least FY 2009 /2010. Although optimistic that conditions will begin to stabilize toward the end of 2009, the Permittees cannot speculate as to when revenues will recover to previous levels.

- **Fees**. Several Permittees charge fees for services such as inspections, plan check, and other recoverable costs related to compliance with the 2004 MS4 Permit. These fees cover both the direct and indirect costs associated with conducting these inspections/reviews including associated compliance tracking and reporting.

  Outlook: It is notable that, with the virtual collapse of the development industry in the Santa Margarita Region, the fees received by the Permittees have been significantly reduced. With this reduced level of fee-based income, maintenance of the existing inspection and plan review programs will place an increased burden on overall funding of the compliance programs. The Permittees do not expect revenues from fees to recover until the development industry recovers. Even with recovery of the development industry, it is anticipated that over the long-term, revenues from fees will be reduced for the City of Temecula and the County due to the reduced area remaining for development within their jurisdictions.

- **Grants.** The Permittees have actively pursued and, as available, used Grants to fund compliance programs.

  Outlook: In December the state's budget crisis resulted in a directive to state agencies from the Department of Finance to halt projects that rely on bond funds, including those funded by Prop 40, Prop 50, or Prop 84. The State of California is the primary source of grant funding for water quality projects. Future availability of funds to resume grant-funded projects is uncertain.

It is clear that the current economic climate and that of the foreseeable future is creating a significant burden upon the Permittees that will make the continuance of all existing MS4 Permit compliance programs increasingly difficult. New funding sources or alternative combinations of funding sources will likely be required to ensure continued funding of even the current MS4 Permit compliance programs.

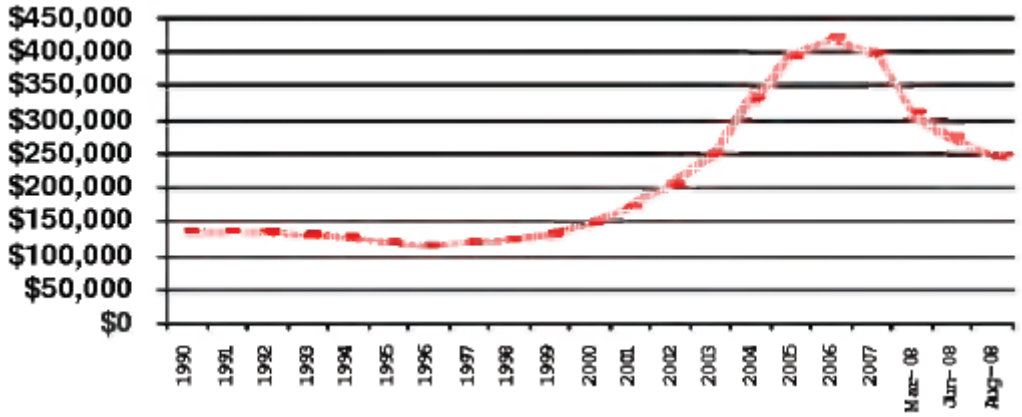
3.4.2 Economic Projections

According to Chicago Title, Southwest Riverside County has experienced a very significant increase in supply of single-family residential units on the market. As a result, housing price indicators are very negative. In the majority of the Southwest Riverside submarket, the pending price is less than the closing price indicating general price weakness. The October, 2008 count of bank owned (REO) properties for Riverside County as a whole was 12,078. The number of home in foreclosure was 23,480. The presence of high levels of REO properties will continue to negatively affect home prices. In addition, the level of foreclosures is increasing.

With regard to other sectors of the economy, Riverside County has taken a serious turn for the worst in 2008, with projections indicating that the severe downturn will continue through 2009 at the very least.

The economic difficulties being faced in the Southwest Riverside submarket is the result of the dramatic downturn in the housing market in this area, the national financial turmoil, the worldwide credit crisis, and the increasing consumer debt crisis. According to Beacon Economics, a respected economics consulting firm in Los Angeles, Inland Southern California is clearly at the epicenter of this economic turmoil, with extremely high rates of unemployment at present. Unemployment rates in Inland Southern California are expected to reach 12.4 percent before this deep recession is over. Housing prices are expected to continue their precipitous decline from their peak levels in the two Inland Southern California counties through at least 2011. According to Dataquick, median home prices in Riverside County peaked at $415,000 in January 2007. At the end of this cycle, the median home price in Riverside County is expected to be $198,000. Figure 1 depicts the median housing price in Riverside County over the period 1990 to August 2008.

Figure 1. Riverside County Median Housing Price (1990 – August 2008)

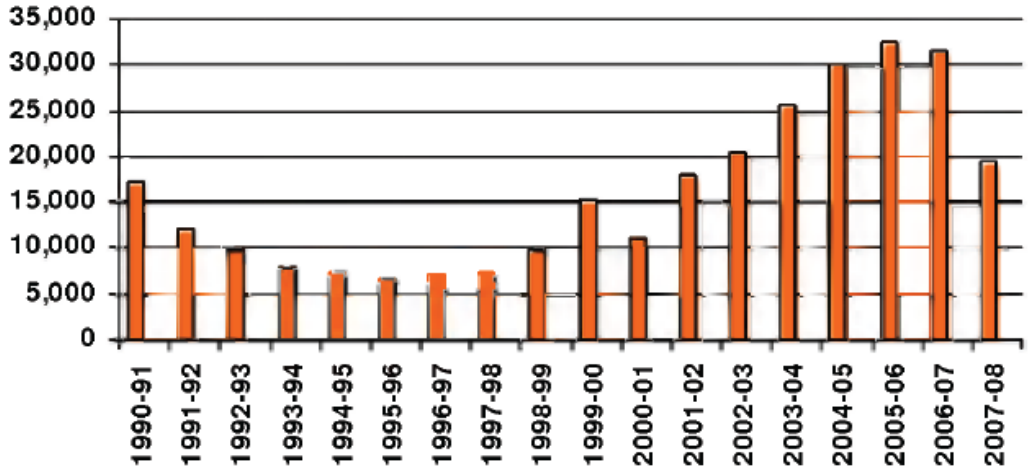


Source: Riverside County Center for Demographic Research. 2008. Riverside County Progress Report, pg 14.

Local Government sales tax revenues remained fairly stagnant through 2006 and began to decline in early 2007, according to Beacon. By the second quarter of 2008, taxable sales in Riverside County declined by 7.7 percent. The decline is expected to continue with taxable sales possibly bottoming out by 2010. Recovery of these reduced revenue streams will likely not occur within the next permit term.

As a direct outcome of the current economy and the economic outlook into the next MS4 Permit term, the number of New Developments proposals has plummeted and any significant rebound is not forecast. New and redevelopment projects will likely remain minimal. As shown in Figure 2, the number of housing units being added each year has dropped below the levels seen at any point in time during the 2004 MS4 Permit. These numbers will likely continue to decrease for a significant portion of the new MS4 Permit term.

Figure 2. Riverside County Housing Units Added (1990 – 2008)



Source: Riverside County Center for Demographic Research. 2008. Riverside County Progress Report, pg 12.

These economic issues and projections directly affect and limit both:

1. The need for including enhanced new and re-development requirements in the new MS4 Permit, and
2. The Permittees ability to fund, and even seek new funding sources for additional MS4 Permit requirements for new and re-development projects.

Therefore, as described in Section 7.2, the Permittees are not recommending and cannot financially support any significant increases to their Development Planning activities. Permittee specific projections are as follows:

3.4.2.1 County of Riverside

The County is operating with a structural deficit of $12 million and plans a 25 percent budget reduction from FY 2008/2009 through FY 2011/2012. The County's current budget of $4.7 billion represents a 5 percent reduction from the previous year and next year's budget is expected to be cut by 10 percent. These cuts are directly associated with the overall decline in property values and the high number of foreclosures. There are concerns about having to use discretionary funds to meet State mental health and social service mandates. In addition, the County is dependent on funds from federal and state sources. If during this time of economic crisis federal and state funding sources are reduced or eliminated, any unfunded State and Federal programs will be terminated. Only core County programs will continue.

The primary source of general fund revenue is from property taxes and sales tax. With the unprecedented number of foreclosures, reduced property values, and declining sales tax revenue, general fund revenue is in a downward spiral. Another source of funding is through the Solid Waste Tipping Fees paid at the County landfills. Volume is down 15 percent since 2006 with anticipated downward trend to 40 percent reduction in solid waste through 2014. Programs that are partially funded through tipping fee allotments will be impacted. Due to the declining economy the recycling market has collapsed. Virtually no recyclable materials are being shipped for reprocessing. This loss of revenue and increased disposal costs is further impacting the general fund.

Cuts of 25 percent for all Net County Cost general fund programs will translate into reduction of County services and elimination of unfunded state and federal programs. Only core value programs will be provided (including public safety and fee programs)

The County has instituted a hiring freeze and required each department to create a report outlining the projected effects of the budget cuts. The County currently employs over 20,000 people, and layoffs are expected to result from the findings of these departmental reports. It is anticipated that this will impact program delivery for stormwater related activities. No County department will be able to sustain current staffing levels as they try to meet the 25 percent budget reduction strategy.[2] [3]

3.4.2.2 City of Menifee

The newly incorporated City of Menifee FY 2008/2009 initial budget was estimated from their comprehensive fiscal analysis that was submitted to the Local Agency Formation Commission during the incorporation process. Because of the economic uncertainty, and the fact that the City is only now beginning to staff positions, it is unknown what the immediate impact of the fiscal crisis will be. The County is responsible for assisting the City in meeting its MS4 Permit compliance requirements during the first year of incorporation which expires October 1, 2009. Currently, the level of property tax revenue that will be available to the City is uncertain. Funding for MS4 Permit compliance requirements was not explicitly budgeted. A financial hardship currently exists because of the costs associated with incorporation.

3.4.2.3 City of Murrieta

The City of Murrieta's FY 2008/2009 budget did not increase compared to FY 2007/2008. Adjustments were made to reflect less revenue and to absorb any operating costs. However, budget cuts are anticipated for FY 2009/2010 because the immediate economic outlook is not good. There have been approximately 2,000 home foreclosures within the City. Sales tax revenue is estimated to drop 12.5 percent, property tax revenue will drop, and the State took approximately $525,000 out of redevelopment funds. Murrieta did not receive any vehicle licensing fees from the State and it appears likely that the State will take more revenue from the Cities to solve its budget problems. New NPDES requirements that increase compliance costs will create a financial hardship for the City.

3.4.2.4 City of Temecula

Various ongoing tax and investment revenues adopted in the City of Temecula's FY 2008-09 general fund revenues are projected to decrease from FY 2007-08. Sales and use tax revenues are expected to decrease in FY 2008-09 compared to FY 2007-08. This decrease is primarily the result of the decline in general consumer goods, electronic retail, and auto sales. Property tax revenue is also expected to decrease due to decreases in supplemental tax receipts attributed to the impact of the housing crisis. Investment interest revenue is also anticipated to decrease due to a decline in interest rates.

As a result of the 2008/2009 State budget, Temecula's redevelopment agency will have to shift existing funds from property taxes to the State's Education Revenue Augmentation Fund coffer for schools and

[2] "The Realities of Recession in California: A Statewide Report by U.S. Senator Barbara Boxer, December, 2008, p. 18.

[3] Riverside County Executive Office, January, 2008.

colleges. As such, the amount due from the Temecula Redevelopment Agency is expected to be $898,685. As the State of California continues to address its budget deficit, the City of Temecula faces the possibility of additional revenue shifts to State coffers, further losing future revenue streams and threatening existing service levels.

In addition, a Press-Enterprise article dated December 9, 2008, reported that "Between 25 and 30 part-time Temecula employees will be without work in the new year as City officials deal with a lack of revenue and less work to go around." Furthermore, "the city is not immune to the economic slowdown, which has forced its neighbors to lay off workers and slash spending to counter drops in sales tax receipts and building permit fees. In May, the City's Finance Director reported that revenues were down $3 million compared to two years ago."

With these current and projected reductions in revenue and staff, additional requirements in the MS4 Permit or upcoming TMDL-related requirements, without any corresponding cost-equivalent offsets, will exceed the City's ability to effectively implement these new requirements and will begin to compromise the City's existing efforts to manage the existing MS4 Permit requirements.

3.4.2.5 City of Wildomar

The newly incorporated City of Wildomar FY 2008/2009 initial budget was estimated from their comprehensive fiscal analysis that was submitted to the Local Agency Formation Commission during the incorporation process. Because of the economic uncertainty, and the fact that the City is only now beginning to staff positions, it is unknown what the immediate impact of the fiscal crisis will be. The County is responsible for assisting the City in meeting its MS4 Permit compliance requirements the first year of incorporation that expires July 1, 2009. Currently, the level of property tax revenue that will be available to the City is uncertain. Funding for MS4 Permit compliance requirements was not explicitly budgeted. A financial hardship currently exists because of the costs associated with incorporation.

4.0 Overview of the Upper Santa Margarita River Watershed

4.1 Physiography and Geology

The upper Santa Margarita River watershed is defined as that portion of the Santa Margarita River watershed above the confluence of Murrieta and Temecula Creeks and includes the City of Temecula and portions of the Cities of Menifee, Murrieta, Wildomar, unincorporated County areas, portions of the Cleveland and San Bernardino National Forests, the Cahuilla, Ramona, Pauma, and Pechanga Indian Reservations and properties under the jurisdiction of Caltrans and a variety of special districts. The watershed is bounded by several mountain ranges, including the Santa Ana and Santa Margarita mountains to the North and the Palomar Mountains to the South. The upper Santa Margarita watershed includes areas in Riverside and San Diego Counties and encompasses approximately 588 square miles.

The upper Santa Margarita watershed includes two major sub-basins, drained by Temecula and Murrieta Creeks. Temecula Creek has a drainage area of 366 square miles, with steep rugged topography in the Palomar and Thomas Mountain areas and rolling hills below. The upper 316 square miles of this basin is controlled by Vail Lake (completed in 1949). Murrieta Creek has a drainage area of 222 square miles, with over 50 square miles controlled by Skinner Reservoir (completed in 1974). Although the watershed area is somewhat smaller and less rugged than the Temecula Basin, flood flows have the potential to create greater damage as they flow through the Cities of Temecula and Murrieta.

Temecula and Murrieta Creeks join along the Elsinore fault zone at the head of Temecula Canyon to form the Santa Margarita River. The Temecula Canyon is approximately five miles long, and is a steep, narrow, and rocky canyon. The San Diego-Riverside county line crosses through the Temecula Canyon. From here, the river traverses 27 miles to the Pacific Ocean.[4]

4.1.1 Watershed Characteristics

Over 50 percent of the Santa Margarita watershed has been controlled by the construction of Vail Dam in 1949 and Skinner Reservoir in 1974, which created a significant storage capacity in the upper watershed.[5] [6] 52 percent of the upper Santa Margarita River watershed is controlled by the dams. Due to this storage capacity, peak flow rates during major flow events for both existing and future land use conditions will be lower than under natural conditions.[7] [8]

[4] Santa Margarita Watershed Study: Hydrologic and Watershed Processes, Phillips, Williams and Associates, Ltd., October 26, 1998, page 1.

[5] Santa Margarita Watershed Study: Hydrologic and Watershed Processes, Phillips, Williams and Associates, Ltd., October 26, 1998, page 14.

[6] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 14.

[7] Philip Williams & Associates, Santa Margarita Watershed Study: Hydrology and Watershed Processes, October 26, 1998, p. 20.

[8] Santa Margarita Watershed Study: Hydrologic and Watershed Processes, Phillips, Williams and Associates, Ltd., October 26, 1998, page 20.

4.1.2 Stream Flow Characteristics

Murrieta and Temecula Creeks are perennial interrupted streams, i.e., they include reaches in which the flow is continuous and others where flow is ephemeral. The areas of perennial flow are located in mountain area tributaries outside of the urbanized areas serviced by the MS4s. The perennial flows disappear by seepage into the sands and gravels and resurface upstream of the confluence of Murrieta and Temecula Creeks. The creeks in the urbanized areas of the watershed, located primarily in the valley, are ephemeral and flows are only observed during and immediately after significant storm events. During major storms, after initial wetting, periods of intense rainfall result in rapid increases in stream flow in steep foothill and mountain areas.[9] "Runoff in streams in the watershed is derived primarily from rainfall, and as a result, stream flows exhibit monthly and seasonal variations similar to those shown by the precipitation records. Absence of snow pack in the tributary watershed results in a rapid decrease in flow of streams at the conclusion of the winter precipitation season. Following severe storms, discharge in the larger streams often increases in a few hours time from practically no flow to a rate of thousands of cubic feet per second. Stream flows vary greatly from month to month and from season to season."[10]

Rising groundwater is currently observed in Murrieta Creek below its confluence with the Santa Gertrudis Channel. This is consistent with the observations with the rising groundwater conditions observed by the State of California in 1956.[11] Rising groundwater is also observed in Temecula Creek approximately one quarter mile upstream of the Interstate 15 bridge. In 1956, the State of California observed more extensive rising groundwater conditions occurring as far upstream as the Highway 79 bridge. Based on the virtual absence of non-storm water flows and the rising groundwater conditions in lower Murrieta and Temecula Creeks observed prior to development of the watershed, there is no evidence that the rising groundwater is due to Urban Runoff nor that Urban Runoff has affected the quality of rising groundwater. However, use and disposal of reclaimed water and agricultural and landscape irrigation in the watershed may affect groundwater quality. Until October 2002, the Rancho California Water District augmented the flow of the Santa Margarita River with reclaimed water at a point about five miles upstream from the Temecula gauging station. Since that time, the Rancho California Water District has diverted reclaimed water to the Santa Ana watershed and instead discharged imported water at a location downstream of the confluence of Murrieta and Temecula Creeks in order to meet water supply obligations to Camp Pendleton.

For the average annual event, it is estimated that approximately 89 percent of the volume of runoff in the Santa Margarita Region is due to non-urban land uses not regulated under the federal storm water program. For the 100-year 24-hour event, 93 percent of the volume of runoff will be due to non-urban land uses. These estimates are based on the assumption that precipitation is constant across the watershed. However, precipitation (and resultant runoff volumes) in the non-urbanized upland areas is as much as four times greater than that from the urbanized valley areas.[12]

[9] Riverside Flood Control and Water Conservation District, "Hydrologic Data for 1975-76 Season," March 1982, p. 49.

[10] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 48.

[11] State of California Department of Public Works Division of Water Resources, Bulletin No. 57, "Santa Margarita River Investigation," Volume I, June 1956, p. 48.

[12] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 11

4.2 Climate

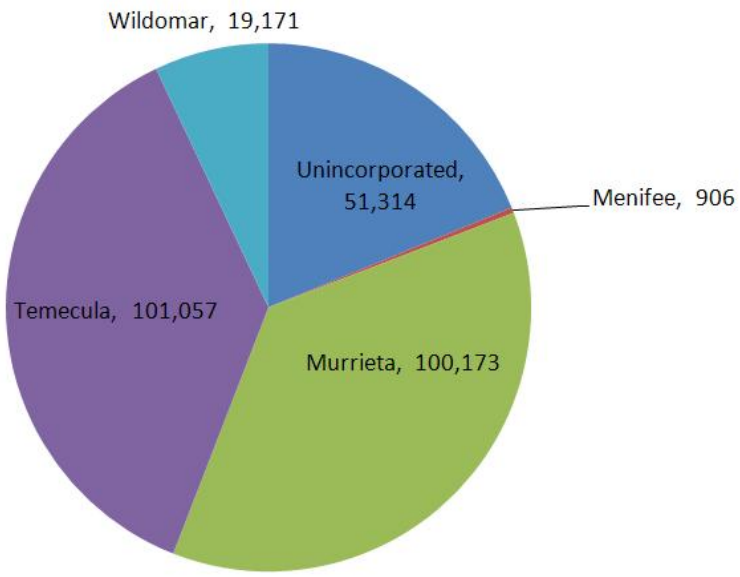
"The climate of the Santa Margarita River watershed is typically Mediterranean, being characterized by warm dry summers and cool rainy winters. About 75 percent of the precipitation occurs during the four-month period from December through March. Mean annual depth of precipitation ranges from less than 10 inches near Vail Reservoir to over 40 inches west of Palomar Observatory, varying with elevation and topographic influences."[13] Precipitation increases with increases in elevation to the summit of the Coastal range. Shading effects of the Coastal range lead to a marked decrease of precipitation throughout the lower portions of the Inland area. Precipitation increases again farther away from the Coastal range in the northeastern area of the Inland area.[14] The significant and varied orographic features also make rainfall prediction particularly challenging in the urbanized portion of the watershed.

4.3 Population and Land Use

4.3.1 Population

The California Department of Finance estimates that as of January 1, 2008, the total population of Riverside County was about 2,088,322. Of the 2.1 million people, approximately 272,621 persons (or 13 percent) reside within the portion of Riverside County under the jurisdiction of the San Diego Regional Board. As shown in Figure 3, approximately 51,314 persons[15] reside in the unincorporated area while approximately 221,307 persons reside within the cities of Menifee, Murrieta, Temecula and Wildomar.

Figure 3. Santa Margarita Region Population by Permittee (2008)



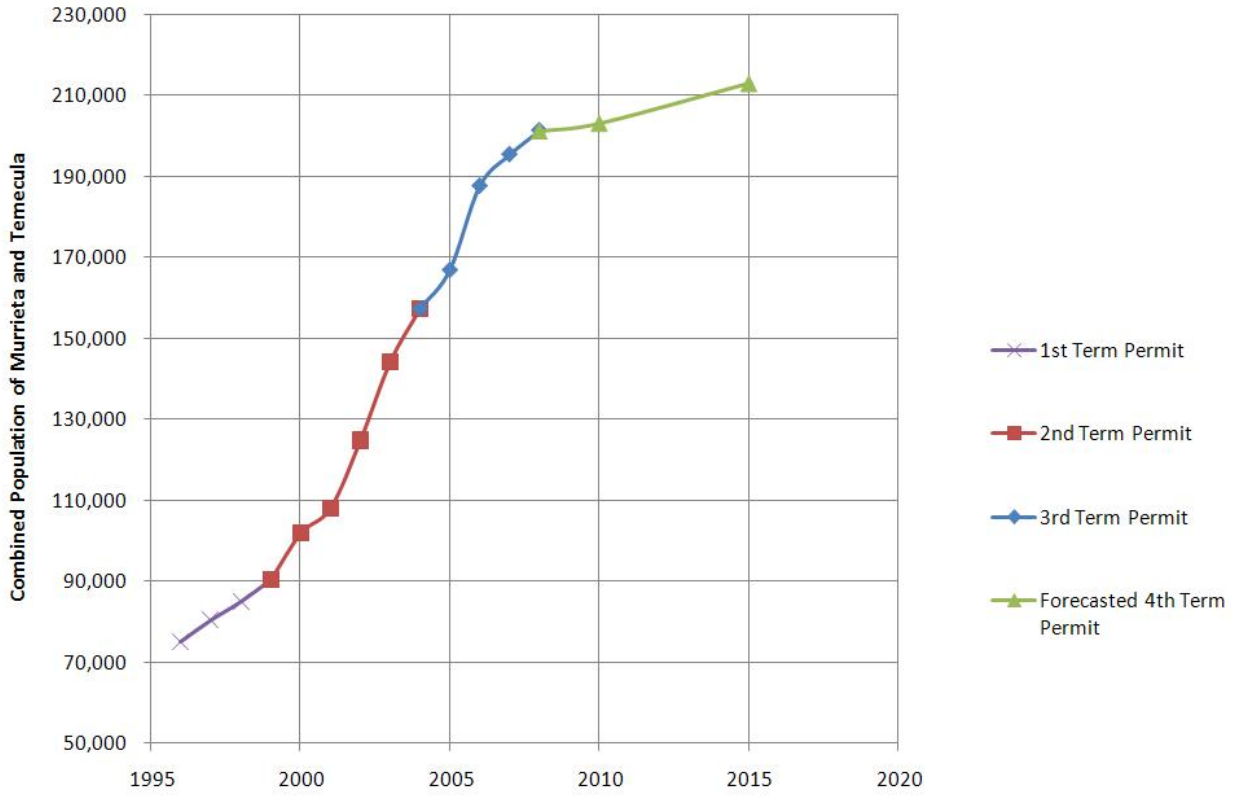
[13] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 11.

[14] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956, p. 38.

[15] Population estimate for the portion of unincorporated Riverside County within the Santa Margarita River watershed developed by the County TLMA GIS Demographics Unit based on the 2000 Census.

Although the second term and 2004 MS4 Permits covered a period of time that saw a significant amount of growth, due to the current and foreseeable economic conditions described in Section 3.4.2 of this report and decreasing areas available for development, growth during the next MS4 Permit term will be quite limited. In fact, the projected growth rate through 2015 will be significantly less than has been seen since the early 1990s. Figure 4 shows the combined populations of the Cities of Murrieta and Temecula since 1997 and projected through 2015. Similar trends are expected for the unincorporated areas and the portions of the cities of Wildomar and Menifee within the watershed.

Figure 4. Cities of Murrieta and Temecula Combined Population (1997 – 2015)



Source: Riverside County Center for Demographic Research. 2008. Riverside County Progress Report, pgs 92 & 124.

Figure 4 clearly demonstrates the dramatic reduction in growth that is expected for the term of the next MS4 Permit when compared to previous permit terms.[16] Establishing trend lines for the population in these cities further demonstrates that the growth rate (population added per year) will be lower than the previous growth rate by approximately 86 percent.

[16] 2008 Riverside County Progress Report

Table 2 shows population projections for the all of the Permittees into the year 2015.

Table 2. Population of Santa Margarita Region Co-Permittees

Co-Permittee	Year			Change (2009 to 2015)
	Estimate 2008 (a)	Estimate 2009 (b)	Projected 2015 (b)	
City of Menifee	906[c]	927[c]	5,232[c]	464%
City of Murrieta	100,173	102,277	109,715	7.3%
City of Temecula	101,057	101,356[d]	103,150	1.8%
City of Wildomar	19,171[c]	19,589[c]	20,127[c]	2.7%
Unincorporated County of Riverside	51,314[c]	52,436[c]	53,793[c]	2.6%
Total	272,621	276,585	292,017	5.6%

Notes:

(a) Unless otherwise noted, populations were obtained from the State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, May 2008.

(b) Unless otherwise noted, projected populations were obtained from Riverside County Center for Demographic Research. Riverside County Progress Report, 2008

(c) Data provided by County of Riverside, Executive Office.

(d) Data provided by City of Temecula.

Since the District is not a general purpose government, it is not included in this listing. Although the current population of the City of Menifee in the Permit Area is small, it is anticipated that the population will increase as it annexes unincorporated areas. Similarly, it is anticipated that the cities of Murrieta and Temecula will gain population as they annex unincorporated areas. It is not anticipated that Wildomar will see significant population increases as it is bounded on all sides by other cities and lands reserved under the MSHCP.

4.3.2 Land Use

Land uses in Riverside County within the Santa Margarita Region include open space, residential, commercial, light industrial, heavy industrial, and agriculture. The agricultural land uses include row crops, nurseries, citrus groves and vineyards, dairies, ranches, poultry and hog farms, and other agricultural related uses with one single-family residence allowed per 10 acres (County of Riverside General Plan, Land Use Element 2003). The conversion of agricultural lands and open space to other "developed" land uses has been ongoing and will continue, although at a much lower rate than previously experienced. Land uses in the Santa Margarita Region are shown in Table 3. These land uses are based on the County of Riverside Assessor Parcel Data, current as of February 2006. It should be noted that the land uses below represent ***zoned*** land uses rather than ***actual*** land uses. This overstates the actual area of urban land use in the Santa Margarita Region. Also, changes in zoning designations can cause odd fluctuations in year-to-year date.

A map of the zoned land uses is provided in Appendix A.

In 1956, only 0.3 percent of the Santa Margarita River watershed (less than two square miles) was urbanized.[17] Although there has been a significant rate of growth in population relative to the State and

[17] State of California Department of Public Works, Division of Water Resources, Bulletin No. 57, Santa Margarita River Investigation, Volume I, June 1956.

neighboring counties, half a century later, approximately 88 percent of the Santa Margarita River watershed remains as non-urban land uses (rural residential, agriculture, preserves and open space, state lands, federal lands, and tribal lands). Further, almost one-third of the upper Santa Margarita River watershed consists of federal, state, and tribal lands that are not under the jurisdiction of the Permittees' MS4 programs. It is projected that the population of Riverside County will increase approximately 5.6 percent by 2015. If the urbanized area increases proportional to population, 87 percent of the upper Santa Margarita River watershed would remain in non-urban land uses in 2015.

Table 3. 2009 Santa Margarita Region Land Uses

Urban Land Use	Acreage[(a)]	% of Land Use Subtotal	% of Total Land Use
Commercial	8,339	20.0%	2.5%
Industrial	963	2.3%	0.3%
Urban Residential (< 1 acre)	12,656	30.4%	3.7%
Parks & Recreation Facilities	4,291	10.3%	1.3%
Streets & Roads	15,439	37.0%	4.6%
Subtotal – Urban Land Use	41,688		12.3%
Non Urban Land Uses			
Preserves & Open Space	54,141	18.2%	16.0%
Rural Residential (> 1 acre)	106,773	35.9%	31.5%
Agriculture	36,389	12.2%	10.7%
Federal/State/Tribal Lands/Non-County Jurisdiction	100,076	33.7%	29.5%
Subtotal Non Urban Land Use	297,379		87.7%
Total Urban & Non Urban Land Use	339,067		100%

(a) As reported in the FY 2007/2008 Watershed Annual Report.

4.3.3 Conserved Lands

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) was adopted in June of 2003. It is a comprehensive, multi-jurisdictional Habitat Conservation Plan focusing on conservation of species and their associated habitats in western Riverside County. The MSHCP is one of several large, multi-jurisdictional habitat planning efforts in southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region. The MSHCP will allow Riverside County and its cities to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of the state and federal Endangered Species Acts. Further, as floodplains and streams tend to support critical habitat, the MSHCP will preserve many of the remaining natural streams and establish significant buffer areas between those systems and urban land uses.

Much of the remaining non-urbanized lands in the Santa Margarita Region will ultimately be incorporated into the MSHCP. The MSHCP will result in a conserved area in excess of 500,000 acres and focuses on conservation of 146 species. The MSHCP Conservation Area includes approximately 347,000 acres on

existing Public/Quasi-Public Lands and approximately 153,000 acres of Additional Reserve Land. A large portion of the conserved lands are in the upper Santa Margarita watershed (at least 145,000 acres). There are approximately 72,318 acres of existing public or quasi-public lands preserved within the upper Santa Margarita River watershed area located in Riverside County.

4.3.4 Anticipated Development 2009-2015

Proposed development during the next MS4 Permit term is an important indicator of potential new Urban Runoff sources. To the extent possible, the Permittees have identified significant New Development projects that, if constructed, will result in the conversion of primarily undeveloped land to developed land. This section describes the expected development within Permittee cities. Consistent with the current and forecasted economic conditions and population estimates, and as supported by the population information and forecasts presented in Section 4.3.1, the Permittees anticipate that the term of the upcoming MS4 Permit will be a time of little development. Following are summaries of anticipated development during the upcoming MS4 Permit.

4.3.4.1 County of Riverside

Projected trends for the County of Riverside's land use can be referenced in the Riverside County General Plan. Maps depicting the areas of future development and type of land use can be found in the General Plan maps that are accessible at http://www.rctlma.org/generalplan/area_maps.html.

- With the incorporation of the cities of Wildomar and Menifee the remaining unincorporated County area to be built out in the Santa Margarita Region during the upcoming MS4 Permit term is going to be considerably smaller.
- It is anticipated that, over the next five years, additional annexations will occur in each of the four city areas (Temecula, Murrieta, Wildomar and Menifee) that will further reduce the unincorporated County area in the Santa Margarita Region.
- The unincorporated County area in the upper Santa Margarita River watershed (east of Temecula, Menifee and Murrieta) will remain in rural, open space and additional MSHCP land uses. In addition, due to drought conditions and depletion of aquifers the prospects of New Development is unlikely. Water districts in the region cannot offer "will serve" letters to provide for water resources they do not have. Infrastructure for water supply and municipal water treatment, MS4 and flood control facilities are virtually non-existent in this area.
- Due to downturn in economy, Development Impact Fees (DIF) and Transportation Uniform Mitigation Fees (TUMF) are and will continue to be significantly under funded. This reduction in transportation funding will result in fewer road and infrastructure projects during the term of the upcoming MS4 Permit. The Transportation Department has projected limited projects for the Santa Margarita Region. The Clinton Keith Road widening project is still in the planning stages. Due to budgetary constraints, unless projects are fully funded through County finance mechanisms (TUMF, DIF, state and federal pass through from bonds and grants) most projects will be put on hold through 2012.

4.3.4.2 City of Menifee

Projected development trends for the City of Menifee are unknown, sphere of influence and annexation opportunities will allow for limited growth once the economic uncertainty of the region is resolved.

4.3.4.3 City of Murrieta

The area north of Clinton Keith Road along the east side of the I-215 freeway should see some construction towards the end of the next MS4 Permit term. Grading for the construction of a hospital has started along the freeway and it is anticipated that supporting development will follow once the hospital is open. Overall the Planning Department is receiving few applications for New Development projects. For example, a Planning Commission meeting scheduled for January 2009 has been cancelled because there are no New Development items to discuss. In light of the current and foreseeable economic conditions, the City does not anticipate any substantial New Development activity for the next few years, with limited growth possibly resuming toward the end of the next MS4 Permit term.

4.3.4.4 City of Temecula

The City of Temecula is currently experiencing a significant leveling trend in development. Throughout 2008, fewer applications were being processed than in previous years. As such, Temecula does not anticipate processing any substantial number of New Development applications within the next MS4 Permit term. It is anticipated that applications from hereon will be limited to smaller in-fill and redevelopment projects. In addition, proposed annexation areas will be limited to areas that will be set aside mostly for conservation. As Temecula is on the verge of build-out, approximately 1 percent of developable land remains available throughout the City for New Development.

4.3.4.5 City of Wildomar

Projected trends for the City of Wildomar are unknown, sphere of influence opportunities will allow for limited growth once the economic uncertainty of the region is resolved.

4.4 Surface Water Bodies, Beneficial Uses, and Impairments

Approximately eight percent of Riverside County drains into surface water bodies within the jurisdiction of the Regional Board. Those surface water bodies (or portions thereof) are listed in Sections 4.4.1 and 4.4.2.

Rivers and Streams

Santa Margarita River (Hydrologic Unit Basin Number 2.22)
- Murrieta Creek
  - Slaughterhouse Canyon
- Cole Canyon
  - Warm Springs Creek
    - Diamond Valley Reservoir
- Santa Gertrudis Creek
  - Tucalota Creek
  - Lake Skinner
- Temecula Creek (Hydrologic Unit Basin Number 2.92)
  - Iron Spring Canyon
- Temecula Creek (Hydrologic Unit Basin Number 2.84)
  - Tule Creek
    - Million Dollar Canyon
  - Cottonwood Creek
- Vail Lake
  - Wilson Creek
    - Cahuilla Creek (Hydrologic Unit Basin Number 2.73)
      - Hamilton Creek
    - Cahuilla Creek (Hydrologic Unit Basin Number 2.71)
      - Elder Creek
  - Arroyo Seco Creek
  - Kolb Creek
- Temecula Creek (Hydrologic Unit Basin Number 2.52)
  - Pechanga Creek

Santa Margarita River (Hydrologic Unit Basin Number 2.21)
- DeLuz Creek

4.4.1 Beneficial Uses

The upper Santa Margarita River watershed supports a variety of ecosystems and provides many Beneficial Uses (Table 4)[18]. The ultimate goal of the Riverside County DAMP and the Watershed and Individual SWMPs is to manage Urban Runoff in a manner protective of the Beneficial Uses of these Receiving Waters.

Table 4. Beneficial Uses of Receiving Waters
Upper Santa Margarita River Watershed

Beneficial Use	Murrieta Creek	Cole Canyon	Warm Springs Creek	Santa Gertrudis Creek	Long Valley	Temecula Creek	Santa Margarita River
Municipal and Domestic Supply	X	X	X	X	X	X	X
Agricultural Supply	X	X	X	X	X	X	X
Industrial Service Supply	X	X	X	X	X	X	X
Industrial Process Supply	X	X	X	X	X	X	
Ground Water Recharge	X					X	
Contact Water Recreation				X	X	X	X
Non-contact Water Recreation	X	X	X	X	X	X	X
Warm Freshwater Habitat	X	X	X	X	X	X	X
Cold Freshwater Habitat							X
Wildlife Habitat	X	X	X	X	X	X	X
Rare, Threatened or Endangered Species							X

4.4.2 Current Water Quality Concerns and Issues

Urban Runoff discharged to MS4s in Riverside County ultimately flows to various surface water bodies (inland streams, lakes, and reservoirs) and typically carries Pollutants that originate from numerous dispersed and uncontrolled sources. Examples of Pollutants that may be present in Urban Runoff are fertilizer, heavy metals, nutrients, petroleum products, sediment, bacteria, chemicals, and litter.

Because the upper Santa Margarita River watershed is large and has many land uses, the water quality concerns in sub-watersheds vary. However, each land use can potentially contribute Pollutants to nearby streams, rivers, and lakes. The infrastructure that supports people's activities (e.g., roads, parks, MS4, and wastewater collection and treatment facilities) may contribute to water quality concerns if not properly managed. Other sources of stormwater runoff, including agricultural areas, are exempt from the requirements of the NPDES permitting program established under the Clean Water Act. In addition, some Pollutants, such as total suspended solids, may be found at elevated levels in runoff from non-urban land uses. Further, certain activities that generate Pollutants present in Urban Runoff are beyond the ability of the Permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from lawful application of pesticides, nutrient runoff from agricultural activities, and leaching of naturally occurring minerals from local geography.

[18] www.waterboards.ca.gov/rwqcb9/programs/

As required by Section 303(d) of the Clean Water Act, the State Board maintains a list all waters in the State that do not meet the Water Quality Standards established in the Basin Plans prepared by the Regional Boards for protection of Beneficial Uses. This list, referred to as the "303(d) List," details the Pollutant or stressor on each named water body, the potential source of Pollution, estimated affected area, as well as a priority for development of the associated TMDL. A TMDL is a plan that identifies how much Pollutant load a specific Impaired Waterbody can sustain without impacts to its Beneficial Uses. In addition to identifying the maximum Pollutant load, a TMDL is used to develop implementation plans to meet Water Quality Standards for a designated water body. Table 5 summarizes the 2006 303(d) List of Impaired Waterbodies within the upper Santa Margarita River watershed, as well as the year in which a TMDL is proposed for approval. No TMDLs have been established for Receiving Waters in the upper Santa Margarita River watershed.

Table 5. 2006 303(d) Listings for the Santa Margarita Region

Water Body	Pollutant	Potential Sources	Area Affected	Proposed TMDL Completion
Santa Margarita River (Upper)	Phosphorus	Urban runoff/storm sewers Unknown nonpoint source Unknown point source	18 miles	2019
Murrieta Creek	Iron Manganese Nitrogen Phosphorous	Source unknown Source unknown Source unknown Urban runoff/storm sewers Unknown nonpoint source Unknown point source	12 miles 12 miles 12 miles 12 miles	2019 2019 2019 2019
Temecula Creek	Nitrogen Phosphorus Total dissolved solids	Source unknown Source unknown	44 miles 44 miles	2019 2019

Table G-35 of Appendix G to the Annual Report 2007-2008 additionally identifies pyrethroid pesticides (bifenthrin and permethrin), bacteria (E. coli and fecal coliform), lead, and sediment (turbidity) as Pollutants of Concern in the upper Santa Margarita River watershed that warrant focused attention by Permittee implementation programs. These constituents have been detected intermittently or persistently at Triad and Tributary monitoring stations.

4.5 Municipal Separate Storm Sewer System

A map depicting the MS4 facilities owned and operated by the Permittees is provided in Appendix B.

5.0 Program Evaluation Based on Water Quality Trends

The overall effectiveness of the Permittees programs is assessed based on the analysis of water quality data obtained as part of the Consolidated Monitoring Program. Approximately 14 years of data have been collected through this program and have been cumulatively analyzed in the fourth-year monitoring Annual Report.

5.1 Inherent Limitations to Analyzing Water Quality Data

There are inherent limitations to analyzing water quality data from storm water. Storm water runoff is very different from mechanical wastewater or water treatment processes that usually incorporate water quality monitoring. Discharges from mechanical processes such as treated wastewater effluent and industrial discharges usually:

- Come from a single or a few readily identifiable sources;
- Are generally consistent in flow rate and chemical character from day to day; and
- Can be easily instrumented.

Conversely, Urban Runoff non-point source flows, such as those collected and analyzed as part of the MS4 Permit monitoring programs usually:

- Come from multitudes of unidentifiable or hidden sources, many of which are non-Urban in nature:
  - State, federal or tribal lands
  - Natural leaching of soils
  - Wildlife
  - Aerial deposition
  - Wildfires
- Vary widely in flow rate in response to precipitation events
- Vary widely in chemical character at any given moment due to:
  - Unidentified episodic issues related to natural phenomena
  - Magnitude of rainfall and extent of contributing area
  - Potential one-time illicit discharges that were not identified at the time of sampling
  - Unforeseen or unidentified consequences of changes in numerous land use policies (fire management, development, etc)
- Are subject to significant natural random variation; and
- Cannot be easily instrumented due to the wide variation in depth and velocity and associated impacts of natural or unnatural aggradation and degredation of natural stream beds.

Because ephemeral storm water flows are, by their very nature, particularly random in character, it may take many years before monitoring data trends can be detected or to determine the effectiveness of an

Urban Runoff control measure. Power analyses were conducted for fecal coliform, metals, and nutrients at the stations monitored in the Santa Ana Region during the 2005/06 reporting period. Power analysis is used to determine how many years of monitoring would be required to detect a given trend in the data. This tool was developed by the SCCWRP. Based on the results, for biennial monitoring, and having an 80 percent chance of detecting a change in concentration, it would take about 5-10 years of data collection to detect a change of 50 percent in concentration, 10-15 years of data to detect a 25 percent change, and 15-30+ years of data to detect a 10 percent change. It is expected that results would be similar for other parameters measured in the monitoring program in the Santa Margarita Region.

5.2 Focus Area Constituents of Concern

During the 2004 MS4 Permit term, monitoring data indicated that one or more receiving water samples have been found to contain the following constituents at levels that exceeded Basin Plan Objectives (BPO). As such they have been identified as constituents of concern.

- Nutrients (Ammonia as N, Phosphorus
- Pyrethroid Pesticides (Permethrin, Bifenthrin)
- Pathogen Indicators (E.coli, Fecal Coliform)
- Lead
- Turbidity (lab)

5.3 Analysis of Water Quality Trends

As discussed in the 2008 Santa Margarita Region Annual Monitoring Report, the results of the trend analysis and regression calculations indicate that there are no statistically significant trends in the water quality monitoring data. The lack of trends in the data presented in the Annual Monitoring Report contrasts with the rapid population growth over the same time frame. As discussed in the Annual Monitoring Report, population growth from 1990 to 2008 was approximately 300 percent for the Santa Margarita Region. This significant growth in population and resulting urban land use area contrasts sharply with the lack of statistically significant increases in concentrations of constituents of concern that would otherwise be expected in stormwater runoff from urbanized areas.

These results demonstrate and can be attributed to the effectiveness of the Permittees' programs at addressing the Focus Area Constituents of Concern, which are targeted and designed to prevent the discharge of these constituents into the Receiving Waters.

5.3.1 Recommended Compliance Program Modifications to Address Focus Area Constituents of Concern

Based on the analysis described above and in Appendix G of the 2008 Watershed Annual Report, no significant program modifications are necessary to continue to protect and improve the quality of the Receiving Waters.

Although the Permittees programs have been shown to be protective of Receiving Water quality, through continual evaluation of the programs being implemented and on-going water quality monitoring, additional measures are being proposed as part of this ROWD to address changing conditions and ensure

the ongoing effectiveness of the programs. Recommended changes to ensure the ongoing effectiveness of the Permittees programs are described in Sections 6 and 7 of this report.

6.0 Evaluation and Recommendations for Regionally Implemented Programs

6.1 Program Management

The District is the Principal Permittee for each of the three MS4 permits issued by the three Regional Boards that have jurisdiction in Riverside County. As Principal Permittee, the District performs management functions including coordination with the Regional Boards, preparation of compliance documents and Annual Reports, participation in studies and external cooperative efforts and dissemination of information to the Permittees. The Permittees implement some compliance programs that are common to all of the Permittees and which are implemented on a Countywide or regional basis to increase cost effectiveness and efficiency. Typically, the District also manages Countywide and regional programs.

6.1.1 Program Management Accomplishments and Programmatic Improvements

During the term of the 2004 MS4 Permit the following accomplishments were achieved.

- Updated the Implementation Agreement that sets forth the responsibilities of the Principal Permittee and the Co-Permittees.
- Revised the Riverside County DAMP to reflect requirements in the 2004 MS4 Permit, which served as a model document for the Permittees Watershed and Individual SWMPs.
- Developed Santa Margarita Region Watershed SWMP
- Participated in the Santa Margarita River Executive Management Team (SMREMT) to identify and address the highest priority water quality concerns in the Santa Margarita watershed, including development of a watershed model to assist with land use planning and TMDL development, coordinating watershed monitoring, and developing formal agreements between interested stakeholders for the purposes of evaluating impairment listing and data gaps in the watershed.
- Continued progress with the SMREMT on a uniform watershed plan and model for the Santa Margarita Watershed through the Santa Margarita Watershed Supply Augmentation, Water Quality Protection, and Environmental Enhancement Program.
- Participated in the Santa Margarita Lagoon TMDL workgroup in funding and overseeing the development of a comprehensive program to collect data and model the various inputs to the lagoon to be used to develop a TMDL to address nutrients.
- Participated in the Santa Margarita Watershed Water Quality Monitoring Group to coordinate the monitoring efforts of various stakeholders in the Santa Margarita watershed.
- Participated in the SMC to improve stormwater monitoring science, coordinate data collection efforts, and evaluate the effects of stormwater discharges to receiving waters specific to Southern California.
- Participated actively in various efforts of CASQA.

- Participated in the completion of an Integrated Regional Water Management Plan for the upper Santa Margarita Watershed to help pave the way for greater watershed-wide coordination and management of water resources within the upper watershed as a whole, as well as adjoining watershed and regional planning efforts.
- Participated in the development and implementation of the MSHCP for Western Riverside County which contains a comprehensive land use plan that ultimately conserves the environmental resources and habitat of approximately half of the Santa Margarita Region.
- Participated in the development of a Special Area Management Plan (SAMP) to further manage receiving waters at a watershed scale for the upper Santa Margarita Watershed by identifying, prioritizing and protecting the highest priority Waters of the U.S., while considering the broader needs of growth and transportation improvements.
- Developed and updated methods to track program effectiveness such as resident surveys, tracking hotline inquiries, and web counters.
- Enhanced Public Education program through development of new outreach materials and programs.

6.1.2 Proposed Revisions to Regional Program Management

6.1.2.1 Enhanced Program Effectiveness Assessments and Municipal Action Levels

To ensure that the Permittee's programs continue to be effective at managing the effects of Urban Runoff on Receiving Water quality, the Permittees will revise the Program Effectiveness Assessments for both the Individual SWMP and the Watershed SWMP as part of their implementation of the new MS4 Permit. An assessment strategy based on the CASQA Municipal Stormwater Program Effectiveness Assessment Guidance has been established including the establishment of:

- Measurable goals for each component,
- Measurable metrics to assess progress toward those goals,
- CASQA Effectiveness Levels for each metric; to indicate the level at which each metric can demonstrate the effectiveness of the Permittee's programs at addressing each goal.
- Timeframes in which the Permittees expect to be able to assess effectiveness using each metric.
- Municipal Action Levels (MALs) for appropriate metrics to ensure a minimum level of program implementation and identify shortcomings that could affect the Permittee's progress toward the established goals. The MALs would not be permit compliance measures, but triggers for further Permittee evaluation of the affected compliance program.

If a MAL for a metric is exceeded, the Permittees will review implementation of that program component to identify the cause of the exceedance and identify needed adjustments to avoid future exceedances. The findings of these reviews and any recommended adjustments to the Permittees programs will be reported in the corresponding section of the Annual Report submitted the following year. Further research is particularly needed to establish appropriate Municipal Action Levels for the various program areas.

After a review of the stormwater program, the Permittees have established an initial Assessment Methodology for each component including preliminary goals, measurable metrics, effectiveness levels,

timeframes and MALs for each. These initial assessment methodologies are included in tabular format in Appendix C. Although the Permittees believe the basic proposal is viable, The Permittees will review and finalize these Assessment Methodologies and associated metrics within one year following adoption of the new MS4 Permit as additional data and analysis is necessary to support specific action levels.

6.1.2.2 Revised Reporting Format

The Permittees recommend substantial revisions to the MS4 Permit requirements for the layout of the Annual Report. The Permit requires substantial duplication of reporting, which either increases the volume of the Annual Report, or requires substantial cross-referencing. In either case, it is confusing to write, and most likely, confusing to read. The Permittees recommend a meeting with Regional Board staff in the development of the new MS4 Permit to discuss methods to streamline and clarify reporting requirements.

6.1.2.3 Maintain Enhanced Watershed / MS4 Map

The Permittees are in the process of collecting data to support an enhanced MS4 facilities map. Updates completed to date are provided in the map in Appendix B. This enhanced map demonstrates initial efforts to identify the locations of:

- Receiving Waters
- MS4 facilities
- Areas of historical perennial flows
- Known blow off locations
- Wastewater storage ponds
- Sub-drainage areas
- Known non-Permittee facilities
- 36-inch diameter and larger outfalls

This map will be used to help in the tracking of IC/ID events and issues and continued updates will be submitted with the Annual Reports. The Permittees will continue to enhance this map over the next MS4 Permit term. As described in the Annual Report, the District is in the process of upgrading their web page that offers public access the District's various NPDES activities. Along with these web site upgrades, additional layers will be added to the Web-based GIS map.

6.1.2.4 Elimination of the Watershed SWMP as a separate compliance document from the Riverside County DAMP

The Santa Margarita Region is comprised of only a single watershed. Further, the Permittees' regional compliance programs are described in the Riverside County DAMP. Maintenance of a separate and duplicative Watershed SWMP is confusing, cumbersome, and does not contribute to protection of Receiving Water quality. The Permittees request that the next MS4 Permit be drafted in a fashion that allows the Permittees to maintain the Riverside County DAMP as the primary document describing regional compliance programs for western Riverside County including the Santa Margarita Region. Any

necessary changes for requirements included in the new MS4 Permit will be updated /added to the Riverside County DAMP.

6.2 Permittee Training Programs

6.2.1 Summary

The Permittees jointly fund comprehensive training and education programs for Permittee staff. These training programs are designed to train Permittee employees on the proper use and implementation of BMPs appropriate for their field of work. There are four distinct training courses currently offered including Construction Inspection, Municipal Maintenance, Industrial-Commercial Facility Inspection, and New Development Planning.

6.2.2 NPDES Training Program Accomplishments and Programmatic Improvements

- Evaluated and tested various knowledge retention methods.
- Performed Training Enhancement Analysis study (2005-2006)
- Created an on-line training registration web page where attendees can also obtain training materials.
- Annually updated training materials to address Pollutants of Concern (2005-2007)
- Added component to training to address proper use, application and timing of application of Pesticides (2007-2008)
- Began developing a formalized testing and effectiveness analysis approach (2008)

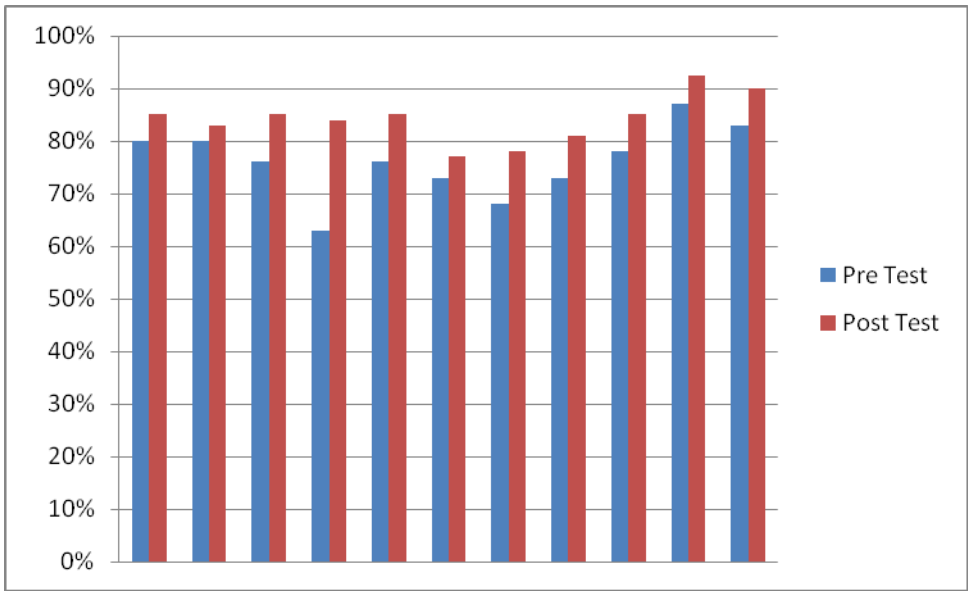
Highlights
Municipal Training: **14** Training Sessions; **900** Attendees
Construction Training: **22** Training Sessions; **626** Attendees
Industrial-Commercial Training: **11** Training Sessions; 426 Attendees
New Development Training: **13** Training Sessions; **345** Attendees

6.2.3 Long-Term Effectiveness Assessment

Throughout the term of the 2004 MS4 Permit the Permittees have evaluated and implemented various quizzes as part of the NPDES training courses. These efforts were intended to assess the retention of knowledge of the attendees and, as described in Provision K.2.m of the Watershed SWMP, serve as a component of the assessment of the long term effectiveness of the Watershed SWMP.

The quizzes used to assess employees' retention of knowledge have evolved over time as the Permittees found what worked and what did not. Quiz questions that were found to be confusing or misleading were refined or eliminated. Thus, a question-by-question analysis of the results is not possible. Instead, results from a number of the training courses with reasonably comparable quizzes were aggregated and an average score (percent correct) was established for each of these training sessions. The results of this analysis are presented in Figure 5.

Figure 5. Training Pre-Test and Post-Test Analysis



Although the required random-sample nature of this analysis is not conducive to the analysis of trends across time, two findings become evident from this analysis:

1. Permittee inspection, maintenance and planning staff generally have a high level of understanding of issues related to stormwater Pollution in their field of work.
2. Average scores on quizzes administered after the training sessions were always higher than scores on quizzes administered before the training session.

Finding 1 above can be attributed to the Permittee's proactive efforts to ensure that their employees are aware of the issues in their field of work that could contribute to stormwater Pollution. This includes annual attendance at the NPDES training courses, and on-the-job training, reminders and meetings. This fact alone is a strong indicator of the effectiveness of the Permittees training programs.

Finding 2 above demonstrates that after attending the NPDES training courses, the attendees have a higher level of understanding of the issues in their field of work related to stormwater Pollution. This indicates that the training materials, delivery and content were effective.

Based on these analyses, general feedback from the training programs, and the overall effectiveness of the Permittees' programs (as described in Section 5.3 herein) the Permittees believe their training programs to be effective. Nevertheless, the following revisions to the training programs have been identified and are proposed for implementation with the new permit to ensure ongoing effectiveness.

6.2.4 Proposed Revisions

6.2.4.1 Continued focus on Focus Area Pollutants of Concern

The Permittees commit to continue to revise the Permittee training programs to focus on Pollutants of Concern.

6.2.4.2 Standardized Effectiveness Quizzes

Over the course of the 2004 MS4 Permit, the Permittees have evaluated various methods of assessing the retention of knowledge and are now recommending a standardized approach to assessing the effectiveness of the training program.

The Permittees plan to create standardized quizzes to assess the retention of knowledge and increased understanding as a result of the Permittees' training sessions. This includes establishing core messages that the Permittees want to impart upon the attendees and, creating clear and understandable quiz questions for each core message.

This approach will help the Permittees identify if any core training messages are not being retained by attendees and to subsequently modify the training. The Permittees also hope that this approach will yield results that will, over time, demonstrate that the knowledge among Permittee staff of issues related to storm water Pollution is increasing, thus clearly demonstrating that the NPDES Training program is effective.

As a necessary part of this effort, a database to track responses will also be created.

6.2.4.3 Attendance Tracking Mechanism

At each training session a sign-in sheet is provided to track attendance to the session. Included in the sign-in sheet is an indication of the Permittee that each attendee is representing. After each training session, these sign-in sheets are scanned to PDF files and sent to each Permittee for their records. This approach requires that each Permittee manually review the sign-in sheets to determine who and how many of their staff attended the training.

The District, on behalf of the Permittees, is currently investigating various form scanning and recognition software packages to determine the feasibility of creating a sign-in sheet that, when scanned, will automatically transfer the attendance list into a database. This would facilitate tracking of staff attendance by each Permittee. At this time the District has not determined if a feasible and cost efficient program is available that will accomplish their needs.

6.3 Public Education

6.3.1 Summary

To leverage finite resources, the Permittees jointly fund a public education program. The District implements this program to disseminate information about Urban Runoff issues and to provide education on how activities may impact Receiving Waters.

The Permittees have established an ongoing watershed-based public education and outreach program known as the **Only Rain Down the Storm Drain** Pollution Prevention Program. The specific objectives of this program include:

- Fostering a broad public awareness of water Pollution concerns;
- Increasing public acceptance of Pollution Prevention activities to curtail everyday human behaviors that contribute to water quality problems;
- Educating/informing the general public, regulators and key local government and state decision makers on Urban Runoff conditions in Riverside County; and
- Promoting stewardship of local water resources.

The **Only Rain Down the Storm Drain** Program implements the public awareness objectives by focusing on three areas of Pollutant reduction/prevention:

- Public behavior;
- Proper management of Pollutants; and
- Business specific education outreach.

In addition, when attempting to make use of the finite resources available to the Public Education Program, the Permittees use these management goals to ensure that resources are used effectively:

- Focusing on Pollutants of Concern specific to each watershed region;
- Coordinating public education efforts with adjacent storm water management programs and other related education programs to share resources, coordinate outreach efforts, and avoid duplication of effort; and
- Adapt public education programs and objectives, based on effectiveness analysis, to address changing MS4 program requirements and objectives.

6.3.2 Public Education Program Accomplishments and Programmatic Improvements

The Public Education Program has developed and distributed the following educational materials during the 2004 MS4 Permit term:

- *After the Storm* – a citizen's guide to understanding MS4 Pollution in your neighborhood or when performing daily activities.
- *Automotive Maintenance & Car Care* – guidelines for keeping your auto shop or retail fuel facility in environmental shape.

- *Outdoor Cleaning Activities* – guideline for outdoor cleaning activities and wastewater disposal.
- *Pools, Spas and Fountains* –Environmental maintenance suggestions for pool, spa, and fountain owners.
- *What's the Scoop* – tips for a healthy pet and a healthier environment.
- *Household Hazardous Waste* – A schedule of collection locations for proper disposal of HHW.
- *Stormwater Pollution Found in Your Neighborhood* – door hanger.
- *Equestrian Management* – Recommendations for BMPs related to equestrian activities.
- *Spray Bottles* – Including directions to make environmental friendly recipes for pest control and household cleaning

The Permittees also initiated development of the following outreach materials

- *Landscaping and Gardening Brochure* – Initiated development a new brochure to address outdoor residential landscaping and gardening activities.
- *Septic System Management Brochure* – initiated development of a brochure to assist with septic system management.

In addition to the information provided on the Storm Water Protection website, the Public Education and Outreach Program has:

- Updated the Public Education and Outreach Program web page.
- Tested and/or implemented several new Public Education and Outreach Program effectiveness tracking mechanisms including call tracking, web counters, testing, and bilingual surveys.
- Enhanced the toll free storm water Pollution reporting hot line to include public education information and support for the public and other interested stakeholders.
- Obtained a trailer with "**Only Rain Down the Storm Drain**" graphics specifically designed for transporting materials to outreach events. It is also used as part of the booth at outreach events.
- Initiated billboard advertising within the Santa Margarita Region.
- Worked with the Mission Resource Conservation District to implement presentations to elementary and middle schools and staff to raise public awareness of Urban Runoff management issues and source control methods and to encourage volunteers, partners, and groups to gather annually for a trash and debris clean-up day in the Santa Margarita Region.
- Developed special newspaper and billing inserts, fliers and advertisements to raise public awareness of Urban Runoff management issues and source control methods. A radio advertising campaign was also developed and implemented for a time.
- Developed and presented workshops regarding household hazardous waste use and proper disposal at major home improvement stores throughout Riverside County.
- Placed advertisements in the Penny Saver and Bargain Bulletin to raise public awareness of Urban Runoff management.

- In cooperation with certain County Service Areas or other programs, pet waste signs with bag dispensers have been installed at various parks to help encourage the proper disposal of animal waste.
- Cooperated with the Western Riverside Council of Government in the Used Oil Block Cycle Grant that decreases the amount of illegally dumped motor oil by promoting the addition of new Certified Oil Collection Centers.
- Established a partnership with County Environmental Health whereby businesses cited by Environmental Health for violations of ordinances related to stormwater issues may be allowed to implement a Supplemental Environmental Project in conjunction with the **Only Rain Down the Storm Drain** program.

6.3.3 Long-Term Effectiveness Assessment

Effectiveness metrics of the Public Education and Outreach Program during the 2004 MS4 Permit term are presented in Section J.1.3 of the FY 2007/2008 Watershed Annual Report. The data indicates that overall impressions have continually exceeded the number of residents in the watershed, HHW/ABOP pounds of waste collected and pounds of waste collected per person have steadily increased over the term of the 2004 MS4 Permit.

In 2005, the **Only Rain Down the Storm Drain** program developed and implemented a survey to be distributed at Public Outreach events to assess the public's level of knowledge related to stormwater Pollution. This original "long" survey contained 13 questions in both English and Spanish as shown in Figure 6.

This survey was used for fiscal years 2005-06 and 2006-07. Through this period of implementation it was found that the survey took too much time to complete and reduced the level of response from event attendees. Therefore, the survey was subsequently revised to a shorter version with revised questions for the 2007-08 fiscal year. The revised "Short" survey that is currently used is shown in Figure 7.

Figure 6. Original "Long" Survey Utilized at Public Outreach Events

Zip Code_____ **Age**_____ **Sex F**__ **M**__ **Date:**_____

THINK YOU KNOW ABOUT STORM DRAIN POLLUTION PREVENTION?

1. Where do you think **storm drain** contents go or flow to? __Treatment Plant __Streams, rivers & lakes
2. Where do you think **sewer pipes** contents go or flow to? __Treatment Plant __Streams, rivers & lakes
3. Are storm drains and sewers part of the same or separate systems? __Same __Separate __Don't know
4. Have you ever been to a Household Hazardous Waste **(HHW)** Collection Event? __Yes __No
5. Did you know that **A.B.O.P.** Antifreeze, Batteries, Oil, and Latex Paint locations and mobile **HHW** Collection Events provide safe havens for the disposal of pollutants? __Yes __No
6. If you have a lawn or garden, where do you (or your gardener) dispose of the green waste (grass, clippings or other)? **(Check all that apply)**

   ☐Trash/garbage ☐Compost/Mulch pile ☐Take to compost facility
   ☐Leave on lawn ☐Removed by gardener ☐Other:_____

7. Where is the best location to wash your vehicles?
   (Check only one)

   ☐Pavement (driveway, street) ☐Dirt Area
   ☐Lawn or Grass ☐Other_____

8. Do you change the motor oil in your vehicle yourself? __Yes __No

   If **Yes**, where do you dispose of it? **(Check all that apply)**

   __in the garbage __at a curbside collection program
   __down the storm drain __collection center (Jiffy Lube, Kragen, etc.)
   __pour it on the ground __Other_____

9. If you have a pet, how often do you pick up after your pet?

   9. a) in your yard? ☐Always ☐Sometimes ☐Never

   9. b) when you walk the pet? ☐Always ☐Sometimes ☐Never

10. Do you think, anything ,other than rainwater, that flows into the storm drains (i.e., trash, chemicals, pet waste, etc.) considered a pollutant? __Yes __No
11. Have you seen or heard the slogans "Only Rain Down the Drain" or "Only Rain Down the Storm Drain"?
    __Yes __No If yes, where? __Radio __Newspaper __ Flier __Billboard __Street Fair, Festival, etc.
12. Are there State laws and local ordinances which STRICTLY PROHIBIT the dumping of pollutants **(EVERYTHING, EXCEPT RAIN WATER)** into the storm drain systems or waterways? ___Yes ___No
13. After this booth visit, have you increased your understanding of storm drain pollution prevention? __Yes __No

Thank you for your time and input… Remember, YOU can do your part by calling our Toll Free Line (1-800-506-2555) to report illegal storm drain pollutant disposal anywhere in Riverside County, or to get more information about storm drain pollution protection to help promote "ONLY RAIN DOWN THE STORM DRAIN".

Figure 7. Revised "Short" Survey Utilized at Public Outreach Events

DO YOU KNOW HOW TO PROTECT OUR STREAMS, RIVERS and LAKES?

City_____ Zip Code_____ Age____ Sex □ F □ M Date: _____

1) Water that leaves your lawn from **Irrigation (water sprinklers), Car washing** and **Rain** flows down streets and/or storm drains and then directly to…

☐ Sewage Treatment Plants ☐ Streams, rivers & lakes

2) Which of the following can LEGALLY be disposed into the storm drain? (*Circle all that apply*)

- **Useable Household Chemicals**
- **Yard waste/clippings/leaves**
- **Paint**
- **Cigarette butts**
- **Empty Household Chemicals containers**
- **Pet Waste**
- **Motor Oil / antifreeze**
- **None of these**

3) Do you feel you are well informed and aware of illegal dumping into the storm drain and its impact in your community or streams, rivers and lakes?

☐ Yes ☐ No

HOW DID YOU DO?

1) Water that leaves your lawn from irrigation, washing your car, or rainwater runoff can pickup motor oil and grease from vehicles, excess fertilizer from your lawn, bacteria from pet waste, and excess pesticides from your yard. These pollutants can be carried down streets and storm drains directly to our streams, lakes, and rivers without treatment! That is why we must take care to properly dispose of waste, maintain our vehicles, and use fertilizers, pesticides and other chemicals only as specified on their labels.

2) It is illegal to dispose of any chemical, constituent or waste into a storm drain! Report illegal disposal of chemicals, constituents, or waste to storm drains at **1(800) 506-2555.** You may properly dispose of many of the wastes listed above by doing the following things:

- **Usable and empty household chemicals, paint, motor oil** – Properly dispose these at Household Hazardous Waste and/or Antifreeze, Batteries, Oil and Paint disposal facilities and events. Call **1 (800) 506-2555** for information on disposal locations and special drop off events near you.
- **Pet waste** – Carefully pick up and dispose in the nearest trash receptacle.
- **Grass, clippings, leaves and yard waste** – Collect and dispose in green waste bins or composting areas that are designed to prevent the compost from mixing with excess irrigation water and/or rainwater runoff.

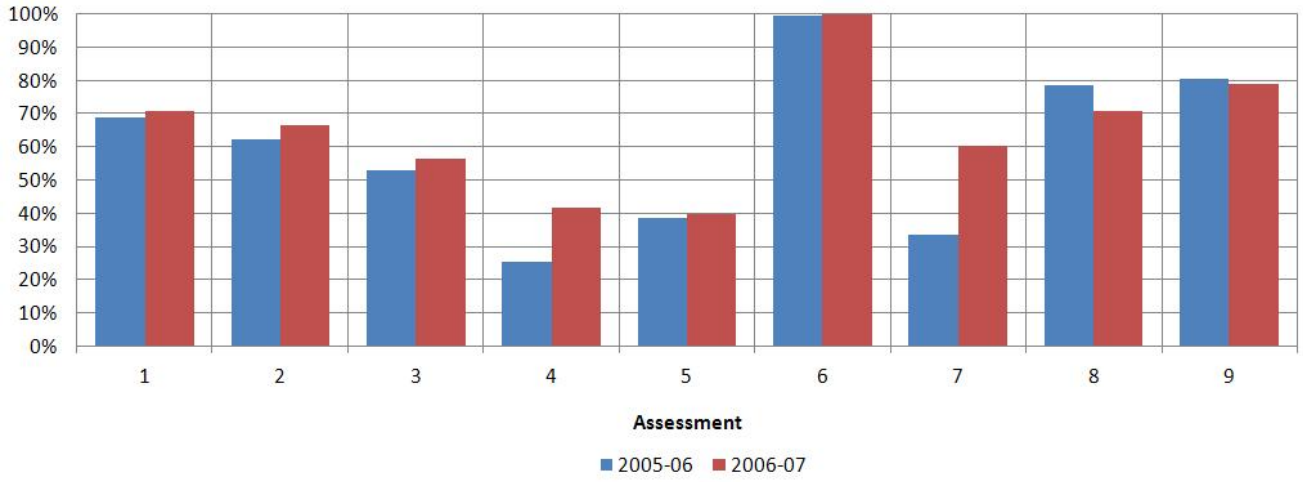
3) Would you like to learn more about protecting our streams, rivers and lakes or wish to report on a illegal storm drain disposal in your area or request a classroom or group demonstration……

Visit www.rcflood.org or call 1 (800) 506-2555.

Remember…Only Rain Down the Storm Drain!

Results have been tabulated for all of the "Long" surveys received and they have been analyzed to determine trends in public awareness. The "Short" survey has been used at two events to date, one of which was quite recent and its results have not yet been tabulated. Using the "Long" survey results, nine questions were used to assess any trends in public awareness. The remaining questions were determined to be either confusing or not applicable to the intent of the assessment. The results of this assessment of survey results are shown in Figure 8.

Figure 8. Assessment of Survey Results (2005-06 vs. 2006-07)



The results shown in the chart in Figure 8 are percent of survey takers that responded as described below:

- Assessment 1: Percent of respondents that understood that storm drains do not go to treatment plants.
- Assessment 2: Percent of respondents that understood that sewer lines go to treatment plants.
- Assessment 3: Percent of respondents that understood that sanitary sewers and storm drains are separate systems.
- Assessment 4: Percent of respondents that had attended a Household Hazardous Waste collection event.
- Assessment 5: Percent of respondents that understood that the best place to wash a car is on the lawn or grass.
- Assessment 6: Percent of respondents that change their own oil that reported that they properly dispose of it.
- Assessment 7: Percent of respondents that have heard of the "Only Rain Down the Storm Drain" program.
- Assessment 8: Percent of respondents that dumping of anything except storm water is a violation of laws and ordinances.
- Assessment 9: Percent of respondents that felt that visiting the Outreach Booth at the event increased their understanding of storm drain Pollution Prevention.

Although implementation of the "Long" survey was limited before it was modified to its current form, the results available do indicate an increase in understanding of these basic principles and can be attributed to the effectiveness of the Permittee's Public Education program. As additional survey results are collected and tabulated, further analysis will be performed to ensure the ongoing effectiveness of the program.

6.3.4 Proposed Revisions

To better address residential sources of pesticides, the Permittees are proposing to coordinate with the University of California Extension Program to enhance the implementation of the U.C. Extension's Master Gardener program in the Santa Margarita Region. Along with information regarding use of drought tolerant landscaping techniques and appropriate methods of fertilizer and irrigation application, the U.C. Master Gardeners also provide residents with information on integrated pest management techniques that minimize pesticide application. The Permittees are proposing to establish an agreement with the U.C. Extension's Master Gardener program in fiscal year 2010-2011 to support master gardener hotline staffing, local presentation and other outreach by the U.C. Master Gardeners.

In addition, through the Permittee's ongoing efforts to internally assess the efficiency and efficacy of their MS4 compliance programs, it was determined that an overhaul of the District's web site was needed. The District's web site contains the public education web site and a technical resource site with the various compliance documents for the program. It was found that information available through the site was often difficult to find and was not user friendly and sometimes was out of date. The Permittees are now reviewing this site to identify and implement needed changes

6.4 Receiving Water Monitoring Program

6.4.1 Summary

A Summary of the Monitoring Program is contained in Appendix G of the Watershed Monitoring Report.

6.4.2 Monitoring Program Accomplishments and Programmatic Improvements

The Monitoring Program accomplished the following goals during the term of the 2004 MS4 Permit:

- Subcontracted monitoring data collection and analysis to MACTEC, Inc. to enhance data collection and reporting capabilities.
- Developed and implemented a Triad Monitoring Program (bioassessment, Toxicity and chemical monitoring) consistent with the goals of the SMC Model Monitoring Program
- Developed watershed boundaries and land use information for all monitoring stations
- Updated the format and technical content of the monitoring Annual Report
- Added fire map information to assist with assessing potential Pollutant sources
- Enhanced monitoring data databases to be compatible with SCCWRP/SMC standard reporting protocols.
- Enhanced monitoring methods to incorporate use of automatic sampling equipment where appropriate

- Conducted several Toxicity Identification Evaluations that led to the identification of pyrethroid pesticides as a cause of wet weather Toxicity in Murrieta and Temecula Creeks and a Toxicity Reduction Evaluation that identified additional BMPs necessary to control sources of pyrethroid pesticides.
- Coordination with the CASQA Pesticide Committee on comments and presentations to California Department of Pesticide Regulation, UC Riverside and others regarding the impacts of pyrethroid pesticides and the need to change regulatory requirements regarding the use of pyrethroid pesticides.
- Participation in or coordination of several BMP studies, including coordination of new development BMP treatment studies (as required by conditions of approval) and the District's LID BMP Demonstration and Testing Facility.
- Continued to update and enhance the Consolidated Monitoring Program to incorporate new monitoring collection methods and data analysis protocols.

6.4.2.1 Participation in Regional Monitoring Efforts

- Participation in the monitoring programs to support development of the Santa Margarita Lagoon TMDL.
- Continued participation in regional and statewide Monitoring and Science efforts such as the Southern California Monitoring Committee to develop:
  - Lab inter-calibration of chemical, bioassessment and Toxicity testing methods
  - Testing methods for bioassessment and Toxicity in Southern California streams
  - Bacterial Reference Watershed Study
  - A storm water research needs report for southern California
- Partnered with SCCWRP on developing hydromodification guidance for Southern California including participation in a series of hydromodification workshops for a CASQA conference.
- Coordination with SCCWRP on the development of the Regional Watershed Monitoring Program for Southern California.

6.4.3 Effectiveness Assessment

The Watershed Monitoring Program was evaluated as part of the Regional Board audits in 2007-2008. As a result of those audits several enhancements were made to the monitoring program, including update of constituent lists, subcontracting of data collection to a monitoring consultant with automatic sampling capabilities, and updates to the Consolidated Monitoring Program and Monitoring Annual Report formats. The Permittees believe that as a result of these changes, the overall monitoring program is effective. However, the revisions presented in section 6.4.4 are recommended to increase monitoring data utility or overall program effectiveness.

6.4.4 Proposed Revisions to Monitoring Program

In updating the Monitoring and Reporting Program, the Permittees request that Regional Board staff meet with them to discuss the following proposed modifications to the monitoring program:

6.4.4.1 Revise Dry Weather Monitoring Program

As noted in Section G.7 (Special Studies) of Appendix G of the FY 2007-2008 Watershed Monitoring Annual Report, the Permittees participated in a SMC Study to develop a regional approach to watershed assessment. The Permittees, in conjunction with Regional Board staff, committed to participating in the resulting watershed monitoring program. The Permittees agreed to monitor three rotating dry weather stations identified for the Santa Margarita Region. Additionally, three stations are to be collected by Regional Board (or SCCWRP staff) using SWAMP funds, and the remaining three will be located in the Santa Ana Watershed region of Riverside County. In exchange for the commitment to participate in the program, the Regional Board staff agreed to reduce the current dry weather monitoring requirements in the new MS4 Permit from two (2) events annually to (1) event annually for each Triad monitoring stations. This would effectively eliminate three existing dry weather samples. The Permittees recommend a meeting with Regional Board staff to discuss these options prior to the release of the draft Permit.

6.4.4.2 Clarify Analyte List

As described in Section G-8.1.5 of the 2008 Monitoring Report (Appendix G of the FY 2007/2008 Watershed Annual Report), 168 analytes have never been detected in samples collected under the current program. The Permittees request that requirements to analyze for these constituents be eliminated unless or until a reason to believe they may be present in stormwater arises.

Basin Plan Objectives are expressed in terms of total metals, while California Toxics Rule (CTR) criteria are expressed in terms of dissolved metals. Although the Permittees do not support comparison of stormwater data to CTR values, the Permit requires it. The Permittees recommend deletion of this requirement. However, if this language is to remain, in order to properly compare results for metals to both sets of objectives, both total and dissolved fractions will be analyzed by the laboratory for the following metals: arsenic, cadmium, chromium (III), chromium (VI), copper, lead, mercury, nickel, selenium, silver, and zinc.

6.4.4.3 Clarify Mobilization Criteria

The District is proposing the following amendment to the monitoring mobilization criteria based on experience and the difficulties faced collecting the first storm and the analysis of the USEPA criteria specific to the Temecula National Weather Service weather station (Consolidated Monitoring Program, Section 4.C.2):

> "Note: If the QPF indicates that more than 0.3-inch is predicted for any 6-hour period, mobilization for sampling will occur."

The District's experience over the past three years indicates that intensities greater than 0.3" in six hours are likely to produce runoff and would warrant mobilization, even on a dry watershed. Further, these mobilization criteria are consistent with EPA-833-B-92-001 guidance regarding minimum depths/durations for storm sampling.

The Permittees recommend that the Regional Board amend the MS4 Permit to reflect these Mobilization Criteria. Due to issues with stream gauges operated by the United States Geological Survey (USGS), the Permittees have concluded that preparing post-storm forensics based on USGS data is not of significant value. A simple test of comparing Quantitative Precipitation Forecast (QPF) reports with actual rainfall and the mobilization criteria should be sufficient to determine compliance with the MS4 Permit.

Mobilization criteria should also reflect practical limitations to storm water monitoring by excluding national holiday periods (Thanksgiving, Christmas, and New Year's Day in particular) and quantifying the probability and the lead time between the forecast and actual rainfall that must be met in order to mobilize.

6.4.4.4 Reduce Wet Weather Events

As was noted in the audits, the Permittees have experienced consistent difficulty collecting three storm events in the upper Santa Margarita River watershed. The Permittees also noted that the San Diego County MS4 Permit only requires the collection of samples from two wet weather events. The Permittees request that the monitoring program for Riverside County be revised to require collection of two storm events. This would not only reduce opportunities for unavoidable non-compliance, it would also be a prudent cost saving measure that would not alter the overall effectiveness of the Permittees monitoring programs.

6.4.4.5 Clarify Triad Method and Follow-up Actions

The MS4 Permit included an early draft of the Triad method envisioned by the Model Monitoring Program (MMP) developed by the SMC. The result was a misapplication of the final Triad approach envisioned by the MMP. Toxicity is currently required to be sampled for at the Triad stations during wet weather events, but not during dry weather when the bioassessments occur. According to the SMC MMP, the three components of the Triad approach (chemistry, Toxicity, and bioassessment) should be conducted at the same time. Bioassessments cannot be conducted during wet weather due to safety concerns and the planning necessary. For this reason the MMP recommends the full triad for dry weather and only chemistry and Toxicity for wet weather.

In an effort to be proactive and supportive of good science, the Permittees have taken the following actions to ensure proper application of the Triad approach:

- Beginning with the 2007-2008 season, Toxicity sampling will be conducted during dry weather, at the same time as the bioassessments and dry weather chemistry sampling events are conducted. Thus, the full Triad approach will be conducted during dry weather. Wet weather monitoring will focus on Toxicity and chemistry. This action will modify the current program to be consistent with the MMP approach.
- The 2006-2007 Annual Report established the framework for proper application of the Triad method (full triad for dry weather, chemistry and Toxicity only for wet weather) by adding new tables (G-21 through G-27), in anticipation of properly applying the Triad method in the 2007-2008 Annual Report.

The Permittees further recommend clarifying the definitions of "persistent", "consistent", and "magnitude" as used in the MS4 Permit to be consistent with the intent of the MMP. In addition, the MS4 Permit inappropriately limits Triad analysis by defining a "fair" Index of Biological Integrity scores as automatically indicative of benthic alteration. This limitation needs to be corrected to prevent Permittee

resources from being inappropriately diverted to expensive source assessment studies. The MMP (and the SMC) envision that watersheds will be prioritized for follow up action based on their relative quality to one another. The envisioned analysis would compare watersheds from throughout southern California. The Permittees support this coordinated and comprehensive approach to addressing water quality.

6.4.4.6 Recognize Limitations of Laboratory Analysis of Bacteria

Babcock Labs prefers to accept bacteria samples between the hours of 7:00 a.m. and 4:00 p.m. during normal business days, and 9:00 a.m. and 12:00 p.m. on weekends. Although Babcock will accept bacteria samples outside those hours, acceptance is contingent upon payment of substantial overtime rates to ensure laboratory staff availability to receive and analyze the samples.

The timing of bacteria sample collection, particularly within the context of automatic sampling, will require consideration of the sample's four-hour holding time and available laboratory receiving hours. The Permittees request that the Permit be modified to only require collection of bacteria samples such that they can be delivered during the regular working hours of the lab to avoid excessive laboratory costs.

6.4.4.7 Participate in a Watershed Based TMDL for the Santa Margarita Lagoon

The Permittees understand that, due to economic conditions, State funding for the Santa Margarita Lagoon Watershed-Based TMDL has been withdrawn. As described in section 3.4, these economic conditions are also impacting the Permittee's funding sources and they are struggling to maintain resources to fund existing compliance programs. The Permittees currently cannot support additional expenditures associated with assisting in funding a watershed-based TMDL effort. However, the Permittees are agreeable to discussing a re-prioritization of compliance activities in order to reallocate existing Permittee resources for this purpose. For example, where current MS4 Permit compliance programs elements are not measurably enhancing attainment of Water Quality Standards, the Permittees would consider reduction or elimination of those requirements to support reallocation of the associated funding to the development of the watershed based TMDL. Program elements that may be considered for discussion include:

- Toxicity/Pyrethroid Monitoring – Under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) local regulation of pesticides, including pyrethroid pesticides is pre-empted. The Permittees are expending significant resources at the State and Federal level to facilitate regulatory changes in the allowable uses of pyrethroid pesticides, which have been implicated in causing toxicity in receiving waters throughout California. The Permittees have also recognized pyrethroid pesticides as a Pollutant of Concern for the upper Santa Margarita River watershed. The Permittees believe that public education and outreach regarding use and more stringent regulation/management of pesticides, including pyrethroid pesticides, represents the most effective means of controlling pesticides in Urban Runoff. However, continued Toxicity tests, Toxicity Identification Evaluations, and direct monitoring for pyrethroid pesticides are not likely to enhance the Permittee's ability to reduce/eliminate pyrethroid pesticides in Receiving Waters. Greater Receiving Water quality benefits may be realized by reallocating the resources currently allocated to these activities to the development of the watershed-based TMDL.
- Reduction in General Monitoring Requirements – The Permittees continue to expend significant resources on Receiving Water and outfall monitoring and the benefits of these monitoring activities are limited. Further, these costs have more than doubled over the term of the 2004 MS4

Permit due to audit findings recommending the implementation of automatic sampling equipment. Revised MS4 Permit requirements that provide for a simplified monitoring program may allow cost savings to be reallocated from data collection and processing to development of the watershed-based TMDL.

- Watershed/Individual Annual Reporting – The current Annual Reporting requirements are time, labor and cost-intensive exercises. Revised MS4 Permit requirements that provide for a simplified Annual Report requirements would not necessarily produce substantial cost savings (because is the reports are typically produced in-house); however, they would free up staff resources to assist with TMDL development.
- IC/ID Monitoring – Although the Permittees support regular visual inspection of MS4 facilities to identify IC/IDs, field measurements and sampling has not proven to be effective for this purpose. Although sampling of identified IC/IDs for later enforcement purposes may be appropriate, IC/IDs that have been identified and eliminated in the Santa Margarita Region typically result from visual observations and subsequent follow-up efforts by Permittee staff, not field measurements and water quality samples. Revised MS4 Permit requirements that provide for visual inspections of MS4 facilities to identify IC/IDs may yield cost savings that could be reallocated to development of the watershed-based TMDL.

There may be additional opportunities for modification of MS4 Permit requirements to focus the expenditure of Permittee funds on those activities that are most effective at protecting Receiving Water quality. Although the resources available for Permittee compliance activities are finite, the Permittees are supportive of modifications to the MS4 Permit that, while working within available funding limitations, enhance their ability to protect and enhance the quality of Receiving Waters.

7.0 Evaluation and Recommendations for Individual SWMP Programs

The Riverside County DAMP is a programmatic document developed by the Permittees in the Santa Ana and Santa Margarita Regions. It outlines the major programs and policies that the Permittees individually and/or collectively implement to manage Urban Runoff for the protection of Receiving Waters in Western Riverside County, including the Santa Margarita Region. The Riverside County DAMP provides a model for the development of a Permittees' Individual SWMPs in the Santa Margarita Region.

The Permittees continue to support a uniform approach to the implementation of MS4 Permit compliance programs in order to facilitate increased transparency and understanding for residents, regulated entities, and Permittee staff. For this reason, the discussions below focus on programmatic changes to the compliance programs that are necessary to maintain the effectiveness of the model compliance programs described in the Riverside County DAMP. Upon adoption of the new MS4 Permit, the Riverside County DAMP and Individual SWMPs will be revised accordingly.

7.1 Program Management

There are typically multiple Permittee departments that are responsible for implementing the elements of the Individual SWMPs. Each Permittee has designated an NPDES Coordinator who coordinates the overall Permittee compliance programs, collects and analyzes compliance program data, develops and maintains the Individual SWMPs, compiles and submits necessary reports, coordinates with other Permittees, stakeholders and Regional Board staff, and conducts other necessary duties as assigned.

To facilitate inter-Permittee coordination and funding of regional compliance activities such as the Public Education and Monitoring programs, the Permittees have entered into an Implementation Agreement that defines the roles and responsibilities of each Permittee and assigns cost shares for regional programs defined in the agreement. The Implementation Agreement also requires each Permittee to designate an NPDES Coordinator who is also responsible for representing the Permittee's interest at Permittee coordination meetings such as the monthly Santa Ana/Santa Margarita Technical Advisory Committee.

The Permittees in the Santa Margarita and Santa Ana Regions participate in a Management Steering Committee made up of the City Managers, County Executive Officer, and the District's Chief Engineer; or their assigned alternate. Participation in the Management Steering Committee is not mandatory; however, it provides a management-level forum to address Urban Runoff management policies for the Permit Area and coordination of the review, and necessary revisions to the Riverside County DAMP and Implementation Agreement. In addition, the Management Steering Committee promotes a higher level of awareness of the MS4 Permit compliance program by each Permittee's senior management staff.

7.1.1 Accomplishments and Programmatic Improvements

Collectively, the Permittees Program Management activities have achieved:

- Development of the Riverside County DAMP, WQMP and Individual SWMPs following adoption of the 2004 MS4 Permit.
- Revised the Implementation Agreement to account for necessary program enhancements resulting from the new MS4 Permit.

- Established and held monthly meetings of a Technical Advisory Committee comprising of each Permittee's NPDES coordinator, to discuss and coordinate response to issues that arise through the ongoing implementation of the Riverside County DAMP-based programs.
- Voluntarily participate in a Management Steering Committee comprised of Permittee upper management (City Manager or equivalent) to provide a forum to discuss major policy issues related to MS4 Permit compliance program implementation. This also helps the major decision makers within each organization to stay abreast of the status of the implementation of the Riverside County DAMP and aware of upcoming issues and approaches taken by other Permittees.
- Enhanced enforcement and compliance elements of the Riverside County DAMP.
- Developed the Integrated Regional Watershed Management Plan (IRWMP) for the Upper Santa Margarita Watershed.
- Continued progress with the Bureau of Reclamation, San Diego County and other stakeholders on a uniform watershed plan and model for the Santa Margarita River watershed.

7.1.2 Recommended Revisions and Enhancements to Program Management Efforts

7.1.2.1 Assessment Metrics and Municipal Action Levels

To ensure that the Permittee's programs continue to be effective at managing the impact of Urban Runoff on Receiving Water quality, the Permittees will revise the Program Effectiveness Assessments for both the Individual SWMP and the Watershed SWMP following adoption of the new MS4 Permit. These planned changes are further described in Section 6.1.2.1 of this ROWD. The Permittees also recommend streamlining of the reporting forms to focus on the revised Program Effectiveness Assessments.

7.1.2.2 Revised Reporting Format

As a result of continued program effectiveness assessment, following adoption of the new MS4 Permit, the Permittees will update annual reporting forms to incorporate specific reporting requirements for the effectiveness assessment metrics and to remove inappropriate, outdated, or ineffective reporting requirements.

7.2 Development Planning

This program element links each Permittee's General Plan, environmental review process, and development approval and permitting processes to the later phases of detailed design, construction and operation. The development approval and permitting processes carries forth project-specific requirements in the form of conditions of approval, project plans, and design specifications that support tracking, inspection, and enforcement actions.

7.2.1 Development Planning Program Element Accomplishments and Programmatic Improvements

During the term of the 2004 MS4 Permit, the development planning program accomplishments and programmatic improvements included:

- Developed the WQMP to address post construction stormwater runoff quality for New and Significant Re-Development Projects.
- Development of a FAQ for WQMP projects to assist with implementing the WQMP program.
- Developed and subsequently enhanced a BMP design guidance manual to standardize the construction of post construction BMPs.
- Participation in the SMC efforts to develop a LID manual.
- Participation in SCCWRP's hydromodification studies to develop scientifically based hydromodification design guidance for Southern California.
- Enhanced online watershed maps to assist developers and the public with identifying areas tributary to Impaired Waterbodies.
- Adopted and implemented a MSHCP to ensure the regional-scale protection of habitat and natural resources in the approval process for New Developments.

7.2.2 Proposed Revisions to the Development Planning Program Element

7.2.2.1 Low Impact Development

The Permittees will revise the Riverside County Storm Water Quality Best Management Practice Design Handbook to (1) better incorporate LID design concepts, and (2) incorporate guidance to describe how developments can offset Treatment Control and hydromodification impacts with LID concepts including infiltration, evapo-transpiration, reuse, and onsite stormwater management. These revisions will follow the completion of the SMC LID BMP Manual and SCCWRPs Hydromodification Study. See the FY 2007-2008 Watershed Annual Report, Appendix G, Section G.7.2 for additional detail.

7.2.2.2 Hydromodification

As committed to in the 2004 WQMP (now Appendix O to the Riverside County DAMP), the Permittees have developed numeric guidance for hydromodification and are now working with SCCWRP to develop enhanced hydromodification guidance for Southern California. The Permittees will use the completed guidance to update the WQMP, BMP Design Handbook and other guidance as necessary to effectively mitigate hydromodification impacts. See the FY 2007-2008 Watershed Annual Report, Appendix G, Section G.7.2 for additional detail.

7.2.2.3 BMP Design Criteria

The Permittees will revise the Riverside County Storm Water Quality Best Management Practice Design Handbook to incorporate additional design guidance to clarify those Treatment Control BMPs that are effective at removing sediment-bound pesticides such as pyrethroid pesticides (consistent with the recommendations of the Toxicity Reduction Evaluation contained in Appendix D.

7.2.2.4 TMDLs

The Permittees will revise the DAMP to identify and include BMPs that are necessary to mitigate the impacts of Urban Runoff on Impaired Waterbodies.

7.2.2.5 Roads

The Permittees believe that standard WQMP requirements for public works road projects create potential avenues for unavoidable non-compliance. The Permittees would like to review this priority development category with Regional Board Staff to develop a better system to manage public works road projects.

7.2.2.6 Inspect and Verify Maintenance of Post Construction Treatment Control BMPs to Ensure Ongoing Effectiveness

As economic conditions allow, the Permittees propose to implement the following approach to inspect and/or verify maintenance of Treatment Control BMPs implemented on Priority Development Projects to ensure their ongoing effectiveness. The development of the program described below will require the Permittee resources that are unavailable in the current economic climate, particularly considering that it would likely require the Permittees to abandon the CAP in lieu of a local Permittee inspection program. The resources that will be required to ramp up new inspection programs are unavailable and may not become available during the term of the new MS4 Permit; however when the economy recovers sufficiently the Permittees propose to implement the program described below.

Integrated Management Practice (IMP) Exemption:

For the purposes of this program, IMPs include BMPs that are landscape based or otherwise serve an additional purpose other than Treatment Control. IMPs will be exempted from Inspection and Maintenance Tracking / Certification requirements if solely through the regular maintenance of the feature's secondary (non-treatment) functions and with Permittee concurrence, it can reasonably be expected that the treatment efficacy of the IMP will be ensured in perpetuity. An example that may satisfy this exemption would be a grassy swale that is mowed as part of regular landscape maintenance, whereas a BMP with a media filter which requires periodic resetting or replacement to maintain treatment effectiveness would not be exempted.

Priority Development projects will be exempted from all Treatment Control BMP Inspection and Maintenance Tracking / Certification requirements if they completely meet their Treatment Control requirements by implementing only IMPs that meet these criteria.

Priority Industrial and Commercial

The following requirements will apply to new priority Commercial and Industrial developments subject to the Permit's Commercial and Industrial business inspection requirements.

- Inspection

  Sites will be inspected per the Individual SWMPs current inspection frequency requirements that are based on the potential of the site to contribute to water quality impairments. At these inspections, in addition to the normal inspection requirements, all Treatment Control BMPs at the site will be inspected. In other words, all Treatment Control BMPs at high-priority facilities will be inspected annually; Treatment Control BMPs at medium-priority facilities will inspected biennially and Treatment Control BMPs at low-priority facilities will be inspected once during the term of the MS4 Permit. Improperly maintained BMPs may subject the maintenance entity to license suspension or administrative citations.

- Proof of Maintenance

  Maintenance records demonstrating compliance with the O&M procedures in the WQMP must be available for review at the time of the inspection. Failure to demonstrate that the BMPs have been maintained appropriately may result in license suspension or other enforcement actions.

Other Priority Developments

The following requirements will apply to new priority residential developments and businesses not otherwise subject to the Permit's Commercial and Industrial business inspection requirements.

- Proof of Maintenance and Self Certification

  The maintenance entity identified in the WQMP will be required to submit maintenance records including a signed certification to the Co-Permittee. The frequency of these submittals will be based on the relative maintenance requirements of the Treatment Control BMPs implemented on that site. BMPs will be categorized into groups as having High, Medium or Low maintenance requirements. If a WQMP project utilizes high-maintenance Treatment Control BMPs it will be categorized as a High-priority residential development, etc. High-Priority residential developments will be required to submit records annually, Medium – biennially, and Low – once every five years. Failure to report will result in administrative citations against the maintenance entity.

Permittee Projects and Permittee Maintained Treatment Control BMPs

This requirement will be included as part of the existing Permittee facility inspection program and inspected per the frequency requirements specified in the Riverside County DAMP.

7.3 Private Development Construction Activities

The Permittees have reviewed their ordinances to ensure that they are adequate to control discharges to the MS4 from construction sites to the MEP. For construction projects that will disturb one acre or more, the Permittees require proof of compliance with the General Permit-Construction prior to issuance of building/grading permits (a copy of the Notice of Intent filed with the State Board). Each of the Co-Permittees provides training for their construction inspectors regarding the proper installation and

maintenance of erosion and sediment control BMPs. Education and outreach to the building industry (developers, construction contractors, engineering firms, etc.) regarding managing discharges from construction sites is also incorporated into the "**Only Rain Down the Storm Drain** Pollution Prevention Program," the Permittees' area-wide public education and outreach program.

7.3.1 Private Development Construction Activities Program Element Accomplishments and Programmatic Improvements

- The Permittees annually distribute construction activities posters to construction sites as part of construction outreach program.
- A standardized construction activity reporting spreadsheet was developed for the Annual Reports.
- The construction inspection forms were updated.
- The Co-Permittees developed and maintained inventory databases of construction sites 1-acre or larger for which they have issued a building or grading permit.
- Prioritized inspections to help target construction activities that present the highest risk to water quality.

Highlights
Conducted over **17,000** construction site inspections
Initiated over **3,800** enforcement actions to gain compliance
626 attendees to NPDES Construction training

7.3.2 Proposed Revisions to the Private Development Construction Activities Program Element

The Permittees are not proposing revisions to their existing construction inspection programs at this time. As previously described, the Permittees expect that development activity will be greatly reduced during the term of the new MS4 Permit. Regional Board staff has however raised the issue of abandoned construction sites. Regulation of abandoned construction sites has proven challenging due to bankruptcy of project proponents, non-responsiveness or inability to locate underlying investment banks that actually own the developments, and the practical limitations encountered by the Permittees in calling bonds. As the Regional Board has enforcement capabilities that often surpass those of the Permittees, to ensure that this issue is effectively addressed the Permittees ask for the close cooperation and support of the Regional Board. Nonetheless, the Permittees are committed to continuing the use of their IC/ID programs, code enforcement tools, and other ordinance authorities to control, to the extent allowable under law, abandoned parcels that are not properly stabilized.

7.4 Existing Development – Permittee Facilities and Activities

The Municipal Facilities Strategy which has been consolidated into Section 5 of the Riverside County DAMP provides guidance for identifying potential storm water Pollutant sources and for selecting appropriate BMPs for implementation at identified facilities of concern owned and operated by the Permittees. The Permittees are implementing the provisions of the Municipal Facilities Strategy within their respective jurisdictions via processes described in their Individual SWMPs. To assist the Permittees in implementing this program, training focused on storm water regulatory requirements and BMPs related

to Permittee maintenance facilities and roadway maintenance activities were conducted twice annually during the 2004 MS4 Permit term.

7.4.1 Permittee Facilities and Activities Program Element Accomplishments and Programmatic Improvements

- The District coordinated preparation of GIS-based maps for Permittee MS4 facilities. The MS4 maps are updated annually with new information provided by the Permittees as part of the Annual Reporting process.
- Development of a GIS Browser that allows interested parties to view MS4 Facilities from the District's website.
- Updated Model Facilities Pollution Prevention Plan for Permittee facilities not requiring coverage under the Industrial General Permit.

Highlights
900 attendees to Municipal NPDES training

7.4.2 Proposed Revisions to Permittee Facilities and Activities Program Element

7.4.2.1 FPPP Guidance

The Permittees commit to developing a revised WQMP template for Permittee projects that better facilitates translation of WQMP BMP requirements into Facility Pollution Prevention Plans, where appropriate.

7.4.2.2 Integrated Pest Management

The Permittees commit to including Ecowise's standardized language for contracted pesticide management services in Permittee pesticide management contracts.

7.5 Commercial and Industrial Sources

The Principal Permittee and the County have implemented the CAP through which the County Department of Environmental Health makes use of existing inspection programs to address storm water compliance survey/inspections of restaurants and facilities that must secure a hazardous materials permit for either storing, handling or generating hazardous materials. As the responsible Certified Unified Program Agency in Riverside County, the County Department of Environmental Health is responsible for regularly inspecting all sites within the County that handle hazardous waste. The CAP is implemented in those cities and unincorporated areas that do not maintain an individual industrial/commercial inspection program through other mechanisms such as POTW waste pre-treatment programs or business license inspection programs.

Revisions to the inspection program requirements contained within the 2004 MS4 Permit expanded the scope of the overall commercial/industrial inspection program beyond the ability of the CAP to address. Each Co-Permittee now implements a supplemental inspection program for facilities not covered by the CAP. In addition, the 2004 MS4 Permit required inventories/databases of facilities, prioritization of

industrial and commercial sources relative to the potential to impact water quality, and specified inspection frequencies based upon facility priority.

The revised industrial and commercial sources program continues to have both regional and local jurisdiction components. Although the overall industrial/commercial inspection program has grown beyond the CAP, the CAP still addresses most of the facilities identified in the 2004 MS4 Permit. With its low overhead cost, it remains a cost effective approach to mitigating the impacts of industrial and commercial facilities on the MS4 and Receiving Waters.

7.5.1 Commercial and Industrial Program Element Accomplishments and Programmatic Improvements

- Reviewed and updated several educational brochures for distribution to inspected facilities.
- Developed outreach posters for gas and automotive service stations.
- Developed standardized inspection reporting forms for Annual Reports.
- Updated food service surveys.
- Extended the agreement with the County's Department of Environmental Health executed in 1999 for the area-wide CAP for the inspection of commercial and industrial facilities through June 30, 2009.
- Created Permittee databases for the inspected commercial and industrial facilities.
- Revised the Riverside County DAMP to reflect development of the industrial and commercial facility database that contains the following information: facility name, address, city, zip code, and Standard Industrial Classification (SIC) codes.
- Provided public education information regarding NPDES storm water permits to any new businesses listed in the Press Enterprise.

Highlights
3,974 inspections of Industrial and Commercial facilities
Over **1000** enforcement actions taken
426 attendees to Municipal NPDES training

7.5.2 Proposed Revisions to Commercial and Industrial Sources Program Element

The expected future expansion of the Commercial and Industrial Inspection Program to address Treatment Control BMPs as described in Section 7.2.2.6 would likely result in an expansion of the CAP that is beyond the ability of Environmental Health staff to accommodate and still achieve their own mandated inspection requirements. The Permittees are therefore proposing to amend the Riverside County DAMP and Individual SWMPs to recognize not only the CAP inspection program but also Permittee specific alternative programs that may develop during the term of the next MS4 Permit.

7.6 Residential Sources

The residential program focuses on educating residents about activities that can potentially contribute to beneficial use impairment. The residential program outreach is focused on Pollutants of Concern. The residential program is primarily implemented through the Regional Public Education Program; however, each Permittee typically conducts additional outreach. In those cases where residential Illegal Discharges are identified, appropriate code enforcement actions are also taken.

7.6.1 Accomplishments and Programmatic Improvements

The residential program achieved the following accomplishments during the term of the 2004 MS4 Permit:

- Developed several new outreach brochures and tools to promote changes in knowledge and behavior regarding activities that potentially generated Pollutants of Concern including landscape and gardening brochure, spray bottles with non-toxic pest control or cleaner recipes, septic system management brochure, updated outdoor activities brochure, and pet waste brochure.
- Implemented billboard advertising promoting "**Only Rain Down the Storm Drain**" message
- Purchased a new trailer to transport public education materials. The trailer is wrapped in graphics supporting the "**Only Rain Down the Storm Drain**" message.
- Point of Sale Outreach Programs to customers of hardware stores regarding paint, pesticides and fertilizers.
- Partnership with Valley Greeters to deliver "**Only Rain Down the Storm Drain**" information to new residents in the Santa Margarita Region.
- Promotion and participation in the annual Santa Margarita Watershed Clean Up Day.
- Continued supplemental support of the HHW/ABOP waste collection programs
- Continued update and revision of the public education information page
- Continued implementation and enhancement of school outreach programs conducted by Mission Resource Conservation District
- Reproduction and distribution of the After the Storm poster

7.6.2 Recommended Revisions

Although the Permittees continue to annually assess and modify outreach materials and programs, the Permittees are not recommending any substantive revisions to this program element at this time.

7.7 Public Education and Outreach

Although the bulk of public education and outreach activities are conducted by the District on behalf of the Permittees, the Permittees also conduct outreach activities. These activities include providing informational pamphlets at counters, conducting presentations for local businesses or developers, maintaining a stormwater page or appropriate stormwater links on their individual websites, conducting employee training programs, and attending various public events.

7.7.1 Public Education and Outreach Program Element Accomplishments and Programmatic Improvements

The Public Education and Outreach Program Element had the following accomplishments and improvements over the term of the 2004 Permit (not including those identified in Section 7.6.1):

- Use of a CEQA-style public participation process to develop the Riverside County DAMP, SWMPs, and WQMP
- Duplication and use of the USEPA construction site poster to educate construction site operators
- Distribution of stormwater outreach information to various businesses and construction sites through code enforcement, and building and grading inspectors
- Development and distribution of a automotive shop BMP poster
- Advertisements in the Business Press
- Update of the outdoor activities brochure for mobile operators

7.7.2 Recommended Changes

Although the Permittees continue to annually assess and modify outreach materials and programs, the Permittees are not recommending any substantive revisions to this program element at this time.

7.8 Elimination of Illicit Connections and Illegal Discharges

The Riverside County DAMP describes the discharge limitations and prohibitions applicable to the Permittee's MS4 (Section 4.1), procedures to be implemented when persistent exceedances of Water Quality Standards are identified (Section 4.2), responding to and reporting Illegal Discharges (Section 4.4), enforcement measures for IC/IDs (Section 4.5), measures to control litter (Section 4.6), measures to manage sanitary wastes (Section 4.7), and programs to promote collection and proper disposal of hazardous waste (Section 4.8).

7.8.1 IC/ID Program Element Accomplishments and Programmatic Improvements

- Developed Sanitary Sewer Overflow Procedures in coordination with the sanitary sewer operators in the Santa Ana and Santa Margarita Regions and implemented annual updates to Sanitary Sewer Overflow Procedures to ensure proper contact information for outside agencies.
- Established an electronic tracking system for NPDES complaints received through the toll free "Report Storm Water Pollution" hotline, OES or otherwise reported to the District.
- Enhanced public outreach regarding illegal dumping including brochures for: Outdoor Activities, Fountains & Swimming Pools, and Pet Waste, establishment of a Santa Margarita watershed Clean-Up Day and coordination with the County of Riverside Trash Task Force.

- Initiated a cooperative program with the County Environmental Health Department to promote Environmental Enhancement Projects in lieu of fines for environmental crime cases. This initiative resulted in a billboard advertising campaign and BMP posters addressing appropriate BMPs for gas stations and garages.
- Established IC/ID Monitoring Program

Highlights
1,263 potential IC/ID reports received and responded to
Over **5,500** calls received on stormwater pollution hotlines
94 IC/ID Monitoring events
5 monitoring events where field screening exceeding criteria

7.8.2 Proposed Revisions to IC/ID Program Element

The Permittees re-evaluated their existing IC/ID monitoring programs as part of this ROWD. The Permittees believe that the overall monitoring program is effective. However, the Permittees plan to revise their approach to the implementation of the Illicit Discharge monitoring program to increase monitoring data utility or overall program effectiveness.

7.8.2.1 Revise IC/ID Monitoring Program

The Permittees plan to revise their approach to the implementation of the IC/ID monitoring program. The goals of the recommended revisions are to:

- Relocate the IC/ID monitoring sites at MS4 outfalls.
- Distribute the monitoring sites throughout the Santa Margarita Region to detect Illicit Discharges closer to their source before they become excessively diluted.
- Increase efficiency and consistency in sampling resulting in enhanced data quality.
- Enhance response time to identify IC/IDs.

A model Illicit Discharge monitoring plan that accomplishes these goals is described below; a final plan will be incorporated into updated compliance documents with the new MS4 Permit.

7.8.2.2 Model Illicit Discharge Monitoring Plan

The Municipal Permittees will identify MS4 outfalls that could be used for monitoring sites based on maps of the MS4 facilities. This list of preliminary sites will be then field checked to determine the accessibility of the sites and feasibility for inclusion in the IC/ID monitoring program. Inaccessible sites or sites determined to be otherwise infeasible will be removed from the list.

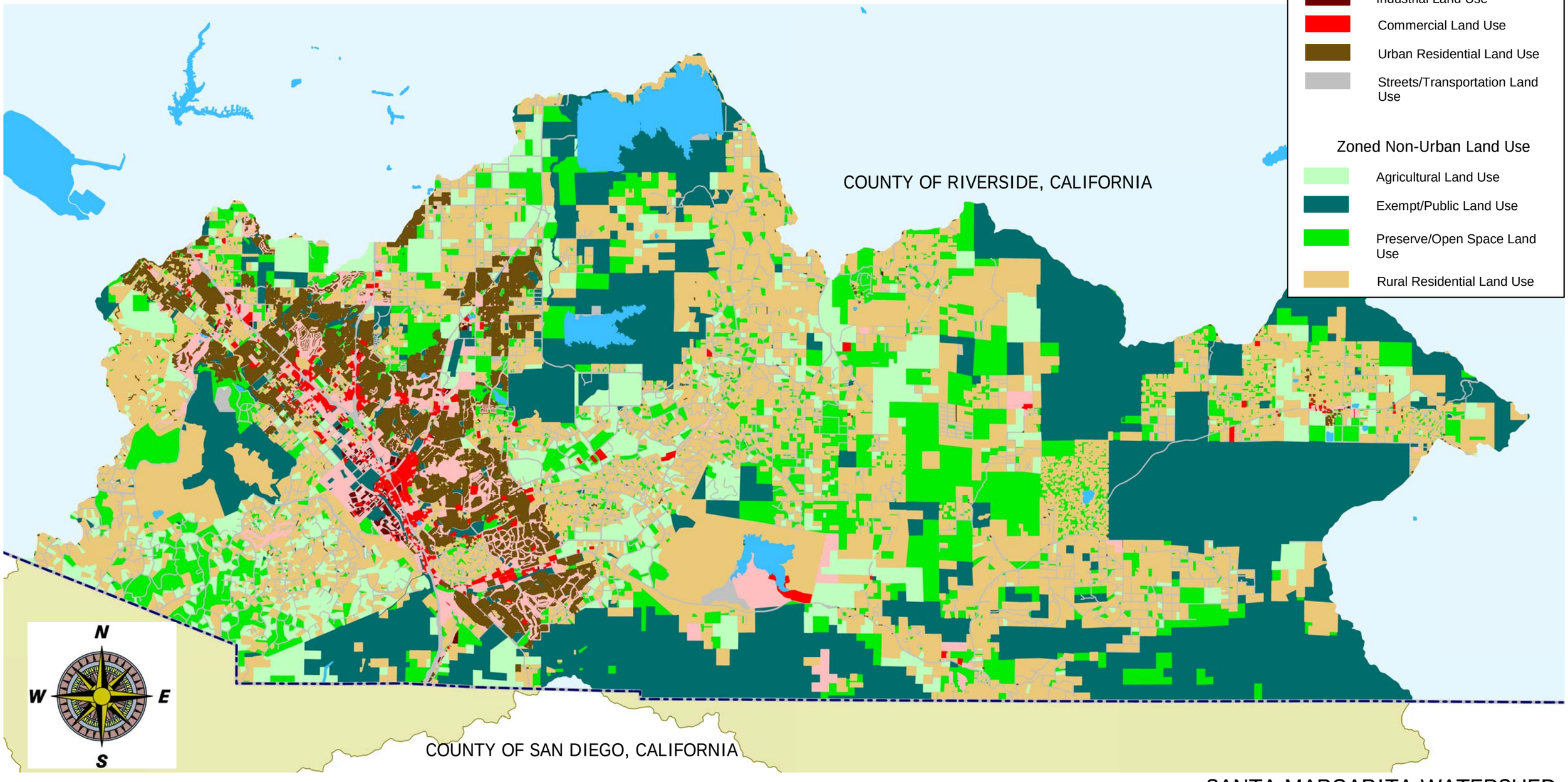
Each Municipal Permittee except Menifee will then divide the list of the viable sites within their jurisdiction into groups of four. As Menifee only has one MS4, it will only monitor that one site. Each group of four sites will be monitored for a period of one year, twice during the dry season. Once all sites have been monitored for a year, sites will be repeated.

A monitoring team will be formed including one District and one Municipal Permittee staff member. The District staff will perform all monitoring/screening activities. The Municipal Permittee staff will be available to assist and will be responsible for initiating any necessary follow-up actions. This approach will provide consistency in screening and monitoring data collection and will allow the Municipal Permittee with jurisdiction over the tributary land use to be immediately aware of exceedances and initiate appropriate follow-up actions.

Appendix A
2008 Land Use Map

SANTA MARGARITA WATERSHED

COUNTY OF RIVERSIDE, CALIFORNIA



Legend

Zoned Urban Land Use

- Parks/Recreation Land Use
- Industrial Land Use
- Commercial Land Use
- Urban Residential Land Use
- Streets/Transportation Land Use

Zoned Non-Urban Land Use

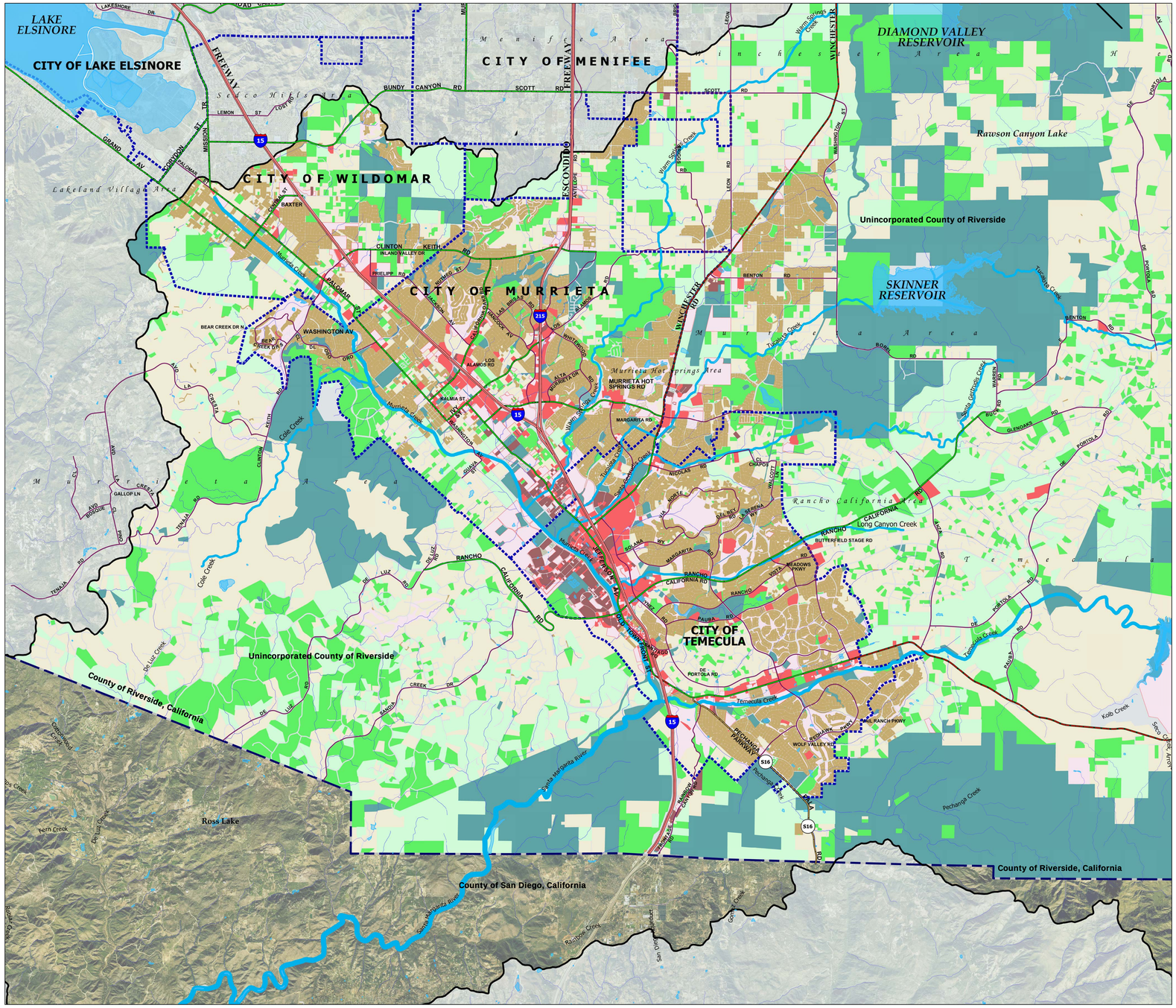
- Agricultural Land Use
- Exempt/Public Land Use
- Preserve/Open Space Land Use
- Rural Residential Land Use

SANTA MARGARITA WATERSHED
WITH ZONED LAND USES
DELINEATED

(REVISED 14 JAN 09)

SANTA MARGARITA WATERSHED

WITHIN RIVERSIDE COUNTY, CALIFORNIA



Legend

- US Freeways
- State Highways
- County Roads
- Primary Arterial Roads
- Secondary Collector Roads
- Waterbodies
- Watercourses
- Railroads
- Incorporated Areas
- Santa Margarita Watershed Boundary
- County of Riverside Boundary

Zoned Urban Land Use

- Commercial Land Use
- Industrial Land Use
- Parks/Recreation Land Use
- Urban Land Use
- Street/Roads Lands Use

Zoned Non-Urban Land Use

- Agricultural Land Use
- Exempt Land Use
- Preserve/Open Space Land Use
- Rural Residential Land Use

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT GEOGRAPHIC INFORMATION SYSTEM

The graphical and tabular information shown on this document may be derived from a variety of public agency and/or private commercial sources such as Riverside County Transportation and Land Management Agency, Thomas Brothers Mapping, the Stephen P. Teale Data Center, GIS Technology Center, State of California, the United States Geologic Survey and the United States National Atlas. These sources may possess varying levels of accuracy and precision and this product is meant only as a guide to the relative position and scale of the depicted features. This GIS document is in no case to be interpreted as fundamental or decisive for purposes of land surveying, field engineering, plan drafting, code enforcement, land boundary determination and/or land acquisition.

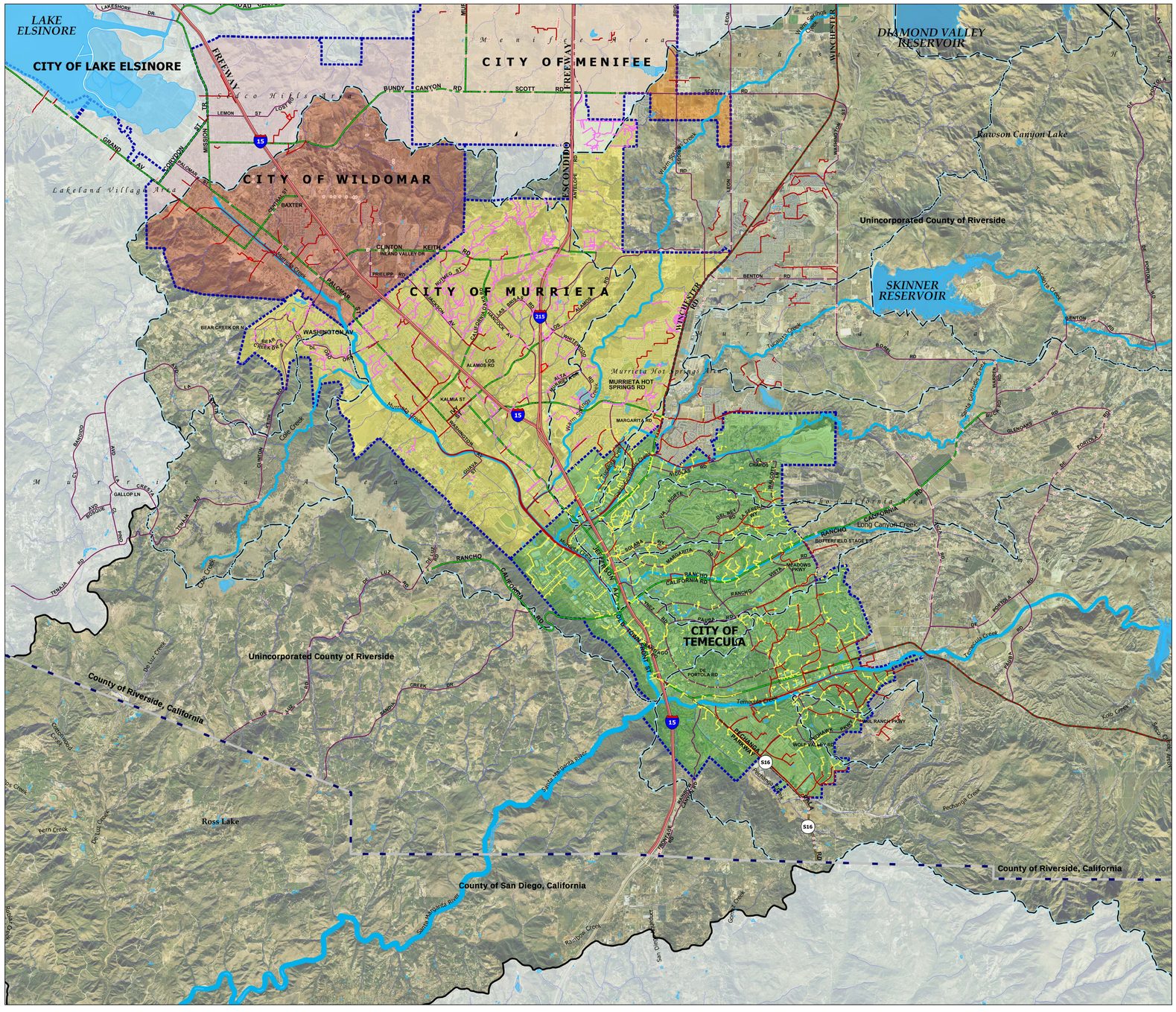
SANTA MARGARITA REGION OF RIVERSIDE COUNTY ZONED LAND USE

(REVISED 13JAN09)

Appendix B
Santa Margarita Region MS4 Facility Maps

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RIVERSIDE, CALIFORNIA


LAKE ELSINORE
CITY OF LAKE ELSINORE
CITY OF MENIFEE
CITY OF WILDOMAR
CITY OF MURRIETA
CITY OF TEMECULA
DIAMOND VALLEY RESERVOIR
Kawson Canyon Lake
SKINNER RESERVOIR
Unincorporated County of Riverside
Unincorporated County of Riverside
County of Riverside, California
County of San Diego, California
County of Riverside, California
Ross Lake
Lakeland Village Area
Menifee Area
Murrieta Area
Murrieta Hot Springs Area
Temecula Area
Winchester Area
Western California Area
Long Canyon Creek
Murrieta Creek
Warm Springs Creek
Temecula Creek
Santa Margarita River
Rancho Creek
Redhawk Creek
Pechanga Creek
Cole Creek
Tenaja Creek
De Luz Creek
Cottonwood Creek
Fern Creek
Gomez Creek
Kolb Creek
Rice Canyon
Tucalota Creek
Santa Gertrudis Creek
Wilson Creek
Wilson Creek
Wilson

Appendix C
Initial Assessment Methodologies based on CASQA approach

Construction Component Effectiveness Assessments

Goals

I Ensure that all Construction Sites have applicable permits from the Permittee.

II Increase the percentage of Construction Sites that are in compliance with Permittee building and grading permits

III Place additional focus on Construction Sites during Wet Season

IV Ensure that construction inspection staff are properly trained and informed of the issues related to stormwater quality

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Effectiveness Assessment Timeframe	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	% of active construction sites that are discovered without building/grading permits	2	Permit Term	Decreasing Trend or minimal %	Y
II	% of active High/Medium priority sites subjected to enforcement beyond verbal/written warnings	3	Permit Term	Decreasing Trend or minimal %	N
II, III	% of active High/Medium priority sites subjected to enforcement beyond verbal/written warnings **during wet season**	3	Permit Term	Decreasing Trend or minimal %	N
II	% of enforcement actions that reached each level of enforcement	3	Permit Term	Trend toward lower levels	N
III	% of active permitted construction sites provided wet weather reminders	2	Annually	N/A	Y
IV	% of construction inspectors receiving annual training	1	Annually	N/A	Y

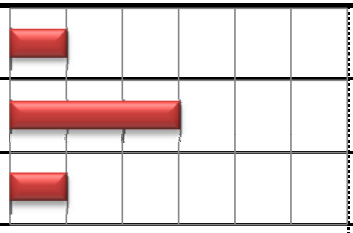
Development Planning Component Effectiveness Assessments

Goals

I Develop Design Guidance for Low Impact Development (LID) BMPs

III Encourage the use of LID-Based Treatment Control BMPs

IV Ensure that appropriate planning staff are trained in WQMP requirements

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Effectiveness Assessment Timeframe	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	Status of SMC LID BMP Design Manual	1 	Within Permit Term	Completion	Y
II	% of WQMP projects that met the exemption requirements for inspection and maintenance reporting by implementing only LID-Based Treatment Control BMPs	3	Permit Term	Increasing Trend	N
III	% of applicable planning staff that attended WQMP training.	1	Annually	N/A	Y

Permittee Facilities and Activities Program Effectiveness Assessments

Goals

I Ensure that Permittee Facilities have adequate BMPs implemented and that they are properly maintained

II Ensure that Channels and Inlets are kept free from trash and debris

III Encourage the use of Integrated Pest Management (IPM) on Permittee Facilities

IV Maintain an updated GIS map of the MS4 system

V Ensure the Permittee facility operators and maintenance workers are properly trained in issues related to water quality.

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Effectiveness Assessment Timeframe	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	% of facilities with appropriate BMPs identified	1	Annually	N/A	Y
I	% of Facilities provided reminders of appropriate BMPs	2	Annually	N/A	Y
I	% of annual facility inspections finding deficiencies in BMP implementation that require follow-up actions	3	Permit Term	Decreasing Trend or minimal %	Y
I	Average % of deficiencies identified in the previous year's inspections that were addressed.	3	Permit Term	Increasing Trend or high %	Y
II	Estimated Tons of Waste removed from Streets	4	Annually	N/A	N
II	Estimated Tons of Waste removed from Inlets	4	Annually	N/A	N
II	Estimated Tons of Waste removed from Open Channels	5	Annually	N/A	N
III	% of Pest Control Contracts that include language promoting or requiring IPM	1	Annually	N/A	N
IV	% of new Permittee-maintained MS4 facilities added to GIS Map	1	Annually	N/A	Y
V	% of Permittee Facility and MS4 operators and maintenance staff that attended training.	1	Annually	N/A	Y

Industrial-Commercial Facilities Program Effectiveness Assessments

Goals

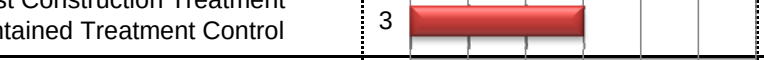
I Maintain an updated and prioritized list of Industrial and Commercial Facilities

II Ensure the each Industrial and Commercial Facility has implemented BMPs that are appropriate for the activities and features at that facility

III Ensure that implemented BMPs are properly maintained to ensure their effective operation

IV Implement enforcement measures as necessary to reduce the occurance and recurrance of violations

V Ensure that inspectors are appropriately trained to identify problem areas and BMPs maintenance issues.

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Timeframe to Determine Effectiveness	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	% of new facilities added to database and prioritized	1	Annually	N/A	Y
II	% of inspected facilities with adequate Minimum BMPs in place at time of inspection	3	Permit Term	Increasing Trend or High %	N
III	% of inspected WQMP facilities subject to Post Construction Treatment Control BMP Inspection, with adequately maintained Treatment Control	3 	Permit Term	Increasing Trend or High %	N
IV	% of inspected High/Medium priority facilities that were subjected to enforcement beyond verbal/written warnings	3	Permit Term	Decreasing Trend or Low %	N
IV	% of enforced sites that are repeat offenders	3	Permit Term	Decreasing Trend or Low %	N
IV	% / Number of enforcement actions that reached each level of enforcement	3	Permit Term	Trend toward lower enforcement	N
V	Percent of applicable inspectors that attended training	1	Annually	N/A	Y

Residential Program Effectiveness Assessments

Goals

I Raise awareness among residents of activities that may be contributing to stormwater pollution
II Increase public awareness of BMPs for residential activities
III Increase public participation in hazardous material collection events
IV Increase public involvement in keeping the watershed clean
V Encourage the use of Alternative Pest Control Methods

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Timeframe to Determine Effectiveness	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	Number of outreach events to Schools	1	Annually	N/A	N
II	Number and type of educational materials distributed that target residential activities	1	Annually	N/A	Y
I, II	Results of Public Ed Surveys	2	Permit Term	Increasing or high level of Knowledge	Y
III	Gallons of Used Oil Collected through Used Oil Block Cycle Grant	4	Annually	N/A	Y
III	Total Pounds collected at HHW/ABOP events	4	Annually	N/A	Y
III	Total Number of participants at HHW/ABOP events	3	Annually	Increasing Trend	Y
IV	Pounds of trash removed through Watershed Cleanup Events	4	Annually (as events occur)	NA	N
V	Number of Home Improvement stores provided outreach and customer educational information for pesticide use	2	Annually	Increasing Trend	Y

Detection and Elimination of Illicit Discharges and Connections Effectiveness Assessments

I Revise and enhance IC/ID Monitoring Program
II Reduce the occurance of Illicit Connections and Discharges
III Increase public reporting of improper disposal into MS4
IV Ensure the IC/ID reports are reviewed and responded to in a timely manner
V Ensure the confirmed IC/ID events are eliminated as quickly as possible
VI Ensure the IC/ID response staff are trained to identify potential sources of Illicit Discharges and recommend BMPs to prevent such discharges

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Timeframe to Determine Effectiveness	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	Revise IC/ID Monitoring Program to screen random MS4 outfalls	1	N/A	N/A	N
II	% of IC/ID Monitoring events with sampleable flow	1	Permit Term	N/A	N
II	% of IC/ID Monitoring events that exceeded criteria and required follow-up	5	Permit Term	Decreasing Trend or low %	N
III	Number of IC/ID reports received	2	Annually	Increasing Trend	N
IV	% of IC/ID reports responded to within 1 business day of receipt	1	Annually	N/A	Y
V	% of confirmed and source-identified IC/ID incidents that required enforcement beyond verbal or written wardnings to eliminate	3	Permit Term	Decreasing Trend or minimal %	N
V	% of each type / level of enforcement	3	Permit Term	Trend toward lower levels	N
VI	% of IC/ID response staff receiving training	1	Annually	N/A	Y

Appendix D
Toxicity Reduction Evaluation for Pyrethroid Pesticides

Riverside County Flood Control and Water Conservation District

Riverside County – Santa Margarita Region Pyrethroid Source Identification Toxicity Reduction Evaluation

Final Phase II Report
January 2009

MACTEC
9177 Sky Park Court
San Diego, California 92123
858-278-3600 FAX 858-278-5300

Executive Summary

This document is the Phase II report for the Santa Margarita Region (SMR) Pyrethroid Source Identification Toxicity Reduction Evaluation (TRE) conducted by the SMR Permittees to identify the source(s) of toxicity in the SMR and develop a plan to reduce the toxicity. This report documents the Permittees' ongoing and proposed efforts to identify and reduce sources of pyrethroid pesticide toxicity associated with urban runoff.

Data gathered under this TRE was compared to data from neighboring counties. Based on available data, problems with pyrethroid-induced toxicity in urban runoff are common among municipalities in Southern California, and methods for addressing the problems are comparable.

A literature review was conducted to determine appropriate source control and treatment control BMPs for reducing the concentration and load of pyrethroids in storm water runoff. The literature source, the estimated potential for reducing pyrethroid-induced toxicity, and possible concerns about implementing the BMP are summarized.

Based on the results of the literature review, BMPs are evaluated for applicability and potential effectiveness in the SMR watershed. Many of the most effective and appropriate BMPs are currently being implemented by the Permittees.

A search for pending legislation did not identify any pending legislation pertaining to pyrethroid pesticides.

The most effective strategy to prevent water quality impacts from legal pesticide uses was identified as state or federal regulatory change involving effective labeling and use restrictions. The Permittees propose a five year plan to continue, review, and enhance current activities to reduce pyrethroid-induced toxicity.

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1.0 Introduction

This document is the Phase II report for the Santa Margarita Region (SMR) Pyrethroid Source Identification Toxicity Reduction Evaluation (TRE) conducted by the County of Riverside, the City of Murrieta, the City of Temecula, and the Riverside County Flood Control and Water Conservation District (District, collectively Permittees). The Phase I Status Report (RCFCWCD, 2008) contains the work plan for Phase II and an outline of the topics in this report, as well as additional background information. This Phase II report is divided into six sections.

Section 1 describes the purpose of the TRE and provides an overview of the approach taken by the Permittees. Section 1 also contains a discussion of the regulatory framework of the TRE, a brief project background, a description of the Santa Margarita watershed, pyrethroid pesticide background and usage, and management questions and objectives.

Section 2 describes available pyrethroid and toxicity data from other counties in Southern California, and compares the data to data from Riverside County. The data and comparisons are included to demonstrate that the problems and solutions relating to pyrethroid pesticides facing the Permittees are similar to those of neighboring counties in the region.

Section 3 presents the results of the literature review conducted for this study of pesticide reduction Best Management Practices (BMPs).

Section 4 discusses potential pesticide reduction BMPs, the status of the Permittees implementation of the BMPs, and, when applicable, examples of the implementation of the BMPs in other municipalities. Section 4 also contains a table summarizing the potential BMPs, their advantages and disadvantages, and relative cost.

Section 5 discusses pending legislation relating to pyrethroid pesticides.

Section 6 presents the five-year course of action the Permittees propose to follow to reduce pyrethroid-induced toxicity in the SMR.

1.1 Purpose and Overview of Approach

The purpose of the TRE is to identify the source(s) of toxicity in the SMR and develop a plan to reduce the toxicity. The results of Phase I of the TRE are contained in the TRE Status Report (Riverside, 2008). This Phase II report for the TRE study documents the Permittees' ongoing and proposed efforts to identify and reduce sources of pyrethroid pesticide toxicity associated with urban runoff. The goal of Phase II is to establish a course of action and develop modifications to the Permittee's Storm Water Management Plans (SWMPs) to more effectively control the sources of toxicity that were identified in Phase I of the TRE. The Permittees will incorporate the course of action and SWMP modifications into the Report of Waste Discharge (ROWD) that will be submitted to the RWQCB in January 2009.

Phase II activities included:

- A comparison of toxicity and chemistry results to data from adjacent Phase I municipal separate storm sewer system (MS4) permit areas, including San Diego County and Orange County.
- A literature review of current studies and a survey of pesticide reduction BMPs.
- A search for pending legislation regarding pyrethroid pesticides.
- Development of a proposed course of action for the Permittees.

A literature review was conducted of BMP information available from the Urban Pesticide Pollution Prevention (UP3) Project and other pesticide management programs and documents. Information on relevant BMPs was compiled and evaluated to identify potential BMPs that are available to mitigate urban sources of pyrethroids. Existing Permittee programs, such as outreach, regulation, and BMP implementation, were then evaluated for improvement opportunities.

The proposed course of action was determined with consideration of the adequacy of data collection (sufficient precipitation and runoff to collect adequate data) and pending

regulatory actions by California Department of Pesticide Regulation (DPR), and the United States Environmental Protection Agency (EPA).

Land uses in Riverside County are comparable to those in neighboring Orange County and San Diego County, and pyrethroid pesticide-induced toxicity has been observed in those counties. The Permittees are committed to identifying and addressing water quality issues with methods consistent with those used by other stakeholders in Southern California. To this end, data gathered under this TRE was compared to data from neighboring counties, and current pesticide reduction programs used by municipalities throughout California were reviewed.

Source control and treatment control BMPs were researched and evaluated for potential effectiveness in reducing pyrethroid pesticide-induced toxicity in the Santa Margarita watershed. Many of the most effective BMPs are currently implemented by the Permittees, and several have been implemented within the previous Permit term (2004-2008). A proposed five-year course of action for the Permittees was developed by combining the results of the research with the existing programs.

1.2 Regulatory Framework

At the federal level, the authority to regulate pesticide manufacture and use is assigned to the United States Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). In California, pesticide use is regulated at the state level by the DPR. In the SMR, the Permittees are required under the Clean Water Act to control discharges of pollutants, including pesticides that produce water toxicity, to and from their MS4 under the National Pollutant Discharge Elimination System (NPDES).

This TRE was performed as required by Monitoring and Reporting Program (MRP) R9-2004-001.

The MRP, Section II. A. I. 4, states:

> *"When results from the chemistry, toxicity, and bioassessment monitoring…indicate urban runoff-induced degradation, Permittees shall evaluate the extent and causes of urban runoff pollution in receiving waters and prioritize management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) shall be used to determine the cause of the toxicity, and Toxicity Reduction Evaluations (TREs) shall be used to identify sources and implement management actions to reduce pollutants in urban runoff causing toxicity."*

As local regulation of pesticide use is generally preempted by federal and state law, the Permitttees' authorities are limited to addressing illegal disposal of pesticides, promoting public education, setting the example for minimum pesticide use, and coordinating with the federal and state agencies to facilitate regulatory changes at the state and federal level.

1.3 Project Background

Phase I of the TRE consisted of the toxicity monitoring begun in 2004 and the Toxicity Identification Evaluations (TIE) was initiated in the spring of 2007. The Phase I Status Report (RCFCWCD, 2008) provides a full project background. Toxicity monitoring at Temecula Creek and Murrieta Creek was initiated in 2004 using EPA protocol with the following indicator species: *Ceriodaphnia dubia*, *Selenastrum capricornutum*, and *Hyalella azteca*. Toxicity testing during the 2004-2008 reporting period indicated persistent wet weather toxicity to *Hyalella* in both Temecula Creek and Murrieta Creek. Toxicity was not observed to either *Ceriodaphnia* or *Selenastrum* in any of the samples collected over the four annual reporting periods beginning in the fall of 2004.

Toxicity Identification Evaluations (TIEs) were conducted on the wet weather samples collected from Temecula Creek and Murrieta Creek beginning in April 2007, in accordance with Table 2 of the MRP. The TIEs indicated that pyrethroids were the primary source of toxicity and biological degradation in both Murrieta Creek and Temecula Creek.

As a result of the toxicity and TIEs, storm water monitoring for pyrethroids was initiated in 2007-2008. Results indicate that the pyrethroids permethrin and/or bifenthrin are present in wet weather water samples taken at Murrieta Creek and Temecula Creek.

To further assess the impacts of pyrethroid pesticides the Permittees instituted Dry Weather Toxicity Testing and direct measurement of pyrethroid pesticide concentrations in dry weather water samples during the 2007-2008 reporting period. Toxicity and pyrethroid pesticides were not detected in dry weather water samples at either Murrieta Creek or Temecula Creek.

Phase I of the TRE concluded with the Phase I Status Report. The Phase I Status Report included studies to better characterize patterns and sources of toxicity and to evaluate the hypothesis that the *Hyalella* toxicity is due to pyrethroids.

Bifenthrin and permethrin appear to be the primary toxic elements in Temecula Creek and Murrieta Creek. While bifenthrin and permethrin were applied to both agricultural and non-agricultural land uses, the major sources of pyrethroid toxicity in the SMR are non-agricultural activities. Permethrin was applied more than any other pyrethroid pesticide in the urban landscape. Bifenthrin and permethrin application rates were one and three orders of magnitude higher for structural control applications than agricultural applications in Riverside County. Structural control appears to represent 93% of the total pyrethroids use for Riverside County.

The Status Report outlined the plan for Phase II of the TRE, and this report presents the results of Phase II.

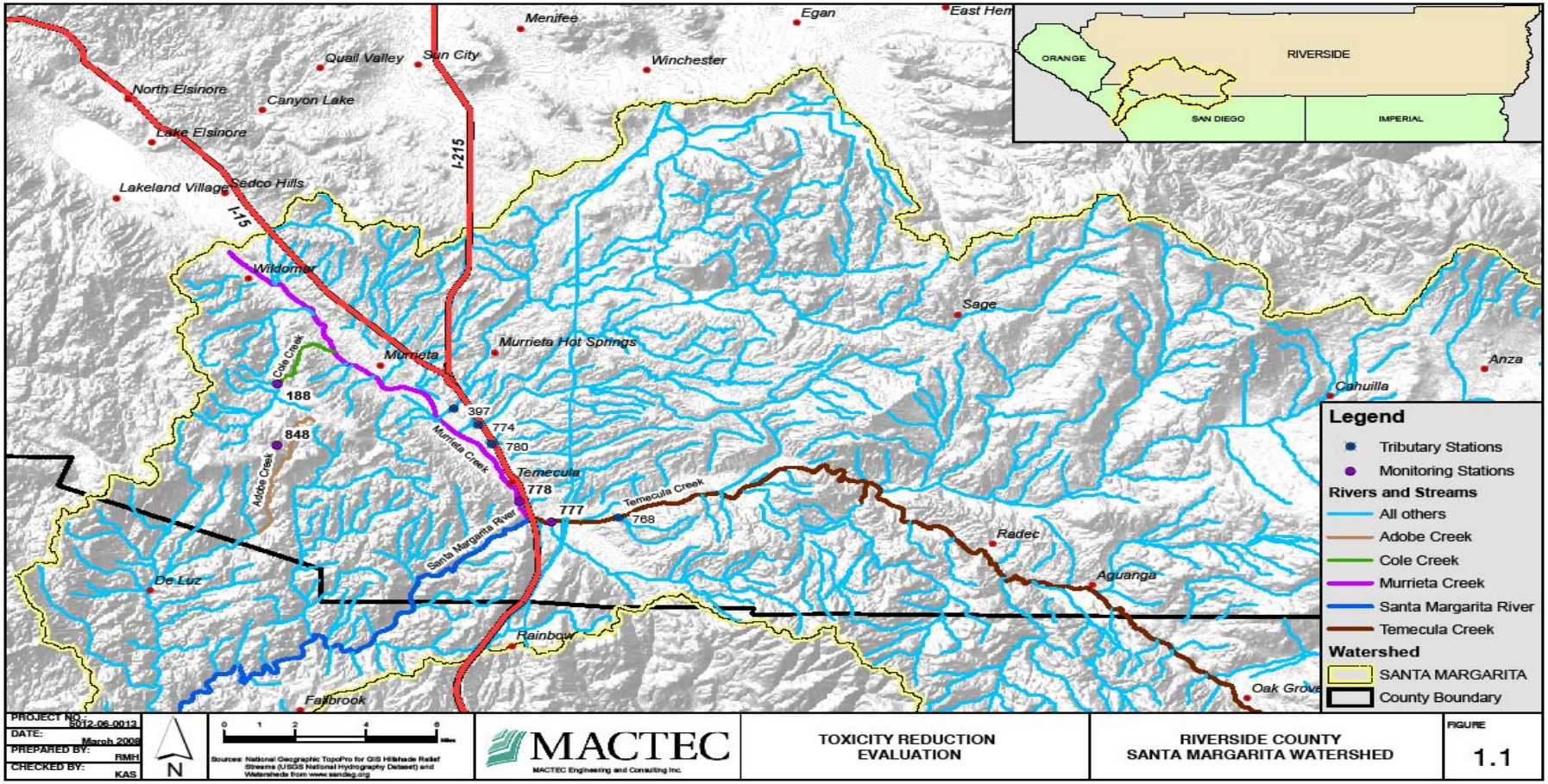
1.4 Watershed Description

The SMR encompasses approximately 750 square miles in southwestern Riverside and northern San Diego Counties (see Figure 1-1). The upper (northeast) portion of the SMR is in Riverside County with the remainder in San Diego County. The SMR is subdivided into the Temecula Creek and Murrieta Creek sub-watersheds and has an arid Mediterranean climate. Creeks in the SMR are ephemeral. Flow in Temecula Creek and in Murrieta Creek results almost exclusively from groundwater during the dry season. It is rare to find flow during dry weather at the tributary stations, and usually this flow infiltrates before reaching Temecula Creek or Murrieta Creek (2006-2007 Monitoring Annual Report). While the ephemeral streams in the SMR are technically receiving waters, the term "Receiving Waters" as used in this TRE Status Report refers exclusively to Murrieta Creek and Temecula Creek.

The Santa Margarita River is formed by the confluence of Murrieta Creek and Temecula Creek. The confluence is located in Riverside County, approximately five miles northeast of San Diego County. The Santa Margarita River flows from Riverside County into San Diego County through the community of Fallbrook and Marine Corps Base Camp Pendleton. The lower estuary and river are protected by Camp Pendleton and are much less developed than surrounding areas in Southern California. The Santa Margarita River is able to support a relative abundance of wildlife and habitats in part because of its undeveloped state.

Figure 1-1

Riverside County Santa Margarita Watershed



As presented in Table 1-1, the total population in the SMR of Riverside County is significantly less than adjacent watersheds covered under similar Phase I MS4 NPDES permits.

Table 1-1

San Diego Region Populations

Jurisdiction	Population
Orange County	3,002,048
San Diego County	2,941,454
SMR/Riverside County	250,483
Unincorporated	55,291
Murrieta	97,257
Temecula	97,935

1.5 Pyrethroid Pesticide Background and Usage

A statewide compilation of the presence and effects of pyrethroid pesticides in urban surface waters, prepared in July 2008 and presented at the 2008 California Association of Stormwater Quality Agencies (CASQA) Conference, outlined the rise in pyrethroid use and its increased presence in urban waterways (Ruby, 2008). A comprehensive survey of pesticide use in Sacramento, San Diego, and Orange Counties also concluded that, as the older pesticides chlorpyrifos and diazinon have been phased out, pyrethroid pesticides have seen increased usage (Wilen, 2005). The Urban Pesticide Pollution Prevention (UP3) Project confirms that pyrethroids are the cause of toxicity in numerous California waterways, particularly in urban waterways. The UP3 Project (www.up3project.org) publishes an annual review of new scientific findings on pesticides in urban surface water (TDC, 2007). Since 2005, the reviews have consistently indicated that pyrethroid use continues to increase and that pyrethroids are found to be the cause of toxicity in urban waterways. The pyrethroid use information is confirmed by data published by the DPR.

Pyrethrins are natural insecticides that are derived from an extract of chrysanthemum flowers. Pyrethroids are synthetic versions of pyrethrins. These chemicals act on the nervous system of insects. Commercial pyrethroid pesticides often contain a synergist that works by restricting the enzymes insects use to detoxify pyrethroids. While pyrethroids have been shown to be one of the least poisonous insecticides to mammals, the effects depend on the level of exposure, the health of the animal, and the environmental circumstances.

Pyrethroids applied in urban areas enter the storm drainage system of the MS4 by surface runoff and are transported directly to receiving waters. Other potential urban sources are runoff from irrigation with reclaimed water, application overspray, and atmospheric deposition. Pyrethroids transported via the MS4, from whatever source, are considered to be non-point discharges. Agriculture, nursery, and urban/suburban uses are the main categories of sources of pyrethroids in the receiving waters of the SMR.

Outdoor structural pest control is the predominant urban use of pyrethroids in most watersheds. However, in the SMR, the acreage dedicated to agricultural land use exceeds the urban land use area by approximately 2:1. Pyrethroid insecticides are applied to a variety of crops in the SMR and California throughout the year. According to the DPR, pyrethroids are commonly used on fruit and nut trees, row crops, and in nurseries. Six of the primary pyrethroids used in California agriculture, in order of decreasing amount applied in 2003, are permethrin, esfenvalerate, lambda-cyhalothrin, cyfluthrin, bifenthrin, and cypermethrin. Therefore, agricultural sources of pyrethroids were considered.

TIE methods for pyrethroids are still being developed. Effective methods require the ability to measure low concentrations of pyrethroids, and this remains a challenge. Fortunately, the development of TIE methods for pyrethroids is progressing and moving towards standardization (San Francisco Estuary Project, 2007). TIEs are planned for storm water samples collected during 2008-2009 when toxicity is evident.

1.6 Management Questions and Objectives

This TRE is designed to confirm the toxic element observed in the samples collected in the Santa Margarita Region, identify likely sources of the toxic element, and propose mitigation measures for those sources. TIEs identified pyrethroids pesticides as the likely toxic element. As the MRP specifies that a TRE must be conducted following toxicant identification through a TIE, Phase I of the TRE focused on the pyrethroids identified as the source of toxicity in the 2007 TIEs. To support this TRE, the Permittees commissioned additional wet and dry weather toxicity testing, water column pyrethroid testing, additional TIEs to verify the persistence of pyrethroids as the toxicant. Based on the resulting information, the TRE evaluates the specific sources of toxicity and likely mitigation.

This TRE study assumes that pyrethroid sources and resultant toxicity patterns in the SMR are similar to those in neighboring counties, in particular San Diego and Orange Counties. Under this assumption, the Permittees hypothesized that pyrethroids would be detected in samples at most if not all monitoring locations, that the samples would exhibit toxicity to *Hyalella*, and that TIEs would indicate pyrethroids as the cause of the toxicity. Unlike other regions, dry weather toxicity is not expected in the SMR, as dry weather flows are supported primarily by groundwater.

Based on this assumption, this TRE was designed to provide information to help answer the following five management questions related to the toxicity:

1) Is the pyrethroid toxicity persistent in Temecula Creek and Murrieta Creek?
2) Does the toxicity occur during dry weather?
3) Are there any obvious sources of illicit discharge of pyrethroids that can be abated?
4) What are the likely sources of pyrethroid toxicity in the SMR?
5) What potential management measures are available to the Permittees to mitigate the impacts of pyrethroid pesticide application?

Answers to the first four questions are detailed in the Phase I Status Report. Briefly, toxicity is persistent in the creeks during wet weather, but is not evident in dry weather samples. No

obvious sources of illicit discharge were found. The likely primary source of pyrethroids is structural control performed by pest control operators (PCOs). The final question is addressed during Phase II and is the focus of this report.

2.0 Data Comparison

An assumption of this TRE study is that pyrethroid sources and resultant toxicity patterns in the SMR are analogous to those in similar counties, in particular neighboring San Diego and Orange Counties. To verify this assumption, it was necessary to compare data collected in SMR to data collected in other locations. As part of the 2008 CASQA pyrethroids data compilation, monitoring results were summarized from studies that investigated the presence and effects of pyrethroid pesticides in urban areas of California (Ruby, 2008). The CASQA summary listed the frequency of detection of various pyrethroid pesticides and results of toxicity testing for different indicator species. Results from various northern and Southern California locations were detailed, including results of water column studies from Orange, San Diego and Sacramento Counties.

Pyrethroids, as a class of chemicals, have an affinity for particles and they are considered to be relatively hydrophobic; they are therefore commonly found in sediments of waterways downstream of their application sites. The initial toxicity studies leading to the identification of pyrethroids as pervasive environmental contaminants in California were performed on sediment samples by Don Weston and his colleagues at the University of California, Berkeley (Weston et al., 2005; Amweg et al., 2006). Recently, improvements in analytical methods for pyrethroids in water, and modification of toxicity studies to more effectively test for pyrethroid-based toxicity in water, have lead to increasing evidence of the presence of pyrethroids in water column samples, and toxic effects in the water matrix (see citations for Orange and San Diego County in Ruby, 2008).

Extensive work has been performed on the environmental presence and effects of pyrethroids in urban areas of the neighboring Orange and San Diego counties; however, much of this work has been performed on sediment samples. Although the sediment monitoring results do not correspond directly with the SMR water column test results, sediments are considered to be effective integrators of contaminants from the contributing storm water flows. The deposited sediments are produced as particles settle out from the passing water over some

period of time, and tend to accumulate until they are washed away by higher-velocity flows. Summaries of the relevant sediment study results are therefore included in the discussion that follows.

In Orange County, an ongoing study being performed by UC Davis, in conjunction with UC Riverside and the Orange County UC Cooperative Extension, has consistently found bifenthrin and permethrin in water column runoff samples from residential areas (Haver et al., 2007; Oki, personal communication). In samples from four residential sites they have detected bifenthrin in 100% of samples, with the number of samples varying from 48 to 57 per site (Oki, personal communication). In sediment samples collected in recent years from the Santa Ana Region of Orange County, bifenthrin is commonly detected (32 of 56 samples) and permethrin less frequently so (4 of 56 samples), with sediment toxicity to *Hyalella* common (39 of 54 samples tested were moderately or highly toxic; see summary in Ruby, 2008).

In a 2005 study of six Orange County residential storm drainages and seven tributary streams draining commercial/residential land uses, bifenthrin was detected in 95% of dry weather samples and 100% of wet weather samples (Budd et al., 2007). Because treatment of nursery products is mandatory to control Red Imported Fire Ants, an older DPR study, conducted in 1999-2002, found occasional detects of bifenthrin in urban runoff samples, along with frequent detects in nursery runoff from several Orange County sites.

In San Diego County, under NPDES Permit monitoring conducted since 2004, pyrethroids have been commonly detected in water samples from several receiving waters, and toxicity to *Hyalella* has been increasingly observed in water samples (see summary in Ruby, 2008). Bifenthrin was detected in 12 of 15 samples collected from 2005-2006 and 2006-2007; detection frequency was 100% in samples from Chollas Creek, Agua Hedionda, and Tecolote Creek. Toxicity to *Hyalella* was observed in 22 of 57 samples tested over the three year period, 2004-2007. In a TIE study performed on Chollas Creek samples during 2005-2006,

67% of samples were acutely toxic to *Hyalella*, and the toxicity was found to be likely due to pyrethroids.

In a 2004-2005 study performed by UC Davis and others, sediments from Switzer Creek at its outlet to San Diego Harbor were found to be highly toxic; bifenthrin and permethrin were detected at high concentrations, and a sediment TIE identified pyrethroids as the likely cause of the observed toxicity (Anderson et al., in press). As part of a statewide survey of urban waterways, sediments were tested from several receiving waters in San Diego County. All were found to be highly toxic to *Hyalella* (Holmes et al., in press).

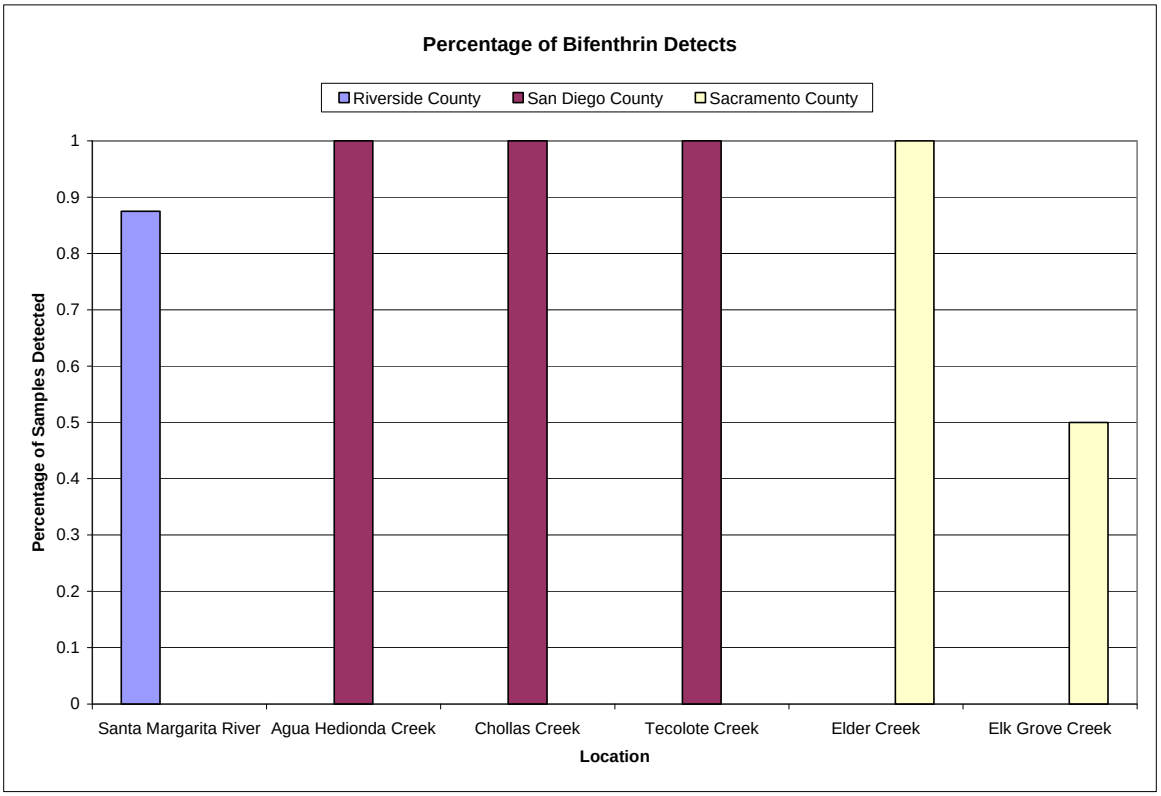
To further compare the pyrethroid sources and toxicity patterns in the SMR to other counties, the CASQA data summary was analyzed to select the studies which reported results for the same constituents and effects identified in the SMR, specifically permethrin, bifenthrin, and toxicity to *Hyalella.* The total number of detections for the different monitoring locations was divided by the total number of samples taken at the sites to calculate the percentage of samples with detectable concentrations of pyrethroids. This normalized metric allowed for comparison of the various datasets.

While permethrin is among the more commonly-used pyrethroids, it is much less toxic to aquatic life than bifenthrin (TDC, 2007). For the purposes of this assessment, bifenthrin detection frequency and frequency of toxic effects were used as the metrics for comparison.

Comparative results for bifenthrin are summarized in Figure 2-1. Data were available for two creeks in Sacramento County and three locations in San Diego County, in addition to the data collected for SMR. Two samples were taken at the Sacramento County sampling locations. For San Diego County, each creek was sampled three times except for Chollas Creek, which was sampled six times. The SMR was sampled a total of eight times. In most cases, bifenthrin was detected in over 80% of samples. Only at Elk Grove Creek in Sacramento County was bifenthrin detected at a notably lower percentage.

Figure 2-1

Percentage of Samples with Bifenthrin Detections

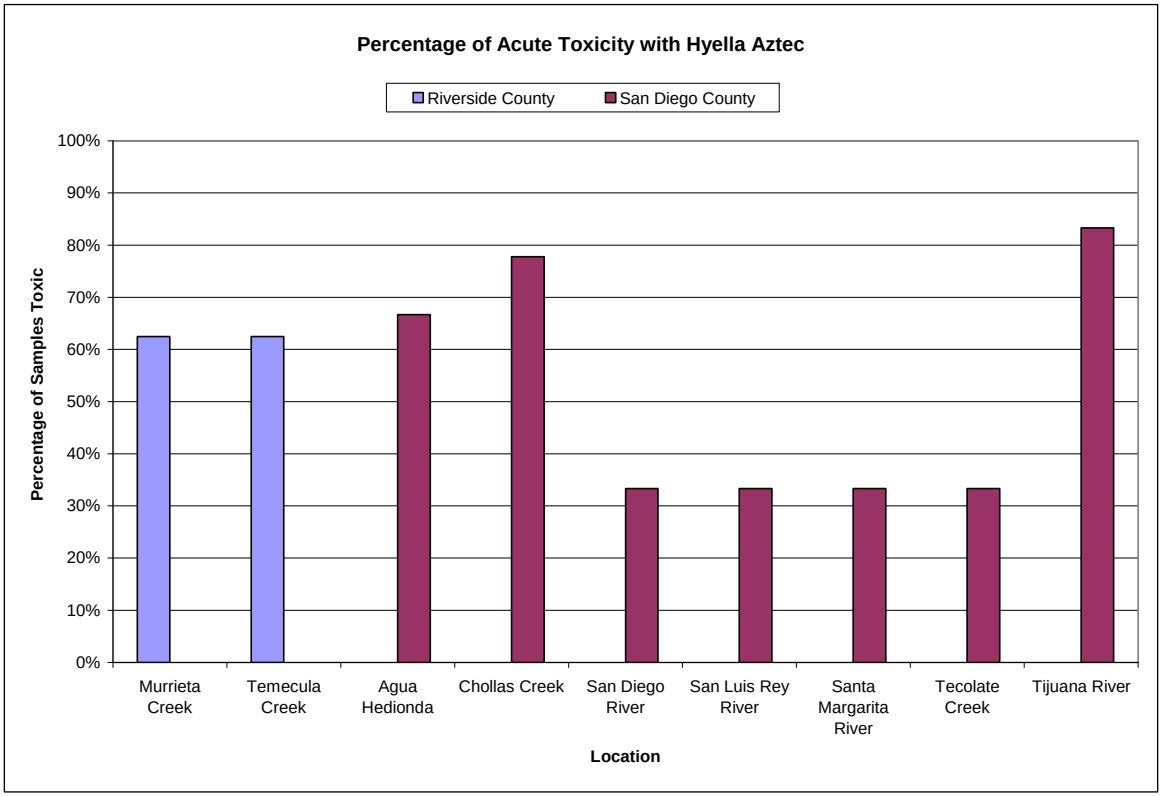


Toxicity to *Hyalella* was documented in water samples from San Diego County, along with the SMR. Toxicity testing was performed on samples from seven San Diego County water bodies. The sample sets ranged from three to nine toxicity tests (Aqua Hedionda, San Dieguito River, Tijuana River, and Chollas Creek). In the SMR, a total of eight toxicity tests were performed on samples from Murrieta Creek and Temecula Creek. The results for frequency of acute toxicity from the SMR were within the range of the results for similar sites in San Diego County (see Figure 2-2).

After comparing the results from different locations, the assumption that pyrethroid sources and resultant toxicity patterns in the SMR are similar to those in similar counties appears to be valid.

Figure 2-2

Percentage of Samples with Acute Toxicity to *Hyalella*



3.0 Literature Review

A literature review was conducted during December, 2008 to determine appropriate BMPs for reducing the concentration and load of pyrethroids in storm water runoff. An initial search was made of the Urban Pollution Prevention Program (UP3) website (www.up3program.org) for potential examples of BMP strategies implemented specifically for pyrethroids. The United States Environmental Protection Agency website and the CASQA website were also reviewed for pyrethroid specific BMPs. Widespread use of pyrethroids is relatively recent, and there has been little direct evaluation of BMPs for pyrethroids. Further research was conducted on general storm water BMPs, and their potential for pyrethroid reduction was evaluated based on the design of the BMP and the chemical behavior of pyrethroids.

To identify pending legislation that may be related to pyrethroid pesticides, web searches were conducted on the websites for DPR, the California legislature, the EPA, and the Library of Congress. However, no pending legislation was identified as relevant to pyrethroid pesticides.

Table 3-1 below presents the findings of the literature review. BMPs are categorized as either source control or treatment control, and within each category they are sorted by type. The literature source, a summary of the BMP, the estimated potential for reducing pyrethroid-induced toxicity, and possible concerns about implementing the BMP are provided. See Section 4 for further information about each type of BMP.

Table 3-1
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Source Control				
Regulatory	Pesticides of Interest for Urban Surface Water Quality. Urban Pesticides Use Trends Annual Report. July 2008.	Suggests regulatory changes as a result of increased toxicity due to pyrethroid use	Potentially High	Supplementary to other BMPs, Will take years to show results
Regulatory	Improving Urban Pesticide Regulatory Activities to Protect Water Quality – Annual Update 2007. November 2007.	Discusses recent state and federal regulatory pesticide activities on an annual basis	Potentially High	Supplementary to other BMPs, Will take years to show results
Regulatory	California Department of Pesticide Regulation. http://www.cdpr.ca.gov/docs/registration/reevaluation/chemicals/pyrethroids.htm. 2007.	The reevaluation of the widespread presence of synthetic pyrethroid residues in the sediment of both agricultural and urban dominated California waterways at levels toxic to Hyalella azteca (H. azteca).	Potentially High	Supplementary to other BMPs, Will take years to show results
Integrated Pest Management (IPM)	Building Maintenance - Structural Integrated Pest Management. June 2008.	Promotes reduction in pesticide use through use of municipality IPM and hiring of PCO's trained in IPM	Potentially High	Does not eliminate all uses of pyrethroids
IPM	California Stormwater BMP Handbook. January 2003.	Promotes prevention of pesticide use through use hiring of PCOs that use IPM as an alternative	Potentially High	Does not eliminate all uses of pyrethroids
IPM	City of Santa Monica Toxics Use Reduction Program Integrated Pest Management. June 1997.	Overview of IPM program initiated by the City of Santa Monica	Potentially High	Does not eliminate all uses of pyrethroids
IPM	National Management Measures to Control Nonpoint Source Pollution from Urban Areas. November 2005.	EPA document discussing management practices to help reduce pesticide use	Potentially High	Does not eliminate all uses of pyrethroids
IPM	National Pollutant Discharge Elimination System (NPDES) Phase II BMP & Measureable Goal Examples. February 2008.	Provides examples and goals of good housekeeping BMPs	Potentially High	Does not eliminate all uses of pyrethroids
IPM	The Monterey Bay Green Gardener Program "sample curriculum". www.green-gardener.org/about. Accessed December 2008.	Informs the public and landscapers about the green gardener program and how to get involved	Potentially High	Does not eliminate all uses of pyrethroids

Table 3-1 (continued)
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Source Control				
IPM	Western IPM Center. www.wripmc.org. Last updated 12/23/2008.	Pest management information specific to region, state, or territory.	Potentially High	Does not directly address pyrethroids
IPM	EcoWise Certified. www.ecowisecertified.com. Accessed December 2008.	Information on IPM program design, developing contracts for structural IPM, and pilot program aimed at developing IPM certification.	Potentially High	Does not directly address pyrethroids
IPM	Our Water Our World. www.ourwaterourworld.org. Copyright 2008.	Contains assorted fact sheets on specific pests and methods to manage them without using hazardous materials.	Potentially High	Addresses pyrethroids in water pollution fact sheet.
IPM	UP3 Project. www.up3project.org. November 2008.	Provides tools to municipalities to reduce municipal pesticide use and to conduct outreach to their communities on less-toxic methods of pest control	Potentially High	Addresses pyrethroids toxic impact on water bodies.
IPM	State of California Green California. www.green.ca.gov/EPP/building/structipm.htm. Accessed December 2008.	Provides information on structural IPM.	Potentially High	Addresses pyrethroids impact on storm water.
IPM	San Francisco Department of the Environment. http://www.sfenvironment.org/our_programs/topics.html?ti=1. Accessed December 2008.	Contains information regarding key components of integrated pest management.	Potentially High	Addresses pyrethroids impact on storm water.
Low Impact Development	Low-Impact Development Design Strategies: An Integrated Approach. June 1999.	Discusses LID design strategies and successes, including storm water controls	Potentially High	Does not directly address Pyrethroids
Low Impact Development	Low Impact Development Handbook: Stormwater Management Strategies. December 2007.	Reviews many LID techniques appropriate for Southern California's climate	Potentially High	Does not directly address Pyrethroids
Public Outreach	County of Los Angeles Department of Public WorksStorm Water/Urban Runoff Public Education Model Program. Fiscal Year 2002.	Provides Los Angeles specific examples of Public Outreach and Education	Potentially High	Change is up to individuals, needs cumulative effect

Table 3-1 (continued)
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Source Control				
Public Outreach	Drainage Area Management Plan - Santa Ana and Santa Margarita Regions. July 2005.	Discusses local outreach actions conducted by the Permittees	Potentially High	Change is up to individuals, needs cumulative effect
Public Outreach	Environmental Justice Pilot Project Pest Management Assessment: Soil Fumigant and Organophosphate Insecticide Use and Alternatives - Parlier, Fresno County, California. October 2007.	Study of Agricultural pesticide use in Fresno area, including use of reduced risk pesticides	Potentially High	Unknown potential water quality and toxicity issues
Public Outreach	National Management Measures to Control Nonpoint Source Pollution from Urban Areas. November 2005.	EPA document discussing management practices to help reduce pesticide use	Potentially High	Change is up to individuals, needs cumulative effect
Public Outreach	National Pollutant Discharge Elimination System (NPDES) Phase II BMP & Measureable Goal Examples. February 2008.	Provides examples and goals of public outreach BMPs	Potentially High	Change is up to individuals, needs cumulative effect
Public Outreach	Pesticides of Interest for Urban Surface Water Quality. Urban Pesticides Use Trends Annual Report. July 2008.	Contains recommendations for public education based on analysis of pyrethroid use trends	Potentially High	Change is up to individuals, needs cumulative effect
Treatment Control				
Extended Detention Basin	Santa Clara Valley Urban Runoff Pollution Prevention Program Commercial Site Design Examples. February 2007.	Shows examples of different structural treatment methods and their effectiveness	Moderate	Improper maintenance could lead to other water quality issues
Extended Detention Basin	California Stormwater BMP Handbook. January 2003.	Reviews extended detention basin BMP methods, concerns, and goals	Moderate	Improper maintenance could lead to other water quality issues
Extended Detention Basin	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews many BMP methods and contains information specific to Southern California	Moderate	Improper maintenance could lead to other water quality issues

Table 3-1 (continued)
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Treatment Control				
Infiltration Basin	California Stormwater BMP Handbook. January 2003.	Reviews infiltration basin BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Infiltration Basin	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews infiltration basin BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Infiltration Trench	California Stormwater BMP Handbook. January 2003.	Reviews infiltration trench methods of BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Infiltration Trench	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews infiltration trench methods of BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Media Filter	California Stormwater BMP Handbook. January 2003.	Reviews media filter BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Media Filter	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews many BMP methods and contains information specific to Southern California	Potentially High	Improper maintenance could lead to other water quality issues
Pervious Pavement	California Stormwater BMP Handbook. January 2003.	Reviews pervious pavement BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Pervious Pavement	Low Impact Development Handbook: Stormwater Management Strategies. December 2007.	Discusses LID strategies for assistance in storm water management	Potentially High	May contaminate groundwater

4.0 BMP Analysis

Based on the literature review and the findings of Phase I of the TRE, BMPs were evaluated for their applicability to the SMR. Because the toxicity appears to be principally a wet weather phenomenon, and because the Permittees' jurisdiction includes the urbanized area of the watershed, the analysis focused on BMPs designed to reduce the amount of storm water pollution caused by urban runoff.

The potentially applicable BMPs are divided into Source Control and Treatment Control BMPs and are discussed in detail below. Through the Permittee's proactive efforts to protect the quality of the receiving waters and their beneficial uses, many programs addressing these broad categories are either already in place or are actively being developed. The implementation status for each specific BMP is discussed. Examples of BMP implementation by other municipalities in the region are included as a tool for evaluating the consistency of the Permittees' program with other programs in the region.

4.1 Source Control BMPs

Source control BMPs are designed to curtail pollution at the source before it has the opportunity to enter the storm drain system and pollute waterways. They are generally the preferred type of BMP because reduction of pollution occurs at the source, before runoff has become contaminated (CASQA, 2003). The types of broad categories of source control BMPs that identified as most appropriate for the Santa Margarita watershed are: pursuing regulatory change, implementing IPM strategies including LID, and public outreach and education.

4.1.1 Regulatory Action

Status: Currently being implemented by the Permittees.

Pesticide manufacturers are required to receive approval by USEPA and California DPR for specific pesticide uses, and both agencies can impose use restrictions to prevent unwanted impacts on the environment and public health. At the federal level, a fundamental regulatory disconnect exists between pesticide approval (registration) under FIFRA and water pollution control programs under the Clean Water Act. This has resulted in a repeating pattern, in which a) pesticides are approved for use without sufficient consideration of potential environmental effects, b) water quality and other ecological impacts accrue, c) use restrictions are applied to the offending products (sometimes involving widespread bans on use), and d) new pesticides are approved for use, with subsequent environmental impacts.

In 1962 Rachel Carson published *Silent Spring*, documenting the widespread ecological consequences of pesticide applications. The federal government responded by banning the use of DDT and other organochlorine pesticides, based on extensive evidence of environmental impacts through the process of bioaccumulation. The ban has lead to dramatic recoveries in affected populations of bald eagles and other species; however, the legacy of these long-lasting pesticides near-shore dumping areas in Los Angeles County and elsewhere remains (IWS, 2007).

Eventually the organochlorine pesticides were replaced principally by organophosphate pesticides, especially in urban uses. In the mid-1990s municipal storm water monitoring programs began to document that commonly-used organophosphate pesticides, especially diazinon and chlorpyrifos, were present at toxic levels and causing toxicity to aquatic organisms, principally the common water flea, *Ceriodaphnia*. Although not bioaccumulative, diazinon and chlorpyrifos were discovered to cause widespread toxicity in urban runoff and local receiving waters (TDC, 2001). USEPA subsequently banned most urban uses of diazinon and chlorpyrifos, although EPA's main motivation involved human health effects

on the pesticide applicators, and water quality was not an important factor in those decisions. Again, the ban was also immediately effective, reflected in reduced concentrations of diazinon and chlorpyrifos in urban water samples, and fewer occurrences of organophosphate-based water column toxicity (c.f., references in Ruby, 2008 for San Diego County Municipal Copermittees Annual Urban Runoff Monitoring Reports). But pesticide manufacturers simply replaced the OP pesticides in their products with other active ingredients, principally pyrethroids. Shortly thereafter, researchers and municipal storm water programs began documenting toxic effects from the new pyrethroid products. The pyrethroid impacts were first documented in sediments, and the affected test organism shifted from *Ceriodaphnia* to the sediment-dwelling *Hyalella*.

In the cases of both organochlorine (DDT) and organophosphate (diazinon, chlorpyrifos) pesticides, federal limitations or bans on uses were effective in ameliorating the associated environmental impacts. In both cases, however, new pesticide products were approved for use that then caused related but different impacts to the environment. Therefore it is clear that the most effective strategy for preventing environmental impacts from pesticide use involves implementing an effective process of pesticide approval and registration that comprehensively accounts for and mitigates against such impacts.

For more than ten years CASQA and various other California state and local agencies have promoted better regulation of pesticides at the federal level, encouraging use restrictions as the most effective means of source control. California water quality agencies have sent comment letters to USEPA and DPR on guidance pertaining to the application of pesticides to surface waters and on recommended environmental hazard statements for residential outdoor pesticides (TDC, 2007). These efforts are beginning to show some modest signs of success. In a recent letter to stakeholders, EPA outlined an approach to provide better cooperation between the Office of Pesticide Programs (OPP) and the Office of Water (OW), to allow for “environmentally protective and scientifically defensible effects assessment judgments about contaminants that are or may be found in ambient water”. The Riverside County Permittees plan to continue their support of these efforts through ongoing

participation in the CASQA Pesticides Subcommittee, the Urban Pesticide Pollution Prevention (UP3) Project, and the Urban Pesticide Committee. The Permittees also plan to request that the RWQCB become involved in advocating for more effective pesticide regulation at the state and federal levels.

The Permittees are members of a CASQA subcommittee that addresses pesticide uses impacting stormwater discharges. Effort focuses on providing input to the USEPA and the California Department of Pesticide Regulation (DPR) to improve pesticides regulations so that they more fully protect water quality and are better aligned with the Clean Water Act and California Water Code. (RCFCWCD, 2008). CASQA has also been active in supporting DPR's ongoing reevaluation of allowable pyrethroid pesticide uses (TDC, 2007).

Increasingly, the regulatory response to the water quality impacts resulting from *legal uses of approved pesticides* has been for regional water boards to impose limitations on the allowable loadings of pesticides to impaired waters through the TMDL process. Local agencies have little or no jurisdiction over sales or use of these pesticide products, and therefore do not have the full authority needed to perform loading reductions in resulting TMDLs. An effective regulatory solution must occur at the state and federal levels, to regulate allowable pesticide uses to effectively prevent such water quality impacts.

Current legislation requires users of certain pesticides to be trained, often certified, in the use of those pesticides and to report the amounts applied (State of California, 2008). A similar regulatory approach could be used to promote pesticide alternatives, such as for PCOs to train and certify their technicians in the use of IPM methods (Quarles, 2002). The Permittees are considering supporting regulatory action by the state to include IPM training for PCOs in the requirements for certification and training on the use of pesticides.

Environmentally sensitive and flexible zoning ordinances may be adopted to facilitate the use of LID principles, thereby encouraging private developers to use LID principles (Prince Georges County, 1999). Additional land use restrictions or alternatives to present zoning

laws may help reduce urban storm water runoff, potentially reducing pyrethroid loadings in receiving waters. The Permittees plan to continue promoting LID implementation through interagency communications and cooperation.

4.1.2 Integrated Pest Management

Status: Currently being implemented by the Permittees.

IPM is "a decision-making process for managing pests that uses monitoring to determine pest injury levels, and combines biological, cultural, mechanical, physical, and chemical tools and other management practices to control pests in a safe, cost effective, and environmentally sound manner that contributes to the protection of public health" (Carlsen, 2008). IPM can further be described as an approach to solving pest problems by using information about the pest and landscape to eradicate the pest's habitat in a manner that poses the least risk to humans (Ecology Action, 2007). IPM has many different aspects that help to reduce pests and in turn cause a reduction in pesticide use, including green gardening and structurally integrated pest management (SIPM). BMPs that are typically used as part of an IPM strategy are described in the following sub-sections.

4.1.2.1 Green Gardening

Status: Not currently being implemented by the Permittees, program under consideration and will be enacted in the near future.

The Green Gardener program, implemented through landscapers, promotes environmentally responsible landscaping to reduce the use and need for pesticides. In general, education of gardening and landscape maintenance staff is beneficial for pest reduction as part of an IPM program. It provides alternative methods to landscapers, such as reducing outdoor sources of ants by elimination of their food and water sources through management of honeydew producing insects and plants associated with them (UC Davis, 2007). The Green Gardener

program encourages businesses to participate in environmentally sound landscape maintenance. Healthy landscapes are more resistant to pests (Ecology Action, 2007). Pests that do not have a suitable habitat will leave to find a more hospitable environment. When the pests leave, then there is a lessened need for pesticide applications and lower risk of pyrethroids entering storm water.

The County of Santa Barbara implemented a Green Gardener Program, in which landscapers are encouraged to take a class at the local city college, covering subjects such as IPM strategies and environmentally beneficial landscaping to obtain a "Green Gardener" card. They are then placed on the Green Gardener list, which is then promoted to the public by the County (County of Santa Barbara, 2008). The program benefits both parties; gardeners receive education and advertising at a nominal cost, and the County receives the benefit of more environmentally-friendly landscaping and a reduction in the use of pesticides. Municipalities may promote this type of program by contracting with landscaping companies that have their employees trained in green gardening practices.

Encouraged by the success of the Santa Barbara Green Gardener Program, the Monterey Bay area instituted a similar program. "The goal of the program was to educate and certify local gardeners in resource efficient and pollution prevention landscape management practices" (Ecology Action, 2007). With the support of the State of California Water Resources Control Board, more municipalities are likely to follow (Ecology Action, 2007).

4.1.2.2 Pest Control Contracting

Status: Currently partially implemented by the Permittees.

Many municipalities contract pesticide applications to professional PCOs. Contracting only with PCOs that have IPM training and certification can help realize IPM models and goals. The recently completed EcoWise Certified IPM Contracting Tool Kit (www.EcoWiseCertified.org), provides resources for municipal agencies to use in developing such a program. The EcoWise IPM Tool Kit includes:

- Elements to consider when developing an IPM policy
- Roles and responsibilities of the agency or business in an IPM program
- How to hire and work with a professional IPM service provider

The Took Kit also includes the EcoWise IPM Process along with a number of other helpful resources and sample documents.

Because PCOs are responsible for the majority of pesticides applied in urban areas, distribution of information regarding less-toxic alternatives, lower-use application techniques, and proper disposal, practices to professional applicators is an essential component of the Permitee's pesticide control effort. The Permittees currently distribute information to PCOs through the Public Outreach and Education Program (see Section 4.1.3).

The City of Palo Alto's Regional Water Quality Control Plant includes IPM requirements in their contracts with PCOs (City of Palo Alto, 2008). The City of Santa Monica, as a part of their SIPM program, specified IPM requirements in their PCO contracts (Raphael, 1997). Use of PCOs with IPM training and certification by municipalities encourages local PCOs to invest in IPM training and certification, which in turn, allows their expertise in IPM to expand beyond just the municipality itself (Quarles, 2002). Education of PCOs, hiring only PCOs that have IPM training, and contracting specifically for IPM by local agencies may

create more public awareness and reduce the use of pyrethroids in the Santa Margarita watershed.

4.1.2.3 Structurally Integrated Pest Management Program

Status: Currently being implemented by the Permittees, with additional programs under consideration.

SIPM is a program that controls the access of pests to buildings and the potential food sources within them by protecting the structure itself from pests, with minimal use of pesticides. The Permittees intend to lead by example, sharing success through public outreach programs and encouraging individuals and businesses to do the same. SIPM is a long term solution offering positive potential impacts on budget, reduction of pests and, reduction of pyrethroid pesticide use. Note that SIPM should not be confused with category of pesticide use referred to as structural pest control. SIPM is a BMP designed to reduce the use of pesticides in a structural pest control program.

The City of Santa Monica implemented an SIPM program and experienced a reduction in pests and in the use of pesticides. In addition, Santa Monica reduced pest management costs by 30% (State of California, 2008). California law requires a SIPM strategy for all state-owned buildings and schools (State of California, 2008). The three main aspects of a SIPM strategy are facility design and LID, monitoring, and facility maintenance.

<u>Facility Design</u>

Status: Currently being implemented by the Permittees.

Facility design can play a large role in the exclusion of potential pests. "A facility's planning, design, and construction provides an opportunity to incorporate features that help to exclude pests, minimize pest habitat, and promote proper sanitation" (NIH, 1999). It can also reduce

storm water runoff (NAHB, 2008). Exclusion of pests helps reduce pest infestations and in turn the need for pyrethroid pesticide use. For example, ensuring that the design holds plants and mulch several inches away from the foundation of a building may assist the reduction of ant populations immediately adjacent to the building (UC Davis, 2007). A reduction in storm water runoff may also reduce the amount of pyrethroids that enter receiving waters. Facility designs can incorporate aspects of LID, as discussed below. New development and redevelopment may incorporate designs that aid in the exclusion of pests and the reduction of urban runoff, which may contribute to a reduction of pollutant loads, including pyrethroids.

Pest Monitoring

Status: Currently in not use by the Permittees, program under consideration.

Monitoring structures and adjacent areas may help prevent pest infestations and quickly identify potential problems. Traps, visual inspections, and staff interviews assist in the identification of areas and conditions that may foster pest activity (NIH, 1999). Monitoring for ants, for example, may consist of simple inspections of facilities such as looking under sinks and along pipes and electrical wires (UC Davis, 2007). The City of Santa Monica, as a part of their SIPM, provided training to all general staff, purchasing, carpenters and custodial staff. Specific presentations were given to groups, such as the custodial staff, who learned about products used in control of ant and cockroach populations and general sanitation. The staff is trained in the identification of potential pest infestations and habitat conditions that may foster pest activity (Raphael, 1997). Early identification of pest infestations can increase the effectiveness of specific treatments and reduce the overall need for pesticide use.

Sanitation and Facility Maintenance

Status: Currently not being implemented by the Permittees, program under consideration.

Proper sanitation includes reducing clutter and pest habitat and incorporating proper facility and waste management practices. Records of maintenance and housekeeping conditions may help track pest problems and assist in the determination of whether corrective action is needed or has been taken in a timely manner (NIH, 1999). Sanitation and facility maintenance involves the housekeeping staff, the building maintenance staff, and the landscaping staff.

Improper storage of waste may affect urban runoff, and it may create a hospitable environment for pests, particularly ants. Initial, low-cost steps that municipalities may take to improve waste handling are: controlling litter, keeping waste collection areas clean, and insuring proper disposal of pyrethroid pesticide products, if used, and educating employees and the public. Simple solutions such as rinsing out soda bottles and emptying trash daily prove effective to reduce insect infestations, particularly ants (UC Davis, 2007). An important component of an SIPM monitoring program is regular inspections of solid waste containers for structural damage or leaks (CASQA, 2004).

Educating custodial staff, such as was done in the City of Santa Monica, can reduce the amount of improperly disposed pesticides (Raphael, 1997). Designating staff members to perform a daily checklist of areas around the structure to ensure cleanliness and proper storage of waste can assist the efforts to reduce potential pest infestations and leakage of hazardous waste (CASQA, 2004).

Building maintenance staff also benefit from education and acceptance of responsibility for pest management. Maintenance crews can contribute to an SIPM strategy by securing the structure, such as caulking holes and cracks, assisting in the removal of clutter, and installing

door sweeps (State of California, 2008). Caulking holes in structures can prove effective in keeping ants out of facilities (UC Davis, 2007). Upkeep on building maintenance helps reduce potential pest habitat, and thus may reduce the need for application of pyrethroid pesticides.

Reduction of pest habitat around structures may reduce pest populations in and around structures. Marin County, as part of its integrated pest management program, has reduced rat habitat around the local Civic Center and in turn has seen suppression of the rat population (Carlsen, 2008). Programs similarly tailored to ants may result in a positive effect of pest reduction within the SMR. For example, banding tree trunks with tanglefoot or similar sticky substances can keep ants away from trees (UC Davis, 2007). Education and training may be provided to Permittee landscaping crews to assist in proper vegetation removal and, when necessary, pesticide use. Landscaping crews may be informed that pyrethroid pesticides or any less toxic pesticides are to be used only when a pest problem arises to an intolerable level, that they are not administered when a wet weather event is expected and only when low wind speeds are present (CASQA, 2004). Education of landscaping crews to remove pest habitat may reduce the need for pyrethroid use thus reducing the potential risk of pyrethroids entering storm water runoff.

Also, utilizing low water using vegetation and alternative landscaping techniques such as xeriscaping or naturescaping are efforts that landscape crews can take to reduce pyrethroids in urban runoff. Landscaping crews may also help preserve the water efficiency of the landscape through properly timed fertilizing, weeding, pruning, and pest control. For example, proper collection and disposal of yard clippings can prevent loose vegetation that has possibly been treated with pyrethroid pesticides from entering waterways or storm water drainage systems such as MS4s (CASQA, 2004). Reduction in pest habitat and proper landscaping maintenance may help reduce pest problems, and thus the need for pyrethroid pesticides.

4.1.3 Public Outreach and Education

Status: Currently being implemented by the Permittees.

Public Outreach and Education programs inform the public about storm water issues, proper use and disposal of publically available chemicals, and alternatives to pyrethroid pesticides. Reaching out to the public and providing information about the dangers of pyrethroids pesticides encourages citizens to make educated decisions about pesticide use. It also may accelerate state and federal regulatory changes regarding pyrethroid use through public promotion of such changes. According to the EPA, public education and awareness can be a "key component" in any BMP program for storm water management (EPA, 2008).

The District has enacted a public outreach program to help reduce the potential for pyrethroid pesticides to contaminate receiving waters. This program has initiated: distribution of educational materials to hardware store employees, active participation and distribution of outreach for HHW/ABOP facilities to provide for free venues to dispose of excess pesticides, and distribution of EPA and CalEPA materials to the public. The District also promotes the use of less toxic pesticides, provides education on storm water issues in public schools, and has enacted a multimedia campaign to control urban sources of pyrethroid pesticides (RCFCWCD, 2005).

<u>Education and Outreach to Businesses</u>

Status: Currently being implemented by the Permittees.

Distribution of information regarding pesticides to businesses, particularly hardware stores, is crucial for reducing pyrethroid use and misuse at its source. Education on pyrethroid runoff to local hardware stores may assist local hardware store employees to educate their customers on alternative methods of pest control. An Orange County survey from 2001 found that 55% of pest control products were purchased at hardware stores (Wilen, 2001). In

2006, Riverside County had 177,562 pounds of reported non-agricultural usage of pyrethroid pesticides (RCFCWCD, 2008). Reduction in usage may lead to a reduction of pyrethroids in urban storm water runoff. Educating hardware store employees about urban water quality impacts of pyrethroid pesticides may help reduce the usage and thus the toxicity of runoff in the Santa Margarita Watershed resulting from pyrethroid use, as employees have the ability to recommend alternative methods of pest management to their customers.

Education of nursery employees about pyrethroid management and IPM techniques may also yield significant source control benefits. In general, nursery employees tend to be more knowledgeable about pesticides than employees at hardware stores (Wilen, 2001). Nurseries that use and sell pyrethroids offer the highest return on outreach resources, while those nurseries that have chosen alternate pest management methods serve as examples of IPM in practice. In a recent Riverside County survey, one nursery stated that they do not use pesticides and if their nursery does experience a pest infestation, it is treated naturally (RCFCWCD, 2008). Such nurseries are likely to encourage their clients and customers to use the same methods. Education and outreach can lead to cooperation and sharing of successful and unsuccessful methods of IPM and ultimately reduce pyrethroid pesticide use and toxicity of storm water runoff.

Businesses not in the industry of pesticide sales may also benefit from outreach. The District directs outreach efforts to all businesses; those in the business of selling or using pesticides, and those that are not. The District has coordinated with the County's Business License Department to include an educational insert of the "Only Rain Down the Storm Drain" program to new business license applicants and annual renewal reminders (CRWQCBSD, 2008). Informing companies on proper disposal of hazardous materials such as pesticides is crucial to prevent pyrethroid containers from being improperly disposed of, leaking, and then contributing to storm water pollution.

Several Southern California cities conduct general business outreach as well. Cities such as Carson, Gardena, Inglewood, and Lomita distribute informational pamphlets on storm water

pollution relating to landscaping and gardening practices to general businesses (DCWMAC, 2007). Such information informs businesses of alternate methods of pest control beyond pesticide use and imparts knowledge about storm water quality issues. Thus, dissemination of educational materials to local businesses is intended to help reduce pyrethroid runoff by ensuring proper disposal of pesticides and encouraging alternate methods of pest control.

Educational and Outreach to the General Public

Status: Currently being implemented by the Permittees.

The District distributes educational materials within the Santa Margarita Region such as EPA sponsored pamphlets in order to promote reduced use of pyrethroid pesticides and educate the public about alternate practices of pest management. The public purchases retail pesticides and uses them, presumably, according to the manufacturer's instructions and in compliance with regulations listed on the packaging, including proper disposal of empty containers in the municipal waste stream. However, even when used properly, retail pesticides have the potential to contaminate urban runoff, and homeowners may be unaware of the downstream consequences of pesticide use. Depending on the landscaping practices in a neighborhood, promoting alternative pest management strategies and educating the public on storm water quality and pesticide use may be the most beneficial way to reduce the source of pyrethroids in urban runoff (Wilen, 2005).

The District distributes educational materials within other public outreach programs and maintains pest management information on the internet. The District also distributes brochures to educate the public on lawn and garden maintenance, fertilization, and pesticide and household chemical use (RCFCWCD, 2005). These educational materials provide public education on alternative pest control methods, limiting individual use of pyrethroids, and proper disposal of pesticide containers.

Many municipalities perform storm water outreach at festivals and public events by participating in the events and by distributing brochures. The Cities of Lawndale and Torrance plan and attend public festivals and rent booth space to educate the public about storm water quality and the use of pyrethroids (DCWMAC, 2007). Cities including Carson, Gardena, Inglewood, and Lomita distribute informational pamphlets on storm water pollution relating to household activities and landscaping and gardening practices to the general public (DCWMAC, 2007). The District participates in events such as the Children's Groundwater Festival, the Southern California Fair, the Community Water Festival, and the Santa Margarita Watershed Clean Up (RCFCWCD, 2005). The Permittees, as well as other municipalities within California, participate in public events and distribute informative materials as a portion of their current public outreach programs.

Education on proper disposal of pesticides

Status: Currently being implemented by the Permittees.

Improper disposal of pesticides is a potential contributor to storm water contamination. Empty containers be disposed of in the municipal waste stream are not likely to contribute to storm water pollution, however, unused pesticides may enter the MS4 by leaking in transit. In Orange County in 2001, 54.5% of people surveyed claimed to have disposed of unwanted pesticides in the municipal waste stream, and 78.6% did not know the location of a household waste disposal site (Wilen, 2001). The District has created a partnership with Riverside County Waste Management to provide educational programs and materials on proper disposal of unwanted waste, including pesticide containers (RCFCWCD, 2005).

Multimedia Outreach

Status: Currently being implemented by the Permittees.

The EPA suggests using multiple media sources to promote and educate on storm water impacts, particularly through public service messages (EPA, 2007). Mass media has proven to be a key source of pollution prevention information for the general public (LADPW, 2002). The District currently participates in a multimedia advertising campaign including: maintaining a website that provides information, distributing mailing inserts regarding water quality issues through various county entities, and billboard advertising campaigns. Many other municipalities, such as the Cities of Palo Alto and Lawndale, also use the world wide web to provide information to the public (City of Palo Alto, 2008) (DCWMAC, 2007).

Public School Programs

Status: Currently being implemented by the Permittees.

A storm water education program for public schools is a concept supported by the EPA (EPA, 2007). The County of Los Angeles has incorporated public school educational programs into its outreach program (LADPW, 2002). The District focuses storm water education efforts on elementary school students (RCFCWCD, 2005). For example, sixth-grade students at Warm Springs Middle School were given an interactive presentation regarding storm water pollution with an enviroscape model that excited and engaged the students; a presentation that has been given over 150 times during the 2003-2004 school year (Jamescourie, 2004). Educational programs in public schools are intended to produce long-term benefits to storm water runoff quality.

Education on Lower Risk Alternative Pesticides

Status: Currently being implemented by the Permittees.

Part of Public outreach includes suggesting less toxic alternatives to pyrethroid pesticides, such as those listed on the Our Water Our World website (www.ourwaterourworld.org). Lower risk pesticides have reduced impacts on human health, lessened toxicity to non-target organisms, decreased potential for water contamination, and lower pest resistance potential (Matteson et al., 2007). The District distributes materials associated with the "Our Water Our World" organization (RCFCWCD, 2008).

However, some of the lower risk pesticides are toxic to beneficial arthropods and still have the potential to pollute surface and ground water (Matteson et al., 2007). Pyrethroids were developed as a less toxic alternative from organophosphate pesticides (Quarles, 2002). In the Santa Margarita Watershed, there was a decrease in water toxicity to *Ceriodaphnia* and an increase in toxicity to *Hyalella* as organophosphate pesticides such as chlorpyrifos and diazinon and were replaced by pyrethroids (RCFCWCD, 2008). The effects on storm water runoff of lower risk pesticides must be carefully evaluated before they are promoted as effective solutions to urban storm water runoff pollution.

4.1.4 Low Impact Development (LID)

Status: Currently being implemented by the Permittees.

LID involves environmentally-friendly building and development designs that mitigate impacts to land and water. LID functions by managing storm water at its source, incorporating a variety of runoff control techniques, using natural features as design features, and protecting natural resources (NAHB, 2008). Municipalities that promote LID have the potential to reduce municipal infrastructure and maintenance costs while balancing growth needs with environmental protection (NAHB, 2008). LID practices include "small scale,

decentralized treatment practices" that include conservation of open space, a reduction of impervious surfaces, and the incorporation of water controls (NAHB, 2008). Reduction of urban runoff volumes may reduce the loadings of pyrethroids to receiving waters in urban areas.

In 2007, EPA implemented a retrofit of the agency headquarters in Washington, D.C., incorporating LID designs to assist with storm water retention (EPA, 2007). Retention of storm water on the land helps prevent pollutants from entering streams and rivers (EPA, 2007). One of the main goals of the EPA LID retrofit was to demonstrate several LID techniques and encourage government agencies and developers to use them (EPA, 2007). LID may be used in conjunction with IPM programs, which would reduce the amount of pesticides used and minimize the urban storm water runoff of pyrethroids. The County of San Diego's most recent MS4 permit requires implementation of LID techniques (County of San Diego, 2007); this appears likely to continue as a trend with other permits in the region as they are renewed. The incorporation of LID principles into development regulations in the Santa Margarita watershed provides a potential solution to runoff of pyrethroids into receiving waters.

4.2 Treatment Control BMPs

Treatment Control BMPs are typically structural devices engineered with the intent to remove pollutants from storm water. Treatment BMPs require construction and long term maintenance, but can be extremely effective (CASQA, 2003). Although treatment BMP's have not been thoroughly investigated specifically for reduction of pyrethroids, some methods may be useful. Pyrethroids bind tightly to soil particles so there is a high probability that pyrethroids would be removed with suspended solids when they pass through treatment BMPs. In addition, pyrethroids degrade over time; permethrin, for example, has a half life in soil of about 30 days and about 10 days on certain plant life. Because pyrethroids have low mobility in soil, infiltration-based treatment BMPs have a low probability of contributing to groundwater contamination (NPTN, 1997).

From the list of available treatment BMP's identified in Table 3-1, the types of treatment BMPs feasible for pyrethroid treatment in the Santa Margarita Watershed, considering the climate, local vegetation, and soil types present are: pervious pavement, media filters, extended detention basins, infiltration basins, and infiltration trenches.

These BMPs and their potential to remove pyrethroids from storm water runoff are described below.

4.2.1 Pervious Pavement

Status: Currently being implemented by Permittees under LID program.

Pervious or porous pavement is "a system comprising a load-bearing, durable surface together with an underlying layered structure that temporarily stores water prior to infiltration or drainage to a controlled outlet" (CASQA, 2003). Pervious surfaces include grass, gravel, and porous concrete and asphalt (CASQA, 2003). The multi layer system assists in preventing pyrethroid pollution by providing a stable structure for pyrethroids to bind to and degrade, thus helping to prevent their transport in to receiving waters. Silts that are deposited within the pavement may need infrequent controlled waste disposal (CASQA, 2003).

The advantage of porous pavement is that urban runoff is reduced while treatment is provided and it is an effective drainage solution in confined urban areas. However, porous pavement is not a viable option on high traffic or high speed roads due to safety issues. There is a small chance that it may contaminate groundwater. It is fairly easy to replace, should there be a clog or damaged area, as small areas can individually be paved (CASQA, 2003). The use of pervious pavement appears to be a growing trend.

4.2.2 Media Filter

Status: Currently being implemented by Permittees via sand filters.

Storm water media filters are usually two-chambered including a pretreatment settling basin and a filter bed filled with sand or other absorptive filtering media. As storm water flows into the first chamber, large particles settle out, and then finer particles and other pollutants are removed as storm water flows through the filtering media in the second chamber. Media filters are highly effective at removing sediment from storm water flows (CASQA, 2003). They are appropriate in low flow areas, particularly with sandy soil. Washington D.C. and Austin, TX have both successfully implemented media filters to treat storm water (VCSQMP, 2002). They "are well suited to Southern California because they do not require vegetation and require less space than other treatment control measures with similar removal efficiencies when a partial treatment sedimentation basin is used" (VCSQMP, 2002).

However, media filters clog easily when exposed to high sediment loads and may decrease in effectiveness after being in use for a few years (CASQA, 2003). A media filter is not appropriate for areas with erosive soil upstream from the treatment filter (VCSQMP, 2002). The lack of abundant native vegetation in the Santa Margarita watershed contributes to a high potential for erosion, so media filters may not be effective in the long term due to clogging. When clogging does occur, media filters may become a nuisance due to mosquito or midge breeding in pooled waters (CASQA, 2003).

4.2.3 Extended Detention Basin

Status: Currently not being implemented by the Permittees for pyrethroid reduction.

An extended detention basin (EDB) is a permanent basin "formed by excavation and/or construction of embankments to temporarily detain the Stormwater Quality Design Volume

(SQDV) of storm water runoff to allow sedimentation of particulates to occur before the runoff is discharged"(VCSQMP, 2002). EDBs are constructed with an outlet at the bottom that allows for a slow, time-controlled release. The ultimate goal of EDBs is to level off peak storm water runoff rates (VCSQMP, 2002). Santa Clara Valley and the City of Palo Alto have noted that their detention basins have helped with the reduction of pollutants (EOA, 2004) (City of Palo Alto, 2008). Pyrethroids could be removed in the basin through settling of particulates.

Extended detention basins can serve multiple purposes as they provide for significant trash removal as well (CASQA, 2003). Maintenance is needed to ensure that the pond fully drains after large wet weather events, to avoid creation of standing pools causing mosquito or other vector habitats (CASQA, 2003). Extended detention basins are most effective when used in conjunction with other control measures, and are only moderately successful at removal of sediment. EDBs require relatively large amounts of land and therefore may not be feasible in urban areas of the Santa Margarita watershed (VCSQMP, 2002). There are no available examples of test results from municipalities using an extended detention basin for reduction of pyrethroid pesticides.

4.2.4 Infiltration Basin

Status: Currently not being implemented by the Permittees for pyrethroid reduction.

An infiltration basin is a shallow impoundment that is designed to infiltrate storm water and utilize the natural ability of soil to remove pollutants in storm water runoff (CASQA, 2003). Infiltration basins store runoff until it eventually enters the soil and infiltrates into the water table (CASQA, 2003). The soil present in the Santa Margarita Region is extremely pervious and may work well with an infiltration basin treatment structure.

Since pyrethroids adsorb onto soil, pyrethroids are likely to be removed from the storm water into the soil. However, there is a slight possibility that they may be resuspended into the

groundwater. Monitoring of pilot sites would be required to determine if there is transport of pyrethroids to the water table.

As with detention basins, maintenance is needed to ensure that the basin fully drains after large wet weather events to avoid creation of standing pools causing mosquito or other vector habitats. Infiltration basins may fail if the storm water volume is greater than the design volume (VCSQMP, 2002). Since infiltration basins require a large amount of open space, installation in urban areas is problematic. There are no available examples of test results from municipalities using infiltration basins for reduction of pyrethroid pesticides.

4.2.5 Infiltration Trench

Status: Currently not being implemented by the Permittees for pyrethroid reduction.

An infiltration trench is a long and narrow ditch that collects storm water runoff by storing it in the voids in a rock bed and allowing it to infiltrate to the soil matrix (CASQA, 2003). Infiltration trenches are extremely effective at removing fine sediment particles and associated pollutants (CASQA, 2003). Naturally pervious soils are required (VCSQMP, 2002). The Santa Margarita watershed has naturally pervious soils, which would allow for the removal of pyrethroids from the water and into the sandy soil.

Infiltration trenches are typically used in conjunction with grass lined channels or grass filter areas located upstream for maximum removal of sediment and larger particles (VCSQMP, 2002). Due to the arid environment in the Santa Margarita Region, grass lined channels, or even vegetated strips, would require irrigation to maintain the vegetation. If the infiltration trench clogs, it can become a source for mosquito breeding. There are no available examples of test results from municipalities using infiltration trenches for reduction of pyrethroid pesticides.

4.3 BMP Evaluation

A summary of the relative advantages, disadvantages and costs of the various BMPs identified in Sections 4.1 and 4.2 above is presented in Table 6.1 below. The table includes advantages, disadvantages, and the relative cost of implementing the BMPs.

Table 6.1
BMP Comparison Table

BMP Technology	Advantages	Disadvantages	Relative Cost*
Source Control			
Regulatory Change	Reduces the availability of pyrethroids on the market	May take years to achieve full effect	$
Integrated Pest Management	Engages businesses and the public in environmentally sound gardening practices	Need to ensure that employees are following protocols	$
	Has been implemented in various locations throughout CA and the US	Could have some resistance from employees who are use to standard practices	
	SIPM can be put in place directly by the Permittees	Some may find the organic methods of gardening to be too time consuming	
	SIPM can be incorporated directly into current maintenance activities		
	Includes LID aspects		
Public Outreach and Education	EPA states that Public Outreach is key for any BMP program	Cannot control the direct actions of public but only educate	$
	Copermittees have already implemented a public outreach program	Hard to measure the direct impact of pollutant reduction	
	Employees of business have direct impact on the buying choices of the general public		
	Programs have been implemented by many municipalities		

Table 6.1 (continued)
BMP Comparison Table

BMP Technology	Advantages	Disadvantages	Relative Cost*
Treatment Control			
Porous Pavement	Reduces runoff volume while reducing pollutant load as well	Requires ongoing minimal maintenance	$ to $$ depending on size
	Can be easily replaced depending on the size and location of design	No known measured reduction of pyrethroids.	
Media Filter	Do not require vegetation	No known measured reduction of pyrethroids.	$$$
	Highly effective in removal of sediments	Clogging is an issue because of the erosion potential in the watershed.	
	Requires less space than other treatment controls for sediment removal		
Extended Detention Basin	Known for significant trash	Large footprint Moderately successful at removing sediment	$$$
	Standard BMP with many years of maintenance and operational information available	Create an area with vector breeding potential	
		No known measured reduction of pyrethroids.	
Infiltration Basin and Trench	Uses natural ability of soil to remove pollutants.	Unknown if pyrethroids would be transported to the groundwater table.	$ to $$$
	Local soils would allow infiltration	Would require a pilot study to determine transport.	
		No known measured reduction of pyrethroids.	
		Clogging of outlet structure	
		Accumulation of metals in soil	

*Relative Cost: $ = $0 to $50,000, $$ = $50,001 to $100,000, $$$>100,000

5.0 Pending Legislation

There is no relevant pending state legislation relating to pyrethroid pesticides from the California Department of Pesticide Regulation or, in general, the State of California as of December, 2008 (State of California, 2008) (CDPR, 2008). In August 2006, the DPR put rules in place to control insecticide sprays during the dormant season. During winter, pesticides are applied to dormant tree and vine crops to kill overwintering pests and diseases. The new rules restrict the use of most dormant insecticides when residuals can run off into water (DPR 2007-08 Progress Report). However, there are no additional updates relating to pending pyrethroid legislation at this time.

There is no relevant pending federal legislation relating to pyrethroid pesticides from the United States Congress as of December, 2008 (Library of Congress, 2008). Although the EPA is working on proposed mitigation labeling for non-agricultural pyrethroids, there is no indication as to when this legislation may be enacted (TDC, 2007).

6.0 Proposed Course of Action

The Permittees intend to use a phased approach to address the identified sources of pyrethroid pesticides causing toxicity in surface waters of the SMR watershed. As described in Section 4, various source control BMPs and treatment control BMPs are available to address these sources. However, the use of pyrethroid pesticides can not be directly regulated by local governments. The most effective control strategy involves effective labeling and use restrictions via state or federal regulatory action, to prevent water quality impacts from legal pesticide uses. The proposed course of action involves an adaptive management approach with the following broad elements:

- Pursue state and federal regulatory change through CASQA
- Implement a set of source controls targeted specifically at urban pesticide use,
- Through the annual reporting process, monitor the implementation of those controls, assess effectiveness, and identify sources or areas where additional effort is needed,
- Evaluate whether additional controls, including treatment controls, may be needed to further reduce pyrethroid pollution,
- Implement additional controls as needed,
- Continue to monitor implementation, as well as conditions within the target receiving waters, assess effectiveness, and re-evaluate control program

The Permittees will continue to support CASQA and/or other agencies pursuing regulatory change in labeling or use limitations for pyrethroid pesticides. This support will include participation in the CASQA Pesticides Subcommittee and the Urban Pesticide Committee, and supporting the implementation of the Urban Pesticide Pollution Prevention (UP3) Project. Permittee staff will continue to provide staff time and resources necessary for the CASQA Pesticides Subcommittee to complete its negotiations with the California Department of Pesticide Regulation and USEPA regarding labeling and use limitations for pyrethroids.

Source control is generally a more cost-effective approach to pollution abatement than treatment control, as source controls do not involve the costly capital investments of treatment controls. As discussed previously, CASQA, EPA, and other agencies and experts

recommend a source control program as an essential component of a successful pollution reduction strategy.

The basis of source control involves preventing the entrance of the subject pollutant into the discharge stream. For pyrethroid pesticides, this means preventing the pesticide from entering the municipal storm drain system through urban runoff. This can take place by intervention at the various steps in the pest control process:

- Point of sale: reducing the purchase of pyrethroid products through education of PCOs and the public in consequences of pesticide use and alternative means of pest control, including integrated pest management (IPM)
- Application: reducing use of pyrethroids on site through education of PCOs and the public into the importance of proper application methods and the potential consequences of pesticide use, as well as pest control alternatives (IPM techniques)
- Off-site Transport: reducing movement of pyrethroids into municipal storm drain system via use of Green Gardener approaches, IPM, and LID building techniques to reduce irrigation water use, retain storm water runoff on-site, and provide on-site mitigation for runoff pollutants (via grassy swales, infiltration, etc.)

A five-year pyrethroid pollutant reduction program is proposed by the Permittees.

<u>Year 1</u>

- Continue to support state and federal efforts to improve pyrethroid pesticide regulation
- Continue to publicize/promote the services of IPM-certified PCOs, to encourage businesses and homeowners to choose their services
- Continue to implement local agency contracting rules to require contracting of IPM-certified PCOs for municipal pest control (through EcoWise Certified IPM Contracting Tool Kit, e.g.)
- Continue point-of-sale education effort providing instruction in pesticide alternatives and proper use/application (using materials available through Our Water Our World, UP3 Project, CASQA members, e.g.)
- Continue efforts to develop and implement LID guidance for planning and development

Year 2

- Coordinate with the University of California (UC) Extension Master Gardener Program to extend its services to the Temecula/Murrieta area to further promote and support the use of IPM by local residents
- Re-evaluate, enhance as needed, and continue measures implemented in Year 1

Year 3

- Conduct programmatic assessment as part of third-year annual report, evaluate successes and areas where additional efforts are needed and adjust program accordingly
- Re-evaluate, enhance as needed, and continue measures implemented in Years 1 and 2

Year 4

- Evaluate effectiveness of BMPs using water quality monitoring data as part of fourth year annual report
- Re-evaluate, enhance as needed, and continue implementation of revised program as defined in Year 3

Year 5

- Conduct programmatic assessment, evaluate successes and areas where additional efforts are needed as part of ROWD process
- Identify additional program elements, including source and/or treatment controls, as needed to effect required pollutant reductions; revise program accordingly
- Re-evaluate, enhance as needed, and continue implementation of revised program as defined in Year 3

Many of the source control materials and programs needed are readily available through existing programs such as EcoWise Certified, Green Gardener, Our Water Our World, the UP3 Project, and the Western IPM Center. The following websites provide further information on these and other programs:

Urban Pesticide Pollution Prevention (UP3) Project: www.up3project.org
Green Gardener Program: www.green-gardener.org/about
Western Integrated Pest Management Center: www.wripmc.org
EcoWise Certified Integrated Pest Management: www.ecowisecertified.com
Our Water Our World: www.ourwaterourworld.org
Green California: www.green.ca.gov/EPP/building/structipm.htm

City of San Francisco: http://www.sfenvironment.org/our_programs/topics.html?ti=1
DPR: http://www.cdpr.ca.gov/docs/registration/reevaluation/chemicals/pyrethroids.htm

As a practical measure, it will be necessary to evaluate individual Permittee capabilities and resources, and develop a specific work plan for implementation of the pyrethroid pollutant reduction program.

It is also essential to develop and implement the pyrethroid pollutant reduction program in coordination with other regulatory requirements, especially other pollutant reduction programs mandated under the storm water NPDES Permit and/or load allocations required by TMDLs within the SMR watershed.

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2009 REPORT OF WASTE DISCHARGE

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed _____

Warren D. Williams
General Manager - Chief Engineer
Riverside County Flood Control
and Water Conservation District

2009 REPORT OF WASTE DISCHARGE

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: Gary M. Christmas Date: 1/8/09

Gary M. Christmas
Chief Deputy County Executive Officer
Riverside County Executive Office

2009 REPORT OF WASTE DISCHARGE

CERTIFICATION

CITY OF MENIFEE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

George A. Wentz, City Manager
City of Menifee

2009 REPORT OF WASTE DISCHARGE

RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Patrick A. Thomas

Signature

Mr. Patrick A. Thomas / Director of Public Works

Name & Title

January 8, 2009

Date

2009 REPORT OF WASTE DISCHARGE

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Bill Hughes
Director of Public Works
City of Temecula

CITY COUNCIL MEMBERS

BOB CASHMAN
BRIDGETTE MOORE
MARSHA SWANSON
SCOTT FARNAM
SHERYL ADE

2009 REPORT OF WASTE DISCHARGE

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

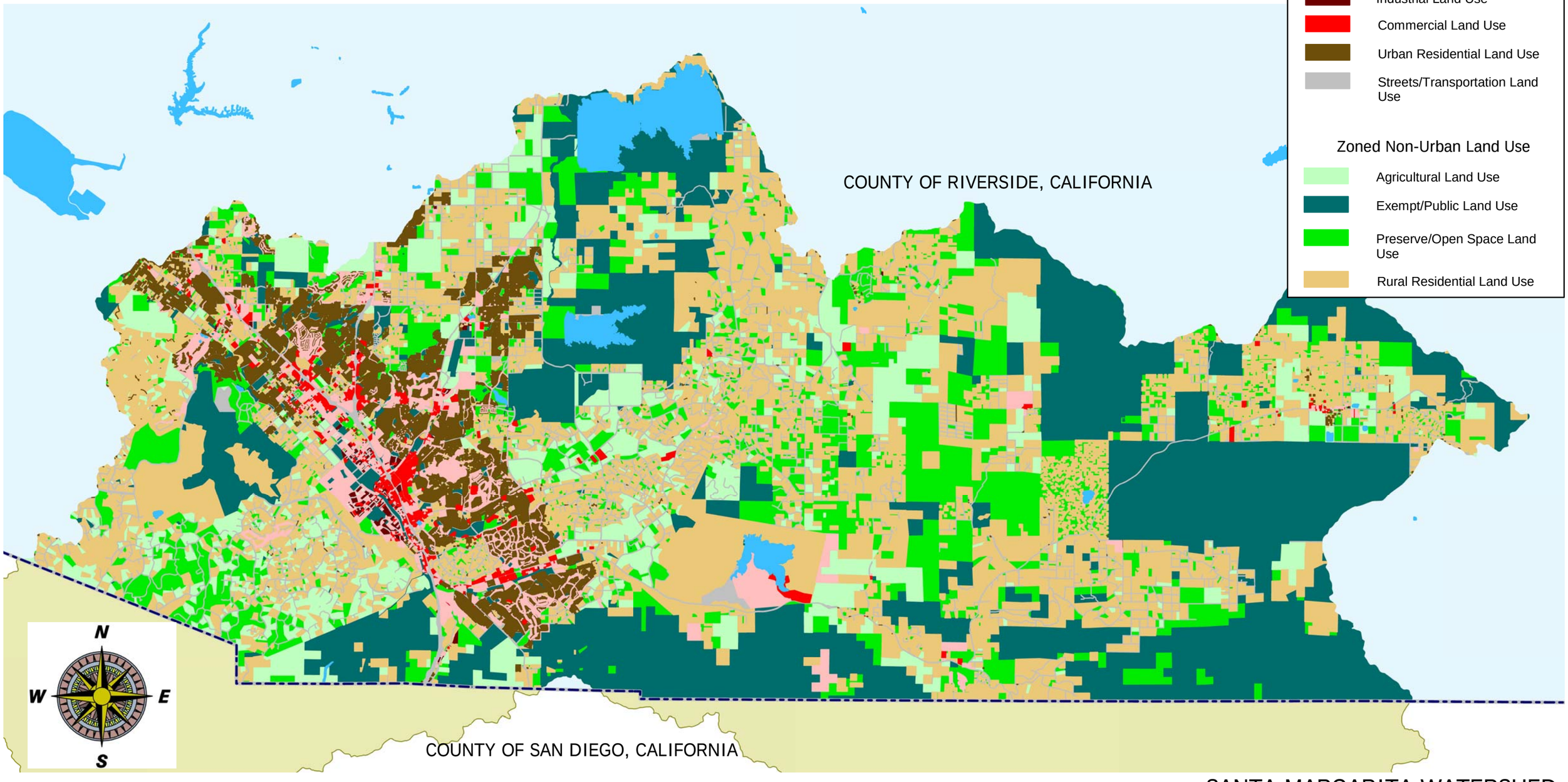
Signed: _____

John Danielson, City Manager
City of Wildomar

23873 Clinton Keith Road | Suite 201 | Wildomar, CA 92595 | 951.677.7751 PHONE | 951.698.1463 FAX
www.cityofwildomar.org

SANTA MARGARITA WATERSHED

COUNTY OF RIVERSIDE, CALIFORNIA



Legend

Zoned Urban Land Use

- Parks/Recreation Land Use
- Industrial Land Use
- Commercial Land Use
- Urban Residential Land Use
- Streets/Transportation Land Use

Zoned Non-Urban Land Use

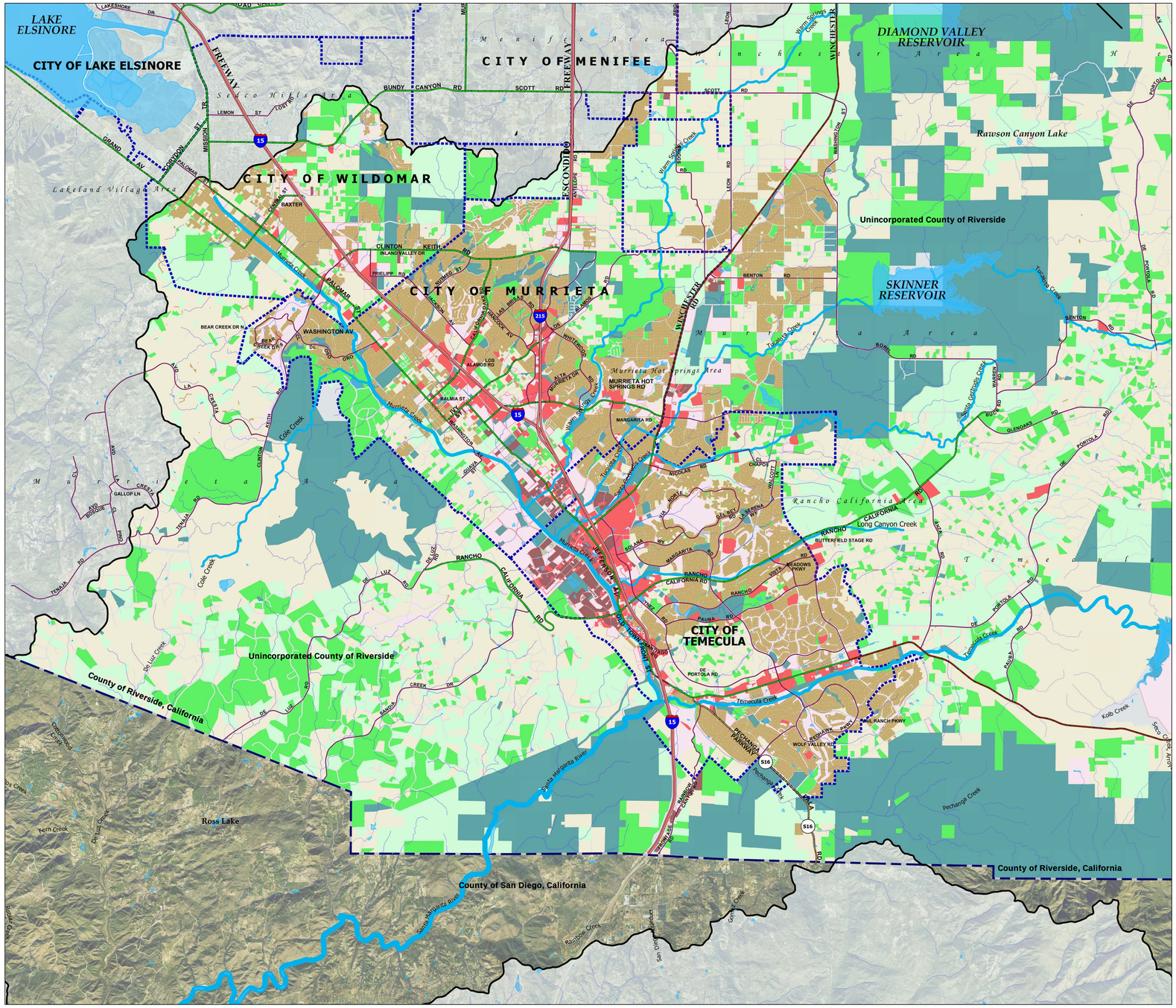
- Agricultural Land Use
- Exempt/Public Land Use
- Preserve/Open Space Land Use
- Rural Residential Land Use

SANTA MARGARITA WATERSHED
WITH ZONED LAND USES
DELINEATED

(REVISED 14 JAN 09)

SANTA MARGARITA WATERSHED

WITHIN RIVERSIDE COUNTY, CALIFORNIA



Legend

- US Freeways
- State Highways
- County Roads
- Primary Arterial Roads
- Secondary Collector Roads
- Waterbodies
- Watercourses
- Railroads
- Incorporated Areas
- Santa Margarita Watershed Boundary
- County of Riverside Boundary

Zoned Urban Land Use

- Commercial Land Use
- Industrial Land Use
- Parks/Recreation Land Use
- Urban Land Use
- Street/Roads Lands Use

Zoned Non-Urban Land Use

- Agricultural Land Use
- Exempt Land Use
- Preserve/Open Space Land Use
- Rural Residential Land Use

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT GEOGRAPHIC INFORMATION SYSTEM

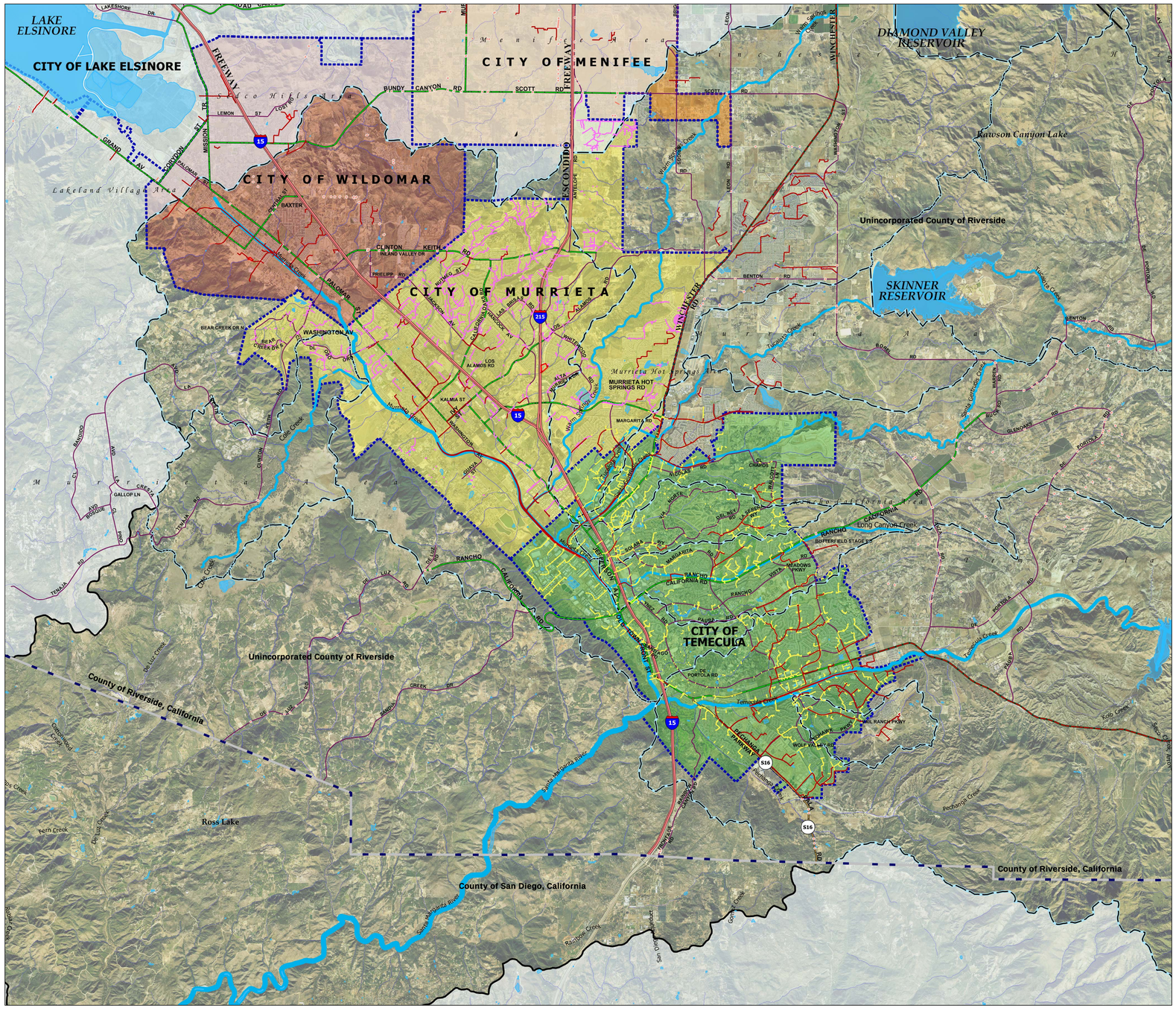
The graphical and tabular information shown on this document may be derived from a variety of public agency and/or private commercial sources such as Riverside County Transportation and Land Management Agency, Thomas Brothers Mapping, the Stephen P. Teale Data Center, GIS Technology Center, State of California, the United States Geologic Survey and the United States National Atlas. These sources may possess varying levels of accuracy and precision and this product is meant only as a guide to the relative position and scale of the depicted features. This GIS document is in no case to be interpreted as fundamental or decisive for purposes of land surveying, field engineering, plan drafting, code enforcement, land boundary determination and/or land acquisition.

SANTA MARGARITA REGION OF RIVERSIDE COUNTY ZONED LAND USE

(REVISED 13JAN09)

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RIVERSIDE, CALIFORNIA


LAKE ELSINORE
CITY OF LAKE ELSINORE
CITY OF MENIFEE
CITY OF WILDOMAR
CITY OF MURRIETA
CITY OF TEMECULA
DIAMOND VALLEY RESERVOIR
Kawson Canyon Lake
SKINNER RESERVOIR
Unincorporated County of Riverside
Unincorporated County of Riverside
County of Riverside, California
County of Riverside, California
County of San Diego, California
Ross Lake
Lakeland Village Area
Menifee Area
Murrieta Area
Murrieta Hot Springs Area
Temecula Area
Winchester Area
Western California Area
Long Canyon Creek
Murrieta Creek
Warm Springs Creek
Temecula Creek
Santa Margarita River
Rancho Creek
Redhawk Creek
Pechanga Creek
Cole Creek
Tenaja Creek
De Luz Creek
Cottonwood Creek
Fern Creek
Gomez Creek
Kolb Creek
Rice Canyon
Tucalota Creek
Santa Gertrudis Creek
Wilson Creek
Wilson Creek
Wilson

Construction Component Effectiveness Assessments

Goals

I Ensure that all Construction Sites have applicable permits from the Permittee.

II Increase the percentage of Construction Sites that are in compliance with Permittee building and grading permits

III Place additional focus on Construction Sites during Wet Season

IV Ensure that construction inspection staff are properly trained and informed of the issues related to stormwater quality

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Effectiveness Assessment Timeframe	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	% of active construction sites that are discovered without building/grading permits	2	Permit Term	Decreasing Trend or minimal %	Y
II	% of active High/Medium priority sites subjected to enforcement beyond verbal/written warnings	3	Permit Term	Decreasing Trend or minimal %	N
II, III	% of active High/Medium priority sites subjected to enforcement beyond verbal/written warnings **during wet season**	3	Permit Term	Decreasing Trend or minimal %	N
II	% of enforcement actions that reached each level of enforcement	3	Permit Term	Trend toward lower levels	N
III	% of active permitted construction sites provided wet weather reminders	2	Annually	N/A	Y
IV	% of construction inspectors receiving annual training	1	Annually	N/A	Y

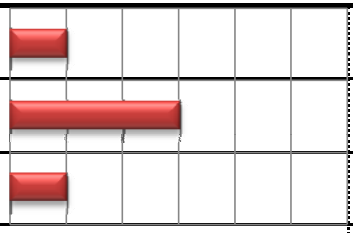
Development Planning Component Effectiveness Assessments

Goals

I Develop Design Guidance for Low Impact Development (LID) BMPs

III Encourage the use of LID-Based Treatment Control BMPs

IV Ensure that appropriate planning staff are trained in WQMP requirements

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Effectiveness Assessment Timeframe	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	Status of SMC LID BMP Design Manual	1 	Within Permit Term	Completion	Y
II	% of WQMP projects that met the exemption requirements for inspection and maintenance reporting by implementing only LID-Based Treatment Control BMPs	3	Permit Term	Increasing Trend	N
III	% of applicable planning staff that attended WQMP training.	1	Annually	N/A	Y

Permittee Facilities and Activities Program Effectiveness Assessments

Goals

I Ensure that Permittee Facilities have adequate BMPs implemented and that they are properly maintained

II Ensure that Channels and Inlets are kept free from trash and debris

III Encourage the use of Integrated Pest Management (IPM) on Permittee Facilities

IV Maintain an updated GIS map of the MS4 system

V Ensure the Permittee facility operators and maintenance workers are properly trained in issues related to water quality.

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Effectiveness Assessment Timeframe	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	% of facilities with appropriate BMPs identified	1	Annually	N/A	Y
I	% of Facilities provided reminders of appropriate BMPs	2	Annually	N/A	Y
I	% of annual facility inspections finding deficiencies in BMP implementation that require follow-up actions	3	Permit Term	Decreasing Trend or minimal %	Y
I	Average % of deficiencies identified in the previous year's inspections that were addressed.	3	Permit Term	Increasing Trend or high %	Y
II	Estimated Tons of Waste removed from Streets	4	Annually	N/A	N
II	Estimated Tons of Waste removed from Inlets	4	Annually	N/A	N
II	Estimated Tons of Waste removed from Open Channels	5	Annually	N/A	N
III	% of Pest Control Contracts that include language promoting or requiring IPM	1	Annually	N/A	N
IV	% of new Permittee-maintained MS4 facilities added to GIS Map	1	Annually	N/A	Y
V	% of Permittee Facility and MS4 operators and maintenance staff that attended training.	1	Annually	N/A	Y

Industrial-Commercial Facilities Program Effectiveness Assessments

Goals

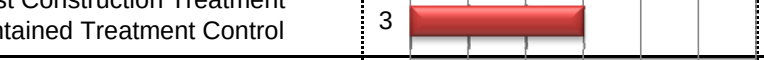
I Maintain an updated and prioritized list of Industrial and Commercial Facilities

II Ensure the each Industrial and Commercial Facility has implemented BMPs that are appropriate for the activities and features at that facility

III Ensure that implemented BMPs are properly maintained to ensure their effective operation

IV Implement enforcement measures as necessary to reduce the occurance and recurrance of violations

V Ensure that inspectors are appropriately trained to identify problem areas and BMPs maintenance issues.

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Timeframe to Determine Effectiveness	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	% of new facilities added to database and prioritized	1	Annually	N/A	Y
II	% of inspected facilities with adequate Minimum BMPs in place at time of inspection	3	Permit Term	Increasing Trend or High %	N
III	% of inspected WQMP facilities subject to Post Construction Treatment Control BMP Inspection, with adequately maintained Treatment Control	3 	Permit Term	Increasing Trend or High %	N
IV	% of inspected High/Medium priority facilities that were subjected to enforcement beyond verbal/written warnings	3	Permit Term	Decreasing Trend or Low %	N
IV	% of enforced sites that are repeat offenders	3	Permit Term	Decreasing Trend or Low %	N
IV	% / Number of enforcement actions that reached each level of enforcement	3	Permit Term	Trend toward lower enforcement	N
V	Percent of applicable inspectors that attended training	1	Annually	N/A	Y

Residential Program Effectiveness Assessments

Goals

I Raise awareness among residents of activities that may be contributing to stormwater pollution
II Increase public awareness of BMPs for residential activities
III Increase public participation in hazardous material collection events
IV Increase public involvement in keeping the watershed clean
V Encourage the use of Alternative Pest Control Methods

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Timeframe to Determine Effectiveness	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	Number of outreach events to Schools	1	Annually	N/A	N
II	Number and type of educational materials distributed that target residential activities	1	Annually	N/A	Y
I, II	Results of Public Ed Surveys	2	Permit Term	Increasing or high level of Knowledge	Y
III	Gallons of Used Oil Collected through Used Oil Block Cycle Grant	4	Annually	N/A	Y
III	Total Pounds collected at HHW/ABOP events	4	Annually	N/A	Y
III	Total Number of participants at HHW/ABOP events	3	Annually	Increasing Trend	Y
IV	Pounds of trash removed through Watershed Cleanup Events	4	Annually (as events occur)	NA	N
V	Number of Home Improvement stores provided outreach and customer educational information for pesticide use	2	Annually	Increasing Trend	Y

Detection and Elimination of Illicit Discharges and Connections Effectiveness Assessments

I Revise and enhance IC/ID Monitoring Program
II Reduce the occurance of Illicit Connections and Discharges
III Increase public reporting of improper disposal into MS4
IV Ensure the IC/ID reports are reviewed and responded to in a timely manner
V Ensure the confirmed IC/ID events are eliminated as quickly as possible
VI Ensure the IC/ID response staff are trained to identify potential sources of Illicit Discharges and recommend BMPs to prevent such discharges

Goal Addressed	Measureable Metrics Collected / Compiled Annually	Highest Potential CASQA Effectiveness Level	Timeframe to Determine Effectiveness	Outcome required to support Effectiveness Level	Can a Reasonable Municipal Action Level be developed?
I	Revise IC/ID Monitoring Program to screen random MS4 outfalls	1	N/A	N/A	N
II	% of IC/ID Monitoring events with sampleable flow	1	Permit Term	N/A	N
II	% of IC/ID Monitoring events that exceeded criteria and required follow-up	5	Permit Term	Decreasing Trend or low %	N
III	Number of IC/ID reports received	2	Annually	Increasing Trend	N
IV	% of IC/ID reports responded to within 1 business day of receipt	1	Annually	N/A	Y
V	% of confirmed and source-identified IC/ID incidents that required enforcement beyond verbal or written wardnings to eliminate	3	Permit Term	Decreasing Trend or minimal %	N
V	% of each type / level of enforcement	3	Permit Term	Trend toward lower levels	N
VI	% of IC/ID response staff receiving training	1	Annually	N/A	Y

Riverside County Flood Control and Water Conservation District

Riverside County – Santa Margarita Region Pyrethroid Source Identification Toxicity Reduction Evaluation

Final Phase II Report
January 2009

MACTEC
9177 Sky Park Court
San Diego, California 92123
858-278-3600 FAX 858-278-5300

Executive Summary

This document is the Phase II report for the Santa Margarita Region (SMR) Pyrethroid Source Identification Toxicity Reduction Evaluation (TRE) conducted by the SMR Permittees to identify the source(s) of toxicity in the SMR and develop a plan to reduce the toxicity. This report documents the Permittees' ongoing and proposed efforts to identify and reduce sources of pyrethroid pesticide toxicity associated with urban runoff.

Data gathered under this TRE was compared to data from neighboring counties. Based on available data, problems with pyrethroid-induced toxicity in urban runoff are common among municipalities in Southern California, and methods for addressing the problems are comparable.

A literature review was conducted to determine appropriate source control and treatment control BMPs for reducing the concentration and load of pyrethroids in storm water runoff. The literature source, the estimated potential for reducing pyrethroid-induced toxicity, and possible concerns about implementing the BMP are summarized.

Based on the results of the literature review, BMPs are evaluated for applicability and potential effectiveness in the SMR watershed. Many of the most effective and appropriate BMPs are currently being implemented by the Permittees.

A search for pending legislation did not identify any pending legislation pertaining to pyrethroid pesticides.

The most effective strategy to prevent water quality impacts from legal pesticide uses was identified as state or federal regulatory change involving effective labeling and use restrictions. The Permittees propose a five year plan to continue, review, and enhance current activities to reduce pyrethroid-induced toxicity.

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1.0 Introduction

This document is the Phase II report for the Santa Margarita Region (SMR) Pyrethroid Source Identification Toxicity Reduction Evaluation (TRE) conducted by the County of Riverside, the City of Murrieta, the City of Temecula, and the Riverside County Flood Control and Water Conservation District (District, collectively Permittees). The Phase I Status Report (RCFCWCD, 2008) contains the work plan for Phase II and an outline of the topics in this report, as well as additional background information. This Phase II report is divided into six sections.

Section 1 describes the purpose of the TRE and provides an overview of the approach taken by the Permittees. Section 1 also contains a discussion of the regulatory framework of the TRE, a brief project background, a description of the Santa Margarita watershed, pyrethroid pesticide background and usage, and management questions and objectives.

Section 2 describes available pyrethroid and toxicity data from other counties in Southern California, and compares the data to data from Riverside County. The data and comparisons are included to demonstrate that the problems and solutions relating to pyrethroid pesticides facing the Permittees are similar to those of neighboring counties in the region.

Section 3 presents the results of the literature review conducted for this study of pesticide reduction Best Management Practices (BMPs).

Section 4 discusses potential pesticide reduction BMPs, the status of the Permittees implementation of the BMPs, and, when applicable, examples of the implementation of the BMPs in other municipalities. Section 4 also contains a table summarizing the potential BMPs, their advantages and disadvantages, and relative cost.

Section 5 discusses pending legislation relating to pyrethroid pesticides.

Section 6 presents the five-year course of action the Permittees propose to follow to reduce pyrethroid-induced toxicity in the SMR.

1.1 Purpose and Overview of Approach

The purpose of the TRE is to identify the source(s) of toxicity in the SMR and develop a plan to reduce the toxicity. The results of Phase I of the TRE are contained in the TRE Status Report (Riverside, 2008). This Phase II report for the TRE study documents the Permittees' ongoing and proposed efforts to identify and reduce sources of pyrethroid pesticide toxicity associated with urban runoff. The goal of Phase II is to establish a course of action and develop modifications to the Permittee's Storm Water Management Plans (SWMPs) to more effectively control the sources of toxicity that were identified in Phase I of the TRE. The Permittees will incorporate the course of action and SWMP modifications into the Report of Waste Discharge (ROWD) that will be submitted to the RWQCB in January 2009.

Phase II activities included:

- A comparison of toxicity and chemistry results to data from adjacent Phase I municipal separate storm sewer system (MS4) permit areas, including San Diego County and Orange County.
- A literature review of current studies and a survey of pesticide reduction BMPs.
- A search for pending legislation regarding pyrethroid pesticides.
- Development of a proposed course of action for the Permittees.

A literature review was conducted of BMP information available from the Urban Pesticide Pollution Prevention (UP3) Project and other pesticide management programs and documents. Information on relevant BMPs was compiled and evaluated to identify potential BMPs that are available to mitigate urban sources of pyrethroids. Existing Permittee programs, such as outreach, regulation, and BMP implementation, were then evaluated for improvement opportunities.

The proposed course of action was determined with consideration of the adequacy of data collection (sufficient precipitation and runoff to collect adequate data) and pending

regulatory actions by California Department of Pesticide Regulation (DPR), and the United States Environmental Protection Agency (EPA).

Land uses in Riverside County are comparable to those in neighboring Orange County and San Diego County, and pyrethroid pesticide-induced toxicity has been observed in those counties. The Permittees are committed to identifying and addressing water quality issues with methods consistent with those used by other stakeholders in Southern California. To this end, data gathered under this TRE was compared to data from neighboring counties, and current pesticide reduction programs used by municipalities throughout California were reviewed.

Source control and treatment control BMPs were researched and evaluated for potential effectiveness in reducing pyrethroid pesticide-induced toxicity in the Santa Margarita watershed. Many of the most effective BMPs are currently implemented by the Permittees, and several have been implemented within the previous Permit term (2004-2008). A proposed five-year course of action for the Permittees was developed by combining the results of the research with the existing programs.

1.2 Regulatory Framework

At the federal level, the authority to regulate pesticide manufacture and use is assigned to the United States Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). In California, pesticide use is regulated at the state level by the DPR. In the SMR, the Permittees are required under the Clean Water Act to control discharges of pollutants, including pesticides that produce water toxicity, to and from their MS4 under the National Pollutant Discharge Elimination System (NPDES).

This TRE was performed as required by Monitoring and Reporting Program (MRP) R9-2004-001.

The MRP, Section II. A. I. 4, states:

> *"When results from the chemistry, toxicity, and bioassessment monitoring…indicate urban runoff-induced degradation, Permittees shall evaluate the extent and causes of urban runoff pollution in receiving waters and prioritize management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) shall be used to determine the cause of the toxicity, and Toxicity Reduction Evaluations (TREs) shall be used to identify sources and implement management actions to reduce pollutants in urban runoff causing toxicity."*

As local regulation of pesticide use is generally preempted by federal and state law, the Permitttees' authorities are limited to addressing illegal disposal of pesticides, promoting public education, setting the example for minimum pesticide use, and coordinating with the federal and state agencies to facilitate regulatory changes at the state and federal level.

1.3 Project Background

Phase I of the TRE consisted of the toxicity monitoring begun in 2004 and the Toxicity Identification Evaluations (TIE) was initiated in the spring of 2007. The Phase I Status Report (RCFCWCD, 2008) provides a full project background. Toxicity monitoring at Temecula Creek and Murrieta Creek was initiated in 2004 using EPA protocol with the following indicator species: *Ceriodaphnia dubia*, *Selenastrum capricornutum*, and *Hyalella azteca*. Toxicity testing during the 2004-2008 reporting period indicated persistent wet weather toxicity to *Hyalella* in both Temecula Creek and Murrieta Creek. Toxicity was not observed to either *Ceriodaphnia* or *Selenastrum* in any of the samples collected over the four annual reporting periods beginning in the fall of 2004.

Toxicity Identification Evaluations (TIEs) were conducted on the wet weather samples collected from Temecula Creek and Murrieta Creek beginning in April 2007, in accordance with Table 2 of the MRP. The TIEs indicated that pyrethroids were the primary source of toxicity and biological degradation in both Murrieta Creek and Temecula Creek.

As a result of the toxicity and TIEs, storm water monitoring for pyrethroids was initiated in 2007-2008. Results indicate that the pyrethroids permethrin and/or bifenthrin are present in wet weather water samples taken at Murrieta Creek and Temecula Creek.

To further assess the impacts of pyrethroid pesticides the Permittees instituted Dry Weather Toxicity Testing and direct measurement of pyrethroid pesticide concentrations in dry weather water samples during the 2007-2008 reporting period. Toxicity and pyrethroid pesticides were not detected in dry weather water samples at either Murrieta Creek or Temecula Creek.

Phase I of the TRE concluded with the Phase I Status Report. The Phase I Status Report included studies to better characterize patterns and sources of toxicity and to evaluate the hypothesis that the *Hyalella* toxicity is due to pyrethroids.

Bifenthrin and permethrin appear to be the primary toxic elements in Temecula Creek and Murrieta Creek. While bifenthrin and permethrin were applied to both agricultural and non-agricultural land uses, the major sources of pyrethroid toxicity in the SMR are non-agricultural activities. Permethrin was applied more than any other pyrethroid pesticide in the urban landscape. Bifenthrin and permethrin application rates were one and three orders of magnitude higher for structural control applications than agricultural applications in Riverside County. Structural control appears to represent 93% of the total pyrethroids use for Riverside County.

The Status Report outlined the plan for Phase II of the TRE, and this report presents the results of Phase II.

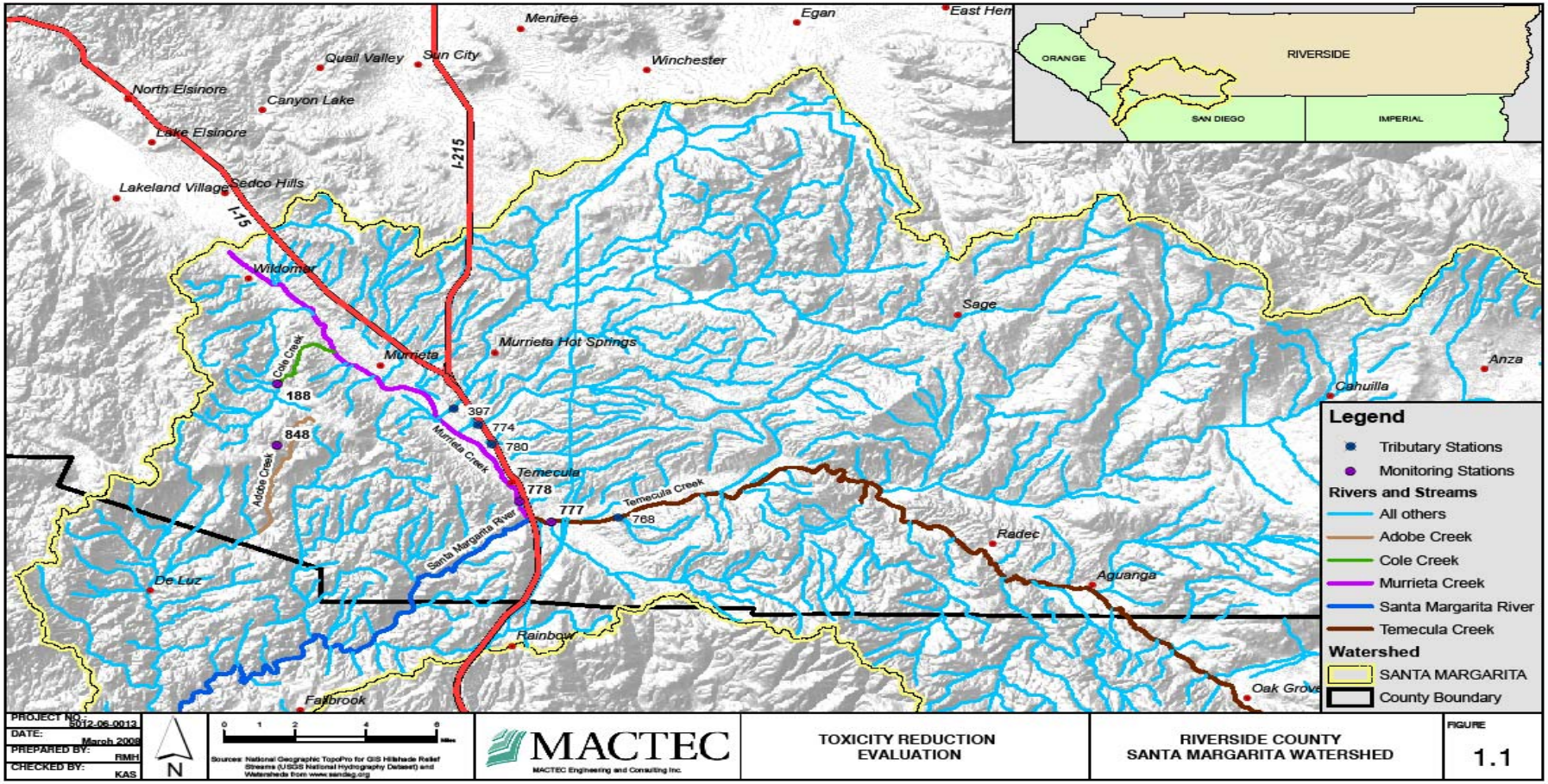
1.4 Watershed Description

The SMR encompasses approximately 750 square miles in southwestern Riverside and northern San Diego Counties (see Figure 1-1). The upper (northeast) portion of the SMR is in Riverside County with the remainder in San Diego County. The SMR is subdivided into the Temecula Creek and Murrieta Creek sub-watersheds and has an arid Mediterranean climate. Creeks in the SMR are ephemeral. Flow in Temecula Creek and in Murrieta Creek results almost exclusively from groundwater during the dry season. It is rare to find flow during dry weather at the tributary stations, and usually this flow infiltrates before reaching Temecula Creek or Murrieta Creek (2006-2007 Monitoring Annual Report). While the ephemeral streams in the SMR are technically receiving waters, the term "Receiving Waters" as used in this TRE Status Report refers exclusively to Murrieta Creek and Temecula Creek.

The Santa Margarita River is formed by the confluence of Murrieta Creek and Temecula Creek. The confluence is located in Riverside County, approximately five miles northeast of San Diego County. The Santa Margarita River flows from Riverside County into San Diego County through the community of Fallbrook and Marine Corps Base Camp Pendleton. The lower estuary and river are protected by Camp Pendleton and are much less developed than surrounding areas in Southern California. The Santa Margarita River is able to support a relative abundance of wildlife and habitats in part because of its undeveloped state.

Figure 1-1

Riverside County Santa Margarita Watershed



As presented in Table 1-1, the total population in the SMR of Riverside County is significantly less than adjacent watersheds covered under similar Phase I MS4 NPDES permits.

Table 1-1

San Diego Region Populations

Jurisdiction	Population
Orange County	3,002,048
San Diego County	2,941,454
SMR/Riverside County	250,483
Unincorporated	55,291
Murrieta	97,257
Temecula	97,935

1.5 Pyrethroid Pesticide Background and Usage

A statewide compilation of the presence and effects of pyrethroid pesticides in urban surface waters, prepared in July 2008 and presented at the 2008 California Association of Stormwater Quality Agencies (CASQA) Conference, outlined the rise in pyrethroid use and its increased presence in urban waterways (Ruby, 2008). A comprehensive survey of pesticide use in Sacramento, San Diego, and Orange Counties also concluded that, as the older pesticides chlorpyrifos and diazinon have been phased out, pyrethroid pesticides have seen increased usage (Wilen, 2005). The Urban Pesticide Pollution Prevention (UP3) Project confirms that pyrethroids are the cause of toxicity in numerous California waterways, particularly in urban waterways. The UP3 Project (www.up3project.org) publishes an annual review of new scientific findings on pesticides in urban surface water (TDC, 2007). Since 2005, the reviews have consistently indicated that pyrethroid use continues to increase and that pyrethroids are found to be the cause of toxicity in urban waterways. The pyrethroid use information is confirmed by data published by the DPR.

Pyrethrins are natural insecticides that are derived from an extract of chrysanthemum flowers. Pyrethroids are synthetic versions of pyrethrins. These chemicals act on the nervous system of insects. Commercial pyrethroid pesticides often contain a synergist that works by restricting the enzymes insects use to detoxify pyrethroids. While pyrethroids have been shown to be one of the least poisonous insecticides to mammals, the effects depend on the level of exposure, the health of the animal, and the environmental circumstances.

Pyrethroids applied in urban areas enter the storm drainage system of the MS4 by surface runoff and are transported directly to receiving waters. Other potential urban sources are runoff from irrigation with reclaimed water, application overspray, and atmospheric deposition. Pyrethroids transported via the MS4, from whatever source, are considered to be non-point discharges. Agriculture, nursery, and urban/suburban uses are the main categories of sources of pyrethroids in the receiving waters of the SMR.

Outdoor structural pest control is the predominant urban use of pyrethroids in most watersheds. However, in the SMR, the acreage dedicated to agricultural land use exceeds the urban land use area by approximately 2:1. Pyrethroid insecticides are applied to a variety of crops in the SMR and California throughout the year. According to the DPR, pyrethroids are commonly used on fruit and nut trees, row crops, and in nurseries. Six of the primary pyrethroids used in California agriculture, in order of decreasing amount applied in 2003, are permethrin, esfenvalerate, lambda-cyhalothrin, cyfluthrin, bifenthrin, and cypermethrin. Therefore, agricultural sources of pyrethroids were considered.

TIE methods for pyrethroids are still being developed. Effective methods require the ability to measure low concentrations of pyrethroids, and this remains a challenge. Fortunately, the development of TIE methods for pyrethroids is progressing and moving towards standardization (San Francisco Estuary Project, 2007). TIEs are planned for storm water samples collected during 2008-2009 when toxicity is evident.

1.6 Management Questions and Objectives

This TRE is designed to confirm the toxic element observed in the samples collected in the Santa Margarita Region, identify likely sources of the toxic element, and propose mitigation measures for those sources. TIEs identified pyrethroids pesticides as the likely toxic element. As the MRP specifies that a TRE must be conducted following toxicant identification through a TIE, Phase I of the TRE focused on the pyrethroids identified as the source of toxicity in the 2007 TIEs. To support this TRE, the Permittees commissioned additional wet and dry weather toxicity testing, water column pyrethroid testing, additional TIEs to verify the persistence of pyrethroids as the toxicant. Based on the resulting information, the TRE evaluates the specific sources of toxicity and likely mitigation.

This TRE study assumes that pyrethroid sources and resultant toxicity patterns in the SMR are similar to those in neighboring counties, in particular San Diego and Orange Counties. Under this assumption, the Permittees hypothesized that pyrethroids would be detected in samples at most if not all monitoring locations, that the samples would exhibit toxicity to *Hyalella*, and that TIEs would indicate pyrethroids as the cause of the toxicity. Unlike other regions, dry weather toxicity is not expected in the SMR, as dry weather flows are supported primarily by groundwater.

Based on this assumption, this TRE was designed to provide information to help answer the following five management questions related to the toxicity:

1) Is the pyrethroid toxicity persistent in Temecula Creek and Murrieta Creek?
2) Does the toxicity occur during dry weather?
3) Are there any obvious sources of illicit discharge of pyrethroids that can be abated?
4) What are the likely sources of pyrethroid toxicity in the SMR?
5) What potential management measures are available to the Permittees to mitigate the impacts of pyrethroid pesticide application?

Answers to the first four questions are detailed in the Phase I Status Report. Briefly, toxicity is persistent in the creeks during wet weather, but is not evident in dry weather samples. No

obvious sources of illicit discharge were found. The likely primary source of pyrethroids is structural control performed by pest control operators (PCOs). The final question is addressed during Phase II and is the focus of this report.

2.0 Data Comparison

An assumption of this TRE study is that pyrethroid sources and resultant toxicity patterns in the SMR are analogous to those in similar counties, in particular neighboring San Diego and Orange Counties. To verify this assumption, it was necessary to compare data collected in SMR to data collected in other locations. As part of the 2008 CASQA pyrethroids data compilation, monitoring results were summarized from studies that investigated the presence and effects of pyrethroid pesticides in urban areas of California (Ruby, 2008). The CASQA summary listed the frequency of detection of various pyrethroid pesticides and results of toxicity testing for different indicator species. Results from various northern and Southern California locations were detailed, including results of water column studies from Orange, San Diego and Sacramento Counties.

Pyrethroids, as a class of chemicals, have an affinity for particles and they are considered to be relatively hydrophobic; they are therefore commonly found in sediments of waterways downstream of their application sites. The initial toxicity studies leading to the identification of pyrethroids as pervasive environmental contaminants in California were performed on sediment samples by Don Weston and his colleagues at the University of California, Berkeley (Weston et al., 2005; Amweg et al., 2006). Recently, improvements in analytical methods for pyrethroids in water, and modification of toxicity studies to more effectively test for pyrethroid-based toxicity in water, have lead to increasing evidence of the presence of pyrethroids in water column samples, and toxic effects in the water matrix (see citations for Orange and San Diego County in Ruby, 2008).

Extensive work has been performed on the environmental presence and effects of pyrethroids in urban areas of the neighboring Orange and San Diego counties; however, much of this work has been performed on sediment samples. Although the sediment monitoring results do not correspond directly with the SMR water column test results, sediments are considered to be effective integrators of contaminants from the contributing storm water flows. The deposited sediments are produced as particles settle out from the passing water over some

period of time, and tend to accumulate until they are washed away by higher-velocity flows. Summaries of the relevant sediment study results are therefore included in the discussion that follows.

In Orange County, an ongoing study being performed by UC Davis, in conjunction with UC Riverside and the Orange County UC Cooperative Extension, has consistently found bifenthrin and permethrin in water column runoff samples from residential areas (Haver et al., 2007; Oki, personal communication). In samples from four residential sites they have detected bifenthrin in 100% of samples, with the number of samples varying from 48 to 57 per site (Oki, personal communication). In sediment samples collected in recent years from the Santa Ana Region of Orange County, bifenthrin is commonly detected (32 of 56 samples) and permethrin less frequently so (4 of 56 samples), with sediment toxicity to *Hyalella* common (39 of 54 samples tested were moderately or highly toxic; see summary in Ruby, 2008).

In a 2005 study of six Orange County residential storm drainages and seven tributary streams draining commercial/residential land uses, bifenthrin was detected in 95% of dry weather samples and 100% of wet weather samples (Budd et al., 2007). Because treatment of nursery products is mandatory to control Red Imported Fire Ants, an older DPR study, conducted in 1999-2002, found occasional detects of bifenthrin in urban runoff samples, along with frequent detects in nursery runoff from several Orange County sites.

In San Diego County, under NPDES Permit monitoring conducted since 2004, pyrethroids have been commonly detected in water samples from several receiving waters, and toxicity to *Hyalella* has been increasingly observed in water samples (see summary in Ruby, 2008). Bifenthrin was detected in 12 of 15 samples collected from 2005-2006 and 2006-2007; detection frequency was 100% in samples from Chollas Creek, Agua Hedionda, and Tecolote Creek. Toxicity to *Hyalella* was observed in 22 of 57 samples tested over the three year period, 2004-2007. In a TIE study performed on Chollas Creek samples during 2005-2006,

67% of samples were acutely toxic to *Hyalella*, and the toxicity was found to be likely due to pyrethroids.

In a 2004-2005 study performed by UC Davis and others, sediments from Switzer Creek at its outlet to San Diego Harbor were found to be highly toxic; bifenthrin and permethrin were detected at high concentrations, and a sediment TIE identified pyrethroids as the likely cause of the observed toxicity (Anderson et al., in press). As part of a statewide survey of urban waterways, sediments were tested from several receiving waters in San Diego County. All were found to be highly toxic to *Hyalella* (Holmes et al., in press).

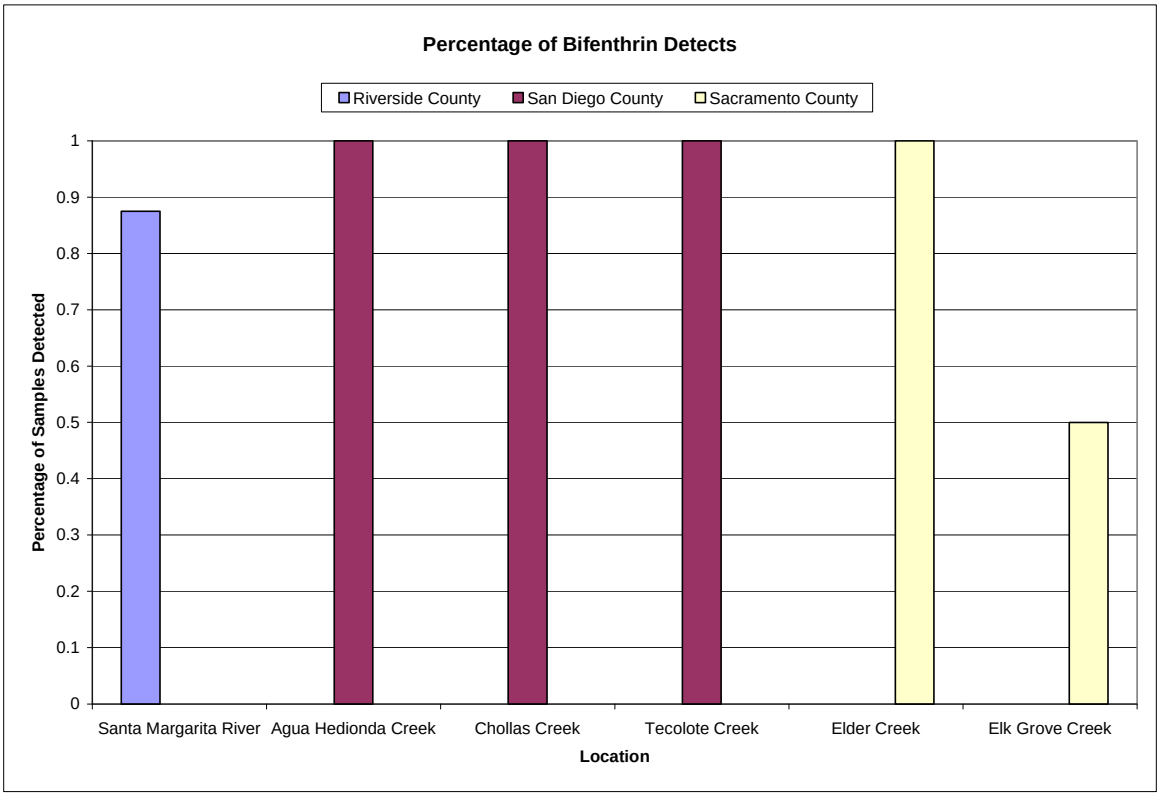
To further compare the pyrethroid sources and toxicity patterns in the SMR to other counties, the CASQA data summary was analyzed to select the studies which reported results for the same constituents and effects identified in the SMR, specifically permethrin, bifenthrin, and toxicity to *Hyalella.* The total number of detections for the different monitoring locations was divided by the total number of samples taken at the sites to calculate the percentage of samples with detectable concentrations of pyrethroids. This normalized metric allowed for comparison of the various datasets.

While permethrin is among the more commonly-used pyrethroids, it is much less toxic to aquatic life than bifenthrin (TDC, 2007). For the purposes of this assessment, bifenthrin detection frequency and frequency of toxic effects were used as the metrics for comparison.

Comparative results for bifenthrin are summarized in Figure 2-1. Data were available for two creeks in Sacramento County and three locations in San Diego County, in addition to the data collected for SMR. Two samples were taken at the Sacramento County sampling locations. For San Diego County, each creek was sampled three times except for Chollas Creek, which was sampled six times. The SMR was sampled a total of eight times. In most cases, bifenthrin was detected in over 80% of samples. Only at Elk Grove Creek in Sacramento County was bifenthrin detected at a notably lower percentage.

Figure 2-1

Percentage of Samples with Bifenthrin Detections

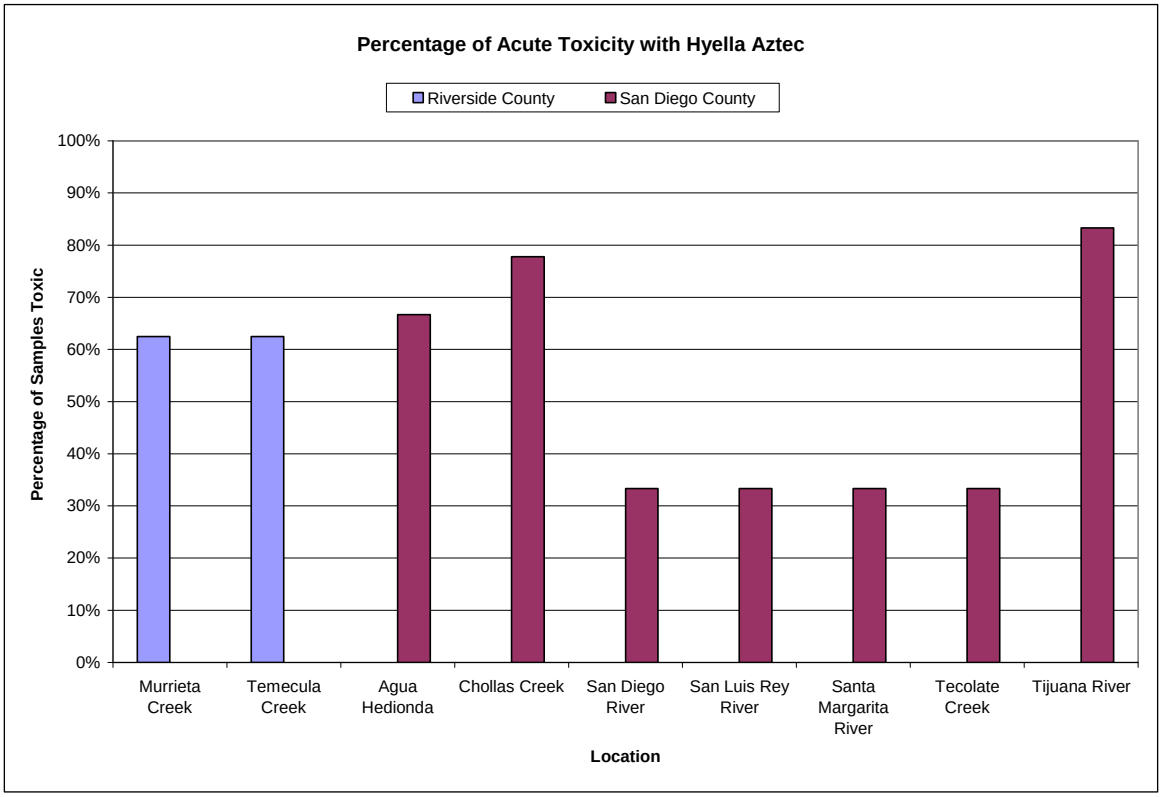


Toxicity to *Hyalella* was documented in water samples from San Diego County, along with the SMR. Toxicity testing was performed on samples from seven San Diego County water bodies. The sample sets ranged from three to nine toxicity tests (Aqua Hedionda, San Dieguito River, Tijuana River, and Chollas Creek). In the SMR, a total of eight toxicity tests were performed on samples from Murrieta Creek and Temecula Creek. The results for frequency of acute toxicity from the SMR were within the range of the results for similar sites in San Diego County (see Figure 2-2).

After comparing the results from different locations, the assumption that pyrethroid sources and resultant toxicity patterns in the SMR are similar to those in similar counties appears to be valid.

Figure 2-2

Percentage of Samples with Acute Toxicity to *Hyalella*



3.0 Literature Review

A literature review was conducted during December, 2008 to determine appropriate BMPs for reducing the concentration and load of pyrethroids in storm water runoff. An initial search was made of the Urban Pollution Prevention Program (UP3) website (www.up3program.org) for potential examples of BMP strategies implemented specifically for pyrethroids. The United States Environmental Protection Agency website and the CASQA website were also reviewed for pyrethroid specific BMPs. Widespread use of pyrethroids is relatively recent, and there has been little direct evaluation of BMPs for pyrethroids. Further research was conducted on general storm water BMPs, and their potential for pyrethroid reduction was evaluated based on the design of the BMP and the chemical behavior of pyrethroids.

To identify pending legislation that may be related to pyrethroid pesticides, web searches were conducted on the websites for DPR, the California legislature, the EPA, and the Library of Congress. However, no pending legislation was identified as relevant to pyrethroid pesticides.

Table 3-1 below presents the findings of the literature review. BMPs are categorized as either source control or treatment control, and within each category they are sorted by type. The literature source, a summary of the BMP, the estimated potential for reducing pyrethroid-induced toxicity, and possible concerns about implementing the BMP are provided. See Section 4 for further information about each type of BMP.

Table 3-1
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Source Control				
Regulatory	Pesticides of Interest for Urban Surface Water Quality. Urban Pesticides Use Trends Annual Report. July 2008.	Suggests regulatory changes as a result of increased toxicity due to pyrethroid use	Potentially High	Supplementary to other BMPs, Will take years to show results
Regulatory	Improving Urban Pesticide Regulatory Activities to Protect Water Quality – Annual Update 2007. November 2007.	Discusses recent state and federal regulatory pesticide activities on an annual basis	Potentially High	Supplementary to other BMPs, Will take years to show results
Regulatory	California Department of Pesticide Regulation. http://www.cdpr.ca.gov/docs/registration/reevaluation/chemicals/pyrethroids.htm. 2007.	The reevaluation of the widespread presence of synthetic pyrethroid residues in the sediment of both agricultural and urban dominated California waterways at levels toxic to Hyalella azteca (H. azteca).	Potentially High	Supplementary to other BMPs, Will take years to show results
Integrated Pest Management (IPM)	Building Maintenance - Structural Integrated Pest Management. June 2008.	Promotes reduction in pesticide use through use of municipality IPM and hiring of PCO's trained in IPM	Potentially High	Does not eliminate all uses of pyrethroids
IPM	California Stormwater BMP Handbook. January 2003.	Promotes prevention of pesticide use through use hiring of PCOs that use IPM as an alternative	Potentially High	Does not eliminate all uses of pyrethroids
IPM	City of Santa Monica Toxics Use Reduction Program Integrated Pest Management. June 1997.	Overview of IPM program initiated by the City of Santa Monica	Potentially High	Does not eliminate all uses of pyrethroids
IPM	National Management Measures to Control Nonpoint Source Pollution from Urban Areas. November 2005.	EPA document discussing management practices to help reduce pesticide use	Potentially High	Does not eliminate all uses of pyrethroids
IPM	National Pollutant Discharge Elimination System (NPDES) Phase II BMP & Measureable Goal Examples. February 2008.	Provides examples and goals of good housekeeping BMPs	Potentially High	Does not eliminate all uses of pyrethroids
IPM	The Monterey Bay Green Gardener Program "sample curriculum". www.green-gardener.org/about. Accessed December 2008.	Informs the public and landscapers about the green gardener program and how to get involved	Potentially High	Does not eliminate all uses of pyrethroids

Table 3-1 (continued)
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Source Control				
IPM	Western IPM Center. www.wripmc.org. Last updated 12/23/2008.	Pest management information specific to region, state, or territory.	Potentially High	Does not directly address pyrethroids
IPM	EcoWise Certified. www.ecowisecertified.com. Accessed December 2008.	Information on IPM program design, developing contracts for structural IPM, and pilot program aimed at developing IPM certification.	Potentially High	Does not directly address pyrethroids
IPM	Our Water Our World. www.ourwaterourworld.org. Copyright 2008.	Contains assorted fact sheets on specific pests and methods to manage them without using hazardous materials.	Potentially High	Addresses pyrethroids in water pollution fact sheet.
IPM	UP3 Project. www.up3project.org. November 2008.	Provides tools to municipalities to reduce municipal pesticide use and to conduct outreach to their communities on less-toxic methods of pest control	Potentially High	Addresses pyrethroids toxic impact on water bodies.
IPM	State of California Green California. www.green.ca.gov/EPP/building/structipm.htm. Accessed December 2008.	Provides information on structural IPM.	Potentially High	Addresses pyrethroids impact on storm water.
IPM	San Francisco Department of the Environment. http://www.sfenvironment.org/our_programs/topics.html?ti=1. Accessed December 2008.	Contains information regarding key components of integrated pest management.	Potentially High	Addresses pyrethroids impact on storm water.
Low Impact Development	Low-Impact Development Design Strategies: An Integrated Approach. June 1999.	Discusses LID design strategies and successes, including storm water controls	Potentially High	Does not directly address Pyrethroids
Low Impact Development	Low Impact Development Handbook: Stormwater Management Strategies. December 2007.	Reviews many LID techniques appropriate for Southern California's climate	Potentially High	Does not directly address Pyrethroids
Public Outreach	County of Los Angeles Department of Public WorksStorm Water/Urban Runoff Public Education Model Program. Fiscal Year 2002.	Provides Los Angeles specific examples of Public Outreach and Education	Potentially High	Change is up to individuals, needs cumulative effect

Table 3-1 (continued)
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Source Control				
Public Outreach	Drainage Area Management Plan - Santa Ana and Santa Margarita Regions. July 2005.	Discusses local outreach actions conducted by the Permittees	Potentially High	Change is up to individuals, needs cumulative effect
Public Outreach	Environmental Justice Pilot Project Pest Management Assessment: Soil Fumigant and Organophosphate Insecticide Use and Alternatives - Parlier, Fresno County, California. October 2007.	Study of Agricultural pesticide use in Fresno area, including use of reduced risk pesticides	Potentially High	Unknown potential water quality and toxicity issues
Public Outreach	National Management Measures to Control Nonpoint Source Pollution from Urban Areas. November 2005.	EPA document discussing management practices to help reduce pesticide use	Potentially High	Change is up to individuals, needs cumulative effect
Public Outreach	National Pollutant Discharge Elimination System (NPDES) Phase II BMP & Measureable Goal Examples. February 2008.	Provides examples and goals of public outreach BMPs	Potentially High	Change is up to individuals, needs cumulative effect
Public Outreach	Pesticides of Interest for Urban Surface Water Quality. Urban Pesticides Use Trends Annual Report. July 2008.	Contains recommendations for public education based on analysis of pyrethroid use trends	Potentially High	Change is up to individuals, needs cumulative effect
Treatment Control				
Extended Detention Basin	Santa Clara Valley Urban Runoff Pollution Prevention Program Commercial Site Design Examples. February 2007.	Shows examples of different structural treatment methods and their effectiveness	Moderate	Improper maintenance could lead to other water quality issues
Extended Detention Basin	California Stormwater BMP Handbook. January 2003.	Reviews extended detention basin BMP methods, concerns, and goals	Moderate	Improper maintenance could lead to other water quality issues
Extended Detention Basin	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews many BMP methods and contains information specific to Southern California	Moderate	Improper maintenance could lead to other water quality issues

Table 3-1 (continued)
Literature Review Matrix

Type of BMP	Literature Source	Summary	Ability to Reduce Toxicity Caused by Pyrethroids	Storm Water Concerns
Treatment Control				
Infiltration Basin	California Stormwater BMP Handbook. January 2003.	Reviews infiltration basin BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Infiltration Basin	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews infiltration basin BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Infiltration Trench	California Stormwater BMP Handbook. January 2003.	Reviews infiltration trench methods of BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Infiltration Trench	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews infiltration trench methods of BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Media Filter	California Stormwater BMP Handbook. January 2003.	Reviews media filter BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Media Filter	Ventura Countywide Stormwater Quality Management Program Technical Guidance Manual for Stormwater Quality Control Measures. July 2002.	Reviews many BMP methods and contains information specific to Southern California	Potentially High	Improper maintenance could lead to other water quality issues
Pervious Pavement	California Stormwater BMP Handbook. January 2003.	Reviews pervious pavement BMP methods, concerns, and goals	Potentially High	Improper maintenance could lead to other water quality issues
Pervious Pavement	Low Impact Development Handbook: Stormwater Management Strategies. December 2007.	Discusses LID strategies for assistance in storm water management	Potentially High	May contaminate groundwater

4.0 BMP Analysis

Based on the literature review and the findings of Phase I of the TRE, BMPs were evaluated for their applicability to the SMR. Because the toxicity appears to be principally a wet weather phenomenon, and because the Permittees' jurisdiction includes the urbanized area of the watershed, the analysis focused on BMPs designed to reduce the amount of storm water pollution caused by urban runoff.

The potentially applicable BMPs are divided into Source Control and Treatment Control BMPs and are discussed in detail below. Through the Permittee's proactive efforts to protect the quality of the receiving waters and their beneficial uses, many programs addressing these broad categories are either already in place or are actively being developed. The implementation status for each specific BMP is discussed. Examples of BMP implementation by other municipalities in the region are included as a tool for evaluating the consistency of the Permittees' program with other programs in the region.

4.1 Source Control BMPs

Source control BMPs are designed to curtail pollution at the source before it has the opportunity to enter the storm drain system and pollute waterways. They are generally the preferred type of BMP because reduction of pollution occurs at the source, before runoff has become contaminated (CASQA, 2003). The types of broad categories of source control BMPs that identified as most appropriate for the Santa Margarita watershed are: pursuing regulatory change, implementing IPM strategies including LID, and public outreach and education.

4.1.1 Regulatory Action

Status: Currently being implemented by the Permittees.

Pesticide manufacturers are required to receive approval by USEPA and California DPR for specific pesticide uses, and both agencies can impose use restrictions to prevent unwanted impacts on the environment and public health. At the federal level, a fundamental regulatory disconnect exists between pesticide approval (registration) under FIFRA and water pollution control programs under the Clean Water Act. This has resulted in a repeating pattern, in which a) pesticides are approved for use without sufficient consideration of potential environmental effects, b) water quality and other ecological impacts accrue, c) use restrictions are applied to the offending products (sometimes involving widespread bans on use), and d) new pesticides are approved for use, with subsequent environmental impacts.

In 1962 Rachel Carson published *Silent Spring*, documenting the widespread ecological consequences of pesticide applications. The federal government responded by banning the use of DDT and other organochlorine pesticides, based on extensive evidence of environmental impacts through the process of bioaccumulation. The ban has lead to dramatic recoveries in affected populations of bald eagles and other species; however, the legacy of these long-lasting pesticides near-shore dumping areas in Los Angeles County and elsewhere remains (IWS, 2007).

Eventually the organochlorine pesticides were replaced principally by organophosphate pesticides, especially in urban uses. In the mid-1990s municipal storm water monitoring programs began to document that commonly-used organophosphate pesticides, especially diazinon and chlorpyrifos, were present at toxic levels and causing toxicity to aquatic organisms, principally the common water flea, *Ceriodaphnia*. Although not bioaccumulative, diazinon and chlorpyrifos were discovered to cause widespread toxicity in urban runoff and local receiving waters (TDC, 2001). USEPA subsequently banned most urban uses of diazinon and chlorpyrifos, although EPA's main motivation involved human health effects

on the pesticide applicators, and water quality was not an important factor in those decisions. Again, the ban was also immediately effective, reflected in reduced concentrations of diazinon and chlorpyrifos in urban water samples, and fewer occurrences of organophosphate-based water column toxicity (c.f., references in Ruby, 2008 for San Diego County Municipal Copermittees Annual Urban Runoff Monitoring Reports). But pesticide manufacturers simply replaced the OP pesticides in their products with other active ingredients, principally pyrethroids. Shortly thereafter, researchers and municipal storm water programs began documenting toxic effects from the new pyrethroid products. The pyrethroid impacts were first documented in sediments, and the affected test organism shifted from *Ceriodaphnia* to the sediment-dwelling *Hyalella*.

In the cases of both organochlorine (DDT) and organophosphate (diazinon, chlorpyrifos) pesticides, federal limitations or bans on uses were effective in ameliorating the associated environmental impacts. In both cases, however, new pesticide products were approved for use that then caused related but different impacts to the environment. Therefore it is clear that the most effective strategy for preventing environmental impacts from pesticide use involves implementing an effective process of pesticide approval and registration that comprehensively accounts for and mitigates against such impacts.

For more than ten years CASQA and various other California state and local agencies have promoted better regulation of pesticides at the federal level, encouraging use restrictions as the most effective means of source control. California water quality agencies have sent comment letters to USEPA and DPR on guidance pertaining to the application of pesticides to surface waters and on recommended environmental hazard statements for residential outdoor pesticides (TDC, 2007). These efforts are beginning to show some modest signs of success. In a recent letter to stakeholders, EPA outlined an approach to provide better cooperation between the Office of Pesticide Programs (OPP) and the Office of Water (OW), to allow for “environmentally protective and scientifically defensible effects assessment judgments about contaminants that are or may be found in ambient water”. The Riverside County Permittees plan to continue their support of these efforts through ongoing

participation in the CASQA Pesticides Subcommittee, the Urban Pesticide Pollution Prevention (UP3) Project, and the Urban Pesticide Committee. The Permittees also plan to request that the RWQCB become involved in advocating for more effective pesticide regulation at the state and federal levels.

The Permittees are members of a CASQA subcommittee that addresses pesticide uses impacting stormwater discharges. Effort focuses on providing input to the USEPA and the California Department of Pesticide Regulation (DPR) to improve pesticides regulations so that they more fully protect water quality and are better aligned with the Clean Water Act and California Water Code. (RCFCWCD, 2008). CASQA has also been active in supporting DPR's ongoing reevaluation of allowable pyrethroid pesticide uses (TDC, 2007).

Increasingly, the regulatory response to the water quality impacts resulting from *legal uses of approved pesticides* has been for regional water boards to impose limitations on the allowable loadings of pesticides to impaired waters through the TMDL process. Local agencies have little or no jurisdiction over sales or use of these pesticide products, and therefore do not have the full authority needed to perform loading reductions in resulting TMDLs. An effective regulatory solution must occur at the state and federal levels, to regulate allowable pesticide uses to effectively prevent such water quality impacts.

Current legislation requires users of certain pesticides to be trained, often certified, in the use of those pesticides and to report the amounts applied (State of California, 2008). A similar regulatory approach could be used to promote pesticide alternatives, such as for PCOs to train and certify their technicians in the use of IPM methods (Quarles, 2002). The Permittees are considering supporting regulatory action by the state to include IPM training for PCOs in the requirements for certification and training on the use of pesticides.

Environmentally sensitive and flexible zoning ordinances may be adopted to facilitate the use of LID principles, thereby encouraging private developers to use LID principles (Prince Georges County, 1999). Additional land use restrictions or alternatives to present zoning

laws may help reduce urban storm water runoff, potentially reducing pyrethroid loadings in receiving waters. The Permittees plan to continue promoting LID implementation through interagency communications and cooperation.

4.1.2 Integrated Pest Management

Status: Currently being implemented by the Permittees.

IPM is "a decision-making process for managing pests that uses monitoring to determine pest injury levels, and combines biological, cultural, mechanical, physical, and chemical tools and other management practices to control pests in a safe, cost effective, and environmentally sound manner that contributes to the protection of public health" (Carlsen, 2008). IPM can further be described as an approach to solving pest problems by using information about the pest and landscape to eradicate the pest's habitat in a manner that poses the least risk to humans (Ecology Action, 2007). IPM has many different aspects that help to reduce pests and in turn cause a reduction in pesticide use, including green gardening and structurally integrated pest management (SIPM). BMPs that are typically used as part of an IPM strategy are described in the following sub-sections.

4.1.2.1 Green Gardening

Status: Not currently being implemented by the Permittees, program under consideration and will be enacted in the near future.

The Green Gardener program, implemented through landscapers, promotes environmentally responsible landscaping to reduce the use and need for pesticides. In general, education of gardening and landscape maintenance staff is beneficial for pest reduction as part of an IPM program. It provides alternative methods to landscapers, such as reducing outdoor sources of ants by elimination of their food and water sources through management of honeydew producing insects and plants associated with them (UC Davis, 2007). The Green Gardener

program encourages businesses to participate in environmentally sound landscape maintenance. Healthy landscapes are more resistant to pests (Ecology Action, 2007). Pests that do not have a suitable habitat will leave to find a more hospitable environment. When the pests leave, then there is a lessened need for pesticide applications and lower risk of pyrethroids entering storm water.

The County of Santa Barbara implemented a Green Gardener Program, in which landscapers are encouraged to take a class at the local city college, covering subjects such as IPM strategies and environmentally beneficial landscaping to obtain a "Green Gardener" card. They are then placed on the Green Gardener list, which is then promoted to the public by the County (County of Santa Barbara, 2008). The program benefits both parties; gardeners receive education and advertising at a nominal cost, and the County receives the benefit of more environmentally-friendly landscaping and a reduction in the use of pesticides. Municipalities may promote this type of program by contracting with landscaping companies that have their employees trained in green gardening practices.

Encouraged by the success of the Santa Barbara Green Gardener Program, the Monterey Bay area instituted a similar program. "The goal of the program was to educate and certify local gardeners in resource efficient and pollution prevention landscape management practices" (Ecology Action, 2007). With the support of the State of California Water Resources Control Board, more municipalities are likely to follow (Ecology Action, 2007).

4.1.2.2 Pest Control Contracting

Status: Currently partially implemented by the Permittees.

Many municipalities contract pesticide applications to professional PCOs. Contracting only with PCOs that have IPM training and certification can help realize IPM models and goals. The recently completed EcoWise Certified IPM Contracting Tool Kit (www.EcoWiseCertified.org), provides resources for municipal agencies to use in developing such a program. The EcoWise IPM Tool Kit includes:

- Elements to consider when developing an IPM policy
- Roles and responsibilities of the agency or business in an IPM program
- How to hire and work with a professional IPM service provider

The Took Kit also includes the EcoWise IPM Process along with a number of other helpful resources and sample documents.

Because PCOs are responsible for the majority of pesticides applied in urban areas, distribution of information regarding less-toxic alternatives, lower-use application techniques, and proper disposal, practices to professional applicators is an essential component of the Permitee's pesticide control effort. The Permittees currently distribute information to PCOs through the Public Outreach and Education Program (see Section 4.1.3).

The City of Palo Alto's Regional Water Quality Control Plant includes IPM requirements in their contracts with PCOs (City of Palo Alto, 2008). The City of Santa Monica, as a part of their SIPM program, specified IPM requirements in their PCO contracts (Raphael, 1997). Use of PCOs with IPM training and certification by municipalities encourages local PCOs to invest in IPM training and certification, which in turn, allows their expertise in IPM to expand beyond just the municipality itself (Quarles, 2002). Education of PCOs, hiring only PCOs that have IPM training, and contracting specifically for IPM by local agencies may

create more public awareness and reduce the use of pyrethroids in the Santa Margarita watershed.

4.1.2.3 Structurally Integrated Pest Management Program

Status: Currently being implemented by the Permittees, with additional programs under consideration.

SIPM is a program that controls the access of pests to buildings and the potential food sources within them by protecting the structure itself from pests, with minimal use of pesticides. The Permittees intend to lead by example, sharing success through public outreach programs and encouraging individuals and businesses to do the same. SIPM is a long term solution offering positive potential impacts on budget, reduction of pests and, reduction of pyrethroid pesticide use. Note that SIPM should not be confused with category of pesticide use referred to as structural pest control. SIPM is a BMP designed to reduce the use of pesticides in a structural pest control program.

The City of Santa Monica implemented an SIPM program and experienced a reduction in pests and in the use of pesticides. In addition, Santa Monica reduced pest management costs by 30% (State of California, 2008). California law requires a SIPM strategy for all state-owned buildings and schools (State of California, 2008). The three main aspects of a SIPM strategy are facility design and LID, monitoring, and facility maintenance.

<u>Facility Design</u>

Status: Currently being implemented by the Permittees.

Facility design can play a large role in the exclusion of potential pests. "A facility's planning, design, and construction provides an opportunity to incorporate features that help to exclude pests, minimize pest habitat, and promote proper sanitation" (NIH, 1999). It can also reduce

storm water runoff (NAHB, 2008). Exclusion of pests helps reduce pest infestations and in turn the need for pyrethroid pesticide use. For example, ensuring that the design holds plants and mulch several inches away from the foundation of a building may assist the reduction of ant populations immediately adjacent to the building (UC Davis, 2007). A reduction in storm water runoff may also reduce the amount of pyrethroids that enter receiving waters. Facility designs can incorporate aspects of LID, as discussed below. New development and redevelopment may incorporate designs that aid in the exclusion of pests and the reduction of urban runoff, which may contribute to a reduction of pollutant loads, including pyrethroids.

Pest Monitoring

Status: Currently in not use by the Permittees, program under consideration.

Monitoring structures and adjacent areas may help prevent pest infestations and quickly identify potential problems. Traps, visual inspections, and staff interviews assist in the identification of areas and conditions that may foster pest activity (NIH, 1999). Monitoring for ants, for example, may consist of simple inspections of facilities such as looking under sinks and along pipes and electrical wires (UC Davis, 2007). The City of Santa Monica, as a part of their SIPM, provided training to all general staff, purchasing, carpenters and custodial staff. Specific presentations were given to groups, such as the custodial staff, who learned about products used in control of ant and cockroach populations and general sanitation. The staff is trained in the identification of potential pest infestations and habitat conditions that may foster pest activity (Raphael, 1997). Early identification of pest infestations can increase the effectiveness of specific treatments and reduce the overall need for pesticide use.

Sanitation and Facility Maintenance

Status: Currently not being implemented by the Permittees, program under consideration.

Proper sanitation includes reducing clutter and pest habitat and incorporating proper facility and waste management practices. Records of maintenance and housekeeping conditions may help track pest problems and assist in the determination of whether corrective action is needed or has been taken in a timely manner (NIH, 1999). Sanitation and facility maintenance involves the housekeeping staff, the building maintenance staff, and the landscaping staff.

Improper storage of waste may affect urban runoff, and it may create a hospitable environment for pests, particularly ants. Initial, low-cost steps that municipalities may take to improve waste handling are: controlling litter, keeping waste collection areas clean, and insuring proper disposal of pyrethroid pesticide products, if used, and educating employees and the public. Simple solutions such as rinsing out soda bottles and emptying trash daily prove effective to reduce insect infestations, particularly ants (UC Davis, 2007). An important component of an SIPM monitoring program is regular inspections of solid waste containers for structural damage or leaks (CASQA, 2004).

Educating custodial staff, such as was done in the City of Santa Monica, can reduce the amount of improperly disposed pesticides (Raphael, 1997). Designating staff members to perform a daily checklist of areas around the structure to ensure cleanliness and proper storage of waste can assist the efforts to reduce potential pest infestations and leakage of hazardous waste (CASQA, 2004).

Building maintenance staff also benefit from education and acceptance of responsibility for pest management. Maintenance crews can contribute to an SIPM strategy by securing the structure, such as caulking holes and cracks, assisting in the removal of clutter, and installing

door sweeps (State of California, 2008). Caulking holes in structures can prove effective in keeping ants out of facilities (UC Davis, 2007). Upkeep on building maintenance helps reduce potential pest habitat, and thus may reduce the need for application of pyrethroid pesticides.

Reduction of pest habitat around structures may reduce pest populations in and around structures. Marin County, as part of its integrated pest management program, has reduced rat habitat around the local Civic Center and in turn has seen suppression of the rat population (Carlsen, 2008). Programs similarly tailored to ants may result in a positive effect of pest reduction within the SMR. For example, banding tree trunks with tanglefoot or similar sticky substances can keep ants away from trees (UC Davis, 2007). Education and training may be provided to Permittee landscaping crews to assist in proper vegetation removal and, when necessary, pesticide use. Landscaping crews may be informed that pyrethroid pesticides or any less toxic pesticides are to be used only when a pest problem arises to an intolerable level, that they are not administered when a wet weather event is expected and only when low wind speeds are present (CASQA, 2004). Education of landscaping crews to remove pest habitat may reduce the need for pyrethroid use thus reducing the potential risk of pyrethroids entering storm water runoff.

Also, utilizing low water using vegetation and alternative landscaping techniques such as xeriscaping or naturescaping are efforts that landscape crews can take to reduce pyrethroids in urban runoff. Landscaping crews may also help preserve the water efficiency of the landscape through properly timed fertilizing, weeding, pruning, and pest control. For example, proper collection and disposal of yard clippings can prevent loose vegetation that has possibly been treated with pyrethroid pesticides from entering waterways or storm water drainage systems such as MS4s (CASQA, 2004). Reduction in pest habitat and proper landscaping maintenance may help reduce pest problems, and thus the need for pyrethroid pesticides.

4.1.3 Public Outreach and Education

Status: Currently being implemented by the Permittees.

Public Outreach and Education programs inform the public about storm water issues, proper use and disposal of publically available chemicals, and alternatives to pyrethroid pesticides. Reaching out to the public and providing information about the dangers of pyrethroids pesticides encourages citizens to make educated decisions about pesticide use. It also may accelerate state and federal regulatory changes regarding pyrethroid use through public promotion of such changes. According to the EPA, public education and awareness can be a "key component" in any BMP program for storm water management (EPA, 2008).

The District has enacted a public outreach program to help reduce the potential for pyrethroid pesticides to contaminate receiving waters. This program has initiated: distribution of educational materials to hardware store employees, active participation and distribution of outreach for HHW/ABOP facilities to provide for free venues to dispose of excess pesticides, and distribution of EPA and CalEPA materials to the public. The District also promotes the use of less toxic pesticides, provides education on storm water issues in public schools, and has enacted a multimedia campaign to control urban sources of pyrethroid pesticides (RCFCWCD, 2005).

<u>Education and Outreach to Businesses</u>

Status: Currently being implemented by the Permittees.

Distribution of information regarding pesticides to businesses, particularly hardware stores, is crucial for reducing pyrethroid use and misuse at its source. Education on pyrethroid runoff to local hardware stores may assist local hardware store employees to educate their customers on alternative methods of pest control. An Orange County survey from 2001 found that 55% of pest control products were purchased at hardware stores (Wilen, 2001). In

2006, Riverside County had 177,562 pounds of reported non-agricultural usage of pyrethroid pesticides (RCFCWCD, 2008). Reduction in usage may lead to a reduction of pyrethroids in urban storm water runoff. Educating hardware store employees about urban water quality impacts of pyrethroid pesticides may help reduce the usage and thus the toxicity of runoff in the Santa Margarita Watershed resulting from pyrethroid use, as employees have the ability to recommend alternative methods of pest management to their customers.

Education of nursery employees about pyrethroid management and IPM techniques may also yield significant source control benefits. In general, nursery employees tend to be more knowledgeable about pesticides than employees at hardware stores (Wilen, 2001). Nurseries that use and sell pyrethroids offer the highest return on outreach resources, while those nurseries that have chosen alternate pest management methods serve as examples of IPM in practice. In a recent Riverside County survey, one nursery stated that they do not use pesticides and if their nursery does experience a pest infestation, it is treated naturally (RCFCWCD, 2008). Such nurseries are likely to encourage their clients and customers to use the same methods. Education and outreach can lead to cooperation and sharing of successful and unsuccessful methods of IPM and ultimately reduce pyrethroid pesticide use and toxicity of storm water runoff.

Businesses not in the industry of pesticide sales may also benefit from outreach. The District directs outreach efforts to all businesses; those in the business of selling or using pesticides, and those that are not. The District has coordinated with the County's Business License Department to include an educational insert of the "Only Rain Down the Storm Drain" program to new business license applicants and annual renewal reminders (CRWQCBSD, 2008). Informing companies on proper disposal of hazardous materials such as pesticides is crucial to prevent pyrethroid containers from being improperly disposed of, leaking, and then contributing to storm water pollution.

Several Southern California cities conduct general business outreach as well. Cities such as Carson, Gardena, Inglewood, and Lomita distribute informational pamphlets on storm water

pollution relating to landscaping and gardening practices to general businesses (DCWMAC, 2007). Such information informs businesses of alternate methods of pest control beyond pesticide use and imparts knowledge about storm water quality issues. Thus, dissemination of educational materials to local businesses is intended to help reduce pyrethroid runoff by ensuring proper disposal of pesticides and encouraging alternate methods of pest control.

Educational and Outreach to the General Public

Status: Currently being implemented by the Permittees.

The District distributes educational materials within the Santa Margarita Region such as EPA sponsored pamphlets in order to promote reduced use of pyrethroid pesticides and educate the public about alternate practices of pest management. The public purchases retail pesticides and uses them, presumably, according to the manufacturer's instructions and in compliance with regulations listed on the packaging, including proper disposal of empty containers in the municipal waste stream. However, even when used properly, retail pesticides have the potential to contaminate urban runoff, and homeowners may be unaware of the downstream consequences of pesticide use. Depending on the landscaping practices in a neighborhood, promoting alternative pest management strategies and educating the public on storm water quality and pesticide use may be the most beneficial way to reduce the source of pyrethroids in urban runoff (Wilen, 2005).

The District distributes educational materials within other public outreach programs and maintains pest management information on the internet. The District also distributes brochures to educate the public on lawn and garden maintenance, fertilization, and pesticide and household chemical use (RCFCWCD, 2005). These educational materials provide public education on alternative pest control methods, limiting individual use of pyrethroids, and proper disposal of pesticide containers.

Many municipalities perform storm water outreach at festivals and public events by participating in the events and by distributing brochures. The Cities of Lawndale and Torrance plan and attend public festivals and rent booth space to educate the public about storm water quality and the use of pyrethroids (DCWMAC, 2007). Cities including Carson, Gardena, Inglewood, and Lomita distribute informational pamphlets on storm water pollution relating to household activities and landscaping and gardening practices to the general public (DCWMAC, 2007). The District participates in events such as the Children's Groundwater Festival, the Southern California Fair, the Community Water Festival, and the Santa Margarita Watershed Clean Up (RCFCWCD, 2005). The Permittees, as well as other municipalities within California, participate in public events and distribute informative materials as a portion of their current public outreach programs.

Education on proper disposal of pesticides

Status: Currently being implemented by the Permittees.

Improper disposal of pesticides is a potential contributor to storm water contamination. Empty containers be disposed of in the municipal waste stream are not likely to contribute to storm water pollution, however, unused pesticides may enter the MS4 by leaking in transit. In Orange County in 2001, 54.5% of people surveyed claimed to have disposed of unwanted pesticides in the municipal waste stream, and 78.6% did not know the location of a household waste disposal site (Wilen, 2001). The District has created a partnership with Riverside County Waste Management to provide educational programs and materials on proper disposal of unwanted waste, including pesticide containers (RCFCWCD, 2005).

Multimedia Outreach

Status: Currently being implemented by the Permittees.

The EPA suggests using multiple media sources to promote and educate on storm water impacts, particularly through public service messages (EPA, 2007). Mass media has proven to be a key source of pollution prevention information for the general public (LADPW, 2002). The District currently participates in a multimedia advertising campaign including: maintaining a website that provides information, distributing mailing inserts regarding water quality issues through various county entities, and billboard advertising campaigns. Many other municipalities, such as the Cities of Palo Alto and Lawndale, also use the world wide web to provide information to the public (City of Palo Alto, 2008) (DCWMAC, 2007).

Public School Programs

Status: Currently being implemented by the Permittees.

A storm water education program for public schools is a concept supported by the EPA (EPA, 2007). The County of Los Angeles has incorporated public school educational programs into its outreach program (LADPW, 2002). The District focuses storm water education efforts on elementary school students (RCFCWCD, 2005). For example, sixth-grade students at Warm Springs Middle School were given an interactive presentation regarding storm water pollution with an enviroscape model that excited and engaged the students; a presentation that has been given over 150 times during the 2003-2004 school year (Jamescourie, 2004). Educational programs in public schools are intended to produce long-term benefits to storm water runoff quality.

Education on Lower Risk Alternative Pesticides

Status: Currently being implemented by the Permittees.

Part of Public outreach includes suggesting less toxic alternatives to pyrethroid pesticides, such as those listed on the Our Water Our World website (www.ourwaterourworld.org). Lower risk pesticides have reduced impacts on human health, lessened toxicity to non-target organisms, decreased potential for water contamination, and lower pest resistance potential (Matteson et al., 2007). The District distributes materials associated with the "Our Water Our World" organization (RCFCWCD, 2008).

However, some of the lower risk pesticides are toxic to beneficial arthropods and still have the potential to pollute surface and ground water (Matteson et al., 2007). Pyrethroids were developed as a less toxic alternative from organophosphate pesticides (Quarles, 2002). In the Santa Margarita Watershed, there was a decrease in water toxicity to *Ceriodaphnia* and an increase in toxicity to *Hyalella* as organophosphate pesticides such as chlorpyrifos and diazinon and were replaced by pyrethroids (RCFCWCD, 2008). The effects on storm water runoff of lower risk pesticides must be carefully evaluated before they are promoted as effective solutions to urban storm water runoff pollution.

4.1.4 Low Impact Development (LID)

Status: Currently being implemented by the Permittees.

LID involves environmentally-friendly building and development designs that mitigate impacts to land and water. LID functions by managing storm water at its source, incorporating a variety of runoff control techniques, using natural features as design features, and protecting natural resources (NAHB, 2008). Municipalities that promote LID have the potential to reduce municipal infrastructure and maintenance costs while balancing growth needs with environmental protection (NAHB, 2008). LID practices include "small scale,

decentralized treatment practices" that include conservation of open space, a reduction of impervious surfaces, and the incorporation of water controls (NAHB, 2008). Reduction of urban runoff volumes may reduce the loadings of pyrethroids to receiving waters in urban areas.

In 2007, EPA implemented a retrofit of the agency headquarters in Washington, D.C., incorporating LID designs to assist with storm water retention (EPA, 2007). Retention of storm water on the land helps prevent pollutants from entering streams and rivers (EPA, 2007). One of the main goals of the EPA LID retrofit was to demonstrate several LID techniques and encourage government agencies and developers to use them (EPA, 2007). LID may be used in conjunction with IPM programs, which would reduce the amount of pesticides used and minimize the urban storm water runoff of pyrethroids. The County of San Diego's most recent MS4 permit requires implementation of LID techniques (County of San Diego, 2007); this appears likely to continue as a trend with other permits in the region as they are renewed. The incorporation of LID principles into development regulations in the Santa Margarita watershed provides a potential solution to runoff of pyrethroids into receiving waters.

4.2 Treatment Control BMPs

Treatment Control BMPs are typically structural devices engineered with the intent to remove pollutants from storm water. Treatment BMPs require construction and long term maintenance, but can be extremely effective (CASQA, 2003). Although treatment BMP's have not been thoroughly investigated specifically for reduction of pyrethroids, some methods may be useful. Pyrethroids bind tightly to soil particles so there is a high probability that pyrethroids would be removed with suspended solids when they pass through treatment BMPs. In addition, pyrethroids degrade over time; permethrin, for example, has a half life in soil of about 30 days and about 10 days on certain plant life. Because pyrethroids have low mobility in soil, infiltration-based treatment BMPs have a low probability of contributing to groundwater contamination (NPTN, 1997).

From the list of available treatment BMP's identified in Table 3-1, the types of treatment BMPs feasible for pyrethroid treatment in the Santa Margarita Watershed, considering the climate, local vegetation, and soil types present are: pervious pavement, media filters, extended detention basins, infiltration basins, and infiltration trenches.

These BMPs and their potential to remove pyrethroids from storm water runoff are described below.

4.2.1 Pervious Pavement

Status: Currently being implemented by Permittees under LID program.

Pervious or porous pavement is "a system comprising a load-bearing, durable surface together with an underlying layered structure that temporarily stores water prior to infiltration or drainage to a controlled outlet" (CASQA, 2003). Pervious surfaces include grass, gravel, and porous concrete and asphalt (CASQA, 2003). The multi layer system assists in preventing pyrethroid pollution by providing a stable structure for pyrethroids to bind to and degrade, thus helping to prevent their transport in to receiving waters. Silts that are deposited within the pavement may need infrequent controlled waste disposal (CASQA, 2003).

The advantage of porous pavement is that urban runoff is reduced while treatment is provided and it is an effective drainage solution in confined urban areas. However, porous pavement is not a viable option on high traffic or high speed roads due to safety issues. There is a small chance that it may contaminate groundwater. It is fairly easy to replace, should there be a clog or damaged area, as small areas can individually be paved (CASQA, 2003). The use of pervious pavement appears to be a growing trend.

4.2.2 Media Filter

Status: Currently being implemented by Permittees via sand filters.

Storm water media filters are usually two-chambered including a pretreatment settling basin and a filter bed filled with sand or other absorptive filtering media. As storm water flows into the first chamber, large particles settle out, and then finer particles and other pollutants are removed as storm water flows through the filtering media in the second chamber. Media filters are highly effective at removing sediment from storm water flows (CASQA, 2003). They are appropriate in low flow areas, particularly with sandy soil. Washington D.C. and Austin, TX have both successfully implemented media filters to treat storm water (VCSQMP, 2002). They "are well suited to Southern California because they do not require vegetation and require less space than other treatment control measures with similar removal efficiencies when a partial treatment sedimentation basin is used" (VCSQMP, 2002).

However, media filters clog easily when exposed to high sediment loads and may decrease in effectiveness after being in use for a few years (CASQA, 2003). A media filter is not appropriate for areas with erosive soil upstream from the treatment filter (VCSQMP, 2002). The lack of abundant native vegetation in the Santa Margarita watershed contributes to a high potential for erosion, so media filters may not be effective in the long term due to clogging. When clogging does occur, media filters may become a nuisance due to mosquito or midge breeding in pooled waters (CASQA, 2003).

4.2.3 Extended Detention Basin

Status: Currently not being implemented by the Permittees for pyrethroid reduction.

An extended detention basin (EDB) is a permanent basin "formed by excavation and/or construction of embankments to temporarily detain the Stormwater Quality Design Volume

(SQDV) of storm water runoff to allow sedimentation of particulates to occur before the runoff is discharged"(VCSQMP, 2002). EDBs are constructed with an outlet at the bottom that allows for a slow, time-controlled release. The ultimate goal of EDBs is to level off peak storm water runoff rates (VCSQMP, 2002). Santa Clara Valley and the City of Palo Alto have noted that their detention basins have helped with the reduction of pollutants (EOA, 2004) (City of Palo Alto, 2008). Pyrethroids could be removed in the basin through settling of particulates.

Extended detention basins can serve multiple purposes as they provide for significant trash removal as well (CASQA, 2003). Maintenance is needed to ensure that the pond fully drains after large wet weather events, to avoid creation of standing pools causing mosquito or other vector habitats (CASQA, 2003). Extended detention basins are most effective when used in conjunction with other control measures, and are only moderately successful at removal of sediment. EDBs require relatively large amounts of land and therefore may not be feasible in urban areas of the Santa Margarita watershed (VCSQMP, 2002). There are no available examples of test results from municipalities using an extended detention basin for reduction of pyrethroid pesticides.

4.2.4 Infiltration Basin

Status: Currently not being implemented by the Permittees for pyrethroid reduction.

An infiltration basin is a shallow impoundment that is designed to infiltrate storm water and utilize the natural ability of soil to remove pollutants in storm water runoff (CASQA, 2003). Infiltration basins store runoff until it eventually enters the soil and infiltrates into the water table (CASQA, 2003). The soil present in the Santa Margarita Region is extremely pervious and may work well with an infiltration basin treatment structure.

Since pyrethroids adsorb onto soil, pyrethroids are likely to be removed from the storm water into the soil. However, there is a slight possibility that they may be resuspended into the

groundwater. Monitoring of pilot sites would be required to determine if there is transport of pyrethroids to the water table.

As with detention basins, maintenance is needed to ensure that the basin fully drains after large wet weather events to avoid creation of standing pools causing mosquito or other vector habitats. Infiltration basins may fail if the storm water volume is greater than the design volume (VCSQMP, 2002). Since infiltration basins require a large amount of open space, installation in urban areas is problematic. There are no available examples of test results from municipalities using infiltration basins for reduction of pyrethroid pesticides.

4.2.5 Infiltration Trench

Status: Currently not being implemented by the Permittees for pyrethroid reduction.

An infiltration trench is a long and narrow ditch that collects storm water runoff by storing it in the voids in a rock bed and allowing it to infiltrate to the soil matrix (CASQA, 2003). Infiltration trenches are extremely effective at removing fine sediment particles and associated pollutants (CASQA, 2003). Naturally pervious soils are required (VCSQMP, 2002). The Santa Margarita watershed has naturally pervious soils, which would allow for the removal of pyrethroids from the water and into the sandy soil.

Infiltration trenches are typically used in conjunction with grass lined channels or grass filter areas located upstream for maximum removal of sediment and larger particles (VCSQMP, 2002). Due to the arid environment in the Santa Margarita Region, grass lined channels, or even vegetated strips, would require irrigation to maintain the vegetation. If the infiltration trench clogs, it can become a source for mosquito breeding. There are no available examples of test results from municipalities using infiltration trenches for reduction of pyrethroid pesticides.

4.3 BMP Evaluation

A summary of the relative advantages, disadvantages and costs of the various BMPs identified in Sections 4.1 and 4.2 above is presented in Table 6.1 below. The table includes advantages, disadvantages, and the relative cost of implementing the BMPs.

Table 6.1
BMP Comparison Table

BMP Technology	Advantages	Disadvantages	Relative Cost*
Source Control			
Regulatory Change	Reduces the availability of pyrethroids on the market	May take years to achieve full effect	$
Integrated Pest Management	Engages businesses and the public in environmentally sound gardening practices	Need to ensure that employees are following protocols	$
	Has been implemented in various locations throughout CA and the US	Could have some resistance from employees who are use to standard practices	
	SIPM can be put in place directly by the Permittees	Some may find the organic methods of gardening to be too time consuming	
	SIPM can be incorporated directly into current maintenance activities		
	Includes LID aspects		
Public Outreach and Education	EPA states that Public Outreach is key for any BMP program	Cannot control the direct actions of public but only educate	$
	Copermittees have already implemented a public outreach program	Hard to measure the direct impact of pollutant reduction	
	Employees of business have direct impact on the buying choices of the general public		
	Programs have been implemented by many municipalities		

Table 6.1 (continued)
BMP Comparison Table

BMP Technology	Advantages	Disadvantages	Relative Cost*
Treatment Control			
Porous Pavement	Reduces runoff volume while reducing pollutant load as well	Requires ongoing minimal maintenance	$ to $$ depending on size
	Can be easily replaced depending on the size and location of design	No known measured reduction of pyrethroids.	
Media Filter	Do not require vegetation	No known measured reduction of pyrethroids.	$$$
	Highly effective in removal of sediments	Clogging is an issue because of the erosion potential in the watershed.	
	Requires less space than other treatment controls for sediment removal		
Extended Detention Basin	Known for significant trash	Large footprint Moderately successful at removing sediment	$$$
	Standard BMP with many years of maintenance and operational information available	Create an area with vector breeding potential	
		No known measured reduction of pyrethroids.	
Infiltration Basin and Trench	Uses natural ability of soil to remove pollutants.	Unknown if pyrethroids would be transported to the groundwater table.	$ to $$$
	Local soils would allow infiltration	Would require a pilot study to determine transport.	
		No known measured reduction of pyrethroids.	
		Clogging of outlet structure	
		Accumulation of metals in soil	

*Relative Cost: $ = $0 to $50,000, $$ = $50,001 to $100,000, $$$>100,000

5.0 Pending Legislation

There is no relevant pending state legislation relating to pyrethroid pesticides from the California Department of Pesticide Regulation or, in general, the State of California as of December, 2008 (State of California, 2008) (CDPR, 2008). In August 2006, the DPR put rules in place to control insecticide sprays during the dormant season. During winter, pesticides are applied to dormant tree and vine crops to kill overwintering pests and diseases. The new rules restrict the use of most dormant insecticides when residuals can run off into water (DPR 2007-08 Progress Report). However, there are no additional updates relating to pending pyrethroid legislation at this time.

There is no relevant pending federal legislation relating to pyrethroid pesticides from the United States Congress as of December, 2008 (Library of Congress, 2008). Although the EPA is working on proposed mitigation labeling for non-agricultural pyrethroids, there is no indication as to when this legislation may be enacted (TDC, 2007).

6.0 Proposed Course of Action

The Permittees intend to use a phased approach to address the identified sources of pyrethroid pesticides causing toxicity in surface waters of the SMR watershed. As described in Section 4, various source control BMPs and treatment control BMPs are available to address these sources. However, the use of pyrethroid pesticides can not be directly regulated by local governments. The most effective control strategy involves effective labeling and use restrictions via state or federal regulatory action, to prevent water quality impacts from legal pesticide uses. The proposed course of action involves an adaptive management approach with the following broad elements:

- Pursue state and federal regulatory change through CASQA
- Implement a set of source controls targeted specifically at urban pesticide use,
- Through the annual reporting process, monitor the implementation of those controls, assess effectiveness, and identify sources or areas where additional effort is needed,
- Evaluate whether additional controls, including treatment controls, may be needed to further reduce pyrethroid pollution,
- Implement additional controls as needed,
- Continue to monitor implementation, as well as conditions within the target receiving waters, assess effectiveness, and re-evaluate control program

The Permittees will continue to support CASQA and/or other agencies pursuing regulatory change in labeling or use limitations for pyrethroid pesticides. This support will include participation in the CASQA Pesticides Subcommittee and the Urban Pesticide Committee, and supporting the implementation of the Urban Pesticide Pollution Prevention (UP3) Project. Permittee staff will continue to provide staff time and resources necessary for the CASQA Pesticides Subcommittee to complete its negotiations with the California Department of Pesticide Regulation and USEPA regarding labeling and use limitations for pyrethroids.

Source control is generally a more cost-effective approach to pollution abatement than treatment control, as source controls do not involve the costly capital investments of treatment controls. As discussed previously, CASQA, EPA, and other agencies and experts

recommend a source control program as an essential component of a successful pollution reduction strategy.

The basis of source control involves preventing the entrance of the subject pollutant into the discharge stream. For pyrethroid pesticides, this means preventing the pesticide from entering the municipal storm drain system through urban runoff. This can take place by intervention at the various steps in the pest control process:

- Point of sale: reducing the purchase of pyrethroid products through education of PCOs and the public in consequences of pesticide use and alternative means of pest control, including integrated pest management (IPM)
- Application: reducing use of pyrethroids on site through education of PCOs and the public into the importance of proper application methods and the potential consequences of pesticide use, as well as pest control alternatives (IPM techniques)
- Off-site Transport: reducing movement of pyrethroids into municipal storm drain system via use of Green Gardener approaches, IPM, and LID building techniques to reduce irrigation water use, retain storm water runoff on-site, and provide on-site mitigation for runoff pollutants (via grassy swales, infiltration, etc.)

A five-year pyrethroid pollutant reduction program is proposed by the Permittees.

<u>Year 1</u>

- Continue to support state and federal efforts to improve pyrethroid pesticide regulation
- Continue to publicize/promote the services of IPM-certified PCOs, to encourage businesses and homeowners to choose their services
- Continue to implement local agency contracting rules to require contracting of IPM-certified PCOs for municipal pest control (through EcoWise Certified IPM Contracting Tool Kit, e.g.)
- Continue point-of-sale education effort providing instruction in pesticide alternatives and proper use/application (using materials available through Our Water Our World, UP3 Project, CASQA members, e.g.)
- Continue efforts to develop and implement LID guidance for planning and development

Year 2

- Coordinate with the University of California (UC) Extension Master Gardener Program to extend its services to the Temecula/Murrieta area to further promote and support the use of IPM by local residents
- Re-evaluate, enhance as needed, and continue measures implemented in Year 1

Year 3

- Conduct programmatic assessment as part of third-year annual report, evaluate successes and areas where additional efforts are needed and adjust program accordingly
- Re-evaluate, enhance as needed, and continue measures implemented in Years 1 and 2

Year 4

- Evaluate effectiveness of BMPs using water quality monitoring data as part of fourth year annual report
- Re-evaluate, enhance as needed, and continue implementation of revised program as defined in Year 3

Year 5

- Conduct programmatic assessment, evaluate successes and areas where additional efforts are needed as part of ROWD process
- Identify additional program elements, including source and/or treatment controls, as needed to effect required pollutant reductions; revise program accordingly
- Re-evaluate, enhance as needed, and continue implementation of revised program as defined in Year 3

Many of the source control materials and programs needed are readily available through existing programs such as EcoWise Certified, Green Gardener, Our Water Our World, the UP3 Project, and the Western IPM Center. The following websites provide further information on these and other programs:

Urban Pesticide Pollution Prevention (UP3) Project: www.up3project.org
Green Gardener Program: www.green-gardener.org/about
Western Integrated Pest Management Center: www.wripmc.org
EcoWise Certified Integrated Pest Management: www.ecowisecertified.com
Our Water Our World: www.ourwaterourworld.org
Green California: www.green.ca.gov/EPP/building/structipm.htm

City of San Francisco: http://www.sfenvironment.org/our_programs/topics.html?ti=1
DPR: http://www.cdpr.ca.gov/docs/registration/reevaluation/chemicals/pyrethroids.htm

As a practical measure, it will be necessary to evaluate individual Permittee capabilities and resources, and develop a specific work plan for implementation of the pyrethroid pollutant reduction program.

It is also essential to develop and implement the pyrethroid pollutant reduction program in coordination with other regulatory requirements, especially other pollutant reduction programs mandated under the storm water NPDES Permit and/or load allocations required by TMDLs within the SMR watershed.

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ATTACHMENT H-7

REPORT OF WASTE DISCHARGE

MAY 10, 2015

Submitted to:

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD
(Order No. R9-2010-0016)

and

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION IX
(NPDES No. CAS0108766)

RIVERSIDE COUNTY

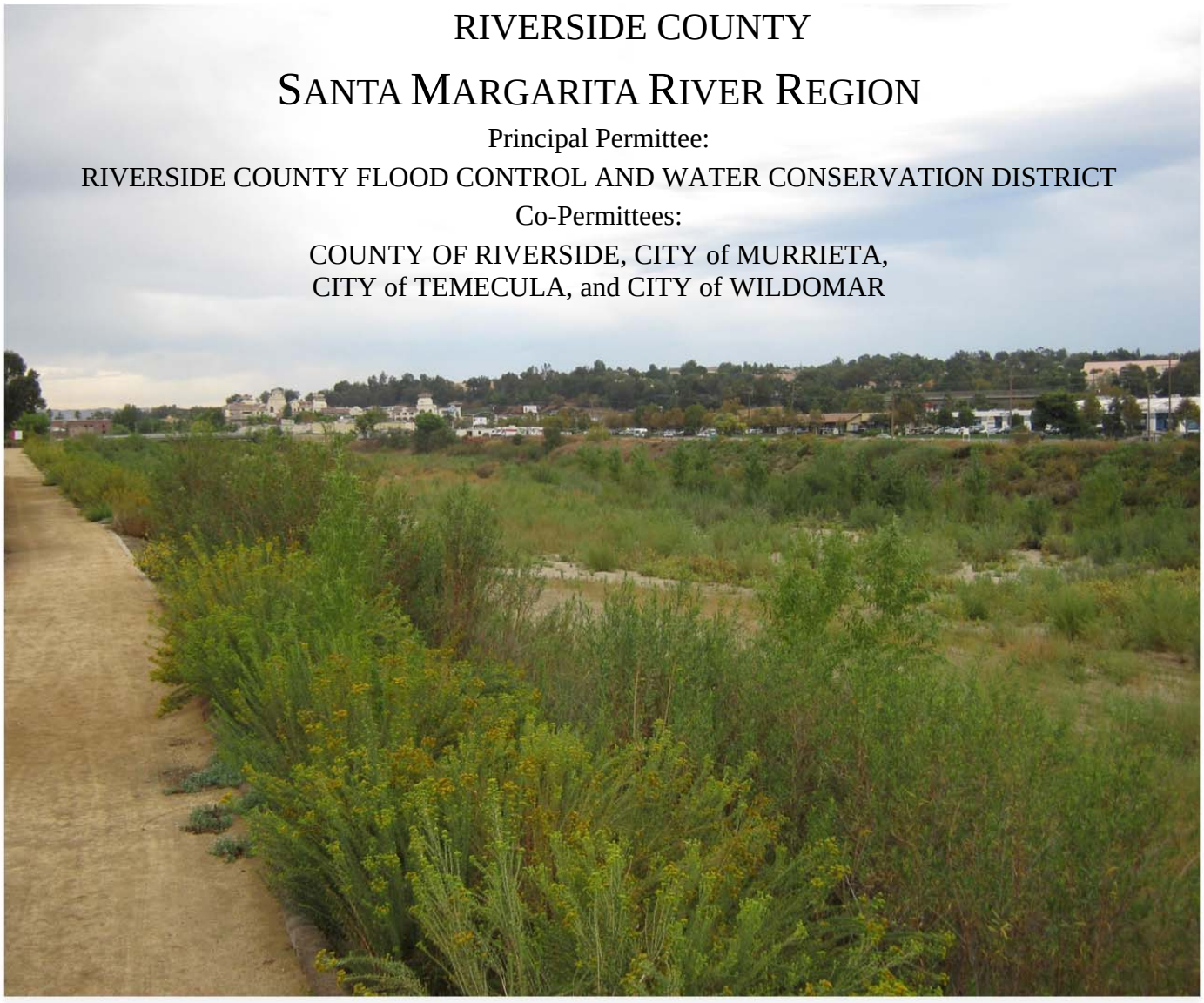
SANTA MARGARITA RIVER REGION

Principal Permittee:

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Co-Permittees:

COUNTY OF RIVERSIDE, CITY of MURRIETA,
CITY of TEMECULA, and CITY of WILDOMAR



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1.0 Introduction

This Report of Waste Discharge (ROWD) is an application for renewal of Order No. R9-2010-0016, an area-wide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (2010 MS4 Permit). The MS4s covered under the 2010 MS4 Permit are owned and operated by the Riverside County Flood Control and Water Conservation District (District), the County of Riverside (County), and the Cities of Murrieta, Temecula and Wildomar (collectively, the Co-Permittees).

On November 10, 2010, the San Diego Regional Water Quality Control Board (Regional Board) adopted the 2010 MS4 Permit, which expires on November 10, 2015. Directive K.2.c of the 2010 MS4 Permit requires that a ROWD be submitted no later than 180 days prior to the expiration date. This ROWD has been prepared in consultation with the Co-Permittees and is submitted on their behalf. Table 1-2 lists the required elements for the ROWD and identifies where those elements can be found in the ROWD.

In order to protect lives and property and to prevent damage to the watershed, the Co-Permittees operate and maintain essential drainage infrastructure in the Santa Margarita Region (SMR). The County and the Cities maintain approximately 317 miles of drainage infrastructure in the SMR while the District maintains approximately 90 miles. Environmental stewardship and integrated water resource management continues to be an essential part of the Co-Permittees' responsibilities.

The diligent work performed by the Co-Permittees under the 2010 MS4 Permit has maintained Receiving Water quality and prevented new impairments despite continued growth in population and development within the region. As shown in Table 1-1, the population in the region is projected to have a steady growth rate and by 2020 the region's population is predicted to grow by 5.6%. The challenges posed by this growing population require the Co-Permittees to continue to adapt their BMPs and watershed programs to protect water quality.

Table 1-1 Santa Margarita Region Population Estimates

Co-Permittee	Year			
	Estimate 2015 (a)	Estimate 2016 (b)	Projected 2020 (b)	Change (2015 to 2020)
City of Murrieta	107,455	108,482	112,591	4.8%
City of Temecula	108,450 b	111,585b	119,422	10.1%
City of Wildomar	35,433	36,310	37,204	5.0%
Unincorporated County of Riverside	51,314	52,436	53,793	2.6%
Total	272,621	276,585	292,017	5.6%

Notes:

(a) Unless otherwise noted, populations were obtained from the State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, *2011-2014, with 2010 Census Benchmark*. Sacramento, California, May 2014.

(b) Data gathered from City of Temecula website, "Demographic Snapshot 2014 Report".

During the term of the 2010 MS4 Permit, the Co-Permittees developed and utilized various programs to help protect water quality. These programs include the development of the Individual Jurisdictional Runoff Management Plan (JRMP) that specifies management programs and activities required of each Co-Permittee, as well as the development of the SMR Monitoring and Reporting Program (MRP). The Upper Santa Margarita River Watershed Water Quality Workplan (Watershed Workplan) was also developed during the permit term to identify and prioritize water quality concerns.

The Co-Permittees have also developed new and improved ways to maximize finite resources to protect Receiving Waters more effectively. Such examples are creating a more efficient process to review priority development projects, WQMPs, and track inspections. The Co-Permittees continue to improve procedures to efficiently respond to spills and other illegal discharges. The Co-Permittees also continue to educate the public about improving water quality through different engagements such as hosting public education events, speaking to employees and customers at home improvement stores, and speaking to students at local schools. The Annual Reports submitted under the 2010 MS4 Permit (which are contained in Appendix C) describe the Co-Permittees' various water quality improvement programs in detail.

This ROWD builds on the discussion in the Annual Reports by highlighting the major accomplishments of the Co-Permittees' programs, describing the challenges that they face and discussing their continuing efforts to protect Receiving Water quality. To promote clarity, terms defined in the 2010 MS4 Permit are capitalized in this ROWD.

1.1 ROWD Required Elements Summary

Table 1-2 Location of Required ROWD Elements per Directive K.2.c of 2010 MS4 Permit

Required ROWD Element	ROWD Location
1) Proposed changes to the Co-Permittees' runoff management programs	Section 3.80, and Appendix C
2) Proposed changes to monitoring programs	Section 3.0 and Appendix C
3) Justification for proposed changes	Section 3.80 and Appendix C
4) Name and mailing addresses of the Co-Permittees	Section 1.2

1.2 Co-Permittee Contact Information

The table below provides the contact information for each of the Co-Permittees in the Santa Margarita Region that have either technical or administrative involvement in the MS4 Permit.

Table 1-3 Co-Permittee Contact Information

Co-Permittee	Primary Contact	Staff Contact	Address
District (Principal)	Warren D. Williams General Manager-Chief Engineer 951.955.1275	David Garcia Engineering Project Manager 951.955.1330 dhgarcia@rcflood.org	1995 Market Street Riverside, CA 92501
City of Murrieta	Bob Moehling City Engineer 951.461.6036. bmoehling@murrieta.org	Bill Woolsey Civil Engineer Associate 951.461.6073 wwoolsey@murrieta.org	1 Town Center 24601 Jefferson Avenue Murrieta, CA 92562
City of Temecula	Tom Garcia Director of Public Works 951.694.6411 tom.garcia@cityoftemecula.org	Aldo Licitra 951.694.6411 aldo.licitra@cityoftemecula.org	41000 Main Street Temecula, CA 92590
City of Wildomar	Dan York Public Works Director 951.677.7751 ext. 216 dyork@cityofwildomar.org	Matt Bennett Deputy City Engineer 951.677.7751 ext. 208 mbennett@cityofwildomar.org	23873 Clinton Keith Road, Suite 201 Wildomar, CA 92595
County of Riverside	Steve Horn Senior Management Analyst 951.955.1110 shorn@rceo.org	Claudia Steiding Senior Transportation Planner (Transportation Land Management Agency) 951.955.1694 csteiding@rctlma.org	4080 Lemon Street, 4th Floor Riverside, CA 92501

1.3 Regional Board Jurisdictional Area Exchange

- **City of Wildomar (San Diego Co-Permittee)** - The City of Wildomar requests that the San Diego Regional Board continue regulating all portions of the city, regardless of Regional Board jurisdictional boundaries, for matters pertaining to MS4 permitting.

- **City of Menifee (Santa Ana Co-Permittee)** - At this time during the SMR ROWD process, the City of Menifee request that the San Diego Regional Board continue designating the Santa Ana Regional Board as the sole regulator of the City of Menifee pertaining to MS4 permitting.

2.0 Santa Margarita Region Permit Area Overview

2.1 Physiography and Geology

The upper Santa Margarita River watershed is defined as that portion of the Santa Margarita River watershed above the confluence of Murrieta and Temecula Creeks, and includes the City of Temecula and portions of the Cities of Menifee, Murrieta, Wildomar, unincorporated County areas, portions of the Cleveland and San Bernardino National Forests, the Cahuilla, Ramona, Pauma, and Pechanga Indian Reservations and properties under the jurisdiction of Caltrans and a variety of special districts. The watershed is bounded by several mountain ranges, including the Santa Ana and Santa Margarita mountains to the North and the Palomar Mountains to the South. The upper Santa Margarita watershed includes areas in Riverside and San Diego Counties and encompasses approximately 588 square miles.

The upper Santa Margarita watershed includes two major sub-basins, drained by Temecula and Murrieta Creeks. Temecula Creek has a drainage area of 366 square miles, with steep rugged topography in the Palomar and Thomas Mountain areas and rolling hills below. The upper 316 square miles of this basin is controlled by Vail Lake (completed in 1949). Murrieta Creek has a drainage area of 222 square miles, with over 50 square miles controlled by Skinner Reservoir (completed in 1974). Approximately 13 square miles are tributary to Diamond Valley Lake. Although the watershed area is somewhat smaller and less rugged than the Temecula Basin, flood flows have the potential to create greater damage as they flow through the cities of Temecula and Murrieta.

Temecula and Murrieta Creeks join along the Elsinore fault zone at the head of Temecula Canyon to form the Santa Margarita River. The Temecula Canyon is approximately five miles long, and is a steep, narrow, and rocky canyon. The San Diego-Riverside county line crosses through the Temecula Canyon. From here, the river traverses 27 miles to the Pacific Ocean.[1]

2.2 Permit Area

The Permit Area is defined as the urbanized area served by the Co-Permittees' MS4 facilities. The Permit Area is located within the area delineated by the County boundary line on the south and the limits of the jurisdiction of the San Diego Regional Board on the north, east, and west. The area encompasses approximately 751 square miles, about 10 percent of the Riverside County. It may seem that with increased population growth within the region that urban land use should have increased, however, data shows that only approximately 9% of the region is designated as Urban Land Use. The remaining portion of the region consists of either: Open space, Preserves, Rural Residential (>1ac.), or Agriculture. The Santa Margarita River Watershed Area Land Use Map is attached as Appendix B.

[1] Santa Margarita Watershed Study: Hydrologic and Watershed Processes, Phillips, Williams and Associates, Ltd., October 26, 1998, page 1.

3.0 SMR Water Quality Data Efforts and Outcomes

3.1 Summary

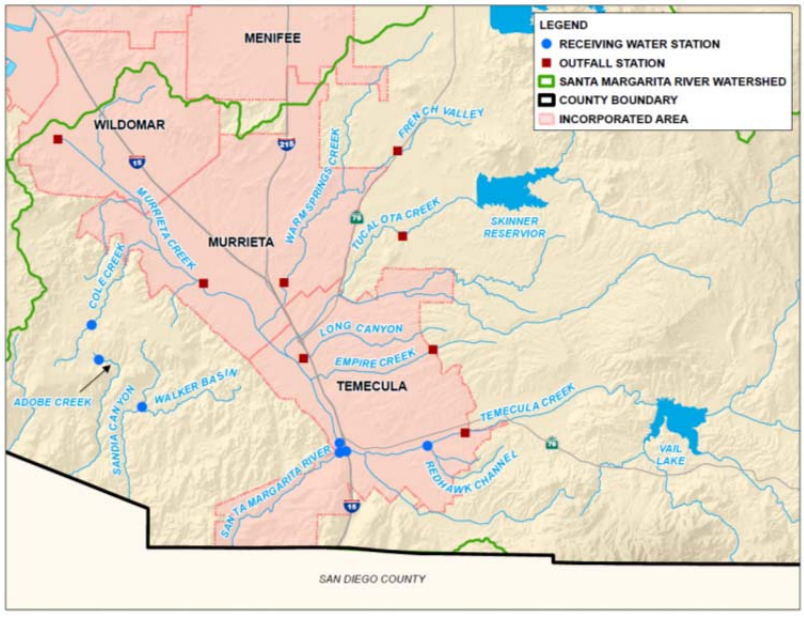
The SMR includes the portion of the Santa Margarita River Watershed within Riverside County. The monitoring station locations are shown in Figure 3-1 below, and are described in detail in the SMR Monitoring Report (see Appendix C). The SMR monitoring program has two general categories of monitoring stations: Receiving Water stations and MS4 outfall stations:

- Receiving Water monitoring stations are in waters of the U.S., and include reference streams and mass loading stations; and
- MS4 outfall stations are discharge points that are major outfalls.

While accomplishments from implementation of the SMR Monitoring and Reporting Program (MRP) are discussed in this section, the entire MRP is attached as Appendix C.

Each year, the Co-Permittees collect water quality samples at Receiving Water and MS4 outfall stations with various sampling frequencies, ultimately resulting in the collection of approximately 56 water quality samples. Anywhere from 80 to 243 constituents per sample undergo laboratory analysis for a full range of potential pollutants including pesticides, nutrients, metals and bacterial indicators. Only a small minority of the analytes were found to have exceeded federal and state Water Quality Standards. Although we only see a small group of constituents within the region having exceedances, the same class of constituents are seen statewide exceeding Water Quality Standards as evident from the CWA 303(d) list of waterbody impairments. The Co-Permittees are making strides in minimizing the exceedances of these particular constituents. The Co-Permittees' stormwater programs continue to adapt in order to protect Receiving Water quality. Accomplishments are highlighted in Section 3.5 below and in the Co-Permittee's individual JRMP annual reports.

Figure 3-1 SMR Monitoring Stations



3.2 Analysis Assessment of Water Quality Data

Figure 3-2 SMR Dry Weather Exceedances FYs 2012-2014

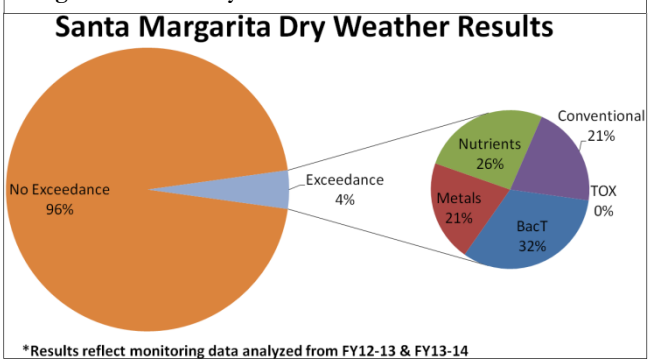
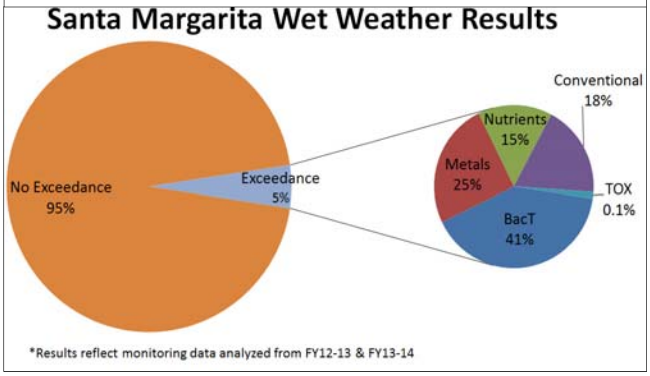


Figure 3-3 SMR Wet Weather Exceedances FYs 2012-2014



Overall, water quality conditions in SMR Receiving Waters are improving based on the number of waterbody-pollutant pairings in the upper Santa Margarita River watershed. Significant improvements are observed in the water quality sampling data sets. The results are discussed more fully in Section 3.6 (Effectiveness Assessment).

Under the Wet Weather monitoring program, approximately three water quality samples are collected at six Receiving Water stations, as well as one water quality sample from eight MS4 outfall stations. With additional sampling at the outfalls, 11 proximate Receiving Water locations are collected. This results in nearly 1,600 water quality data points.

Additionally, under the Dry Weather monitoring program, approximately two water quality samples are collected at six Receiving Water stations, as well as one water quality sample from eight MS4 outfall stations. With additional sampling at the outfalls, 11 proximate Receiving Water locations are collected. This results in over 1,300 water quality data points. As seen in Figures 3-2 and 3-3, out of the 2,900 water quality data points collected during the permit term, the SMR has only seen approximately 5% exceedances. Long-term trend data, as limited to the mass loading Receiving Water stations, are available in Attachment I (Long-Term Instantaneous Loads and Trends) of the 2013-2014 SMR Monitoring Annual Report attached as Appendix C.

The Co-Permittees have been working diligently to determine the sources of the high priority pollutants by conducting special studies (see Section 3.7.1) and engaging with special work groups (i.e. Nutrient Initiative Group).

3.3 Inherent Limitations to Analyzing Stormwater Quality Data

There are inherent limitations to analyzing water quality data from stormwater. Stormwater runoff greatly contrasts from the wastewater treatment and monitoring process. Discharges from mechanically treated wastewater effluent and industrial discharges usually:

- Come from a single or a few readily identifiable sources;
- Are generally consistent in flow rate and chemical character from day to day; and
- Can be easily instrumented.

Conversely, rain events producing urban runoff and non-point source flows are difficult to collect and analyze due to the fact that they:

- Come from multitudes of unidentifiable or hidden sources, many of which are non-urban in nature:
  - Natural leaching of soils
  - Wildlife
  - Aerial deposition
  - Wildfires
  - State, federal or tribal lands
- Vary widely in flow rate in response to precipitation events
- Vary widely in chemical character at any given moment due to:
  - Unidentified episodic issues related to natural phenomena
  - Magnitude of rainfall and extent of contributing area
  - Potential one-time illicit discharges that were not identified at the time of sampling
  - Unforeseen or unidentified consequences of land use changes
- Are subject to significant natural random variation; and
- Cannot be easily instrumented due to the variation in depth and velocity within water courses or natural stream beds.

Because ephemeral stormwater flows are particularly random in character, it may take many years before statistically significant trends can be identified from the outfall monitoring data in order to properly assess the overall effectiveness of an Urban Runoff water quality control measure.

3.4 Bioassessment Data

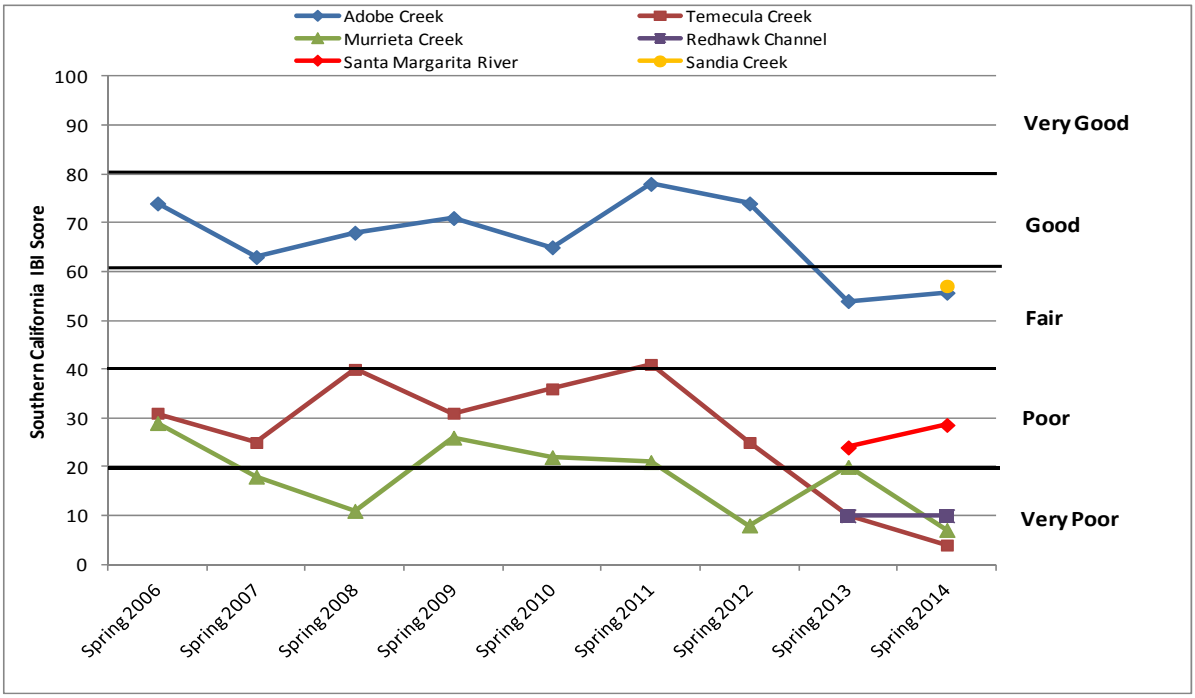
Bioassessment is a field collection method in which the health of a specific ecological population of interest is evaluated (e.g. aquatic insects, algae, fish, plants, etc.).

One population evaluated under this monitoring program were insects that live in the bottom substrate of the Receiving Waters. Where sufficient flows exist to support them, these organisms can provide a measure of water quality because they have a very diverse community structure, live a large portion of their lives in water as larvae or adults, have various sensitivities to natural and anthropogenic impacts, are easy to collect, and have life histories that are well studied. Similarly, algae populations were evaluated because they respond to increased stress due to natural and anthropogenic impacts in ways different than aquatic insects, and thereby together provide a picture of the water quality.

Dry weather bioassessments were performed according to the MRP at four designated Receiving Water stations (Lower Murrieta Creek, Lower Temecula Creek, Redhawk Channel, and Upper Santa Margarita River), as well as at two reference stations (Adobe Creek and Sandia Creek). All bioassessments were performed within the appropriate index period in Dry Weather (May 1st to July 30th).

During the Permit Term, the overall biological health, as determined by the SoCal IBI scores[2], was "Poor" or "Very Poor" for the lower watershed stations. Reference sites (e.g., sites higher in the watershed with limited, to no impacts from urbanization) were rated as "Fair". Figure 4-1 depicts the historical summary of SoCal IBI Scores for the SMR monitoring stations.

Figure 4-1: Summary of SoCal IBI Scores for All Monitoring Stations (Spring 2006–Spring 2014)



Several differences between the reference sites and the receiving water sites were identified. This affects the overall IBI score and examples of these differences include the following:

- Riparian vegetation differs among the stations monitored. The majority of the monitoring stations are located lower in the watershed and have very little canopy coverage as compared to the reference sites. This tends to impact the water temperatures at the sites.
- Water temperatures measured at the majority of the Receiving Water sites were higher than those recorded at the reference sites. Similar to the previous reporting year, these differences in temperature were most likely due to the amount of overhead tree canopy surrounding the creeks. This, coupled with smaller wetted width at the reference sites, can lead to a denser tree canopy directly overhead of a stream, resulting in lower instream temperatures.
- A large difference noted between stations was the percentage gradient (slope) of the stream. Both reference stations have very high gradients (~2-4%), while the lower watershed stations ranged

[2] The SoCal IBI was developed to assess the biological integrity of freshwater streams in the southern California coastal region. Methods described in the *Quantitative Tool for Assessing the Integrity of SoCal Coastal Streams* (Ode et al., 2005) were used to calculate the Southern California Index of Biological Integrity (SoCal IBI) to evaluate the overall health of the benthic macro invertebrate community, based on the counts of various species contained in the taxonomy results.

from very low to moderate (~0.7-1.5%). The steeper gradients create riffles and microhabitats that tend to yield higher IBI scores.

Overall the SMR is a dynamic system with large seasonal variations in flow, from dry streambeds to high-energy flows. This arid hydrological regime is typical in the southwestern region of California and can have significant impacts on bioassessment results.

Mediterranean climates, such as those in southern California, tend to have extremes in rainfall patterns, oscillating from periods of rainfall above normal to those very much below normal. As presented in Table 8 of the 2013-2014 Monitoring Annual Report (Attachment C), since the 1992-1993 reporting year, only three of the 21 periods have experienced at least "normal" (average) rainfall totals. Droughts influence the BMI community by decreasing overall base flows, increasing temperature, and potentially increasing algal growth. In a report on the patterns of BMI communities in non-perennial streams, Mazor et al. (2012)[3] found that as stream flow decreases, overall IBI scores tended to decrease. In general, data suggests that a historic drought period may negatively influence the IBI scores.

It seems likely that the biological community are more responsive to the amount of water present than they are to water quality. The drought appears to inhibit our ability to clearly isolate water quality as the sole cause of low IBI scores. The method used for bioassessment does not adequately distinguish between the effects of simply not having sufficient water present (e.g., arid or drought conditions) and the effects of poor water quality on the target populations. Therefore falling IBI scores are not necessarily an indicator of worsening water quality in an arid region.

3.5 Monitoring Program Accomplishments

- Updated and enhanced the Consolidated Monitoring Program to incorporate new monitoring collection methods and data analysis protocols.
- Developed watershed boundaries and land use information for all monitoring stations;
- Reorganized the technical content of the Monitoring Annual Report;
- Added fire map information to assist with assessing potential Pollutant sources;
- Enhanced monitoring databases to be compatible with SCCWRP/SMC standard reporting protocols;
- Enhanced monitoring methods to incorporate use of automatic sampling equipment where appropriate;
- Designed and constructed the District's LID BMP Demonstration and Testing Facility. The project acts as a laboratory for testing the water quality and water conservation benefits of LID features;

[3] Mazor, R.D., K. Schiff, P. Ode, and E. Stein. Final Report on Bioassessment in Nonperennial Streams. Report to the State Water Resources Control Board. Southern California Coastal Water Research Project Technical Report 695. June 2012.

- Implemented several programs to detect IC/IDs, including field and MS4 facility inspections, IC/ID based Dry Weather outfall monitoring. Performed annual mock storm event exercises that involve physical inspections of storm drains and Receiving Waters;

- Operating procedures for Non-Stormwater Action Levels was developed during the permit term to help with IC/ID follow-up and reporting procedures. This allowed for consistency between Co-Permittees within the region;

- Participated in the Santa Margarita Watershed Nutrient Initiative – Stakeholder Group. The group was formed to address nutrient issues in the Santa Margarita River watershed. The group hopes to set regulatory targets based on state of the science techniques to ensure the biological, chemical, and physical integrity of the Santa Margarita River and its tributaries;

- Continued participation in regional and statewide monitoring and science efforts such as the Southern California Monitoring Coalition (SMC) to develop:

  – Lab inter-calibration of chemical, bioassessment and Toxicity testing methods

  – Testing methods for bioassessment and Toxicity in Southern California streams

  – A stormwater research needs report for southern California

- Continued participation with SCCWRP on the development of the Regional Watershed Monitoring Program for Southern California. Co-Permittees have representatives on the SMC Executive Committee and the Bioassessment Technical Subcommittee.

3.6 Effectiveness Assessment

A cumulative analysis and evaluation of monitoring data indicate that the Co-Permittees' stormwater programs have been effective in preventing further impairment of SMR Receiving Waters even during a time of population growth in the region. The SMR water quality data is encouraging, and the Co-Permittees continue to assess their programs and adapt their efforts to improve water quality throughout the region.

As set forth in the SMR Monitoring Annual Reports, water quality conditions in Receiving Waters appear to be improving. This is based on a decreasing number of exceedances for 303(d)-listed constituents in the SMR. The pollutants with an increase of concentration are addressed through various programs and management activities. The following pollutant waterbody combinations at historically monitored mass loading stations have exhibited statistically significant long-term trends:

- TDS at Murrieta Creek during dry weather—decreasing concentrations
- Nitrogen (total) at Murrieta Creek during dry weather—decreasing concentrations
- Sulfate at Temecula Creek during wet and dry weather—decreasing concentrations
- Fecal coliform at Temecula Creek during wet and dry weather—decreasing counts
- *E. coli* at Temecula Creek during dry weather—decreasing counts
- Manganese at Murrieta Creek during dry weather—increasing concentrations

- The Co-Permittees initiated a Special Study to determine the cause(s) of the high concentrations of Iron and Manganese in the Region. The study is discussed briefly in Section 3.6.1.

The overall effectiveness of the Co-Permittees program is assessed based on the analysis of water quality data obtained as part of the MRP. The data has been collected and analyzed throughout the current permit term. However, the monitoring requirements of the 2010 MS4 Permit were not implemented until Fiscal Year 2012-2013. Although the initial Receiving Water quality data is encouraging, additional time and data is needed to fully assess the monitoring program results.

3.7 Watershed Program Highlights

The Co-Permittees can report the following accomplishments during the entire period of the 2010 MS4 Permit:

- Development of Best Management Practice (BMP) handbook to standardize post-construction selection and design in Riverside County. The handbook became effective September 2011.
- Development of the Upper Santa Margarita River Watershed Water Quality Workplan. Implementation began in June 2012, after submittal to Regional Board.
- Revised Co-Permittee monitoring programs to reflect new 2010 MS4 Permit changes. The changes were put into effect as of October 2012.
- Development of the Co-Permittees' Individual JRMPs. Implementation of JRMPs began in June 2012.
- Development of a Water Quality Management Plan (WQMP) that addresses post-construction stormwater runoff management for New Priority Development Projects and Redevelopment Projects. The WQMP became effective on July 11, 2014.
- Development and enhancements to the design template for developing project-specific WQMPs. The WQMP Template became effective on July 11, 2014.
- Development of the Santa Margarita Region (SMR) Hydromodification Management Plan (HMP). The Compliance plan became effective on July 11, 2014.
- Developed the Santa Margarita Region Hydrology Model (SMRHM) software to help developers analyze projects to meet the HMP requirements. The software became free to the public to download on July 11, 2014.
- Development of WQMP and HMP training and education courses. The courses were developed in 2014 to introduce the new development programs.
- Development of the Stormwater and Water Conservation Tracking Tool in collaboration with the Santa Ana Region Co-Permittees in Riverside County. The tracking tool became available to the public for use in 2014.
- Development and maintenance of Co-Permittee databases to track construction sites of 1-acre or larger in size. In addition, the Co-Permittees have standardized a construction reporting spreadsheet used for Annual Reports, updated inspection forms, and enhanced the construction outreach program.

- Creation of Co-Permittee databases to track industrial and commercial facilities.
- Continuation of the Riverside County Stormwater Pollution Prevention public education program which offers educational resources and free brochures targeting residents, businesses, developers, contractors, and elementary school children.
- Participation in regional and statewide monitoring efforts such as the Southern California Stormwater Monitoring Coalition (SMC), Southern California Coastal Water Commission and National Water Resources Institute.
- Participation in the California Stormwater Quality Association (CASQA), including various leadership roles.
- Continued partnership in the Upper Santa Margarita Region Integrated Regional Watershed Management Plan
- Performance of multiple special studies during the 2010 MS4 Permit term that have helped to identify causes of pollutants within the Santa Margarita Region. These studies are discussed further in Section 3.7.1

3.7.1 Special Studies Conducted

Sediment Toxicity – The goal of the study was to assess the quality of stream sediments and possible contamination from MS4 runoff in receiving waters. The workplan was finalized, based on approval of the Water Board, in May 2013. The results of monitoring metals, organochlorine pesticides, and synthetic pyrethroid pesticides in sediment indicated that the concentrations were generally below target threshold and effect levels.

Trash and Litter Investigation – The goal of the study was to provide information regarding BMP effectiveness for trash and to help guide management actions and BMP implementation for trash in the SMR. The study was submitted to the Regional Board in 2013 along with the Monitoring Annual Report. The report found that trash and litter was not a significant issue in the receiving waters within SMR.

Agricultural, Federal, Tribal and State Input Study – This study investigates the water quality of agricultural, federal, and tribal runoff that is discharged into the Co-Permittees' MS4. The goal of the study was to characterize stormwater flows that are not regulated by the Co-Permittees but have influence upstream of their MS4s. The preliminary findings have found that the highest levels of pollutant concentrations were measured from agriculture land use. The second year of required monitoring for the special study is currently being completed within FY 2014-2015. A final report is anticipated to be submitted with the 2014-2015 Monitoring Annual report.

Low-Impact Development (LID) Retention Impacts Study – The Co-Permittees participated in the development of the special study in order to assess the impacts of LID on surface flows, the potential relationship to beneficial uses, and the effects on water supply rights of down downstream jurisdictions. The LID Retention Impacts Study was prepared in lieu of the required "MS4 and Receiving Water Maintenance Study" (required under Attachment E, Section II.E.S of the 2010 Order) and the "Intermittent and Ephemeral Stream Perennial Conversion Study" (required under Attachment E, Section II.E.6 of the 2010 Order), as described in correspondence received from the Regional Board dated September 14, 2012.

Per agreements with Board staff, a study scope was prepared to evaluate whether or not LID requirements were likely to have a significant impact on storm flows and base flows to the Santa Margarita Gorge. The project team met with Regional Board staff and jointly developed a modeling approach that would provide an indication as to whether or not further assessment would be required. The study and findings were subject to a peer review conducted under the direction of the Southern California Coastal Watershed Research Project (SCCWRP).

The results of this study indicate that the retention of surface runoff will result in greater evaporation and less stormwater runoff to the Santa Margarita Gorge when LID is implemented, as compared to traditional stormwater BMPs only, but greater stormwater runoff then under current conditions. The reduced streamflow at the Gorge under future full build-out with LID for both new and existing development conditions may impact downstream beneficial uses**.**

The peer review comments reflect issues that may need to be addressed for a more comprehensive modeling exercise. However, given the results of this conceptual modeling study and considering the comments from the peer review panel, our preliminary conclusion is that the impacts from LID implementation in the Upper Santa Margarita River watershed would not be significant under likely development scenarios, and no further actions are recommended.

Source Assessment of Iron and Manganese Study – The Co-Permittees initiated a study investigating the persistent exceedances of iron and manganese water quality objectives (WQOs) within SMR. The Co-Permittees initiated a source analysis indicating that iron and manganese concentrations in Receiving Waters are strongly associated with the geology located throughout the SMR. Additional sources, including MS4 contributions were evaluated, but the weight of evidence suggests that iron and manganese concentrations are consistent with the local geology. High concentrations were also observed in reference streams from undeveloped watersheds of similar geological characteristic. The preliminary results are evidence that natural sources are the cause of elevated levels of iron and manganese in Receiving Waters.

3.8 Proposed Program Modifications and Revisions

3.8.1 SMR Monitoring Program

The Co-Permittees request several revisions and/or modifications to the monitoring program.

Removal of Carbamate Pesticides from Constituent List

In the upcoming 2015-2016 Monitoring Year, the Co-Permittees request that Carbamate Pesticides be removed from the constituent lists, based on the data collected during the Permit term. As evidenced by the results of the Monitoring Annual Reports (e.g., Attachment H, Detected Results located within Appendix C), the Carbamate Pesticides have not been detected in the water quality samples. Furthermore this list of Carbamate Pesticides includes many compounds that have been banned by EPA or are in process of cancelling registrations for use (e.g. Carbofuran). This request is in conformance with the requirements of 40 CFR 122.44. With the removal of these constituents, the Co-Permittees will focus on detected constituents that potentially threaten water quality.

Receiving Water Monitoring Revisions

The 2010 Permit focused on the correlation of the water quality chemistry, toxicity, and stream assessment findings to help identify water quality priorities. However, the data collected from outfalls and receiving water stations was limited due to the severe drought conditions. In several cases there was no

flow in the Receiving Water. In the case of the stream assessment program (see Section 3.4), results yielded low IBI scores induced by drought. The Co-Permittees recommend that the next Permit term refocus monitoring efforts towards reliable data collection such as:

- A detailed reconnaissance of region-wide outfalls to identify intermittent and persistent sources of urban runoff into receiving waters, prioritize those locations, and then relocate the outfall monitoring stations to the high priority outfall locations.
- Limit Receiving Water monitoring to the three mass loading stations (i.e., Adobe, Temecula, and Murrieta) as these locations have historical data available for long-term trend comparison. These long-term stations may provide better utility for data comparisons as programs are implemented.
- As described above in Section 3.4, the drought appears to inhibit the Co-Permittees' ability to use IBI scores to correlate the bioassessment results with water quality impacts. The method used for bioassessment does not adequately distinguish between the effects of simply not having sufficient water present and the effects of poor water quality on the target populations. We note that as the drought continues the IBI scores decrease; therefore, falling IBI scores may not be a reliable indicator of worsening water quality in an arid region. The arid conditions may mask an accurate assessment of the water quality impacts on a stream. The Co-Permittees request that the Regional Board suspend stream assessment until an appropriate protocol is developed for arid region.

Revision of the Definition of Wet/Rainy Season

The Co-Permittees request that the Wet/Rainy Season be modified from October 1st to April 30th, to October 1st to May 31st. The extension would more accurately reflect the watershed's precipitation season, and extend the period for successful Wet Weather sampling opportunities.

3.8.2 Proposed JRMP Revisions

The Co-Permittees do not foresee major changes to their JRMPs at this time. However, the City of Temecula and the County are in the process of a minor revision to their standards to emphasize erosion control as the most important measure for keeping sediment onsite during construction.

4.0 Additional Comments on Proposed Permit

- **Previous Comments** - The Co-Permittees previously have expressed concerns regarding inclusion in the San Diego Regional Board's Regional Permit (Order No. R9-2013-0001, as modified by Order No. R9-2015-0001). The Co-Permittees' concerns and legal objections to inclusion in a regional permit are set out more fully in our written comment letter dated January 10, 2013, in Order No. R9-2013-0001 and November 19, 2014 regarding Order R9-2015-0001. For your convenience, these comments are included as Appendix D.

- **Receiving Water Limitations Language -** The Riverside County Co-Permittees continue to believe strongly that every MS4 Permit should incorporate a clear and achievable path to compliance for Co-Permittees. The Co-Permittees are actively participating in the workshops held by Regional Board staff concerning this important topic.

  The focus of the Watershed Workplan is on an iterative, flexible, and priority-setting approach that is intended to enable the Co-Permittees to focus on the most important water quality impairments in the SMR, and improve water quality. As we have previously commented, if the Co-Permittees have no protection from automatic liability for exceedances of water quality standards, they must address each such exceedance, even when that exceedance may be transitory or of minimal environmental or public health consequence. Stretching resources to address such issues diverts limited Co-Permittee resources from the most important threats to water quality and delays overall water quality improvement.

  State Board staff has already strongly signaled its support of alternative compliance language in MS4 permits, as set forth in the draft Order on the petitions challenging the 2012 Los Angeles County MS4 Permit. The Co-Permittees look forward to working with Regional Board staff, permittees from Orange and San Diego Counties, and the other stakeholders to develop appropriate alternative compliance language.

- **Prior Lawful Approval Language -** The Co-Permittees request language that allows each Co-Permittee to evaluate each project independently, in order to determine at their sole discretion, compliance as it relates to Prior Lawful Approval.

- **CEQA Processing Considerations** – Programmatic requirements that entail structural improvements such as retrofits and/or BMPs will trigger CEQA compliance. Future Permit language should discuss lead agency designation and consider CEQA processing in future workplan implementation timelines.

Appendix A
2015 SMR MS4 Facility Map

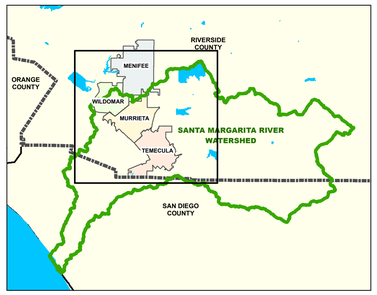
APPENDIX A
SANTA MARGARITA RIVER WATERSHED
2015 ROWD
MS4 PERMIT AREA FACILITIES MAP
EXHIBIT SMR-1

- CITY MS4 FACILITIES
- COUNTY MS4 FACILITIES
- RCFC&WCD MS4 FACILITIES
- SANTA MARGARITA RIVER WATERSHED BOUNDARY
- SANTA MARGARITA RIVER MS4 PERMIT AREA BOUNDARY
- AREA CONTROLLED BY VAIL LAKE & LAKE SKINNER
- HUC SUBWATERSHEDS
- MONITORING STATIONS
- WATERBODIES
- WATERCOURSES
- RIVERSIDE COUNTY BOUNDARY
- INCORPORATED AREAS
- FREEWAYS/HIGHWAYS
- PRIMARY ROADS
- SECONDARY ROADS

N

0 0.5 1 1.5 2 MILES

UPDATED MARCH 2015



FOOTNOTES:
1) MS4 PERMIT AREA ADDED TO REGION 9 BASED ON JURISDICTIONAL AREA SWAP AGREEMENT BETWEEN REGION 8 AND REGION 9

2) MS4 PERMIT AREA REMOVED FROM REGION 9 BASED ON JURISDICTIONAL AREA SWAP AGREEMENT BETWEEN REGION 8 AND REGION 9

The graphical and tabular information shown on this document may be derived from a variety of public agency and/or private commercial sources such as Riverside County Transportation and Land Management Agency, Thomas Brothers Mapping, the Stephen P. Teale Data Center, GIS Technology Center, State of California, the United States Geologic Survey and the United States National Atlas. These sources may possess varying levels of accuracy and precision and this product is meant only as a guide to the relative position and scale of the depicted features. This GIS document is in no case to be interpreted as fundamental or decisive for purposes of land surveying, field engineering, plan drafting, code enforcement, land boundary determination and/or land acquisition.

APPENDIX A
SANTA MARGARITA RIVER WATERSHED
2015 ROWD
MS4 PERMIT AREA FACILITIES MAP
EXHIBIT SMR-2

- CITY MS4 FACILITIES
- COUNTY MS4 FACILITIES
- RCFC&WCD MS4 FACILITIES
- SANTA MARGARITA RIVER WATERSHED BOUNDARY
- SANTA MARGARITA RIVER MS4 PERMIT AREA BOUNDARY
- AREA CONTROLLED BY VAIL LAKE & LAKE SKINNER
- HUC SUBWATERSHEDS
- MONITORING STATIONS
- WATERBODIES
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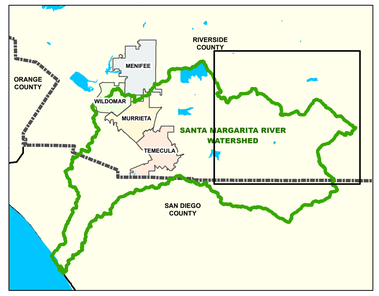
UPDATED MARCH 2015



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RIVERSIDE COUNTY
SAN DIEGO COUNTY

SMR 2015 ROWD - MS4 Maps_Map2.mxd

Appendix B
2015 SMR Land Use Map

APPENDIX B
SANTA MARGARITA RIVER WATERSHED 2015 ROWD
AREA LANDUSE MAP - EXHIBIT SMR-1

LEGEND:

- SANTA MARGARITA RIVER WATERSHED BOUNDARY
- SANTA MARGARITA RIVER MS4 PERMIT AREA BOUNDARY
- WATERBODIES
- WATERCOURSES
- RIVERSIDE COUNTY BOUNDARY
- INCORPORATED AREAS
- FREEWAYS/HIGHWAYS
- PRIMARY ROADS
- SECONDARY ROADS

NON-URBAN LAND USE:

- AGRICULTURAL
- EXEMPT
- PRESERVES OPEN SPACE
- RURAL RESIDENTIAL (1 ACRE OR MORE)

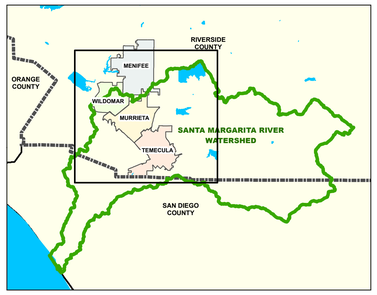
URBAN LAND USE:

- COMMERCIAL
- INDUSTRIAL
- PARKS AND RECREATION
- STREETS
- URBAN RESIDENTIAL (LESS THAN 1 ACRE)

N

0 0.5 1 1.5 2 MILES

UPDATED MARCH 2015



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APPENDIX B
SANTA MARGARITA RIVER WATERSHED 2015 ROWD
AREA LANDUSE MAP - EXHIBIT SMR-2

LEGEND:

- SANTA MARGARITA RIVER WATERSHED BOUNDARY
- SANTA MARGARITA RIVER MS4 PERMIT AREA BOUNDARY
- WATERBODIES
- WATERCOURSES
- RIVERSIDE COUNTY BOUNDARY
- INCORPORATED AREAS
- FREEWAYS/HIGHWAYS
- PRIMARY ROADS
- SECONDARY ROADS

NON-URBAN LAND USE:

- AGRICULTURAL
- EXEMPT
- PRESERVES OPEN SPACE
- RURAL RESIDENTIAL (1 ACRE OR MORE)

URBAN LAND USE:

- COMMERCIAL
- INDUSTRIAL
- PARKS AND RECREATION
- STREETS
- URBAN RESIDENTIAL (LESS THAN 1 ACRE)

N

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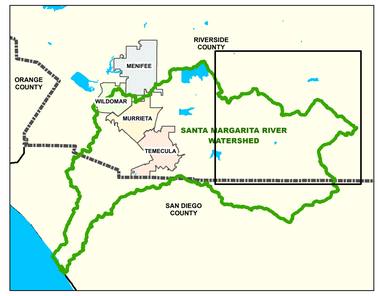
UPDATED MARCH 2015



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RIVERSIDE COUNTY
SAN DIEGO COUNTY

SMR 2015 ROWD - Landuse Maps_Map2.mxd

Appendix C
FY13-14 JRMP / Monitoring Annual Report References

(Note: Due to its large size, this attachment is provided in electronic format only)

Appendix D
2013 Riverside County Co-Permittees Comments for San Diego Regional MS4 permit

WARREN D. WILLIAMS
General Manager-Chief Engineer

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RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

November 19, 2014

sent via email 11/19/14: Laurie.Walsh@waterboards.ca.gov

Ms. Laurie Walsh, P.E., WRC Engineer
CRWQCB - San Diego Region
2375 Northside Drive, Suite 100
San Diego, CA 92108

Dear Ms. Walsh:

Re: Comment - Tentative Order No. R9-2015-0001Place ID:65801LWalsh

This letter is written by the Riverside County Flood Control and Water Conservation District (District), on behalf of itself, the County of Riverside and the Cities of Murrieta, Temecula, and Wildomar (collectively, the Riverside County Co-Permittees) regarding Tentative Order No. R9-2015-0001 (Tentative Order). The Tentative Order proposes to add the County of Orange and other agencies located in South Orange County within the existing San Diego County Municipal Separate Storm Sewer System (MS4) Permit. The Riverside County Co-Permittees appreciate the opportunity provided by the San Diego Regional Water Quality Control Board (Regional Board) to offer its comments on the Tentative Order.

The Riverside County Co-Permittees wish to reiterate their concerns regarding a Regional MS4 Permit for San Diego, Orange, and Riverside Counties. Those concerns are set out more fully in our written comment letter dated January 10, 2013, on Order No. R9-2013-0001. The Riverside County Co-Permittees will be submitting a Report of Waste Discharge prior to the expiration of their current MS4 Permit, seeking either modification to the Regional Permit or an individual permit covering only those Co-Permittees. For your convenience, the January 10, 2013 comments are attached to this letter. The Co-Permittees request that this comment letter and attachments be added to the record for the Tentative Order, since most of the issues raised in those comments still pertain to the Tentative Order. The Co-Permittees also request that the oral testimony of Riverside County Co-Permittees on Order No. R9-2013-0001 be included in the record for the Tentative Order. The Riverside County Co-Permittees support the South Orange County Co-Permittees general approach to the issues raised by the Tentative Order.

Notwithstanding the Riverside County Co-Permittees' concerns to a Regional Permit, and subject to it, the Co-Permittees offer the following observations regarding the Tentative Order.

1. Need for Path to Compliance

As set forth in our written and oral comments on Order No. R9-2013-0001, the Riverside County Co-Permittees continue to believe strongly that every MS4 permit, including the Tentative Order, should

incorporate a clear and achievable path to compliance for Co-Permittees. As the Executive Officer and staff indicated in the hearings on Order No. R9-2013-0001, the San Diego County Co-Permittees will be out of compliance with the Permit's receiving water limitations (RWL) provisions for years. We agree with staff's assessment, and state further, that the lack of a provision to allow Co-Permittees to be considered in compliance with the RWL provisions leaves the Co-Permittees open to possible enforcement by third-parties and, as importantly, threatens the compliance approach that has been successfully employed by the Riverside County Co-Permittees to address water quality impairments in the Santa Margarita Region.

The Riverside County Co-Permittees agree with staff that a MS4 permit which allows the Permittees to adopt a "fail early and fail often" iterative approach to water quality is preferable to a permit which simply mandates certain actions. The Santa Margarita River Watershed Water Quality Workplan in Riverside County follows an iterative, flexible, and priority-setting approach that is intended to enable the Co-Permittees to focus on the most important water quality impairments in the Region, and make real, quantifiable improvements in water quality. As we have previously commented, if the Co-Permittees have no protection from liability for exceedances of water quality standards, they must address each such exceedance, even when that exceedance may be transitory or of minimal environmental or public health consequence. Stretching resources to address such issues diverts limited Co-Permittee resources from the most important threats to water quality and delays overall water quality improvement.

Recognizing this deficiency in the 2001 MS4 Permit for the Los Angeles County Co-Permittees, in its 2012 Permit, the Los Angeles Water Board adopted a path to compliance with RWLs through the development of adaptive and prioritized watershed management plans. The Riverside County Co-Permittees believe that a similar approach to RWL compliance should be included in the Tentative Order.

2. Hydromodification Provisions

While most of the substantive changes in the Tentative Order have specific application only to San Diego and/or South Orange Counties, the Riverside County Co-Permittees support exemptions for engineered channels and large river reaches in Provision E.3.c.(2)(e). This provision also provides an interim timeframe exemption for the implementation of hydromodification management BMP requirements for priority development projects.

The exemptions identified in Provision E.3.c.(2)(e) are appropriate and reasonable, and should be made permanent exemptions moving forward.

3. Basin Planning and Water Quality Improvement Plan (WQIP) General Comments

For the WQIPs to ultimately succeed, they need to be based upon regionally appropriate water quality standards. These water quality standards require review to ensure that they reflect sustainable conditions for beneficial uses, explicitly consider regulatory policy and environmental trade-offs

inherent in the protection of beneficial uses, and address the nature and impact of stormwater upon beneficial uses.

The Riverside County Co-Permittees would like to thank the Regional Board and staff for working with the Santa Margarita River Nutrient Initiative Group on such a review. This group, which includes dischargers, tribal interests, interested non-profits, scientists, and Regional Board staff, is using a scientifically based and rigorous approach to evaluate potential water quality targets for, and sources of, nutrients in the Santa Margarita Watershed. It is our belief that this effort will lead to more considered, effective, and appropriate management of local receiving waters, and thereby promote quicker and more effective environmental outcomes. It may also assist with the identification and development of innovative and alternative programs to manage nutrients within the Region. This effort will inform the development of the Santa Margarita River Watershed Water Quality Workplan and other regulatory programs.

The Co-Permittees request and encourage Regional Board staff to work with other stakeholders to consider, prioritize, and address other perceived constraints and inconsistencies within the San Diego Region Basin Plan. Such efforts will ultimately result in a better focus of local and regional compliance programs, including the WQIPs, on actions that are more likely to effectively and quickly address public health risks and environmental risks to receiving waters. Such an approach is exactly in line with staff's emphasis on workable solutions to these challenges.

The Riverside County Co-Permittees appreciate the opportunity to comment on the Tentative Order. Should you have any questions regarding these comments, please contact David Garcia at 951.955.1330/dhgarcia@rcflood.org.

Very truly yours,

for JASON E. UHLEY
Chief of Watershed Protection Division

Attachment

DHG:cw
P8/165901

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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

January 10, 2013

Mr. Wayne Chiu, P.E.
California Regional Water Quality
Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340

Dear Mr. Chiu:

Re: Tentative Order No. R9-2013-0001
Regional MS4 Permit
Place ID: 786088Wchiu

The Riverside County Flood Control and Water Conservation District (District) is submitting this comment letter on the above listed Tentative Draft Order on behalf of the Riverside County MS4 Copermittees within the San Diego Region (Riverside County Copermittees) which includes the District, the County of Riverside and the Cities of Murrieta, Temecula and Wildomar. Tentative Draft Order R9-2013-0001 (Draft Permit) was drafted by Board staff to cover Phase I municipal separate storm sewer system (MS4) Copermittees in San Diego County, southern Orange County, and the portion of southwestern Riverside County within the Santa Margarita Hydrologic Unit.

The Riverside County Copermittees have previously commented that the San Diego Water Board lacks authority to adopt a regional permit covering Orange and Riverside Counties, in addition to San Diego County; a comment which is discussed in further detail below and in the attached legal comments. Notwithstanding such objection, and subject to it, the Riverside County Copermittees are providing comments on the Draft Permit.

In the workshop on the Administrative Draft Order held on April 22, 2012 San Diego Water Board staff identified the following desired outcomes for the proposed permit:

- Improving the quality of water discharged from the MS4
- Restoring or enhancing Beneficial Uses and Receiving Water quality

It was further identified by Board staff that to be able to meet those goals, the proposed regional MS4 permit needed to be 1) Strategic, 2) Adaptive, and 3) Synergistic.

Notwithstanding the concerns of the Riverside County Copermittees with regard to the legal authority to issue a regional MS4 permit, the Copermittees agree that being able to adapt and direct resources toward specific water quality priorities in a given watershed, rather than all potential problems simultaneously, is more likely to result in actual and meaningful improvements in water quality. However, to be able to achieve those improvements the MS4 Permit must be crafted to provide the Copermittees with the ability to truly and fully

adaptively manage their programs to focus resources on those BMP strategies and monitoring efforts that are identified as being most effective, consistent with the MEP standard, at addressing watershed priorities.

Unfortunately, many provisions in the Draft Permit, including but not limited to the Receiving Water limitation provisions in Provision A and others discussed in this letter, still do not fully support the achievement of those outcomes. The Draft Permit does not provide the Copermittees with the flexibility to be fully strategic in managing their resources nor the ability to fully adapt their programs to focus on the highest priority water quality needs of the watershed. This comment letter and the other documents submitted herewith (a redline of the Draft Permit and Legal Comments) identify some suggestions which, if adopted by the San Diego Water Board, will help to address these limitations and facilitate the desired improvements.

This comment letter is organized as follows:

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As noted, the Riverside County Copermittees also are submitting a redline of the Draft Permit ("Redline") that proposes alternative language intended at achieving solutions to the various issues raised in this letter, and a Legal Comment document ("Legal Comments") that provides additional legal context for the various issues raised in this letter. The Riverside County Copermittees reserve their right, in the context of filing a Report of Waste Discharge ("ROWD") prior to the expiration of Order R9-2010-0016 (the 2010 MS4 Permit), to again address these issues and others relevant and appropriate to the SMR.

1 BACKGROUND

The Riverside County Copermittees were issued an extensive and prescriptive MS4 Permit in November 2010 which greatly expanded monitoring obligations, required special studies, a jurisdictional runoff management program, and Watershed Workplan requirements that were very different than the requirements set forth in the previous MS4 Permit issued to the Copermittees. Development and implementation of the 2010 MS4 Permit compliance requirements has been very expensive, especially in comparison to the relatively few demonstrated impairments of Beneficial Uses in the region and the Copermittees' resources. These requirements have left other important societal needs unfulfilled by the Riverside County Copermittees during a period of unprecedented and continuing economic distress. Further, the Riverside County Copermittees are still in the process of developing and implementing these 2010 MS4 Permit requirements, which is a serious concern given the very different compliance approach proposed in the Draft Permit. The Copermittees hope that the compliance efforts under the current MS4 Permit are taken into account when they submit their ROWD at the expiration of the 2010 MS4 Permit.

2 General Comments

2.1 Regional Permit

The Riverside County Copermittees respectfully submit that the San Diego Water Board is not authorized under the Clean Water Act or under its implementing regulations to issue a regional permit to Copermittees in San Diego County, South Orange County and the Santa Margarita Region (SMR) of Riverside County. As discussed more fully in the Legal Comments, the only circumstance under which the San Diego Water Board could issue such a permit would be if the Copermittees in these counties agreed to such a permit. Additionally, while the Draft Permit purports to affect the conduct of the Riverside County Copermittees upon expiration of the 2010 MS4 Permit in November 2015, the Riverside County Copermittees have not submitted a ROWD requesting coverage under a regional permit. Because no application has been made for the regional permit, which is a requirement set forth in the CWA regulations, the San Diego Water Board lacks jurisdiction to name the Riverside County Copermittees on the Draft Permit at this time.

Notwithstanding the above, the Riverside County Copermittees are submitting the comments in this letter based on:

- The San Diego Water Board staff's stated intent to enroll the Riverside County Copermittees in this permit upon expiration of the 2010 MS4 Permit.
- Statements made by San Diego Water Board staff that this comment period would serve as the primary opportunity for the Riverside County Copermittees to influence their next term MS4 Permit. The Riverside County Copermittees are entitled, as part of the ROWD process, to again raise relevant issues regarding permit provisions, but have undertaken in these comments to address major current concerns.

2.2 Outcome Focus

As mentioned above, the Copermittees agree that being able to adapt and direct resources toward addressing the specific water quality priorities in a given watershed, rather than all potential problems simultaneously, is more likely to result in actual/meaningful improvements in water quality. However, to be able to achieve those improvements, the MS4 Permit must fully integrate the following principles:

- **The Jurisdictional Program requirements must be fully flexible:** The Permit must be written in a way that allows the Copermittees to truly and adaptively manage their programs to fully focus their existing resources on those BMP strategies and monitoring efforts that are identified within the Water Quality Improvement Plan (WQIP) as being most effective, consistent with the Maximum Extent Practicable (MEP) standard, at addressing the watershed's priorities. We understand this to be the goal of the San Diego Water Board as well. While some elements of the Draft Permit embody this need, others do not and require dedication of resources to specific pre-defined efforts, regardless of the identified need for that effort in the watershed. The specific program areas that need more work to this end are:

    - The approach to addressing Non-stormwater discharges
    - Development Planning
    - Retrofitting
    - Channel Rehabilitation

These issues and proposed new language to address these issues are included throughout this letter and/or in the attached Redline.

- **Basin Plan updates need to be Prioritized by the San Diego Water Board:** For outcome-based permitting to be successful, the desired outcomes must be achievable by and appropriate to the Copermittee. To do that, the outcomes must take into account the background conditions in the watershed, and be appropriate for the attainment of Beneficial Uses in the specific waterbody, based on the specific conditions within and influencing that waterbody. The values in the Basin Plan should be comprehensively re-evaluated to ensure that water quality standards are scientifically justified to protect Beneficial Uses. Without updating the Basin Plan, the outcomes that the Copermittees target in the WQIPs would be arbitrary and not guaranteed to achieve the desired beneficial use improvements. Such an update should be pursued aggressively, led by and adequately funded by the San Diego Water Board, with participation by the MS4 Copermittees and other dischargers and stakeholders in the watershed.

- **Other Dischargers need to be Similarly Regulated by the San Diego Water Board:** The MS4 Copermittees are not the only dischargers of pollutants in the watershed. For example, the SMR of Riverside County includes State Lands (such as Caltrans), Tribal Lands, Agricultural Operators, Industrial Permit dischargers, Construction Permit dischargers, Phase II entities, Water Districts, and 'De Minimus' dischargers issued general permit coverage; all of which:

- Have separate regulatory programs (such as permits or waivers) implemented by the San Diego Water Board;
- May discharge pollutants, including non-stormwater, that can affect the quantity and quality of runoff, both directly within Receiving Waters, and in runoff discharges that may enter into and be discharged from the MS4; and
- Cannot be regulated by the Copermittees for the quantity and quality of their runoff because of their separate permits or waivers granted by the NPDES Program Administrator.

As such, while MS4 Copermittees can implement programs to reduce pollutants in discharges that are within their legal jurisdiction, no amount of effort by the MS4 Copermittees can be expected to fully attain water quality standards in the Receiving Waters. The only way to achieve that outcome will be for the NPDES Program Administrator (the San Diego Water Board in most cases) to directly regulate each of these entities to similar levels and standards as set forth by this Permit.

2.3 Responsibility for meeting goals of CWA

The CWA requires Copermittees subject to any MS4 permit, including the Draft Permit, only to address discharges from their MS4s. 33 U.S.C. § 1342(p)(3)(B). The Copermittees are not required to restore Beneficial Uses in any Receiving Water, or to address sources of pollution to those Receiving Waters that are not being discharged into or from those MS4s. However, in various provisions in the Draft Permit, there is a suggestion that the Copermittees are solely responsible for attaining water quality standards in their respective Receiving Waters. The San Diego Water Board must make clear in the Draft Permit that the responsibilities of the Copermittees are limited to their MS4s and the requirements of the CWA for municipal stormwater dischargers. Redline changes have been proposed in the above referenced portions of the Draft Permit to address this issue.

3 Specific Comments

The following comments represent specific high level concerns that the Riverside County Copermittees have identified at this time. Additional comments on the Draft Permit can be found in the Redline, as well as in the attached Legal Comments.

3.1 Findings

The Riverside County Copermittees have two separate sets of comments on the Findings. The first addresses the need for additional findings, with respect to aspects of California law and the physical setting of the SMR. The second set of comments focuses on existing Findings in the Draft Permit.

3.1.1 Needed Additional Findings

The Findings in the Draft Permit fail to fully address the context and conditions under which the proposed permit requirements are to be applied. A more complete explanation of this background is necessary to ensure that the Provisions ultimately included in the Draft Permit are credible, appropriate and legally required, and that the Permit Provisions (which must stem from the Findings) reflect the

context of the broader issues that affect MS4s within the region. The Riverside County Copermittees request that San Diego Water Board staff work with the MS4 Copermittees to expand the Findings, including the addition of findings to address the following:

California Water Law

California law requires that downstream entities must accept runoff from up-gradient properties. Owners and operators of MS4s are not exempt from this legal mandate, even if that runoff contains pollutants. Moreover, flood control districts, including the District, are mandated by the California Legislature (Legislature) to protect the lives and property of residents from floodwaters. The Riverside County Copermittees request that a finding, in the form set forth in the Redlines, be added to the Draft Permit.

Flooding

Many areas that would be under the jurisdiction of the Draft Permit are subject to periodic catastrophic flooding, which results from natural conditions, specifically the presence of mountains and hilly areas in close proximity to development, along with the effect of strong Pacific storms. This flooding would occur even in the absence of development. The Legislature recognized the importance of this issue in the early 20th Century, when it established flood control districts across the state, including in Riverside, Orange and San Diego Counties. Such flooding has, and if not controlled, could result in loss of life and widespread property damage. Further, the flooding can mobilize significant amounts of pollutants from industrial, commercial, residential and agricultural lands, damaging watercourses, habitat, and the Beneficial Uses therein. MS4 systems are designed and constructed to mitigate these impacts. The Riverside County Copermittees request that a finding in the form set forth in the Redline be added to the Draft Permit.

Flood Control District Acts

As noted above, the Legislature established Flood Control Districts in Orange, Riverside, and San Diego Counties through a series of Flood Control Acts. The Legislature determined that protection of life and property from the effects of flooding through the implementation of flood control improvements was a priority, and assigned those Districts with the sole responsibility to design, construct and maintain those improvements necessary to manage and contain floodwaters to prevent such negative impacts, as well as to conserve floodwaters for beneficial use. As noted above, these improvements represent fundamental water quality BMPs inasmuch as they reduce the widespread exposure of runoff to pollutants. The Flood Control Districts, while owners and operators of MS4s, have no authority or powers beyond those granted by the Legislature. The Legislature did not provide the Flood Control Districts, for example, the authority to regulate land uses within the municipal jurisdictions of Riverside County, nor to control the volume or quality of runoff discharged by those land uses. Findings describing the legislative priority for flood control and the limitations on the governing power of the Flood Control Districts should be added to set forth the appropriate role of the Flood Control Districts as MS4 Copermittees. The Riverside County Copermittees request that a finding, in the form set forth in the Redline, be added to the Draft Permit.

Limits on Extent of Permittee Legal Authority

The MS4 Copermittees lack the authority to regulate many significant sources of pollutants that may impact Receiving Waters. For example, the Copermittees cannot regulate pollutants discharged from federal and state lands, facilities, tribal lands, special districts, utilities, agricultural lands, or railroads. Moreover, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) preclude local regulation of pesticides. The Riverside County Copermittees request that a finding in the form set forth in the Redline be added to the Draft Permit.

3.1.2 Comments on Existing Findings

Findings 3 and 15 (and elsewhere in Draft Permit)

In Findings 3 and 15 (and throughout the Draft Permit), it is stated that the CWA requires controls to reduce the discharge of pollutants "in stormwater" to the MEP. Finding 15, moreover, states that non-stormwater discharges from the MS4 are "not considered stormwater discharges and therefore are not subject to the MEP standard, stating that the MEP standard "is explicitly for 'Municipal . . . Stormwater Discharges" from the MS4s.

These conclusions are directly contrary to the plain language of the CWA, as set forth in the November 16, 1990 preamble accompanying the CWA stormwater regulations. Those authorities provide that the MEP standard applies to *all* pollutants discharged from the MS4, notwithstanding that some may be transported by non-stormwater. Additionally, the Redline reflects deletion of the limitation of the MEP standard to stormwater discharges in multiple locations, reflecting federal law. For a further discussion of this issue, please see the Legal Comments. The Riverside County Copermittees also request deletion of Finding 15.

Finding 11

This Finding states that "[r]ivers, streams and creeks in developed areas used [to convey runoff] . . . are part of the Copermittees' MS4s regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the rivers, streams and creeks in the developed areas of the Copermittees' jurisdictions are both an MS4 and Receiving Water." This statement is incorrect and must be deleted (as reflected in the Redline). For reasons more fully set forth in the Legal Comments, natural streams cannot be considered MS4; there is no MS4 "outfall" from a channelized river or stream to a natural stream; and, USEPA itself requires a distinction between MS4s and Receiving Waters.

Finding 12

This Finding states that as operators of MS4s, "Copermittees cannot passively receive and discharge pollutants from third parties." By providing free and open access to an MS4 that conveys discharges to Waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or otherwise control. This statement is incorrect and must be deleted (as set forth in the Redline). As the discussion in the Legal Comments indicates, municipalities must maintain the MS4 to protect the lives and property of their citizens and to prevent nuisance. Flood Control Districts have a statutory obligation to operate and maintain such MS4, an obligation which is not affected by

either the CWA or the terms of the Draft Permit. While an MS4 operator has the obligation to effectively prohibit the entry of non-stormwater into the MS4, it does not have legal responsibility for such discharges, which are the responsibility of the discharger itself and subject to the jurisdiction of the San Diego Water Board, pursuant to Water Code section 13260 *et seq.*

Finding 28

This Finding recites that the San Diego Water Board finds that the requirements of the Draft Permit "are not more stringent than the minimum federal requirements." The Riverside County Copermittees disagree with this finding, as it is not supported by the evidence, *i.e.*, the many requirements in the Draft Permit which exceed the federal MEP standard. Moreover, any decision by the San Diego Water Board to adopt "other provisions" going beyond MEP is not a federal requirement, but rather a discretionary decision taken by a state agency under authorization in the CWA. *See Defenders of Wildlife v. Browner,* 191 F.3d 1159, 1164-65 (9th Cir. 1999). Please see discussion in the Legal Comments. The Finding also indicates that the San Diego Water Board has developed an economic analysis of the Draft Permit. As set forth in the Legal Comments, the Riverside County Copermittees challenge the adequacy of that analysis.

Finding 29

This finding purports to find that the Draft Permit does not constitute an unfunded state mandate. The Riverside County Copermittees disagree with the conclusions set forth in this finding. More importantly, the finding is without legal effect because exclusive jurisdiction as to whether a state mandate exists, and whether it is unfunded lies with the Commission on State Mandates. Government Code §§ 17751 and 17552; *Lucia Mar Unified School District v. Honig* (1988) 44 Cal.3d 830, 837; *Hayes v. Commission on State Mandates* (1992) 11 Cal.App.4th 1546, 1596-97. The finding of an agency that has no jurisdiction to make that finding is entitled to no weight and should be deleted, as shown in the Redline. For an additional discussion of these issues, please see the Legal Comments.

Finding 31

The Riverside County Copermittees believe that the Receiving Water Limitation ("RWL") language set forth in the Draft Permit renders compliance with the permit impossible, since exceedances of water quality standards occur routinely through no fault of the MS4 Permittees. Thus, unless the RWL is modified to provide the Copermittees with a means to be in compliance, those Copermittees risk the threat of arbitrary San Diego Water Board enforcement or the bringing of citizen suit lawsuits under the CWA, which could nullify compliance with all other terms set forth in the Draft Permit, as discussed more fully in the Legal Comments. The exposure to third party litigation from the proposed RWL language is one of the most significant threats to an otherwise collaborative approach to achieving long term water quality improvement. This threat was emphasized by the recent bringing of a citizen suit lawsuit against the City of Malibu, the County of Los Angeles and the Los Angeles County Flood Control District based on similar language in the 2001 Los Angeles County MS4 Permit. The Riverside County Copermittees have suggested modifications to Provision A in the Redline and as discussed below and in the Legal Comments that are intended to better support the Iterative Process for compliance authorized by the State Water Resources Control Board in Order No.

2001-15, through the WQIP process. The Copermittees also note that the State Board considered the problems with the RWL language at a recent workshop, which may eventually result in modifications which should, if applicable, be reflected in the Draft Permit. Other requested changes to the Findings are set forth in the Redline.

3.2 Provision A, Prohibitions and Limitations

As noted above, the requirements set forth in Provision A are of great concern to the Riverside County Copermittees. The Copermittees generally support an approach to compliance that utilizes WIQPs as the implementing mechanism for the 'Iterative Process' described in Provision A.4, and that by implementing that iterative process in accordance with A.4, that the Copermittee should be in compliance with Provisions A.1 and A.2. The Redline reflects edits of Provision A to clarify the linkage between the prohibitions and limitations in Provisions A.1. through A.3. and Provision A.4 – which is described as the method for complying with the prohibitions and limitations. It must be noted, however, that the Riverside County Copermittees do not agree with the approach suggested, that any WQIP-based compliance approach be necessarily accompanied by a Reasonable Assurance Analysis. Such analyses can be extremely complex, expensive and time-intensive to develop, and similar analyses are commonly developed within TMDL models; taking a number of years to develop and refine. Given that the Santa Margarita Watershed has no adopted TMDLs; thus, comprehensive pollutant transport and BMP models are not available for the suite of constituents that might be considered for prioritization within a WQIP for the Santa Margarita Watershed. In the context of a TMDL, such models would be developed by the combined resources of the San Diego Water Board and a range of stakeholders and dischargers. Undertaking such an exercise solely with the public resources of the 275,000 residents of the SMR is beyond the financial ability of the Copermittees and would shift the responsibility for development of TMDLs from the San Diego Water Board to the Copermittees. Comments on Provision A can be found below, in the Redline and in the Legal Comments.

3.2.1 Overview of Key Issues

As noted above, an overriding issue for the Riverside County Copermittees is having a permit that, while being appropriately proactive and aggressive at addressing the prioritized water quality conditions with the Receiving Waters, is one that all Copermittees can remain in compliance with while implementing those requirements. As presently drafted (and as made clear by statements in the Fact Sheet), Provision A imposes immediate potential liability on every Copermittee if monitoring in the Receiving Waters reflects exceedances of water quality standards that may have been caused or contributed to by MS4 discharges. San Diego Water Board staff has repeatedly indicated in workshop presentations that they expect that Copermittees will not be able to comply with the Receiving Water Limitations and Discharge Prohibitions for some time. Staff has separately indicated that they are interested in having the Copermittees undertake bold initiatives in trying to address urban runoff pollution, and that the Copermittees have actually been encouraged to "fail early and fail often" as this would reflect such progress in refining these initiatives. The iterative, flexible and priority-setting approach reflected in the WQIP is intended to allow the Copermittees to focus on the most important problems in their watershed. The entire approach is endangered, however, by RWL provisions which would allow either the San Diego Water Board or a citizen plaintiff to sue the Copermittees for any individual exceedance of the

RWLs. Under the current version of Provision A, the unmitigated risk of such actions leads not to bold initiatives but rather to attempts to minimize liability.

As set forth in the Legal Comments, this approach is not mandated by the CWA, State Board orders or the opinion of the Ninth Circuit Court of Appeals in *Natural Resources Defense Council v. County of Los Angeles*, 673 F.3d 880 (9th Cir. 2011), *reversed*, 568 U.S. __ (January 8, 2013). As importantly, the threat of immediate potential noncompliance actually interferes with the ability of the Copermittees, including the Riverside County Copermittees, to comply with the Draft Permit. Instead of being able to focus on pollutants of highest concern in the watershed, as called for in the WQIP, the Copermittees will be forced to try to address every pollutant monitored, since the exceedance of any water quality standard leads to immediate potential liability. Moreover, because citizen plaintiffs are entitled to injunctive relief under Section 505(a) of the CWA, a federal judge could order the Copermittees to undertake steps completely independent of the WQIP or other compliance provisions in the Draft Permit.

The Riverside County Copermittees do not object to compliance provisions that will provide a means to achieve real improvement in water quality. The Copermittees are willing to undertake these Provisions, because the success or failure is in their control. Compliance with the requirements of Provision A, however, is beyond the control of the Copermittees. Based on the statements made during the workshop process, the Riverside County Copermittees believe that the San Diego Water Board is serious about working with the Copermittees on a permit that provides flexibility and problem solving approaches. To ensure that this flexibility is not lost, the Draft Permit must tie in compliance with Provisions A.1 through A.3 to a process set forth in Provision A.4. This approach is shown in the Redline and is discussed further below.

3.2.2 Comments in support of specific changes

Provision A, Introduction

The introduction notes that pollutants "in stormwater discharges" from the MS4 must be controlled to the MEP. As discussed above, the CWA does not differentiate between stormwater and non-stormwater discharges from the MS4; both must be controlled to the MEP standard. The Riverside County Copermittees have requested revised language in the Redline. Additionally, the linkage between compliance with Discharge Prohibitions (Provision A.1), Receiving Water Limitations (Provision A.2) and Effluent Limitations (Provision A.3) should be noted as being defined by Provision A.4. This change is reflected in the Redline.

A.1.a

First, language must be added providing that compliance may be addressed through the process set forth in Provision A.4. This language is provided in the Redline. Second, the Provision prohibiting discharges which are "threatening to cause" a condition of pollution, etc., is unenforceable, because it prohibits an action that, with respect to MS4 operators, is beyond their control. Moreover, there is no authority for such provisions in the Porter-Cologne Act. The Riverside County Copermittees request

deletion of this phrase, as shown in the Redline. Additionally, as set forth in the Legal Comments, the Provision improperly expands the Discharge Prohibitions to Waters of the State.

A.1.b

40 CFR § 122.26(d)(2)(iv)(B)(1) clarifies that the requirement for an MS4 Copermittee to "effectively prohibit" the discharge of Non-stormwater/illegal discharges into its MS4s is to be accomplished through "a program, including inspections, to implement and enforce an ordinance, orders or similar means…". The language of this Provision should reflect federal law in this respect. The Redline reflects this change.

A.1.c

First, this Provision requires the Copermittees to comply with the Basin Plan prohibitions listed in Attachment A. This list is over-inclusive, as it contains requirements that are not applicable to some or all of the Copermittees' MS4 discharges, or to the Riverside County Copermittees in particular. The Riverside County Copermittees request that this Provision be amended to read as follows: "Discharges from MS4s are subject to all applicable waste Discharge Prohibitions in the Basin Plan." This change is noted in the Redline. Second, language must be added providing that compliance with this restriction can be obtained through the process set forth in Provision A.4. This language is provided in the Redline.

A.2.a

First, this Provision and Provisions A.1. and A.3 should be linked to the iterative process described in A.4. Please see the Redline.

Second, not all plans, policies, etc. set forth in Provision A.2.a.(1)-(4) may qualify as "water quality standards" or be applicable to all the MS4 Copermittees. These subsections should be deleted, and replaced with a reference to "Water Quality Standards," which is a defined term in the Draft Permit (This change is reflected in the Redline). Otherwise, the MS4 Permit would become over inclusive with respect to what is considered a water quality standard. Such standards must be established in accordance with federal and state law. If this process has not been followed for a particular requirement, it is not a "water quality standard."

A.3.a

As discussed above, this Provision erroneously states that pollutants "in stormwater discharges" from MS4s must be reduced to the MEP. Please see the Redline.

A.3.b

This Provision should also provide that compliance with a TMDL constitutes compliance with Provisions A.1 and A.2, for those pollutants/waterbodies subject to the TMDL.

A.4.a

The Riverside County Copermittees support an approach whereby compliance with Provisions A.1 through A.3 are achieved through a truly iterative approach, one which reflects the intent of the

precedential State Water Board Order Nos. 99-05 and 2001-015. As set forth in the Redline, the Riverside County Copermittees believe that they and the other Copermittees under the Draft Permit should be considered in compliance with Provisions A.1, A.2 and A.3, as applicable, through development of the WQIP, unless the San Diego Water Board denies approval of a WQIP or amendment thereof. This ensures that the Iterative Process which is the focus of the WQIP, is utilized to provide a means to be in compliance for the Copermittees.

A.4.c

This Provision should be deleted, as is reflected in the Redline. Again, this Provision defeats the purpose of an iterative approach to compliance with the Provisions A.1 through A.3, because it allows the San Diego Water Board to enforce any provision of the Draft Permit, including those provisions at any time. The San Diego Water Board obviously retains full ability to enforce the provisions of the Draft Permit, including with respect to the failure of the Copermittees to carry out required provisions. To short circuit the WQIP/JRMP process, however, is to defeat the entire intent of the Draft Permit.

3.3 Provision B, Water Quality Improvement Plans

3.3.1 Overview of Key Issues

- The goals and requirements of the WQIP need to be aligned with the requirements of the CWA that were established specifically for MS4 permits, and not impose the restoration of Receiving Waters entirely upon MS4 Copermittees.
- The WQIP should focus on addressing sources of pollutants within the jurisdiction of the respective Copermittees.
- The BMP strategies identified in the WQIP should fully inform the selection and design of programs identified in the JRMP. Some minor edits were proposed in Provision B, with additional edits as warranted in Provisions D and E.

3.3.2 Comments in support of specific changes

Introductory paragraph

The introductory language implies that the WQIP should be designed to unilaterally protect, preserve, enhance, and restore water quality and Beneficial Uses in waters of the state. As noted in Section 2.3 above, MS4 Copermittees are responsible only for discharges from their MS4s, not the unilateral protection of Beneficial Uses within their watersheds.

Redline edits were provided to:

- Tie the goals of the WQIP to the requirements of the CWA applicable to MS4 Permits.
- Replace 'waters of the state' with 'Receiving Waters' to be consistent with federal law.
- Clarify the linkage between Provision A and Provision B.

Additionally, Redline edits were provided to clarify that the strategies identified in the WQIP are intended to guide the specific actions that will be implemented by the Copermittees pursuant to Provision E.

B.1

The Riverside Copermittees support the redlines of the San Diego County Copermittees with regard to setting forth that the WQIP for the Santa Margarita Watershed Management Area (WMA) would commence upon enrollment of the Riverside County Copermittees into the Order.

B.2.e.

Two changes have been proposed, as shown in the Redline:

- The introductory paragraph includes language that clarifies that the Numeric Goals are not enforceable compliance standards, effluent limitations, or Receiving Water limitations. This clarification is consistent with San Diego Water Board staffs' verbally stated intent.
- Provision B.2.e.(1) as written requires that the final Numeric Goals be "capable of demonstrating the achievement of the restoration and/or protection of water quality standards in Receiving Waters". As discussed in Provision 2.3 above, meeting WQS in Receiving Waters is a goal of the overall NPDES regulatory programs under the CWA and not as a requirement to be accomplished alone by MS4 Copermittees. Redline edits have been provided to clarify that such goals are only required to be for MS4 discharges.

B.3.

In the Redline, edits were made to the introductory paragraph to ensure that the requirements are consistent with federal law. The CWA requires the 'effective prohibition' of non-stormwater discharges, not 'preventing' or 'eliminating' them.

Edits were also made to Provision B.3.a. to link the strategies more clearly to the Numeric Goals developed pursuant to Provision B.2.e, as well as to link them to the JRMP programs in Provision E.

B.5

In the Redline, edits were made to the introductory paragraph to clarify that the WQIP (and by extension the JRMP and Monitoring programs) are intended to meet the requirements of Provisions A.1, A.2, and A.3. The Tentative Order particularly excluded Provision A.1.b. (dealing with non-stormwater discharges). However, as discussed in the attached Legal Comments, the CWA requires that illegal discharges must be addressed via a program (as included in Provision E.2), and it is appropriate that the program be guided by the priorities and strategies included in the WQIP.

Other edits were made to clearly link Provision B.5 to the applicable requirements of Provision F.

3.4 Provision C, Action Levels

3.4.1 Overview of Key Issues

- The Action Levels (non-stormwater, and stormwater) applicable within each watershed should only be those that are associated with the priority water quality conditions in that watershed, or that are 303(d) listed for that watershed. For example, if Zinc is not a priority pollutant for a watershed, and is not 303(d) listed, there should not be a Zinc action level. This change is needed because Provision D requires analysis for all 'action level' parameters. Analysis for pollutants that are not a priority for a watershed is a waste of Copermittee resources.
- The Copermittees should be able to establish alternative action levels that are appropriate to the WMA within their WQIP. Such alternative action levels would be subject to Executive Officer approval as part of the WQIP approval process.
- Footnote 8 and 10 need to clarify that the NALs and SALs are not enforceable limitations.
- Various references to 'waters of the state' need to be changed to Receiving Waters for consistency with the Draft Order and the CWA.

Please see the Redline for further detailed comments and language changes.

3.5 Provision D, Monitoring and Assessment

The Riverside County Copermittees appreciate the changes in the monitoring program reflected in the Draft Permit, as compared to the Administrative Draft. However, elements of the revised requirements are still infeasible for the Riverside County Copermittees. The comments below identify modifications of areas of the monitoring requirement's which can significantly improve the Copermittees' ability to implement and comply with the requirements, while still maintaining appropriate jurisdictional accountability and assessment requirements to guide the implementation of the WQIPs and JRMP programs. The Redline provides further detailed comments and language changes.

3.5.1 Overview of Key Issues

- Dry Weather MS4 Outfall Monitoring
  - The level of effort dedicated to monitoring and addressing outfalls with non-stormwater discharges should be commensurate with the potential impact that discharge has on a Receiving Water. If a discharge, whether persistent or transient, has no or little potential for impacting a flowing Receiving Water, (e.g. due to infiltration, evaporation, or treatment of the flows), the outfall should be de-emphasized relative to other outfalls that have discharges that have connectivity to a flowing Receiving Water.
  - Outfall Dry Weather Field Screening – As currently drafted, the number of required visual inspections of outfalls during dry weather required per Provision D.2.a.(2)(a) and Provision D.2.b.(1) is both excessive and disproportionate. This will particularly impact smaller jurisdictions, which may be required to do more visual inspections of MS4 outfalls than would larger jurisdictions with more outfalls and more resources.
  - Similarly, as written, the Persistent Flow Outfall Monitoring requirements of Provision D.2.b.(2)(b) are excessive and also will disproportionately impact smaller jurisdictions.

Jurisdictions with several hundred outfalls will likely have significantly more resources to perform the required monitoring than smaller jurisdictions with fewer outfalls, yet both are required to implement the same level of persistent flow monitoring.

- Assessment Requirements
  - The assessment requirements require modeled extrapolation of monitored outfall data to non-monitored outfalls for the purposes of calculating loads from each outfall in each jurisdiction. Such extrapolations though modeling or other calculations will not accurately reflect actual jurisdictional loads, and have no benefit that directly analyzing the monitored data cannot more accurately provide.

3.5.2 Other Global Issues

- As currently drafted, MS4s operated by a flood control district within a city or county would be effectively double-counted for identification of outfalls in each jurisdiction and for performance of the load calculations from each jurisdiction. Additionally, Flood Control Districts have no land use or enforcement authorities outside of the MS4 and rely on the local Copermittee to address pollutant sources and discharges to their MS4. Redline edits have been included to clarify the relationship between districts and the municipal jurisdictions they serve for the purposes of outfall monitoring and the assessment requirements.
- Timelines for monitoring and assessments were clarified throughout and linked to specific reporting requirements of Provision F in the Redline.

3.5.3 Comments in support of specific changes

D.1.a.(3) and D.1.e.

The Redline clarifies that the Receiving Water monitoring described in these sections must be conducted as applicable to the WMA and the Copermittees' MS4 discharges, because some of the monitoring requirements only apply to MS4 discharges to certain waterbodies. Not all Copermittees within a WMA will have discharges to that waterbody.

D.1.b.

The Redline proposes language to allow for alternative long-term monitoring stations to be identified. Using the SMR as an example, the Copermittees might wish to utilize a location other than the existing stations due to the influence of groundwater during dry weather and/or the general lack of MS4 contributions in dry weather to those locations.

Table D-1 and D-6

The Redline proposes an addition to the list of field observations, an assessment for flow connectivity of any MS4 discharges to the sampled Receiving Water. It is important to know whether the sampled Receiving Water included a contribution of flows from MS4 discharges, or whether the data reflect conditions in the absence of an apparent MS4 discharge contribution.

D.2.a.(2)

The Redline clarifies that the identification of annual outfall monitoring requirements is based on municipal Copermittee boundaries, inclusive of Flood Control District MS4 outfalls within their jurisdiction.

The Redline clarifies that the field screening requirements apply to those outfalls in the Copermittee's inventory that are 'accessible'. If an outfall is inaccessible for safety reasons or due to habitat restrictions, it would not need to be field screened.

The Redline simplifies the 'tiers' in Provision D.2.a.(2)(a) by removing the lower tier (i), and expanding the second tier (ii) to cover all Copermittees with 500 or less outfalls. This resolves the disproportionality that occurs for Copermittees with a number of outfalls near the current 125 outfall threshold. For example, as currently drafted, a city with 150 outfalls would be required to do 150 visual inspections per year, but a smaller city with 120 outfalls would be required to do 192 visual inspections per year. The Redline also maintains the 80% requirement from the first tier to help smaller Copermittees manage their workload for meeting the field screening requirements while also conducting the additional source identifications that are required under the Draft Permit.

The Redline includes edits to Footnote 19 to clarify that persistent flow should effectively be a discharge that is hydraulically connected to a flowing Receiving Water. Any other discharges that are not affecting a flowing Receiving Water (such as pooled or ponded water) would be addressed as a Transient Discharge, with source IDs any time an obvious illegal discharge (i.e. color or odor) is identified.

D.2.a.(3)

The Redline incorporates edits proposed by the San Diego County Copermittees to require 10% of the samples in each WMA to be from a first storm event. As described in the comments of the San Diego County Copermittees, this will help avoid overly skewing of the data to 'first flush' data, while still incorporating such data into the data and analyses.

D.2.b.(1)

The Redline removes the requirement that the number of visual inspections performed be equivalent to the number of inspections required under Provision D.2.a.(2)(a).

As areas within a jurisdiction are confirmed not to have non-stormwater discharges, inspections of other outfalls would have to be perpetually (and unnecessarily) increased to maintain compliance with this requirement. For example, if a Copermittee had 150 outfalls, but after the transitional period it confirmed that 100 of those outfalls had no evidence of non-stormwater discharges to flowing Receiving Waters, it would have to visit the remaining 50 outfalls for up to three times a year to meet the requirement in this Provision. As the Copermittee got closer to eliminating non-stormwater flows at more outfalls, inspections at the remaining outfalls would quickly become excessive and unreasonable. Removing this requirement will better incentivize the elimination of non-stormwater

flows, as a Copermittee can look forward to reducing its workload in areas confirmed to not have non-stormwater flows.

D.2.b.(2)(b)

While the Riverside County Copermittees support the San Diego County Copermittees' proposal to reduce the number of required outfalls from 10 to 5 persistently flowing outfalls per WMA, the Riverside County Copermittees believe that applying the same minimum bar to all Copermittees is inappropriate and disproportionately affects smaller Copermittees that have commensurately less staff and resources.

The Riverside County Copermittees propose requiring monitoring of the top 10% of the prioritized persistent flow outfalls, with a lower and upper limit of 1 and 5 respectively, as shown in the redlines. With this change, the level of effort required of any individual Copermittee would scale consistent with the number of persistent flow outfalls within each Copermittees' jurisdiction.

Additionally, the Riverside County Copermittees request changing the requirement of Provision D.2.b.(2)(b)(ii) to require annual monitoring rather than semi-annual monitoring. With this change, a Copermittee could focus more of their annual budget on conduction Source ID efforts – which can result in eliminating problematic non-stormwater flows, rather than on a second monitoring event. Copermittees would still have the option to conduct a second monitoring event if they have more resources available and want to remove the outfall from their monitoring list sooner in accordance with Sub-Provisions [a] through [d].

D.2.b.(2)(e)

The Riverside County Copermittees support the San Diego County Copermittees' comments regarding allowing for a tailored list of constituents to be developed for each WMA. The Redline incorporates those edits.

D.3.

The Riverside County Copermittees support the changes recommended by the San Diego County Copermittees to this section, and these changes are reflected in the Redline.

D.4.a.(2)

This Provision as drafted would require the MS4 Copermittees to make comprehensive evaluations of Beneficial Uses that are beyond their expertise or the scope of an MS4 permit. Such evaluations and determinations would require advanced studies and cannot be answered with the monitoring data collected through this permit. This Provision should either be deleted or, alternatively the Riverside County Copermittees request that the assessments be focused on determining the status and progress toward addressing any Numeric Goals established for those Receiving Waters in the WQIP. Please see the Redline.

D.4.b.(1)

The Redline clarifies that outfall assessments are to be done for the area covered by each Municipal Copermittee (consistent with the proposed definition), and that the data to be used by each Municipal Copermittee would include the data collected from any Flood Control District Copermittee operated MS4s within its jurisdiction. This ensures that jurisdictional data is not double reported for Flood Control District MS4s within a city or county.

For Sub-Provision D.4.b.(1)(c)(iv) three key changes are requested in the Redline:

1) Annual volumes and pollutant loads should only be calculated from the monitored outfalls with persistent discharge to a flowing Receiving Water. This is directly applicable to the purpose of the Draft Permit and an important change, because volume and pollutant data extrapolated to non-monitored MS4 outfalls would be inaccurate and potentially misused if taken out of context. It is understood that San Diego Water Board staff want to ensure that jurisdictional accountability is maintained. However, since MS4 outfall monitoring will be conducted within each jurisdiction, inter-jurisdiction comparisons and accountability can be accomplished using the monitoring data directly without such extrapolations.
2) Added language to require a Copermittee to include in its jurisdictional load calculations any discharge that was demonstrated to have entered another Copermittees' MS4 before being discharged into the flowing Receiving Waters. This is important to ensure that each Copermittee maintains accountability for pollutants discharged to flowing Receiving Waters from within its jurisdiction.
3) The Redline proposes that the calculations of pollutant loads be only for the priority water quality constituents identified in the WQIP.

D.4.b.(2)(b)

Two key changes are recommended in the Redline:

1) Annual volumes and pollutant loads should only be calculated from the monitored outfalls for the monitored storm events. This is an important change because volume and pollutant data extrapolated to non-monitored events would be inaccurate and potentially misused if taken out of context. It is understood that San Diego Water Board staff want to ensure that jurisdictional accountability is maintained, so the Redline proposes that data from the monitored outfalls be extrapolated to identify loads for each jurisdiction during each monitored event. With this information, inter-jurisdiction comparisons and the desired 'accountability' can be accomplished using the monitoring data directly without such extrapolations to non-monitored events.
2) The Redline requests that calculations of pollutant loads be performed only for the priority water quality constituents identified in the WQIP.

D.4.b.(2)(c)

The Redline edits are consistent with those proposed by the San Diego County Copermittees, with minor modifications for clarity.

D.4.d.(2)(c)

It would be difficult to proactively determine the pollutant load reductions that ***would*** be necessary to demonstrate that discharges ***are not*** causing or contributing to exceedances of Receiving Water Limitations. Instead it would make more sense to calculate the necessary pollutant load reductions where the discharge has been demonstrated to be causing or contributing to such exceedances. In such circumstances, the necessary parameters would be known to calculate the needed load reduction. These changes are set forth in the Redline.

3.6 Provision E.1, Legal Authority

3.6.1 Overview of Key Issues

The Riverside County Copermittees note that Provision E.1, relating to the establishment of adequately legal authority, exceeds the requirements of federal CWA regulations in several respects. The federal regulations at 40 CFR 122.26(d)(2)(i)(A)-(F), provide explicit guidance for the Copermittees in developing the necessary legal authority to control MS4 discharges within its jurisdiction. However, several of the subsections of Provision E.1 go beyond these federal requirements, with respect to areas not within the responsibility of MS4 dischargers, such as negotiating with non-Copermittee entities. The Riverside County Copermittees have provided requested changes in the Redline, which are explained briefly below.

3.6.2 Comments in support of specific changes

E.1.a(1)

Changes in the Redline to accurately reflect the language of 40 CFR 122.26(d)(2)(i)(B).

E.1.a(2)

Changes in the Redline to accurately reflect the language of 40 CFR 122.26(d)(2)(i)(A). In addition, the Provision as written improperly requires the Copermittees to control the quality of runoff from sites covered by the state general permits for industrial activity and construction. These general permits are enforced by the State Board and the regional boards, and it is a state responsibility which cannot be handed off to the Municipal Copermittees.

E.1.a(3)

Changes in the Redline to accurately reflect the language of 40 CFR 122.26(d)(2)(i)(C).

E.1.a(5)

The Redline requests deletion of this Provision, which is not a requirement for municipal stormwater dischargers set forth in the CWA regulations. The Provision also improperly requests the Municipal Copermittees to attempt to negotiate with third parties the contribution of pollutants to the Copermittees' MS4. The Copermittees have no jurisdiction over such parties. The San Diego Water

Board has such jurisdiction, and should take responsibility for addressing non-MS4 sources of pollutants that may ultimately enter the MS4.

E.1.a(6)

Changes in the Redline to reflect accurately the language of 40 CFR 122.26(d)(2)(i)(E).

E.1.a(7)

The Redline requests deletion of this Provision, which is not a requirement for municipal stormwater dischargers set forth in the CWA regulations.

E.1.a(8)

The Redline requests deletion of this Provision, which is not a requirement for municipal stormwater dischargers set forth in the CWA regulations.

E.1.a(9)

The Redline requests deletion of this Provision, which is not a requirement for municipal stormwater dischargers set forth in the CWA regulations.

E.1.a(10)

The Redline requests both correction of the language in this Provision to comport with the federal regulations in 40 CFR 122.26(d)(2)(i)(F) and deletion of the second clause of this Provision, which is not found in 40 CFR 122.26(d)(2)(i)(F). Moreover, the requirement to inspect and monitor in the first clause of this Provision covers the issues set forth in the second clause. It is therefore unnecessary.

3.7 Provision E.2, IDDE

3.7.1 Overview of Key Issues

- The Draft Permit requires the Copermittees to address all non-stormwater discharges from the MS4 as illegal discharges, and then describes certain sources that need not be prohibited. This is effectively a 'guilty until proven innocent' provision, where a Copermittee will be required to expend potentially significant resources conducting source identification efforts any time non-stormwater is observed discharging from the MS4. In addition to the issues discussed in the Legal Comments, the Provision raises two practical and logistical problems:

    - This requirement is entirely independent of the determination that there are in fact any significant pollutants in such a discharge. A Copermittee could be spending substantial sums tracking (and then potentially enforcing upon) the source of a discharge that is not negatively impacting Receiving Waters. This not only is a waste of public resources, but would undermine the credibility of stormwater programs.
    - The San Diego Water Board and the State Water Board do not treat non-stormwater flows in the same manner across all of their regulatory mechanisms. For example, Order

> No. R9-2008-0002 allows non-stormwater discharges to occur, POTWs are issued permits for their discharges and agricultural operators can discharge irrigation water. The Copermittees should not be forced to conduct an expensive source investigation, only to find that the discharge complies with a permit or a waiver granted by the Water Board. The Copermittee would have no ability to address such a discharge as an 'illegal discharge', and further would have no ability to recuperate their costs for the source identification.

The best way to address these issues, is to require the Copermittee to have and enforce an effective prohibition of illegal discharges of ***pollutants*** (through statutes, ordinances, permits, contracts, orders or similar means), and then allow the Copermittee full discretion to determine which non-stormwater discharges have the potential to negatively impact Receiving Waters, consistent with the WQIP priorities – and address those as illegal discharges.

- Several categories of non-stormwater discharge that were previously conditionally exempt consistent with the CWA, are required by the Draft Permit to be treated as illegal discharges, unless they have coverage under another order issued by the San Diego Water Board. In addition to the problems identified above for conducting enforcement in the absence of a pollutant discharge, the San Diego Water Board, not the Copermittees, is responsible for evaluating coverage, need for coverage, and compliance with other orders issued by the Water Board. The Copermittees have neither authority nor jurisdiction. Please see the Redline.
- Several categories of non-stormwater discharge that were previously conditionally exempt consistent with the CWA, are required by the draft permit to be 'controlled' or otherwise prohibited by the Copermittees. The Fact Sheet further describes that such controls are warranted because they could potentially contain pollutants. However, the CWA only requires controls where the discharges are determined to be a significant source of pollutants. Please see Legal Comments for a further discussion of this issue as well as the Redline.
- The Draft Permit eliminates the conditional exemptions for Landscape Irrigation, Irrigation Water, and Lawn Watering (collectively 'irrigation runoff'). The San Diego Water Board has provided no data demonstrating that these discharge categories have contributed a significant pollutant load to Receiving Waters within Riverside County. Information discussed in the Fact Ssheet focuses on data from other counties. The only data from Riverside County is public educational material referring to irrigation runoff; this material, however, was adapted from public education material from other counties. That public educational material was intended to help prevent such discharges from becoming a significant source of impact on the Receiving Waters, and did not constitute a determination that such discharges are in fact, actually a significant source that needs to be subject to a prohibition. See the discussion in the Legal Comments as well as the Redline.
- The Draft Permit, in Provision E.2.a.(7) requires efforts to minimize or eliminate all non-stormwater flows, including those that are natural, conditionally exempt, or otherwise permitted by the San Diego Water Board, regardless of whether or not such discharges are not contributing pollutants to the MS4. Such a requirement conflicts with the prior Provisions E.2.a.(1) through

(5), which state conditions where such discharges need not be prohibited. The requirement should therefore be removed, as set forth in the Redline.

3.7.2 Comments in support of specific changes

E.2.a.(1) and (3)

The Riverside County Copermittees request that this Provision be deleted (as shown in the Redline) and the categories of non-stormwater discharges be re-incorporated into Provision E.2.a.(3). The apparent premise of Provision E.2.a(1) as drafted is that since the San Diego Water Board requires those discharges to have coverage under a separate order, they are illegal if they lack such coverage. The MS4 Copermittees, however, are not responsible for enforcing discharge coverage under separate San Diego Water Board orders; that is the responsibility of the San Diego Water Board itself. Requiring the Copermittees to enforce such entities for their lack of coverage under a separate San Diego Order shifts that responsibility from the Board to Copermittees. This is not authorized by the CWA or the Porter-Cologne Water Quality Act. The Copermittees are, under the CWA, only required to address such discharges as illegal discharges if the discharge is found to be contributing a significant pollutant load to the MS4. By moving those categories to Provision E.2.a.(3), as shown in the Redline, the Copermittees will still be required to treat such discharges as illegal discharges if and when they are found to be contributing significant pollutants to the MS4. This proposed approach is consistent with other MS4 permits in the state, including prior San Diego Water Board orders, and is further consistent with the approach taken for the WQIP, which is intended to allow the Copermittees to focus resources on addressing the specific impacts that MS4 discharges are having on Receiving Water quality.

E.2.a.(2)

This Provision requires the Copermittees to treat water line breaks as illegal discharges, which in turn requires the Copermittee to conduct enforcement measures. Water main breaks are accidental occurrences, or may be the result of acts of nature. It is no more appropriate to treat accidents as illegal and subject to enforcement than it would be for a city to declare vehicular accidents as illegal, and conduct enforcement against those involved. This language needs to be removed as shown in the Redline. Additionally, as discussed in the Legal Comments, a recent case from the federal district court in Virginia suggests that the regulation of mere flow may exceed the authority of the CWA.

E.2.a.(4)

The Redline clarifies that if the 'statues, ordinances, permits, contracts, orders or similar means' are enacted/adopted by a Copermittee, the categories of non-stormwater discharges listed do not need to be treated as illegal discharges. Otherwise, the language could be read to imply that, for example, if it was infeasible for a particular resident to direct wash water to landscaped areas, that the Copermittee would be required to treat that residents' discharge as illegal and enforce upon them.

E.2.a.(5)

Contrary to the provisions of the CWA regulations, prior MS4 permits issued by the San Diego Water Board and other permits in the state, the Draft Permit requires implementation of BMPs, where

feasible, during emergency firefighting activities. During such emergencies, all focus of public resources must appropriately be dedicated to protecting life and property. Any diversions from that mission would only serve to diminish and potentially compromise that mission. The Redline proposes language consistent with that adopted by the San Diego Water Board in 2010 for the Riverside County MS4 Permit (Order R9-2010-0016).

E.2.a.(7)

Provisions E.2.a.(1) through E.2.a.(6) describe circumstances where non-stormwater discharges need not be prohibited. This Provision then requires the Copermittees to minimize such 'conditionally allowed' flows anyway. This requirement exceeds the scope of the CWA and its implementing regulations and makes no sense. The Redline requests deletion of these Provisions.

E.2.b.(1)(d)

This Provision requires the MS4 Copermittees to map all known private outfalls to Receiving Waters. Such a requirement is beyond the scope of an MS4 permit and should be removed, as shown in the Redline. The Draft Permit does not require a Copermittee to address private outfalls to Receiving Waters; this is the responsibility of the San Diego Water Board, which governs all waste dischargers under the authority of the CWA or the Porter-Cologne Act.

E.2.b.(4)

This Provision requires the Copermittees, in conjunction with a spill, to 'prevent contamination of surface water, groundwater, and soil.'This requirement is clearly beyond the scope of an MS4 permit issued under the CWA (which regulates only discharges of water containing pollutants *from* the MS4 to Receiving Waters) and must be removed, as shown in the Redline. The Draft Permit could more appropriately require the Copermittees to 'coordinate, to the extent possible, with spill response teams to prevent entry of spills into the MS4.'

E.2.d.(2)(e)

The Redline requests edits to clarify that the intent of this Provision is to document and attempt to quantify any obvious sources of non-stormwater illegal discharges in response to the outfall monitoring, and that it is not necessary to conduct a full source identification any time there is evidence of water near an outfall.

New Provisions E.2.d.(3)(e)-(f)

The Redline adds two new provisions to this section to address a gap in potential outcomes from a source identification effort. These Provisions address scenarios where a Copermittee identifies A) the illegal discharge is coming from another upstream Copermittees' MS4, or B) that the discharge has been authorized by the San Diego Water Board, either through an order or waiver of WDRs. In the first scenario, the responsibility to continue the source identification, and conduct enforcement, would be transferred to the upstream Copermittee. In the second scenario, the responsibility for follow-up would fall on the San Diego Water Board, after receiving relevant information from the Copermittee. This Provision also provides for reimbursement to the Copermittee for the cost of the source identification, since the San Diego Water Board required the Copermittee to conduct the investigation,

while not commensurately prohibiting all non-storm water discharges from all other sources regulated by the Water Boards.

3.8 Provision E.3, Development Planning

3.8.1 Overview of Key Issues

- Priority Development Projects - The Tentative Order identifies categories of projects that are to be defined as 'Priority Development Projects' (PDPs), which in turn will be required to comply with specific water quality and Hydromodification mitigation and quantitative requirements. The criteria for PDPs is quite broad and would include the majority of development projects, from small convenience stores and residences, to mega malls and specific plan developments. The Fact Sheet describes that while some smaller project types may not have significant pollutant loads, they may have a hydrologic impact upon Receiving Waters. However, it is important to recognize that pursuant to Provision E.3.a., All projects are required to implement a variety of LID principles such as disconnecting impervious surfaces, draining impervious surfaces to landscaped areas, and minimization of soil compaction in landscaped areas. Since such LID principles will be implemented wherever feasible consistent with the MEP standard, these smaller development projects are unlikely to create a pollutant or hydrologic impact. Additionally, the Fact Sheet advocates incentivizing LID design concepts and green infrastructure and building principles. Accordingly, the Redline requests changes to Provision E.3.b.(3) as described in Provision 3.8.2 below. The Legal Comments further note the potential impact of the Virginia case (*Virginia Dept. of Transp. v. U.S. Environmental Protection* Agency) holding that the CWA does not regulate stormwater as a pollutant.
- Design Capture Volume – There are two problems with how the Draft Permit defines the Design Capture Volume:
    - The Draft Permit changes the 'design capture volume' from previous permits by eliminating the term 'runoff'. Prior permits described that the design capture volume is the volume of stormwater runoff from the 24-hour 85th percentile storm event. This permit changes that to be the volume of stormwater produced from a 24-hour 85th percentile storm event. The elimination of the term 'runoff' means that BMPs would need to be sized potentially much larger than previously. For example, if the 85th percentile storm is 1" and a BMP is designed to treat 1 acre of residential land with a coefficient of runoff of 0.6, then under the current permits the BMP must be sized to hold 2,178 cubic feet of water. However, under the language of the Draft Permit, the BMP treating the same area would be required to hold 3,630 cubic feet of water, a 70% increase in BMP size. Accordingly, the Redline restores the term 'runoff'.
    - Additionally, the Draft Permit defines the Design Capture Volume alternatively as: *"the volume of storm water that would be retained onsite if the site was fully undeveloped and naturally vegetated, as determined using continuous simulation modeling techniques based on site-specific soil conditions and typical native vegetative cover."* In addition, to the problem identified above regarding the volume of storm water runoff, this language does not provide a temporal standard for determining which volume to

calculate from a continuous simulation model. Additionally, such models are not commonly used among general practitioners in the civil engineering community. The Redlines propose an alternative and simpler approach for this second definition: "The volume of stormwater runoff produced from a 24-hour 85th percentile storm event, that would be retained onsite in the pre-project condition." This definition is advantageous for several reasons: 1) it is simple for any civil engineer to understand, calculate, and comply with and is based on the same storm and hydrologic calculations as the first option, 2) it respects natural hydrology for the site, which may have had runoff in the pre-project condition, and as such, is more compatible with the intent of LID to mimic natural hydrology, and 3) as a result it is less likely to result in potential degradation of Beneficial Uses downstream, from reductions in flows beyond the pre-project condition.

- Pre-Project vs Pre-Development – Both the Storm Water Pollutant Control BMP requirements and the Hydromodification Management BMP requirements in the Draft Permit specify a 'pre-development' condition as the mitigation standard for all PDPs. In addition to the legal problems with such a standard as set forth in the Legal Comments, there are practical problems with the standard.
    - The presumption made in the discussions in the Fact Sheet are that all Receiving Waters can, and will, be restored to a fully natural condition - effectively to a natural floodplain. This presumption does not address reality, which is that development has occurred in those floodplains over many generations. The San Diego Water Board obviously lacks the authority to force homeowners and businesses to vacate such floodplains to effectuate restored natural conditions. Such an action would represent an unconstitutional taking. Moreover, the Legislature, in the Flood Control Acts covering all three counties proposed to be covered by the Draft Permit, has specifically authorized Flood Control Districts to construct flood control structures required to protect the lives and properties of the citizens.
    - Mitigation to a pre-development condition also may not be necessary to protect Receiving Waters from the effects of Hydromodification. If, for example a Receiving Water with existing development tributary to it, has not experienced increased erosion due to that existing development, there is no reason to require Hydromodification mitigation to anything more than the existing condition. In the counter-example, if under the existing condition the Receiving Water has experienced increased erosion due to that existing development, then, legal issues aside, there would be technical benefit to mitigating to that pre-development condition.

  The Redline proposes alternative language that requires mitigation to a pre-development standard only where it is legal and technically justified based on the conditions of the Receiving Water.
- Alternative Compliance – The alternative compliance project options as set forth in the Draft Permit pose two key problems:

- Several statements are conflicting and thus confusing as to what the required standard is for the various alternative compliance projects. For example, throughout Provision E.3.c. it is stated that 'a PDP may be allowed to comply with Provision E.3.c.(1)(a) and/or Provision E.3.c.(2) if they …'. This language can be mis-read to imply that the project must comply both with Provisions E.3.c.(1)(a) and E.3.c.(2) *and* implement the alternative compliance project (thus negating the benefit of alternative compliance). The Redline clarifies this language.
- The Biofiltration option set forth in the Draft Permit arbitrarily, and without technical basis or justification, **doubles** the sizing standard for biofiltration BMPs from 0.75 times the design capture volume (as set forth in the 2010 MS4 Permit and the 2009 Orange County Permit) to 1.5 times the design capture volume. The existing 0.75 standard was set due to the fact that 1) the 85th percentile 24-hour storm occurs over a period of time, and 2) such BMPs have outflows and will regain some capacity during the storm event, and as such, do not need to instantaneously hold the entire 'Design Capture Volume' to have fully treated that volume. In fact, studies have shown that in addition to yielding excellent pollutant concentration reductions, LID Biofiltration BMPs are excellent at reducing the volume of runoff similar to retention BMPs. According to the ASCE International BMP database 60% or more of the long-term volume of runoff from a site can be retained within a Bioretention BMP (Bioretention BMPs are the primary 'biofiltration' BMP now allowed in Riverside County). In comparison, a Retention BMP sized to hold the runoff from the 85th percentile storm event (the Design Capture Volume) will end up retaining approximately 80% of the long-term volume of runoff. Thus, by simple proportions, a Bioretention BMP sized to 'hold' 100% of the Design Capture Volume may also be able to retain 80% of the long-term volume of runoff. $\left(\frac{0.75\times DCV}{60\%\ retained} = \frac{1.0\times DCV}{80\%\ retained}\right)$. This is being validated through Bioretention BMPs that have been constructed and are being monitored for such volume reductions at the Riverside County Flood Control District's headquarters in Riverside. Further, Biofiltration BMPs have the added benefit of providing better overall treatment of back to back storms. Where a Retention BMP would be full after the first storm, fully bypassing the second storm without treatment, a Biofiltration BMP will have restored some capacity after the first storm, providing for treatment of some or all of the second of the back to back storms. Thus, the attached redlines propose changing the sizing factor for Biofiltration BMPs to 1.0 times the Design Capture Volume. The Redline proposes changes consistent with these comments.

3.8.2 Comments in support of specific changes

Introduction

Provision E.3.g (Strategies to address the highest priority water quality conditions) was moved to the beginning to support and better integrate the development planning programs in the JRMP with the strategies developed in the WQIP.

E.3.a.(3)

The Redline changes the title of this section (and other appropriate references to this Provision) to refer to LID Principles, as identified in the CASQA LID Manual for Southern California (https://www.casqa.org/LIDDemo/LowImpactDevelopmentManual/tabid/242/Default.aspx)

E.3.b.(1)(c) (New Provision)

This Provision was added to clarify the requirements if a project that was already subjected to SSMP requirements redevelops a portion of the site.

E.3.b.(2)

The Redline edits shown for this Provision are primarily to simplify this Provision, by grouping various categories by their applicable square footage threshold and including some of the specifics in the definitions (Attachment C). Other changes (beyond reorganization) include:

- Removing the addition of 'driveways' from subsection (g) as described in Provision 3.8.1 of this letter.
- Adding a footnote for parking lots, to clarify that the trigger would not include parking lots that are not exposed to runoff, such as subterranean or covered parking lots. It is beneficial to not have parking lots exposed to runoff; excluding such parking lots from being defined as a PDP is a good way to encourage such practices.
- Hillside development projects were not included as it is not believed to be necessary anymore with the relatively low threshold (10,000 square feet) identified for other categories included in this and other recent MS4 permits.
- The definition for "Environmentally Sensitive Areas" from existing MS4 permits was restored to include the language referring to discharges that are not commingled with flows from adjacent or other upstream lands (note that the change is shown in the definitions per the re-organization suggested above).

E.3.b.(3)

- The PDP exemption for sidewalks, bicycle lanes, or trails, [E.3.b.(3)(a)] has been expanded to as shown in the Redline to include driveways and parking lots. If those projects implement criteria already described in that section, they are also unlikely to create an impact to Receiving Waters. Further, including those project types in that exemption will further incentivize developers to utilize those LID Principles.
- The exemption described in Provision E.3.b(3)(b), was modified as shown in the Redline, and as discussed in the comment letter submitted by the Riverside County Transportation Department. Please see that letter for a justification for the requested changes.
- As shown in the Redline, the exemptions for new and redeveloped single family residences [E.3.b.(3)(c) and (d)] were consolidated into a new provision [E.3.b.(3)(c)], covering all single family residential projects (both new and redeveloped). The key difference is that such projects would be considered exempt if they are both 1) not part of a larger common plan of development or planned subdivision, and 2) successfully incorporate each of the applicable source control and LID Principles identified in Provision E.2.a.(2)-(3) to the MEP.

- A new Provision-E.3.b.(3)(d), titled 'Watershed Protection Projects' was added in the Redline. The project types described therein are all projects that are undertaken to rehabilitate or prevent environmental, social, and economic damage within the watershed, including Receiving Waters. These projects, while they may in some cases require some level of impervious surfaces to be constructed, are 1) not designed for human use or activity that would generate pollutants, or are designed specifically to mitigate such pollutants; and 2) will implement each of the applicable source control and LID Principles identified in Provision E.2.a.(2)-(3) to the MEP.

E.3.c.(1)

In addition to the edits discussed in Provision 3.8.1 of this letter, the Redline removed subprovision E.3.c.(1)(c) , for two reasons:

- The requirements that must be met to when implementing an alternative compliance project are more fully described in Provision E.3.c.(3).
- The language, as drafted, appeared to require double-mitigation. It requires that: 1) conventional treatment is required to treat the entire volume not retained onsite, and 2) the pollutant load discharged must also be mitigated with an alternative compliance project. Such a scenario would be requiring double-mitigation. The Redline provides a clearer and more simple mitigation standard.

E.3.c.(2)

The Riverside County Copermittees have two concerns with this Provision:

- The first concern is the universal requirement to mitigate to the 'pre-development' standard, as discussed above in section 3.8.1 of this letter. The Copermittees in the Redline propose that this language be changed to the 'pre-project' condition. For new development projects, the 'pre-project' condition will be equivalent to the 'pre-development' condition. For redevelopment projects, the standard would be the conditions that exist onsite prior to the construction of the project. This is appropriate, because in many areas, particularly in areas of existing development that would be subject to 'redevelopment', Receiving Waters are engineered and maintained to 1) provide flood protection for the public, 2) ensure that floodwaters don't comingle with pollutants on adjacent private properties and 3) to ensure that the existing development draining to that system does not cause erosion. In cases where the Receiving Waters are not engineered and maintained, and erosion problems caused by existing development are observed, language has been added to the Redline to provide for additional standards to be developed in the WQIP, based on the WQIP priorities.
- Additionally, the Redline proposes an additional exemption from HMP requirements for projects that discharge into conveyance channels that are engineered and maintained for the build-out condition all the way from the project to a waterbody that is sufficiently resistant to Hydromodification. This language is consistent with the above discussions, and ensures the PDPs are not required to mitigate for non-existent impacts. Please see the specific language in the Redline. The engineered channel exemption can be found in other recent MS4 permits, including the recently adopted Los Angeles County MS4 Permit.

E.3.c.(3)(a) and (b)

These two Provisions were re-written in the Redline to be simpler and clearer on what BMPs, criteria, sizing standards are required for what type of project. This alternative language still meets the intent of the Draft Permit, while being easier to understand and comply with. Aside from simplifying the language, the following other changes were made in the Redline:

- The alternative compliance options must be determined to provide an equal or greater overall water quality benefit for the WMA.
- Additional options were provided for who can design the alternative compliance projects
- All alternative compliance projects are required to be consistent with the strategies in the WQIP. While the specific alternative compliance project would not be required to be identified in the WQIP, the goal of this language is to ensure that allowing the alternative compliance project would not in any way be detrimental to or contrary to the strategies in the WQIP.
- Requirements E.3.c.(3)(a)(iv) and (v) were removed entirely, as they conflict with E.3.c.(3)(a)(iii) which allowed the projects to be in the same WMA (preferably the same HSA)
- Changed the sizing factor for Biofiltration BMPs to 1.0 as discussed in section 3.8.1 of this letter, and deleted the option [d] which required triple mitigation by requiring Biofiltration + Conventional Treatment + Alternative Compliance projects.
- Added Conventional Treatment Control BMPs as an alternative compliance option, only where it has been shown to be technically infeasible to meet E.3.c.(1) and technically infeasible to implement LID Biofiltration Treatment Control BMPs.

E.3.c.(3)(c)

Redline edits in this section are primarily to simplify and consolidate the requirements. Sub-Provision [C] was removed, as it was duplicative of the mitigation standards for the alternative compliance project are specified in E.3.c.(3)(b) and E.3.c.(3)(c)(i)[a].

3.9 Provision E.4, Construction

3.9.1 Overview of Key Issues

This Riverside County Copermittees' comments and edits are set forth in the Redline.

- One key issue for the Copermittees is the edit shown in the Redline to Provision E.4.c, which clarifies that the Copermittees are responsible for *requiring* BMPs at private construction sites, and *implementing* BMPs at Copermittee construction sites.

3.9.2 Comments in support of specific changes

The Redline edits include comments supporting the requested edits.

3.10 Provision E.5., Existing Development

3.10.1 Overview of Key Issues

The Draft Permit includes requirements for advanced programs to identify opportunities and implement programs to facilitate the construction of Retrofit and Stream/Channel/Habitat Rehabilitation projects on private properties. Such requirements are clearly beyond the requirements of the CWA for a management plan to be implemented by an MS4 Copermittee. The Riverside County Copermittees request deletion of these requirements.

Alternatively, the Riverside County Copermittees have the following comments:

While these retrofitting and rehabilitation approaches can be helpful and/or needed in some circumstances, they are not required in all circumstances, nor are required to address all pollutants that may be identified in a WQIP as the highest priority water quality conditions. For example, some pollutants are best addressed with regulatory source controls at the state or federal level, such as the removal of copper from brake pads, and controls on pesticides, while other pollutants can be adequately addressed through inspections and enforcement. There are several problems with requiring Copermittee resources to be invested in such Retrofit and/or Rehabilitation strategies (collectively referred to as 'retrofit'):

- Land Ownership: The land that could potentially be identified for retrofit would likely not be owned by a Copermittee. The Copermittee therefore has no ability to force the property owner to retrofit their property. Although the Copermittee could potentially implement programs to "facilitate" implementation, such a program would still be limited by the rights of the individual property owner. Even if a Copermittee were to attempt to purchase a privately owned existing development for the purposes of retrofit (a step going far beyond any requirements in the CWA or the Porter-Cologne Act), such a process can take many years, and if the owner is unwilling to sell, the retrofit project could never be realized. In any scenario, the process to facilitate such "retrofits" is extremely costly and lengthy, with no guarantee of a benefit to water quality. Retrofits should only be undertaken where the Copermittee identifies it as a necessary step to addressing the MS4 contributions to Receiving Water problems to the MEP. Otherwise, it forces the Copermittee to utilize resources very ineffectively, which is contrary to the goals of the WQIP and may actually be detrimental to water quality.
- Permitting: Aside from the limitations discussed above, stream/channel/habitat restorations have the additional complexities of requiring other regulatory permits that are not the discretion of the San Diego Water Board nor the Copermittees to issue. Such projects can take many decades to implement, and thus, are not expected to be highly effective at addressing the goals of the WQIP, except in rare circumstances.

Redline edits have been provided to clarify that these strategies and programs should only be used when, and to the extent directed by the strategies developed in the WQIP.

3.10.2 Comments in support of specific changes

E.5.b.(1)(b) and (d)

BMP implementation requirements of Provision E.5.b.(1)(b) and (d) have been clarified in the Redline to require the Copermittee to implement BMPs on their existing development, and require implementation of BMPs on private existing development.

E.5.c.(1)(a)(iv)

The Riverside County Copermittees request deletion of this Provision. The Copermittees should be provided the flexibility to schedule inspections as they see fit, provided that the schedules they establish pursuant to E.5.c.(1)(a), and the minimum frequency in E.5.c.(1)(a)(i) are met. Requiring 20% every year will be difficult to track as businesses may be opened or closed throughout the year and throughout the permit term.

Additionally, the Riverside Copermittees understand that other Copermittees may be recommending that E.5.c.(1)(a)(i) be changed to 'once per permit term'. The Riverside Copermittees believe that the current language of 'once every five years' is more appropriate for two reasons: 1) not all Copermittees (i.e. OC and Riverside) will be enrolled into the permit at the beginning of the 'permit term', and 2) not all businesses will be in existence at the beginning of the permit term. Accordingly it is more appropriate to simply require the minimum to be once every five years, that way a program manager can simply look at the last time a facility was inspected, and use that date to schedule the next inspection.

3.11 Provision E.6, Enforcement Response Plans

3.11.1 Overview of Key Issues

The Riverside County Copermittees' edits and comments are shown in the Redline and discussed below.

3.11.2 Comments in support of specific changes

E.6.d.

The terminology in this Provision was changed in the Redline from 'escalated' enforcement to 'progressive' enforcement. The proposed language better reflects the nature of enforcement actions, which are not simply 'escalated' or 'not escalated', as implied by Provision E.6.d.(2), but are progressive as needed in response to the severity of the violation. Since every violation comes with a unique set of circumstances, it is not reasonable to presume that a single set of 'triggers' will universally result in the same level of enforcement.

3.12 Provision E.7, Public Education

3.12.1 Overview of Key Issues

The Riverside County Copermittees' edits and comments are shown in the Redline.

3.13 Provision, E.8 Fiscal Analysis

3.13.1 Overview of Key Issues

The requirement that the Copermittees "must secure all the resources necessary to comply with this Order" exceeds the requirements of the CWA and illegally intrudes on the home rule authority of municipalities to govern themselves. This must be deleted. Please also see Legal Comments.

With regard to other provisions, the Riverside County Copermittees' edits and comments are shown in the Redline.

3.14 Provision F

3.14.1 Overview of Key Issues

- F.1 – WQIP Submittal
  - Based on the schedule for the initial submittal of the Priority Water Quality Conditions and Numeric Goals, and the subsequent 60-day public review, only one month would be left for the Copermittees to finalize strategies based on those conditions and goals and the public input received. This is an insufficient amount of time. The Redline requests modifications to the schedule that would provide for the submittal of the final WQIP within 24 months (instead of 18), to provide additional time for the development of strategies.
- F.1 and F.2.
  - The schedules for submittals should be linked to the receipt of comments on prior submittals, or the approval of prior submittals, rather than the permit adoption date. If it is tied to the permit adoption date, the submittal dates could become out of sync with the comment periods or San Diego Water Board approvals if any unexpected delays occur (for example if the San Diego Water Board is delayed in approving a document, or posting a document online for public comment). The Redline requests appropriate modifications.
  - Implementation dates for the plans are unclear / undefined. The Redline clarifies this issue.
- F.3. Progress Reports
  - The reporting requirements across the transitional period were unclear. Redlines are provided to clarify and consolidate.
  - The Regional Monitoring and Assessment Report language was revised to be consistent with the requirements of the Integrated Assessment of the Water Quality Improvement Plan, rather than an additional, slightly different report, due at the same time.

3.15 Attachments B and C

Comments and edits to Attachments B and C are shown in the Redline.

Very truly yours,

for JASON E. UHLEY
Chief of Watershed Protection Division

CP:cw
P8/

Riverside Copermittee Redlines

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

TENTATIVE
ORDER NO. R9-2013-0001
NPDES NO. CAS0109266

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE WATERSHEDS WITHIN THE SAN DIEGO REGION

The San Diego County Copermittees in Table 1a are subject to waste discharge requirements set forth in this Order.

Table 1a. San Diego County Copermittees

Municipal Copermittees	
City of Carlsbad	City of Oceanside
City of Chula Vista	City of Poway
City of Coronado	City of San Diego
City of Del Mar	City of San Marcos
City of El Cajon	City of Santee
City of Encinitas	City of Solana Beach
City of Escondido	City of Vista
City of Imperial Beach	County of San Diego
City of La Mesa	San Diego County Regional Airport Authority
City of Lemon Grove	San Diego Unified Port District
City of National City	

After the San Diego Water Board receives and considers the Orange County Copermittees' Report of Waste Discharge and makes any necessary changes to the Order, the Orange County Copermittees in Table 1b will become subject to waste discharge requirements set forth in this Order after expiration of Order No. R9-2009-0002, NPDES No. CAS0108740 on or after December 16, 2014.

Table 1b. Orange County Copermittees

Municipal Copermittees	
City of Aliso Viejo	City of Rancho Santa Margarita
City of Dana Point	City of San Clemente
City of Laguna Beach	City of San Juan Capistrano
City of Laguna Hills	City of Laguna Woods
City of Laguna Niguel	County of Orange
City of Lake Forest	~~Orange County Flood Control District~~

City of Mission Viejo	
Special District Copermittee	
Orange County Flood Control District	

After the San Diego Water Board receives and considers the Riverside County Copermittees' Report of Waste Discharge and makes any necessary changes to this Order, the Riverside County Copermittees in Table 1c will become subject to waste discharge requirements set forth in this Order after expiration of Order No. R9-2010-0016, NPDES No. CAS0108766 on or after November 10, 2015.

Table 1c. Riverside County Copermittees

Municipal Copermittee	
City of Murrieta	County of Riverside
City of Temecula	~~Riverside County Flood Control and Water Conservation District~~
City of Wildomar	
Special District Copermittee	
Riverside County Flood Control and Water Conservation District	

The Orange County Copermittees and Riverside County Copermittees may become subject to the requirements of this Order at a date earlier than the expiration date of their current Orders subject to the conditions described in Provision F.6 of this Order if the Copermittees in the respective county receive a notification of coverage from the San Diego Water Board.

The term Copermittee in this Order refers to any San Diego County, Orange County, or Riverside County Copermittee covered under this Order, unless specified otherwise.

This Order provides permit coverage for the Copermittee discharges described in Table 2.

Table 2. Discharge Locations and Receiving Waters

Discharge Points	Locations throughout San Diego Region
Discharge Description	Municipal Separate Storm Sewer System (MS4) Discharges
Receiving Waters	Inland Surface Waters, Enclosed Bays and Estuaries, and Coastal Ocean Waters of the San Diego Region

Table 3. Administrative Information

This Order was adopted by the San Diego Water Board on:	**Month Day, 2013**
This Order will become effective on:	**Month Day, 2013**
This Order will expire on:	**Month Day, 2018**
The Copermittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than 180 days in advance of the Order expiration date.	

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on Month Day, 2013.

TENTATIVE

David W. Gibson
Executive Officer

Riverside Copermittee Redlines

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Riverside Copermittee Redlines

I. FINDINGS

Comment [A1]: See discussions in section 3.1 of the comment letter

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), finds that:

JURISDICTION

1. **MS4 Ownership or Operation.** Each of the Copermittees owns or operates an MS4, through which it discharges storm water and non-storm water into waters of the U.S. within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the U.S.

Many geographical areas subject to this Order are subject to the threat of periodic catastrophic flooding resulting from natural conditions, specifically the presence of mountains and hilly areas in close proximity to urban development and the effect of period strong Pacific Ocean storms. Such flooding would occur in the absence of development. The Legislature recognized the importance of this issue when it established flood control districts across the state, including in Orange, Riverside and San Diego Counties. Such flooding has in the past, and if not controlled, could in the future result in loss of life and property damage. Such flooding can also mobilize significant Pollutants from industrial, commercial, residential and agricultural lands, damaging watercourses and the beneficial uses thereof, including habitat. MS4s are designed and constructed to mitigate such impacts.

2. Riverside County Flood Control and Water Conservation District.

Comment [A2]: See discussion in section 3.1.1 of the comment letter.

In 1945, the California Legislature enacted the Riverside County Flood Control and Water Conservation District Act, establishing the Riverside County Flood Control and Water Conservation District (District). The objects and purposes of the Act are to provide for the control and conservation of flood and storm waters and for the protection of watercourses, watersheds, public highways, life and property within the District from damage or destruction from flood waters. Among its other powers, the District also has the power to conserve, reclaim and save such waters for beneficial use. However the Act does not provide the District with the power to control the volume or quality of discharges that runs off of private property, which may end up in the District's flood control system. The District is governed by the District's Board of Supervisors as a separate legal entity from the County of Riverside.

Many of the flood management systems that the District operates are defined by the Clean Water Act as an MS4, and include many of the larger MS4s within the Santa Margarita watershed region of Riverside County (SMR). District does not however

own or operate streets, catch basins or storm drains smaller than 36 inches that collect runoff from the incorporated and unincorporated jurisdictions within the SMR, and commonly connect into the District's flood management system. Such systems are typically owned and operated by either the County of Riverside or the incorporated Cities within the SMR.

The waters and pollutants that may enter the regional receiving waters and/or the District's flood management systems come from various sources. These sources can include storm water and non-storm water from the Municipal Copermittees under this permit as well as from other NPDES and non-NPDES permittees, including industrial waste water dischargers, waste water treatment facilities, industrial and construction stormwater dischargers, water suppliers, tribal lands, other state and federal government entities, and Caltrans. Sources can also include discharges from Phase II entities such as school districts and discharges from entities that have been granted waste discharge requirements or waivers of waste discharge requirements, including agricultural operations.

The District does not own or operate any municipal sanitary sewer systems, public streets, roads, or highways. The District has no planning, zoning, development permitting or other land use authority, thus, it has no permitting or governing authority over industrial or commercial facilities, residents, new developments or re-development projects, and development construction sites located in any incorporated or unincorporated areas within its service area, including the SMR. The Copermittees that have such authority are responsible for implementing a storm water management program to address pollutants discharged from such industrial and commercial facilities, residential areas, new development and re-development projects, and development construction sites within their jurisdictional boundaries. Nonetheless, as an owner and operator of an MS4, the District is required to control pollutant discharges into and from its MS4, such as through interagency agreements among Copermittees and other owners of a MS4, the contribution of pollutants from one portion of the MS4 to another portion of the MS4 within their jurisdiction.

2. **Legal and Regulatory Authority.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations (Code of Federal Regulations [CFR] Title 40, Part 122 [40 CFR 122]) adopted by the United States Environmental Protection Agency (USEPA), and chapter 5.5, division 7 of the California Water Code (CWC) (commencing with section 13370). This Order serves as an NPDES permit for discharges from MS4s to surface waters. This Order also serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

   The San Diego Water Board has the legal authority to issue a regional MS4 permit pursuant to its authority under CWA section 402(p)(3)(B) and 40 CFR 122.26(a)(1)(v). The USEPA also made it clear that the permitting authority, in this case the San Diego Water Board, has the flexibility to establish system- or region-wide permits (55 Federal Register [FR] 47990, 48039-48042). The regional nature of this Order will ensure consistency of regulation within watersheds and is expected

to result in overall cost savings for the Copermittees and San Diego Water Board.

The federal regulations make it clear that the Copermittees need only comply with permit conditions relating to discharges from the MS4s for which they are operators (40 CFR 122.26(a)(3)(vi)). This Order does not require the Copermittees to manage storm water outside of their jurisdictional boundaries, but rather to work collectively to improve storm water management within watersheds.

3. **CWA NPDES Permit Conditions.** Pursuant to CWA section 402(p)(3)(B), NPDES permits for storm water discharges from MS4s must include requirements to effectively prohibit non-storm water discharges into MS4s, and require controls to reduce the discharge of pollutants from the MS4s ~~in storm water~~ to the maximum extent practicable (MEP), and to require other provisions as the San Diego Water Board determines are appropriate to control such pollutants. This Order prescribes conditions to assure compliance with the CWA requirements for owners and operators of MS4s to effectively prohibit non-storm water discharges in to the MS4s, and require controls to reduce the discharge of pollutants ~~in storm water~~ from the MS4s to the MEP.

Comment [A3]: See discussion in section 3.1.2 of the comment letter.

4. **CWA and CWC Monitoring Requirements.** CWA section 308(a) and 40 CFR 122.41(h),(j)-(l) and 122.48 require that NPDES permits must specify monitoring and reporting requirements. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements in 40 CFR 122.26(d)(1)(iv)(D), 122.26(d)(1)(v)(B), 122.26(d)(2)(i)(F), 122.26(d)(2)(iii)(D), 122.26(d)(2)(iv)(B)(2) and 122.42(c). CWC section 13383 authorizes the San Diego Water Board to establish monitoring, inspection, entry, reporting and recordkeeping requirements. This Order establishes monitoring and reporting requirements to implement federal and State requirements.

5. **Total Maximum Daily Loads.** CWA section 303(d)(1)(A) requires that "[e]ach state shall identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard applicable to such waters." The CWA also requires states to establish a priority ranking of impaired water bodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired water bodies is called the Clean Water Act Section 303(d) List of Water Quality Limited Segments, commonly referred to as the 303(d) List. The CWA requires the 303(d) List to be updated every two years.

   TMDLs are numerical calculations of the maximum amount of a pollutant that a water body can assimilate and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (waste load allocations or WLAs) and non-point sources (load allocations or LAs), background contribution, plus a margin of safety. Discharges from MS4s are point source discharges. The federal regulations (40 CFR 122.44(d)(1)(vii)(B)) require that NPDES permits to incorporate water quality based effluent limitations (WQBELs) developed to protect a narrative water quality criterion, a numeric water

quality criterion, or both, consistent with the assumptions and requirements of any available WLA for the discharge. Requirements of this Order implement the TMDLs adopted by the San Diego Water Board and approved by USEPA.

6. **Non-Storm Water Discharges.** Pursuant to CWA section 402(p)(3)(B)(ii), this Order requires each Copermittee to effectively prohibit discharges of non-storm water into its MS4. Nevertheless, non-storm water discharges into and from the MS4s continue to be reported to the San Diego Water Board by the Copermittees and other persons. Monitoring conducted by the Copermittees, as well as the 303(d) List, have identified dry weather, non-storm water discharges from the MS4s as a source of pollutants causing or contributing to receiving water quality impairments in the San Diego Region. The federal regulations (40 CFR 122.26(d)(2)(iv)(B)(1)) require the Copermittees to have a program to prevent illicit discharges to the MS4. The federal regulations, however, allow for specific categories of non-storm water discharges or flows to be addressed as illicit discharges only where such discharges are identified as sources of pollutants to waters of the U.S.

7. **In-Stream Treatment Systems.** Pursuant to federal regulations (40 CFR 131.10(a)), in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of a runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Runoff treatment must occur prior to the discharge of runoff into receiving waters. Treatment control best management practices (BMPs) must not be constructed in waters of the U.S. Construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body.

DISCHARGE CHARACTERISTICS AND RUNOFF MANAGEMENT

8. **Point Source Discharges of Pollutants.** Discharges from the MS4s may contain waste, as defined in the CWC, and pollutants that adversely affect the quality of the waters of the state. A discharge from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA. Storm water and non-storm water discharges from the MS4s may contain pollutants that cause or threaten to cause a violation of surface water quality standards, as outlined in the Water Quality Control Plan for the San Diego Basin (Basin Plan). ~~Storm water and non-storm water discharges from the MS4s are subject to the conditions and requirements established in the Basin Plan for point source discharges.~~

9. **Potential Beneficial Use Impairment.** The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses or which may result~~ing~~ in a condition of pollution, contamination, or nuisance. In addition, the reduction of flows below the

existing condition may impact negatively impact beneficial uses.

10. **Pollutants Generated by Land Development.** Land development has created and continues to create new sources of non-storm water discharges and pollutants in storm water discharges as human population density increases. This brings higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, and trash. Pollutants from these sources are dumped or washed off the surface by non-storm water or storm water flows into and from the MS4s. When development converts natural vegetated pervious ground cover to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed area without BMPs that can maintain pre-development conditions will contain greater pollutant loads and have significantly greater runoff volume, velocity, and peak flow rate than pre-development runoff from the same area.

11. **Runoff Discharges to Receiving Waters.** The MS4s discharge runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within the eleven hydrologic units comprising the San Diego Region. ~~Historic and current development makes use of natural drainage patterns and features as conveyances for runoff. Rivers, streams and creeks in developed areas used in this manner are part of the Copermittees' MS4s regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the rivers, streams and creeks in the developed areas of the Copermittees' jurisdictions are both an MS4 and receiving water.~~ Numerous receiving water bodies and water body segments have been designated as impaired by the San Diego Water Board pursuant to CWA section 303(d).

Comment [A4]: See discussion in section 3.1.2 of the comment letter.

Pollutants in Runoff. The most common pollutants in runoff discharged from the MS4s include total suspended solids, sediment, pathogens (e.g., bacteria, viruses, protozoa), heavy metals (e.g., cadmium, copper, lead, and zinc), petroleum products and polynuclear aromatic hydrocarbons, synthetic organics (e.g., pesticides, herbicides, and PCBs), nutrients (e.g., nitrogen and phosphorus), oxygen-demanding substances (e.g., decaying vegetation, animal waste), detergents, and trash. ~~As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not effectively prohibit or otherwise control.~~ These discharges may cause or contribute to a condition of pollution or a violation of water quality standards. California law requires downstream landowners, including owners and operators of MS4, to accept upstream flows, even if that flow contains Pollutants. Failure to do can create conditions.

Comment [A5]: See discussion in section 3.1.2 of the comment letter.

Limitation on Powers of Copermittees. This Order regulates the discharge of non-stormwater into and Pollutants from non-agricultural Anthropogenic sources from the MS4s owned and/or operated by the Copermittees. The Copermittees lack legal

Comment [A6]: This finding is based on Findings I.B and I.C in Order R8-2010-33, applicable to portions of Riverside County within the Santa Ana region.

jurisdiction over discharges into their MS4 from agricultural activities, State and federal facilities, public schools and hospitals, utilities, railroads, special districts, Native American tribal lands, wastewater management agencies and other point and non-point source discharges otherwise permitted by the Water Board. The Water Board recognizes that the Copermittees should not be held responsible for discharges from such facilities or Pollutants in those discharges. Also, certain activities and sources that generate pollutants present in urban runoff may be beyond the ability of the Copermittees to prevent or eliminate. Examples of these activities and sources include, but are not limited to: emissions from internal combustion engines, brake pad wear and tear, atmospheric deposition, non-Anthropogenic sources of bacteria (including wildlife and feral cats and dogs), the regulation of pesticides and leaching of naturally occurring nutrients and minerals from local soils. This Order is not intended to address background or naturally occurring Pollutants or flows.

12.

13. **Human Health and Aquatic Life Impairment.** Pollutants in runoff discharged from the MS4s can threaten and adversely affect human health and aquatic organisms. Adverse responses of organisms to chemicals or physical agents in runoff range from physiological responses such as impaired reproduction or growth anomalies to mortality. Increased volume, velocity, rate, and duration of storm water runoff greatly accelerate the erosion of downstream natural channels. This alters stream channels and habitats and can adversely affect aquatic and terrestrial organisms.

14. **Water Quality Effects.** The Copermittees' water quality monitoring data submitted to date documents various persistent exceedances of Basin Plan water quality objectives for runoff-related pollutants at various watershed monitoring stations. Persistent toxicity has also been observed at several watershed monitoring stations. In addition, bioassessment data indicate that the majority of the monitored receiving waters have Poor to Very Poor Index of Biological Integrity (IBI) ratings. ~~These findings indicate that runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in the San Diego Region. Non-storm water discharges from the MS4s have been shown to contribute significant levels of pollutants and flow in arid, developed Southern California watersheds, and contribute significantly to exceedances of applicable receiving water quality objectives.~~

Comment [A7]: These statements are completely unsubstantiated.

15. ~~**Non-Storm Water and Storm Water Discharges.** Non-storm water discharges from the MS4s are not considered storm water discharges and therefore are not subject to the MEP standard of CWA section 402(p)(3)(B)(iii), which is explicitly for "Municipal … *Stormwater Discharges* (emphasis added)" from the MS4s. Pursuant to CWA 402(p)(3)(B)(ii), non-storm water discharges into the MS4s must be effectively prohibited.~~

Comment [A8]: See discussion in section 3.1.2 of the comment letter.

16. **Best Management Practices.** Waste and pollutants which are deposited and accumulate in MS4 drainage structures may~~will~~ be discharged from these structures

to waters of the U.S. unless they are removed. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutants in storm water discharges from the MS4s can be and must be effectively reduced in runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and runoff, therefore keeping pollutants onsite and out of receiving waters. Treatment control BMPs remove pollutants that have been mobilized by storm water or non-storm water flows.

17. **BMP Implementation.** Runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of storm water pollutants to the MEP, effectively prohibit non-storm water discharges, and protect receiving waters. Development which is not guided by water quality planning policies and principles can result in increased pollutant load discharges, flow rates, and flow durations which can negatively affect receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development can generate substantial pollutant loads which are discharged in runoff to receiving waters. Retrofitting areas of existing development with storm water pollutant control and hydromodification management BMPs may in many cases be ~~is~~ necessary to address storm water discharges from existing development that may cause or contribute to a condition of pollution or a violation of water quality standards.

Comment [A9]: It is not necessary in all cases.

18. **Long Term Planning and Implementation.** Federal regulations require municipal storm water permits to expire 5 years from adoption, after which the permit must be renewed and reissued. The San Diego Water Board recognizes that the degradation of water quality and impacts to beneficial uses of the waters in the San Diego Region occurred over several decades. The San Diego Water Board further recognizes that a decade or more may be necessary to realize demonstrable improvement to the quality of waters in the Region. This Order includes a long term planning and implementation approach that will require more than a single permit term to complete.

WATER QUALITY STANDARDS

19. **Basin Plan.** The San Diego Water Board adopted the Water Quality Control Plan for the San Diego Basin (Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters addressed through the plan. The Basin Plan was subsequently approved by the State Water

Resources Control Board (State Water Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Board. Requirements of this Order implement the Basin Plan.

The Basin Plan identifies the following existing and potential beneficial uses for inland surface waters in the San Diego Region: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional existing and potential beneficial uses are identified for coastal waters of the San Diego Region: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

20. **Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Requirements of this Order implement the Ocean Plan.

    The Ocean Plan identifies the following beneficial uses of ocean waters of the state to be protected: Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance; rare and endangered species; marine habitat; fish spawning and shellfish harvesting

21. **Sediment Quality Control Plan**. On September 16, 2008, the State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (Sediment Quality Control Plan). The Sediment Quality Control Plan became effective on August 25, 2009. The Sediment Quality Control Plan establishes: 1) narrative sediment quality objectives for benthic community protection from exposure to contaminants in sediment and to protect human health, and 2) a program of implementation using a multiple lines of evidence approach to interpret the narrative sediment quality objectives. Requirements of this Order implement the Sediment Quality Control Plan.

22. **National Toxics Rule and California Toxics Rule.** USEPA adopted the National Toxics Rule (NTR) on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the California Toxics Rule (CTR). The CTR promulgated

new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

23. **Antidegradation Policy.** This Order is in conformance with the federal Antidegradation Policy described in 40 CFR 131.12, and State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California*. Federal regulations at 40 CFR 131.12 require that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. State Water Board Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. State Water Board Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

CONSIDERATIONS UNDER FEDERAL AND STATE LAW

24. **Coastal Zone Act Reauthorization Amendments.** Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point source pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point source pollution: agriculture, silviculture, urban, marinas, and hydromodification. This Order addresses the management measures required for the urban category, with the exception of septic systems. The runoff management programs developed pursuant to this Order fulfills the need for coastal cities to develop a runoff non-point source plan identified in the Non-Point Source Program Strategy and Implementation Plan. The San Diego Water Board addresses septic systems through the administration of other programs.

25. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 USC sections 1531 to 1544). This Order requires compliance with receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Copermittees are responsible for meeting all requirements of the applicable Endangered Species Act.

26. **Report of Waste Discharge Process.** The waste discharge requirements set forth in this Order are based upon the Report of Waste Discharge submitted by the San Diego County Copermittees prior to the expiration of Order No. R9-2007-0001 (NPDES No. CAS0109266). The Orange County and Riverside County Copermittees are not immediately covered by the waste discharge requirements in this Order. The San Diego Water Board understands that each municipality is

unique although the Counties share watersheds and geographical boundaries. The Order will continue to use the Report of Waste Discharge process prior to initially making Orange County or Riverside County Copermittees subject to the requirements of this Order.

The federal regulations (40 CFR 122.21(d)(2)) and CWC section 13376 impose a duty on the Copermittees to reapply for continued coverage through submittal of a Report of Waste Discharge no later than 180 days prior to expiration of a currently effective permit. This requirement is set forth in the Orange County Copermittees' and Riverside County Copermittees' currently effective permits at Provisions K.2.b and K.2.c, respectively. The Orange County Permit, Order No. R9-2009-0002 (NPDES No. CAS0108740) expires on December 16, 2014 and the Riverside County MS4 Permit, Order No. R9-2010-0016 (NPDES No. CAS0108766) expires on November 10, 2015.

Unless the Orange County or Riverside County Copermittees apply for and receive early coverage under this Order, the Orange County Copermittees' and the Riverside County Copermittees' respective permits will be superseded by this Order upon expiration of their respective permits, subject to any necessary revisions to the requirements of this Order made after the San Diego Water Board considers their respective Reports of Waste Discharge through the public process provided in 40 CFR 124.

Comment [A10]: Please see Comment Letter and Legal Comments regarding regional permit authority,

27. **Integrated Report and Clean Water Act Section 303(d) List.** The San Diego Water Board and State Water Board submit an Integrated Report to USEPA to comply with the reporting requirements of CWA sections 303(d), 305(b) and 314, which lists the attainment status of water quality standards for water bodies in the San Diego Region. USEPA issued its *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* on July 29, 2005, which advocates the use of a five category approach for classifying the attainment status of water quality standards for water bodies in the Integrated Report. Water bodies included in Category 5 in the Integrated Report indicate at least one beneficial use is not being supported or is threatened, and a TMDL is required. Water bodies included in Category 5 in the Integrated Report are placed on the 303(d) List.

Water bodies with available data and/or information that indicate at least one beneficial use is not being supported or is threatened, but a TMDL is not required, are included in Category 4 in the Integrated Report. Impaired surface water bodies may be included in Category 4 if a TMDL has been adopted and approved (Category 4a); if other pollution control requirements required by a local, state or federal authority are stringent enough to implement applicable water quality standards within a reasonable period of time (Category 4b); or, if the failure to meet an applicable water quality standard is not caused by a pollutant, but caused by other types of pollution (Category 4c).

Implementation of the requirements of this Order may allow the San Diego Water Board to include surface waters impaired by discharges from the Copermittees'

MS4s in Category 4 in the Integrated Report for consideration during the next 303(d) List submittal by the State to USEPA.

28. **Economic Considerations.** The California Supreme Court has ruled that although CWC section 13263 requires the State and Regional Water Boards (collectively Water Boards) to consider factors set forth in CWC section 13241 when issuing an NPDES permit, the Water Board may not consider the factors to justify imposing pollutant restrictions that are less stringent than the applicable federal regulations require. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618, 626-627.) However, when pollutant restrictions in an NPDES permit are more stringent than federal law requires, CWC section 13263 requires that the Water Boards consider the factors described in CWC section 13241 as they apply to those specific restrictions.

Comment [A11]: See discussion in section 3.1.2 of the Comment Letter and also Legal Comments..

As noted in the following finding, the San Diego Water Board finds that the requirements in this permit are not more stringent than the minimum federal requirements. Therefore, a CWC section 13241 analysis is not required for permit requirements that implement the effective prohibition on the discharge of non-storm water into the MS4 or for controls to reduce the discharge of pollutants ~~in storm water~~ to the MEP, or other provisions that the San Diego Water Board has determined appropriate to control such pollutants, as those requirements are mandated by federal law. Notwithstanding the above, the San Diego Water Board has developed an economic analysis of the requirements in this Order. The economic analysis is provided in the Fact Sheet.

29. ~~**Unfunded Mandates.** This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, Section (6) of the California Constitution for several reasons, including, but not limited to, the following:~~

Comment [A12]: See discussion in section 3.1.2 of the comment letter and in the Legal Comments.

~~**a.** This Order implements federally mandated requirements under CWA section 402 (33 USC section 1342(p)(3)(B)).~~

~~**b.** The local agency Copermittees' obligations under this Order are similar to, and in many respects less stringent than, the obligations of non-governmental and new dischargers who are issued NPDES permits for storm water and non-storm water discharges.~~

~~**c.** The local agency Copermittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order.~~

~~**d.** The Copermittees have requested permit coverage in lieu of compliance with the complete effective prohibition against the discharge of pollutants contained in CWA section 301(a) (33 USC section 1311(a)) and in lieu of numeric restrictions on their MS4 discharges (i.e. effluent limitations).~~

~~**e.** The local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIIIB, Section (6) of the California Constitution.~~

~~f. The provisions of this Order to implement TMDLs are federal mandates. The CWA requires TMDLs to be developed for water bodies that do not meet federal water quality standards (33 USC section 1313(d)). Once the USEPA or a state develops a TMDL, federal law requires that permits must contain water quality based effluent limitations consistent with the assumptions and requirements of any applicable wasteload allocation (40 CFR 122.44(d)(1)(vii)(B)).~~

~~See the Fact Sheet for further discussion of unfunded mandates.~~

30. **California Environmental Quality Act.** The issuance of waste discharge requirements and an NPDES permit for the discharge of runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with CWC section 13389.

STATE WATER BOARD DECISIONS

31. **Compliance with Prohibitions and Limitations.** The receiving water limitation language specified in this Order is consistent with language recommended by the USEPA and established in State Water Board Order WQ 99-05, *Own Motion Review of the Petition of Environmental Health Coalition to Review Waste Discharge Requirements Order No. 96-03, NPDES Permit No. CAS0108740*, adopted by the State Water Board on June 17, 1999. The receiving water limitation language in this Order requires storm water discharges from MS4s to not cause or contribute to a violation of water quality standards, which is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Implementation of the iterative approach to comply with receiving water limitations based on applicable water quality standards is necessary to ensure that Pollutant ~~storm water~~ discharges from the MS4 will not ultimately cause or contribute to violations of water quality standards and will not create conditions of pollution, contamination, or nuisance.

Comment [A13]: See discussion in section 3.1.2 of the comment letter.

Comment [A14]: Please see discussion in section 3.1.2 of the Comment Letter and Legal Comments.

32. **Special Conditions for Areas of Special Biological Significance.** On March 20, 2012, the State Water Board approved Resolution No. 2012-0012 approving an exception to the Ocean Plan effective prohibition against discharges to Areas of Special Biological Significance (ASBS) for certain nonpoint source discharges and NPDES permitted municipal storm water discharges. State Water Board Resolution No. 2012-0012 requires monitoring and testing of marine aquatic life and water quality in several ASBS to protect California's coastline during storms when rain water overflows into coastal waters. Specific terms, effective prohibitions, and special conditions were adopted to provide special protections for marine aquatic life and natural water quality in ASBS. The City of San Diego's municipal storm water discharges to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's municipal storm water discharges to the Heisler Park ASBS are subject terms and conditions of State Water Board Resolution No. 2012-0012. The Special

Protections contained in Attachment B to Resolution No. 2012-0012, applicable to these discharges, are hereby incorporated into this Order as if fully set forth herein.

ADMINISTRATIVE FINDINGS

33. **Executive Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to CWC section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under CWC section 13223 or this Order explicitly states otherwise.

34. **Standard Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment B to this Order.

35. **Fact Sheet.** The Fact Sheet for this Order contains background information, regulatory and legal citations, references and additional explanatory information and data in support of the requirements of this Order. The Fact Sheet is hereby incorporated into this Order and constitutes part of the Findings of this Order.

36. **Public Notice.** In accordance with State and federal laws and regulations, the San Diego Water Board notified the Copermittees, and interested agencies and persons of its intent to prescribe waste discharge requirements for the control of discharges into and from the MS4s to waters of the U.S. and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet.

37. **Public Hearing.** The San Diego Water Board held a public hearing on Month Day, 2013 and heard and considered all comments pertaining to the terms and conditions of this Order. Details of the public hearing are provided in the Fact Sheet.

38. **Effective Date.** This Order serves as an NPDES permit pursuant to CWA section 401 or amendments thereto, and becomes effective fifty (50) days after the date of its adoption, provided that the Regional Administrator, USEPA, Region IX, does not object to this Order.

39. **Review by the State Water Board.** Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050, et seq. The State Water Board must receive the petition by 5:00 p.m., 30 days after the San Diego Water Board action, except that if the thirtieth day following the action falls on a Saturday, Sunday or State holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the

Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

THEREFORE, IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, must each comply with the following:

II. PROVISIONS

A. PROHIBITIONS AND LIMITATIONS

The purpose of this provision is to describe the conditions under which storm water and non-storm water discharges into and from MS4s are to be effectively prohibited or limited. The goal of the prohibitions and limitations is to protect the water quality and designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. This goal will be accomplished through the implementation of water quality improvement strategies and runoff management programs that effectively prohibit non-storm water discharges into the Copermittees' MS4s, and reduce pollutants in ~~storm water~~ discharges from the Copermittees' MS4s to the MEP. The process for determination of compliance with the Discharge Prohibitions (A.1), Receiving Water Limitations (A.2), and Effluent Limitations (A.3) is defined in Provisions A.3.b and A.4.

1. Discharge Prohibitions

a. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance in receiving waters ~~of the state~~ are to be ~~prohibited.~~ effectively prohibited, unless the Regional Board determines such discharges are addressed by the Copermittee through A.3.b or A.4, including any modifications.~~prohibited.~~

b. Non-storm water discharges into MS4s are to be effectively prohibited through a program consistent with the requirements of provision E.2. of this order, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the MS4, unless such discharges are either authorized by a separate NPDES permit, or the discharge is a category of non-storm water discharges or flows that must be addressed pursuant to Provisions E.2.a.(1)-(5) of this Order.

c. Discharges from MS4s are subject to all applicable waste discharge prohibitions in the Basin Plan, included in Attachment A to this Order, unless the Regional Board determines such discharges are addressed by the Copermittee through A.3.b or A.4, including any modifications.

d. Storm water discharges from the City of San Diego's MS4 to the San Diego Marine Life Refuge in La Jolla, and the City of Laguna Beach's MS4 to the Heisler Park ASBS are authorized under this Order subject to the Special Protections contained in Attachment B to State Water Board Resolution No.

Comment [A15]: See discussion in section 3.2 of the comment letter.

Comment [A16]: See discussion in section 3.2.2 of the comment letter.

Comment [A17]: See discussion in section 3.2.2 of the comment letter.

Comment [A18]: See discussion in section 3.2.2 of the comment letter.

2012-0012 applicable to these discharges, included in Attachment A to this Order. All other discharges from the Copermittees' MS4s to ASBS are ~~to be effectively~~ prohibited.

2. Receiving Water Limitations

Comment [A19]: See discussion in section 3.2.2 of the comment letter.

a. Discharges from MS4s must not cause or contribute to the violation of water quality standards in any receiving waters, including but not limited to all applicable provisions ~~contained in:~~below, unless the Regional Board determines such discharges are addressed by the Copermittee through A.3.b or A.4::~~contained in:~~

(1) The San Diego Water Board's Basin Plan, including beneficial uses, water quality objectives, and implementation plans;

(2) State Water Board plans for water quality control including the following:

(a) Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries (Thermal Plan), and

(b) The Ocean Plan, including beneficial uses, water quality objectives, and implementation plans;

(3) State Water Board policies for water and sediment quality control including the following:

(a) Water Quality Control Policy for the Enclosed Bays and Estuaries of California,

(b) Sediment Quality Control Plan which includes the following narrative objectives for bays and estuaries:

(i) Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities, and

(ii) Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health,

(c) The Statement of Policy with Respect to Maintaining High Quality of Waters in California;[1]

(4) Priority pollutant criteria promulgated by the USEPA through the following:

[1] State Water Board Resolution No. 68-16

(a) National Toxics Rule (NTR)[2] (promulgated on December 22, 1992 and amended on May 4, 1995), and

(b) California Toxics Rule (CTR).[3,4]

b. Discharges from MS4s composed of storm water runoff must not alter natural ocean water quality in an ASBS.

[2] 40 CFR 131.36
[3] 65 Federal Register 31682-31719 (May 18, 2000), adding Section 131.38 to 40 CFR
[4] If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies.

3. Effluent Limitations

a. TECHNOLOGY BASED EFFLUENT LIMITATIONS

Comment [A20]: See discussion in section 3.2.2 of the comment letter.

Pollutants in ~~storm water~~ discharges from MS4s must be reduced to the MEP.[5]

b. WATER QUALITY BASED EFFLUENT LIMITATIONS

This Order establishes water quality based effluent limitations (WQBELs) consistent with the assumptions and requirements of all available TMDL waste load allocations (WLAs) assigned to discharges from the Copermittees' MS4s. Each Copermittee must comply with applicable WQBELs established for the TMDLs in Attachment E to this Order, pursuant to the applicable TMDL compliance schedules.

4. Compliance with Discharge Prohibitions and Receiving Water Limitations

Comment [A21]: See discussion in section 3.2.2 of the comment letter.

Each Copermittee must achieve compliance with Provisions A.1.a~~,~~ through A.1.c and A.2.a of this Order through timely implementation of control measures and other actions as specified in Provisions B and E of this Order, including any modifications. The Water Quality Improvement Plans required under Provision B must be designed and adapted to ultimately achieve compliance with Provisions A.1.a~~,~~ through A.1.c and A.2.a~~.~~, as described in Provision B.2.~~.~~

a. If exceedance(s) of water quality standards persist in receiving waters notwithstanding implementation of this Order, the Copermittees must comply with the following procedures:

(1) For exceedance(s) of a water quality standard in the process of being addressed by the Water Quality Improvement Plan, the Copermittee(s) must implement the Water Quality Improvement Plan as accepted by the San Diego Water Board, and update the Water Quality Improvement Plan, as necessary, pursuant to Provision F.2.c;

(2) Upon a determination by either the Copermittees or the San Diego Water Board that discharges from the MS4 are causing or contributing to a new exceedance of an applicable water quality standard not addressed by the Water Quality Improvement Plan, the Copermittees must submit the following updates to the Water Quality Improvement Plan pursuant to Provision F.2.c or as part of the Annual Report required under Provision F.3.b, unless the San

[5] This does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants in storm water discharges to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer). Runoff treatment must occur prior to the discharge of runoff into receiving waters per Finding 7.

Diego Water Board directs an earlier submittal:

(a) The water quality improvement strategies being implemented that are effective and will continue to be implemented,

(b) Water quality improvement strategies (i.e. BMPs, retrofitting projects, stream and/or habitat rehabilitation or restoration projects, adjustments to jurisdictional runoff management programs, etc.) that will be implemented to reduce or eliminate any pollutants or conditions that are causing or contributing to the exceedance of water quality standards,

(c) Updates to the schedule for implementation of the existing and additional water quality improvement strategies, and

(d) Updates to the monitoring and assessment program to track progress toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a of this Order;

(3) The San Diego Water Board may require the incorporation of additional modifications to the Water Quality Improvement Plan required under Provision B. The applicable Copermittees must submit any modifications to the update to the Water Quality Improvement Plan within 90 days of notification that additional modifications are required by the San Diego Water Board, or as otherwise directed;

(4) Within 90 days of the San Diego Water Board determination that the update to the Water Quality Improvement Plan meets the requirements of this Order, the applicable Copermittees must revise the jurisdictional runoff management program documents to incorporate the updated water quality improvement strategies that have been and will be implemented, the implementation schedule, and any additional monitoring required; and

(5) Each Copermittee must implement the updated Water Quality Improvement Plan.

b. The procedure set forth above to achieve compliance with Provisions A.1.a, A.1.c and A.2.a of this Order do not have to be repeated for continuing or recurring exceedances of the same water quality standard(s) following implementation of scheduled actions unless directed to do otherwise by the San Diego Water Board.

c. Nothing in Provisions A.4.a and A.4.b prevents the San Diego Water Board from enforcing any of provisions B through I of this Order while the applicable Copermittees prepare and implement the above update to the Water Quality Improvement Plan and jurisdictional runoff management programs.

Riverside Copermittee Redlines

B. WATER QUALITY IMPROVEMENT PLANS

The purpose of this provision is to develop Water Quality Improvement Plans (WQIPs) that guide the Copermittees' jurisdictional runoff management programs towards achieving the outcome of improved water quality in MS4 discharges and receiving waters. The goal of the Water Quality Improvement Plans is to ~~protect, preserve, enhance, and restorerestore the~~address the impacts of MS4 discharges so that such discharges do not impair water quality and designated beneficial uses of receiving waters~~. of the state.~~ Therefore, implementation of the WQIPs also provides the basis for complying with Provisions II.A.1, II.A.2, and II.A.3, as described in Provision II.A.4. This goal will be accomplished through an adaptive planning and management process that identifies the highest priority water quality conditions within a watershed and implements strategies through the jurisdictional runoff management programs to achieve improvements in the quality of discharges from the MS4s ~~and~~ to receiving waters. As such, the requirements outlined in Provision E may be modified for consistency with the WQIP priorities for the applicable Watershed Management Area, if appropriate justification is provided approved within the WQIP.

Comment [A22]: See section 3.3 of the comment letter for discussions of the changes requested herein.

Comment [A23]: See discussion in section 3.3.2 of the comment letter.

1. Watershed Management Areas

Comment [A24]: See discussion in section 3.3.2 of the comment letter.

The Copermittees must develop a Water Quality Improvement Plan for each of the Watershed Management Areas in Table B-1. A total of ten Water Quality Improvement Plans must be developed for the San Diego Region.

Development of the Water Quality Improvement Plan for the Santa Margarita River Watershed Management Area shall commence upon notification of coverage of the Riverside County Copermittees under this Order. Until this time, the County of San Diego shall use the water quality priorities in the Santa Margarita River Watershed Urban Runoff Management Plan, developed pursuant to Order No. R9-2007-0001, to guide implementation of Provisions D and E within its jurisdiction

Table B-1. Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible Copermittees
San Juan (901.00)	South Orange County	- Aliso Creek - San Juan Creek - San Mateo Creek - Pacific Ocean - Heisler Park ASBS	- City of Aliso Viejo[1] - City of Dana Point[1] - City of Laguna Beach[1] - City of Laguna Hills[1] - City of Laguna Niguel[1] - City of Laguna Woods[1] - City of Lake Forest[1] - City of Mission Viejo[1] - City of Rancho Santa Margarita[1] - City of San Clemente[1] - City of San Juan Capistrano[1] - County of Orange[1] - Orange County Flood Control District[1]

Table B-1. Watershed Management Areas

Hydrologic Unit(s)	Watershed Management Area	Major Surface Water Bodies	Responsible Copermittees
Santa Margarita (902.00)	Santa Margarita River	- Murrieta Creek - Temecula Creek - Santa Margarita River - Santa Margarita Lagoon - Pacific Ocean	- City of Murrieta[2] - City of Temecula[2] - City of Wildomar[2] - County of Riverside[2] - County of San Diego[3] - Riverside County Flood Control and Water Conservation District[2]
San Luis Rey (903.00)	San Luis Rey River	- San Luis Rey River - San Luis Rey Estuary - Pacific Ocean	- City of Oceanside - City of Vista - County of San Diego
Carlsbad (904.00)	Carlsbad	- Loma Alta Slough - Buena Vista Lagoon - Agua Hedionda Lagoon - Batiquitos Lagoon - San Elijo Lagoon - Pacific Ocean	- City of Carlsbad - City of Encinitas - City of Escondido - City of Oceanside - City of San Marcos - City of Solana Beach - City of Vista - County of San Diego
San Dieguito (905.00)	San Dieguito River	- San Dieguito River - San Dieguito Lagoon - Pacific Ocean	- City of Del Mar - City of Escondido - City of Poway - City of San Diego - City of Solana Beach - County of San Diego
Penasquitos (906.00)	Penasquitos	- Los Penasquitos Lagoon - Pacific Ocean	- City of Del Mar - City of Poway - City of San Diego - County of San Diego
	Mission Bay	- Mission Bay - Pacific Ocean - San Diego Marine Life Refuge ASBS	- City of San Diego
San Diego (907.00)	San Diego River	- San Diego River - Pacific Ocean	- City of El Cajon - City of La Mesa - City of San Diego - City of Santee - County of San Diego
Pueblo San Diego (908.00) Sweetwater (909.00) Otay (910.00)	San Diego Bay	- Sweetwater River - Otay River - San Diego Bay - Pacific Ocean	- City of Chula Vista - City of Coronado - City of Imperial Beach - City of La Mesa - City of Lemon Grove - City of National City - City of San Diego - County of San Diego - San Diego County Regional Airport Authority - San Diego Unified Port District
Tijuana (911.00)	Tijuana River	- Tijuana River - Tijuana Estuary - Pacific Ocean	- City of Imperial Beach - City of San Diego - County of San Diego

Notes:
1. The Orange County Copermittees will be covered under this Order after expiration of Order No. R9-2009-0002, or earlier if the Orange County Copermittees meet the conditions in Provision F.6.
2. The Riverside County Copermittees will be covered under this Order after expiration of Order No. R9-2010-0016, or earlier if the Riverside County Copermittees meet the conditions in Provision F.6.
3. The County of San Diego is required to implement the requirements of Provision B for its jurisdiction within the Santa

Riverside Copermittee Redlines

Margarita River Watershed Management Area until the Riverside County Copermittees have been notified of coverage under this Order.

2. Priority Water Quality Conditions

The Copermittees must identify the water quality priorities within each Watershed Management Area that will be addressed by the Water Quality Improvement Plan. Where appropriate, Watershed Management Areas may be separated into subwatersheds to focus water quality prioritization and jurisdictional runoff management program implementation efforts by receiving water.

a. Assessment of Receiving Water Conditions

The Copermittees must consider the following, at a minimum, to identify water quality priorities based on impacts of MS4 discharges on receiving water beneficial uses:

(1) Receiving waters listed as impaired on the CWA Section 303(d) List of Water Quality Limited Segments (303(d) List);

(2) TMDLs adopted and under development by the San Diego Water Board;

(3) Receiving waters recognized as sensitive or highly valued by the Copermittees, including estuaries designated under the National Estuary Program under CWA section 320, wetlands defined by the State or U.S. Fish and Wildlife Service's National Wetlands Inventory as wetlands, and receiving waters identified as ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (Attachment A);

(4) The receiving water limitations of Provision A.2;

(5) Known historical versus current physical, chemical, and biological water quality conditions;

(6) Available, relevant, and appropriately collected and analyzed physical, chemical, and biological receiving water monitoring data, including, but not limited to, data describing:

(a) Chemical constituents,

(b) Water quality parameters (i.e. pH, temperature, conductivity, etc.),

(c) Toxicity Identification Evaluations for both receiving water column and sediment,

(d) Trash impacts,

(e) Bioassessments, and

(f) Physical habitat;

(7) Available evidence of erosional impacts in receiving waters due to accelerated flows (i.e. hydromodification);

(8) Available evidence of adverse impacts to the chemical, physical, and biological integrity of receiving waters; and

(9) The potential improvements in the overall condition of the Watershed Management Area that can be achieved.

b. ASSESSMENT OF IMPACTS FROM MS4 DISCHARGES

The Copermittees must consider the following, at a minimum, to identify the potential impacts to receiving waters that may be caused or contributed to by discharges from the Copermittees' MS4s:

(1) The discharge prohibitions of Provision A.1 and effluent limitations of Provision A.3; and

(2) Available, relevant, and appropriately collected and analyzed storm water and non-storm water monitoring data from the Copermittees' MS4 outfalls;

(3) Locations of each Copermittee's MS4 outfalls that discharge to receiving waters;

(4) Locations of MS4 outfalls that are known to persistently discharge non-storm water to receiving waters likely causing or contributing to impacts on receiving water beneficial uses;

(5) Locations of MS4 outfalls that are known to discharge pollutants in storm water causing or contributing to impacts on receiving water beneficial uses; and

(6) The potential improvements in the quality of discharges from the MS4 that can be achieved.

c. IDENTIFICATION OF PRIORITY WATER QUALITY CONDITIONS

(1) The Copermittees must use the information gathered for Provisions B.2.a and B.2.b to develop a list of priority water quality conditions as pollutants, stressors and/or receiving water conditions that are the highest threat to receiving water quality or that most adversely affect the physical, chemical, and biological integrity of receiving waters. The list must include the following information for each priority water quality condition:

(a) The beneficial use(s) associated with the priority water quality condition;

(b) The geographic extent of the priority water quality condition within the Watershed Management Area, if known;

(c) The temporal extent of the priority water quality condition (e.g., dry weather and/or wet weather);

(d) The Copermittees with MS4s discharges that may cause or contribute to the priority water quality condition; and

(e) An assessment of the adequacy of and data gaps in the monitoring data to characterize the conditions causing or contributing to the priority water quality condition, including a consideration of spatial and temporal variation.

(2) The Copermittees must identify the highest priority water quality conditions to be addressed by the Water Quality Improvement Plan, and provide a rationale for selecting a subset of the water quality conditions identified pursuant to Provision B.2.c.(1) as the highest priorities.

d. IDENTIFICATION OF MS4 SOURCES OF POLLUTANTS AND/OR STRESSORS

The Copermittees must identify and prioritize known and suspected sources of storm water and non-storm water pollutants and/or other stressors within their jurisdiction, associated with MS4 discharges that cause or contribute to the highest priority water quality conditions identified under Provision B.2.c. ~~The identification of known and suspected sources of pollutants and/or stressors that cause or contribute to the highest priority water quality conditions as identified for Provision B.2.c must~~ considering the following:

(1) Pollutant generating facilities, areas, and/or activities within the Watershed Management Area, including:

(a) Each Copermittee's inventory of construction sites, commercial facilities or areas, industrial facilities, municipal facilities, and residential areas,

(b) Publicly owned parks and/or recreational areas,

(c) Open space areas,

(d) All currently operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste,,, and

(e) Areas not within the Copermittees' jurisdictions (e.g., Phase II MS4s, tribal lands, state lands, federal lands) that are known or suspected to be discharging to the Copermittees' MS4s;

(2) Locations of the Copermittees' MS4s, including the following:

(a) All major MS4 outfalls [per 40CFR 122.26 (b)(5)] that discharge to receiving waters, and

(b) Locations of major structural controls for storm water and non-storm water (e.g., retention basins, detention basins, major infiltration devices, etc.);

(3) Other known and suspected sources of non-storm water or pollutants in storm water discharges to receiving waters within the Watershed Management Area, including the following:

(a) Other MS4 outfalls (e.g., Phase II Municipal and Caltrans),

(b) Other NPDES permitted discharges,

(c) Any other discharges that may be considered point sources (e.g., private outfalls), and

(d) Any other discharges that may be considered non-point sources (e.g., agriculture, wildlife or other natural sources);

(4) Review of available data, including but not limited to:

(a) Findings from the Copermittees' illicit discharge detection and elimination programs,

(b) Findings from the Copermittees' MS4 outfall discharge monitoring,

(c) Findings from the Copermittees' receiving water monitoring,

(d) Findings from the Copermittees' MS4 outfall discharge and receiving water assessments, and

(e) Other available, relevant, and appropriately collected data, information, or studies related to pollutant sources and/or stressors that contribute to the highest priority water quality conditions as identified for Provision B.2.c.

(5) The adequacy of the available data to identify and prioritize sources and/or stressors associated with MS4 discharges that cause or contribute to the highest priority water quality conditions identified under Provision B.2.c.

e. NUMERIC GOALS AND SCHEDULES

Comment [A25]: See discussion in section 3.3.2 of the comment letter.

The Copermittees must develop and incorporate action levels, interim and final numeric goals[6] and schedules into the Water Quality Improvement Plan. Numeric goals must be used to support Water Quality Improvement Plan implementation and measure progress towards addressing the highest priority water quality conditions identified under Provision B.2.c. . Action Levels, Numeric goals are not enforceable compliance standards, effluent limitations, or receiving water limitations. When establishing numeric goals and corresponding schedules, the Copermittees must consider the following:

(1) Final numeric goals must be based on measureable criteria or indicators, to be achieved in ~~the receiving waters and/or~~ MS4 discharges for the highest priority water quality conditions which will ~~be capable of demonstrating the achievement of the restoration and/or protection~~ comply with the Receiving Water Limitations (A.2) of this Order; ~~water quality standards in receiving waters;~~

(2) Interim numeric goals must be based on measureable criteria or indicators capable of demonstrating incremental progress toward achieving the final numeric goals in the receiving waters and/or MS4 discharges; and

(3) Schedules must be adequate for measuring progress toward achieving the interim and final numeric goals required for Provisions B.2.e.(1) and B.2.e.(2). Schedules must incorporate the following:

(a) Interim dates for achieving the interim numeric goals,

(b) Compliance schedules for any applicable TMDLs in Attachment E to this Order,

(c) Compliance schedules for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A),

(d) Achievement of the final numeric goals in the receiving waters and/or MS4 discharges for the highest water quality priorities must be as soon as possible, and

[6] Interim and final numeric goals may take a variety of forms such as TMDL established WQBELs, action levels, pollutant concentration, load reductions, number of impaired water bodies delisted from the List of Water Quality Impaired Segments, Index of Biotic Integrity (IBI) scores, or other appropriate metrics. Interim and final numeric goals are not necessarily limited to one criterion or indicator, but may include multiple criteria and/or indicators. Except for TMDL established WQBELs, interim and final numeric goals and corresponding schedules may be revised through the adaptive management process under Provision B.5.

(e) Final dates for achieving the final numeric goals must not initially extend more than 10 years beyond the effective date of this Order, unless a longer period of time is authorized by the San Diego Water Board Executive Officer through an approved WQIP or the schedule includes an applicable TMDL in Attachment E to this Order[7].

Comment [A26]: Clarify that a longer period can be granted through the WQIP process.

[7] Achievement of final numeric goals within 10 years represents progress towards attainment of water quality standards, but is not a requirement to fully attain all applicable water quality standards or all priority receiving water conditions within 10 years.

3. Water Quality Improvement Strategies and Schedules

Comment [A27]: See discussion in section 3.3.2 of the comment letter.

The Copermittees must develop specific water quality improvement strategies to address the highest priority water quality conditions identified within a Watershed Management Area. The water quality improvement strategies must address the highest priority water quality conditions by ensuring the effective prohibition of~~preventing or eliminating~~ non-storm water discharges to and from the MS4, reducing pollutants in ~~storm water~~ discharges from the MS4 to the MEP, as applicable to the priority water quality conditions established per provision B.2.~~ and restoring and/or protecting the water quality standards of receiving waters~~.

a. Water Quality Improvement Strategies

The Copermittees must identify and prioritize water quality improvement strategies based on their likely effectiveness and efficiency, and design the JRMP programs to focus resources on those strategies to~~implement strategies to effectively prohibit non-storm water discharges to the MS4, reduce pollutants in storm water discharges from the MS4 to the MEP, improve the physical, chemical, and biological receiving water conditions, and~~ achieve the interim and final numeric goals in accordance with the schedules required for Provision B.2.e.(3). The following water quality improvement strategies must be included and described in the Water Quality Improvement Plan:

(1) Specific strategies and/or activities that may be implemented by one or more Copermittees within their jurisdictions through the jurisdictional runoff management programs that will address the highest priority water quality conditions within the Watershed Management Area, in accordance with the following requirements:

(a) Strategies and/or activities must, at a minimum, be described for each jurisdictional runoff management program component where strategies to address the highest priority water quality conditions are required under Provision E;

(b) The Water Quality Improvement Plan must describe the circumstances or conditions when and where the strategies or/activities should be or will be implemented, but specific details about how each Copermittee will implement the strategies and/or activities within its jurisdiction are not required; and

(c) Descriptions of strategies and/or activities must include any monitoring, information collection, special studies, and/or data analysis that is necessary to assess the effectiveness of the strategy and/or activity toward addressing the highest priority water quality conditions.

(2) Additional strategies and/or activities that may be implemented within the Watershed Management Area on a jurisdictional, sub-watershed, or watershed scale by one or more Copermittees, not specifically required under

Provision E, which are designed to achieve the interim and final numeric goals identified in Provisions B.2.e.(1) and B.2.e.(2);

b. IMPLEMENTATION SCHEDULES

(1) The Copermittees must develop schedules for implementing the water quality improvement strategies identified under Provision B.3.a to achieve the interim and final numeric goals identified under Provision B.2.e.(1) and B.2.e.(2). Schedules must be developed for both the water quality improvement strategies implemented by each Copermittee within its jurisdiction and for strategies that the Copermittees choose to implement on a collaborative basis.

(2) The Copermittees must incorporate the implementation compliance schedules for any ASBS subject to the provisions of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A).

4. Water Quality Improvement Monitoring and Assessment Program

a. The Copermittees in each Watershed Management Area must develop and incorporate an integrated monitoring and assessment program into the Water Quality Improvement Plan that assesses: 1) the progress toward achieving the numeric goals and schedules, 2) the progress toward addressing the highest priority water quality conditions for each Watershed Management Area, and 3) each Copermittee's overall efforts to implement the Water Quality Improvement Plan.

b. The monitoring and assessment program must incorporate the monitoring and assessment requirements of Provision D, which may allow the Copermittees to modify the program to be consistent with and focus on the highest priority water quality conditions for each Watershed Management Area.

c. For Watershed Management Areas with applicable TMDLs, the monitoring and assessment program must incorporate the specific monitoring and assessment requirements of Attachment E.

d. For Watershed Management Areas with any ASBS, the water quality monitoring and assessment program must incorporate the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012 (see Attachment A).

5. Iterative Approach and Adaptive Management Process

Comment [A28]: See discussion in section 3.3.2 of the comment letter.

The Copermittees in each Watershed Management Area must implement the iterative approach pursuant to Provision A.4 to adapt the Water Quality Improvement Plan, monitoring and assessment program, and jurisdictional runoff management

programs to become more effective toward achieving compliance with Provisions A.1, A.2, and A.3.~~A.1.a, A.1.c and A.2.a~~, and must include the following:

a. Re-Evaluation of Priority Water Quality Conditions

The priority receiving water quality conditions, and numeric goals and corresponding schedules, included in the Water Quality Improvement Plan pursuant to Provisions B.2.c and B.2.e, may be re-evaluated by the Copermittees as needed during the term of this Order as part of the Annual Report. Re-evaluation and recommendations for modifications to the priority water quality conditions, and numeric goals and corresponding schedules must be provided in the Regional Monitoring and Assessment Report pursuant to F.3.c~~Report of Waste Discharge~~, and must consider the following:

(1) Achieving the outcome of improved water quality in MS4 discharges and receiving waters through implementation of the water quality improvement strategies identified in the Water Quality Improvement Plan;

(2) Progress toward achieving interim and final numeric goals in receiving waters and/or MS4 discharges for the highest priority water quality conditions in the Watershed Management Area,

(3) Progress toward achieving outcomes according to established schedules;

(4) New information developed when the requirements of Provisions B.2.a-c have been re-evaluated;

(5) New policies or regulations that may affect identified numeric goals;

(6) Spatial and temporal accuracy of monitoring data collected to inform prioritization of water quality conditions and implementation strategies to address the highest priority water quality conditions;

(7) Availability of new information and data from sources other than the jurisdictional runoff management programs within the Watershed Management Area that informs the effectiveness of the actions implemented by the Copermittees;

(8) San Diego Water Board recommendations; and

(9) Recommendations for modifications solicited through a public participation process.

b. Adaptation of Strategies and Schedules

The water quality improvement strategies and schedules, included in the Water Quality Improvement Plan pursuant to Provisions B.3, must be re-evaluated and adapted as new information becomes available to result in more effective and efficient measures to achieve the numeric goals established pursuant to

Provision B.2.e. Re-evaluation of and modifications to the water quality improvement strategies, if determined to be necessary, must be provided in the applicable Annual Report per F.3.b.(3)., and must consider the following:

(1) Modifications to the priority water quality conditions, and numeric goals and corresponding schedules based on Provision B.5.a;

(2) Measurable or demonstrable reductions of non-storm water discharges to and from each Copermittee's MS4;

(3) Measurable or demonstrable reductions of pollutants in ~~storm water~~ discharges from each Copermittee's MS4 to the MEP;

(4) New information developed when the requirements of Provisions B.2.b and B.2.d have been re-evaluated;

(5) Efficiency in implementing the Water Quality Improvement Plan;

(6) San Diego Water Board recommendations; and

(7) Recommendations for modifications solicited through a public participation process.

c. ADAPTATION OF MONITORING AND ASSESSMENT PROGRAM

The water quality improvement monitoring and assessment program, included in the Water Quality Improvement Plan pursuant to Provisions B.4, must be re-evaluated and adapted when new information becomes available. Re-evaluation and recommendations for modifications to the monitoring and assessment program, pursuant to the requirements of Provision D, may be provided in the Annual Report, but must be provided in the Report of Waste Discharge.

6. Water Quality Improvement Plan Submittal, Updates, and Implementation

a. The Copermittees must submit the Water Quality Improvement Plans in accordance with the requirements of Provision F.1.

b. The Copermittees must submit proposed updates to the Water Quality Improvement Plan for acceptance by the San Diego Water Board Executive Officer in accordance with the requirements of Provision F.2.c.

c. The Copermittees must commence with implementation of the Water Quality Improvement Plans ~~immediately after acceptance by the San Diego Water Board, in accordance with the schedules, or subsequently updated schedules, within the Water Quality Improvement Plan.~~in accordance with Provision F.1.b.(5).

Riverside Copermittee Redlines

C. ACTION LEVELS

Comment [A29]: See comment letter section 3.4 for a discussion of the redlines shown herein.

The purpose of this provision is for the Copermittees to incorporate numeric non-stormwater action levels (NALs) and stormwater action levels (SALs) in the Water Quality Improvement Plans (Provision B), and numeric non-stormwater action levels (NALs) in the Illicit Discharge Detection and Elimination (IDDE) program (Provision E.2.).

- For the purposes of the WQIPs, ~~T~~the goal of the action levels is to guide ~~Water Quality Improvement Plan~~ the implementation efforts and measure progress towards the protection of the identified high priority water quality conditions and associated designated beneficial uses of waters of the state from adverse impacts caused or contributed to by MS4 discharges. This goal will be accomplished through monitoring and assessing the quality of the MS4 discharges during the implementation of the Water Quality Improvement Plans.

- For the purposes of the IDDE program, the goal of the non-stormwater action levels is to assist in determining whether a persistent non-stormwater discharge into or from the MS4 contains pollutants at levels that have the potential to negatively affect the identified high priority water quality conditions.

Action levels will be developed and incorporated into the WQIP (Provision B) and the IDDE Program (Provision E). Depending upon the goals/objectives for the use of the action levels and the priority receiving water conditions, the constituents and values at which they are set may differ between watersheds. Copermittees may develop Watershed Management Area specific numeric action levels for non-stormwater and stormwater MS4 discharges using an approach approved by the Regional Board or use the default non-stormwater and stormwater action levels prescribed in C.1 and C.2 below.

The Copermittees will submit the action levels as a part of the WQIP and JRMP submittals. The action levels currently established will serve as the interim action levels until revised action levels are completed and approved. Exceedances of the action levels are not subject to enforcement or non-compliance actions under this Order.

1. Default Non-Storm Water Action Levels[8]

~~The Copermittees must develop and incorporate numeric non-storm water action levels (NALs) into the Water Quality Improvement Plan to: 1) support the development and prioritization of water quality improvement strategies for addressing non-storm water discharges to and from the MS4s, 2) assess the effectiveness of the water quality improvement strategies toward addressing MS4~~

Comment [A30]: As discussed in section 2.4 of the Riverside comment letter.

[8] NALs are not ~~considered by the San Diego Water Board to be~~ enforceable limitations under this Order.

~~non-storm water discharges, required pursuant to Provision D.4.b.(1), and 3) support the detection and elimination of non-storm water and illicit discharges to and from the MS4, required pursuant to Provision E.2.~~[9]

a. The following NALs must be incorporated as applicable to the WMA and the Copermittees' MS4 discharges,~~:~~ if the Copermittees do not establish numeric action levels within the WQIP based on watershed priorities:

(1) Non-Storm Water Discharges from MS4s to Ocean Surf Zone

Table C-1. Non-Storm Water Action Levels for Discharges from MS4s to Ocean Surf Zone

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Total Coliform	MPN/100 ml	1,000	-	10,000/1,000[1]	OP
Fecal Coliform	MPN/100 ml	200[2]	-	400	OP
Enterococci	MPN/100 ml	35	-	104[3]	OP

Abbreviations/Acronyms
AMAL – average monthly action level
MDAL – maximum daily action level
OP – Ocean Plan water quality objective
MPN/100 ml – most probable number per 100 milliliters

Notes:
1. Total coliform density NAL is 1,000 MPN/100 ml when the fecal/total coliform ratio exceeds 0.1.
2. Fecal coliform density NAL is 200 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for saltwater "designated beach areas."

[9] ~~The Copermittees may utilize NALs or other benchmarks currently established by the Copermittees as interim NALs until the Water Quality Improvement Plans are accepted by the San Diego Water Board Executive Officer.~~

(2) Non-Storm Water Discharges from MS4s to Bays, Harbors, and Lagoons/Estuaries

Table C-2. Non-Storm Water Action Levels for Discharges from MS4s to Bays, Harbors, and Lagoons/Estuaries

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Turbidity	NTU	75	-	225	OP
pH	Units	Within limit of 6.0 to 9.0 at all times			OP
Fecal Coliform	MPN/100 ml	200[1]	-	400[2]	BP
Enterococci	MPN/100 ml	35	-	104[3]	BP
Priority Pollutants	ug/L	See Table C-3			

Abbreviations/Acronyms:
AMAL – average monthly action level
OP – Ocean Plan water quality objective
NTU – Nephelometric Turbidity Units
ug/L – micrograms per liter
MDAL – maximum daily action level
BP – Basin Plan water quality objective
MPN/100 ml – most probable number per 100 milliliters

Notes:
1. Based on a minimum of not less than five samples for any 30-day period.
2. The NAL is reached if more than 10 percent of total samples exceed 400 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for saltwater "designated beach areas" and is not applicable to waterbodies that are not designated with the water contact recreation (REC-1) beneficial use.

Table C-3. Non-Storm Water Action Levels for Priority Pollutants

Parameter	Units	Freshwater (CTR)		Saltwater (CTR)	
		MDAL	AMAL	MDAL	AMAL
Cadmium	ug/L	**	**	16	8
Copper	ug/L	*	*	5.8	2.9
Chromium III	ug/L	**	**	-	-
Chromium VI	ug/L	16	8.1	83	41
Lead	ug/L	*	*	14	2.9
Nickel	ug/L	**	**	14	6.8
Silver	ug/L	*	*	2.2	1.1
Zinc	ug/L	*	*	95	47

Abbreviations/Acronyms:
CTR – California Toxic Rule
AMAL – average monthly action level
ug/L – micrograms per liter
MDAL – maximum daily action level

Notes:
* Action levels developed on a case-by-case basis (see below)
** Action levels developed on a case-by-case basis (see below), but calculated criteria are not to exceed Maximum Contaminant Levels (MCLs) under the California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64431

The Cadmium, Copper, Chromium (III), Lead, Nickel, Silver and Zinc NALs for MS4 discharges to freshwater receiving waters will be developed on a case-by-case basis because the freshwater criteria are based on site-specific water quality data (receiving water hardness). For these priority pollutants, refer to ~~the following equations (~~40 CFR 131.38.b.2 for details~~) will be required~~:

~~Cadmium (Total Recoverable) = exp(0.7852[ln(hardness)] - 2.715)~~
~~Chromium III (Total Recoverable) = exp(0.8190[ln(hardness)] + 0.6848)~~
~~Copper (Total Recoverable) = exp(0.8545[ln(hardness)] - 1.702)~~
~~Lead (Total Recoverable) = exp(1.273[ln(hardness)] - 4.705)~~
~~Nickel (Total Recoverable) = exp(.8460[ln(hardness)] + 0.0584)~~
~~Silver (Total Recoverable) = exp(1.72[ln(hardness)] - 6.52)~~
~~Zinc (Total Recoverable) = exp(0.8473[ln(hardness)] + 0.884)~~

Comment [A31]: Consistent with SD Permittee recommendations.

(3) Non-Storm Water Discharges from MS4s to Inland Surface Waters

Table C-4. Non-Storm Water Action Levels for Discharges from MS4s to Inland Surface Waters

Parameter	Units	AMAL	MDAL	Instantaneous Maximum	Basis
Dissolved Oxygen	mg/L	Not less than 5.0 in WARM waters and not less than 6.0 in COLD waters			BP
Turbidity	NTU	-	20	See MDAL	BP
pH	Units	Within limit of 6.5 to 8.5 at all times			BP
Fecal Coliform	MPN/100 ml	200[1]	-	400[2]	BP
Enterococci	MPN/100 ml	33	-	61[3]	BP
Total Nitrogen	mg/L	-	1.0	See MDAL	BP
Total Phosphorus	mg/L	-	0.1	See MDAL	BP
MBAS	mg/L	-	0.5	See MDAL	BP
Iron	mg/L	-	0.3	See MDAL	BP
Manganese	mg/L	-	0.05	See MDAL	BP
Priority Pollutants	ug/L	See Table C-3			

Abbreviations/Acronyms:
AMAL – average monthly action level
BP – Basin Plan water quality objective
COLD – cold freshwater habitat beneficial use
NTU – Nephelometric Turbidity Units
mg/L – milligrams per liter
MDAL – maximum daily action level
WARM – warm freshwater habitat beneficial use
MBAS – Methylene Blue Active Substances
MPN/100 ml – most probable number per 100 milliliters
ug/L – micrograms per liter

Notes:
1. Based on a minimum of not less than five samples for any 30-day period.
2. The NAL is reached if more than 10 percent of total samples exceed 400 MPN per 100 ml during any 30 day period.
3. This value has been set to the Basin Plan water quality objective for freshwater "designated beach areas" and is not applicable to waterbodies that are not designated with the water contact recreation (REC-1) beneficial use.

b. NALs must be identified, developed and incorporated in the Water Quality Improvement Plan for any pollutants or waste constituents that cause or contribute, or are threatening to cause or contribute to a condition of pollution or nuisance in Receiving waters ~~of the state~~ associated with the highest priority water quality conditions related to non-storm water discharges from the MS4s. NALs must be based on:

(1) Applicable water quality standards which may be dependent upon site-specific or receiving water-specific conditions or assumptions to be identified by the Copermittees; or

(2) Applicable numeric WQBELs required to meet the WLAs established for the TMDLs in Attachment E to this Order.

c. ~~For the NALs incorporated into the Water Quality Improvement Plan, the Copermittees may develop and incorporate secondary NALs specific to the Watershed Management Area at levels greater than the NALs required by Provisions C.1.a and C.1.b which can be utilized to further refine the prioritization and assessment of water quality improvement strategies for addressing non-~~

~~storm water discharges to and from the MS4s, as well as the detection and elimination of non-storm water and illicit discharges to and from the MS4. The secondary NALs may be developed using an approach acceptable to the San Diego Water Board.~~

d. Dry weather monitoring data from MS4 outfalls collected in accordance with Provision D.2.b may be utilized to develop or revise NALs based on watershed-specific data, subject to San Diego Water Board Executive Officer approval.

2. Default Storm Water Action Levels[10]

The Copermittees must develop and incorporate numeric storm water action levels (SALs) in the Water Quality Improvement Plans to: 1) support the development and prioritization of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s, and 2) assess the effectiveness of the water quality improvement strategies toward reducing pollutants in storm water discharges, required pursuant to Provision D.4.b.(2).[11]

a. The following SALs for discharges of storm water from the MS4 must be incorporated~~:~~ if the Copermittees do not establish stormwater action levels within the WQIP based on watershed priorities:~~:~~

Table C-5. Storm Water Action Levels for Discharges from MS4s to Receiving Waters

Parameter	Units	Action Level
Turbidity	NTU	126
Nitrate & Nitrite (Total)	mg/L	2.6
Phosphorus (Total P)	mg/L	1.46
Cadmium (Total Cd)*	µg/L	3.0
Copper (Total Cu)*	µg/L	127
Lead (Total Pb)*	µg/L	250
Zinc (Total Zn)*	µg/L	976

Abbreviations/Acronyms:
NTU – Nephelometric Turbidity Units
mg/L – milligrams per liter
ug/L – micrograms per liter

Notes:
* The sampling must include a measure of receiving water hardness at each MS4 outfall. If a total metal concentration exceeds the corresponding metals SAL in Table C-5, that concentration must be compared to the California Toxics Rule criteria and the USEPA 1-hour maximum concentration for the detected level of receiving water hardness associated with that sample. If it is determined that the sample's total metal concentration for that specific metal exceeds that SAL, but does not exceed the applicable USEPA 1-hour maximum concentration criterion for the measured level of hardness, then the sample result will not be considered above the SAL for that measurement.

[10] SALs are not ~~considered by the San Diego Water Board to be~~ enforceable limitations under this Order.
[11] The Copermittees may utilize SALs or other benchmarks currently established by the Copermittees as interim SALs until the Water Quality Improvement Plans are accepted by the San Diego Water Board Executive Officer.

b. SALs must be identified, developed and incorporated in the Water Quality Improvement Plan for pollutants or waste constituents that cause or contribute, or are threatening to cause or contribute to a condition of pollution or nuisance in Receiving waters ~~of the state~~ associated with the highest water quality priorities related to storm water discharges from the MS4s. SALs must be based on:

(1) Federal and State water quality guidance and/or water quality standards; and

(2) Site-specific or receiving water-specific conditions; or

(3) Applicable numeric WQBELs required to meet the WLAs established for the TMDLs in Attachment E to this Order.

c. ~~For the SALs incorporated into the Water Quality Improvement Plan, the Copermittees may develop and incorporate secondary SALs specific to the Watershed Management Area at levels greater than the SALs required by Provisions C.2.a and C.2.b which can be utilized to further refine the prioritization and assessment of water quality improvement strategies for reducing pollutants in storm water discharges from the MS4s. The secondary SALs may be developed based on the approaches recommended by the State Water Board's Storm Water Panel[12] or using an approach acceptable to the San Diego Water Board.~~

d. Wet weather monitoring data from MS4 outfalls collected in accordance with Provision D.2.c may be used to develop or revise SALs based upon watershed-specific data, subject to San Diego Water Board Executive Officer approval.

[12] ~~Storm Water Panel Recommendations to the California State Water Resources Control Board: The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 2006)~~

D. MONITORING AND ASSESSMENT PROGRAM REQUIREMENTS

Comment [A32]: See discussion in section 3.5 of the comment letter.

The purpose of this provision is for the Copermittees to monitor and assess the impact on the chemical, physical, and biological conditions of receiving waters caused by discharges from the Copermittees' MS4s under wet weather and dry weather conditions. The goal of the monitoring and assessment program is to inform the Copermittees about the nexus between the health of receiving waters and the water quality condition of the discharges from their MS4s to those receiving waters.~~.~~ This goal will be accomplished through monitoring and assessing the conditions of the receiving waters, discharges from the MS4s to those receiving waters, pollutant sources and/or stressors, and effectiveness of the water quality improvement strategies implemented as part of the Water Quality Improvement Plans.

1. Receiving Water Monitoring Requirements

The Copermittees must develop and conduct a program to monitor the condition of the receiving waters in each Watershed Management Area during dry weather and wet weather. Following acceptance of the Water Quality Improvement Plans for each Watershed Management Area, the Copermittees must conduct long-term receiving water monitoring during implementation of the Water Quality Improvement Plan to assess the long term trends and determine if water quality conditions in receiving waters are improving. Any available monitoring data not collected specifically for this Order that meet the quality assurance criteria of the Copermittees and the monitoring requirements of this Order may be utilized by the Copermittees. The Copermittees must conduct the following receiving water monitoring procedures:

a. TRANSITIONAL RECEIVING WATER MONITORING

Beginning October 1st or May 1st (whichever is sooner) following enrollment under this order and until~~Until~~ the monitoring requirements of Provisions D.1.b-e are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1, the Copermittees must conduct the following receiving water monitoring in the Watershed Management Area:

(1) Continue the receiving water monitoring programs required in Order Nos. R9-2007-0001~~,~~ (Attachment A, Section II. A. 1-5).~~,~~ R9-2009-0002, and R9-2010-0016;

(2) Continue the monitoring in the Hydromodification Management Plans approved by the San Diego Water Board;

(3) Participate in the following regional receiving water monitoring programs, as applicable to the Watershed Management Area and each Copermittees' MS4 discharges:

Comment [A33]: See discussion in section 3.5.3 of the comment letter.

(a) Storm Water Monitoring Coalition Regional Monitoring,

(b) Southern California Bight Regional Monitoring, and

(c) Sediment Quality Monitoring;

(4) Implement the monitoring programs developed as part of any implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) for the TMDLs in Attachment E to this Order; and

(5) For Watershed Management Areas with ASBS, implement the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012, included in Attachment A to this Order.

b. LONG-TERM RECEIVING WATER MONITORING STATIONS

The Copermittees must select at least one long-term receiving water monitoring station from among the existing mass loading stations, temporary watershed assessment stations, bioassessment stations, and stream assessment stations previously established by the Copermittees to be representative of the receiving water quality in the Watershed Management Area. Additional or alternative long-term receiving water monitoring stations may~~must~~ be selected where necessary to support the implementation and adaptation of the Water Quality Improvement Plan.

Comment [A34]: See discussion in section 3.5.3 of the comment letter.

c. DRY WEATHER RECEIVING WATER MONITORING

During the term of the Order, the Copermittees must perform monitoring during at least three dry weather monitoring events at each of the long-term receiving water monitoring stations. At least one monitoring event must be conducted during the dry season (May 1 – September 30) and at least one monitoring event must be conducted during a dry weather period during the wet season (October 1 – April 30), after the first wet weather event of the season, with an antecedent dry period of at least 72 hours following a storm event producing measureable rainfall of greater than 0.1 inch.

(1) Dry Weather Receiving Water Field Observations

For each dry weather monitoring event, the Copermittees must record field observations consistent with Table D-1 at each long-term receiving water monitoring station.

Table D-1. Field Observations for Receiving Water Monitoring Stations

Field Observations
• Station identification and location
• Presence of flow, or pooled or ponded water
• If flow is present:
- Flow estimation (i.e. width of water surface, approximate depth of water, approximate flow velocity, flow rate)
- Flow characteristics (i.e. presence of floatables, surface scum, sheens, odor, color)
• If pooled or ponded water is present:
- Characteristics of pooled or ponded water (i.e. presence of floatables, surface scum, sheens, odor, color)
• Assessment of any observed connectivity of MS4 discharges to a flowing receiving water.
• Station description (i.e. deposits or stains, vegetation condition, structural condition, and observable biology)
• Presence and assessment of trash in and around station

Comment [A35]: See discussion in section 3.5.3 of the comment letter.

(2) Dry Weather Receiving Water Field Monitoring

For each dry weather monitoring event, if conditions allow the collection of the data, the Copermittees must monitor and record the parameters in Table D-2 at each long-term receiving water monitoring station.

Table D-2. Field Monitoring Parameters for Receiving Water Monitoring Stations

Parameters
• pH
• Temperature
• Specific conductivity
• Dissolved oxygen
• Turbidity

(3) Dry Weather Receiving Water Analytical Monitoring

For each dry weather monitoring event, the Copermittees must collect and analyze samples from each long-term receiving water monitoring station as follows:

(a) Analytes that are field measured are not required to be analyzed by a laboratory;

(b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(c) Grab samples may be collected for pH, temperature, specific conductivity,

dissolved oxygen, turbidity, hardness, and indicator bacteria Grab samples may also be collected for the analyses described in (f) where MS4 discharge runoff constitutes less than ten percent of the flow;

Comment [A36]: The receiving water stations in Riverside County either do not receive runoff from MS4 discharges or receive deminimus flows during dry weather conditions. The flow at these stations during dry weather consists virtually entirely of rising groundwater. Background receiving water quality conditions In such cases composite samples of receiving waters not affected by MS4 discharges is not warranted.

(d) For all other constituents where runoff constitutes more than ten percent of the flow, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:

(i) Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or

(ii) Flow-weighted composites collected over a typical 24-hour period, which may be collected through the use of automated equipment;

(e) Only one analysis of the composite of aliquots is required;

(f) Analysis for the following constituents is required:

(i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,

(ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,

(iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,

(iv) Applicable NAL constituents, and

(v) Constituents listed in Table D-3.

Table D-3. Analytical Monitoring Constituents for Receiving Water Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Pesticides	Indicator Bacteria
• Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • Total Organic Carbon • Dissolved Organic Carbon • Sulfate • Methylene Blue Active Substances (MBAS) • Total Phosphorus • Orthophosphate • Nitrite[1]	• Arsenic • Cadmium • Chromium • Copper • Iron • Lead • Mercury • Nickel • Selenium • Thallium • Zinc	• Organophosphate Pesticides • Pyrethroid Pesticides	• Total Coliform • Fecal Coliform[2] • *Enterococcus*

• Nitrate[1] • Total Kjeldhal Nitrogen • Ammonia			

Notes:
1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
2. *E. Coli* may be substituted for Fecal Coliform.

(4) Dry Weather Receiving Water Toxicity Monitoring

For each dry weather monitoring event, the Copermittees must collect grab or composite samples from each long-term receiving water monitoring station to be analyzed for toxicity in accordance with Table D-4:

Table D-4. Dry Weather Toxicity Testing for Receiving Water Monitoring Stations

Freshwater Organism	Test Approach	USEPA Protocol[2]
Pimephales promelas	1 acute 1 chronic[1]	EPA-821-R-02-012
Hyalella Azteca	1 acute 1 chronic[1]	EPA-821-R-02-012
Psuedokirchneriella subcapitata	1 acute 1 chronic[1]	EPA-821-R-02-013

Notes:
1. Chronic toxicity testing is not required at receiving water monitoring stations located at mass loading stations if the channel flows are diverted year-round during dry weather conditions to the sanitary sewer for treatment.
2. USEPA protocols must be utilized for toxicity testing unless alternate toxicity testing protocols have been approved by the San Diego Water Board.

(5) Dry Weather Receiving Water Bioassessment Monitoring

Bioassessment monitoring for each long-term receiving water monitoring station is required at least once during the term of this Order. The Copermittees must conduct bioassessment monitoring during at least one dry weather monitoring event at each long-term receiving water monitoring station as follows:

(a) The following bioassessment samples and measurements must be collected:

(i) Macroinvertebrate samples must be collected in accordance with the "Reachwide Benthos (Multihabitat) Procedure" in the most current Surface Water Ambient Monitoring Program (SWAMP) Bioassessment Standard Operating Procedures (SOP), and amendments, as applicable;[13]

(ii) The "Full" suite of physical habitat characterization measurements

[13] Ode, P.R.. 2007. Standard operating procedures for collecting macroinvertebrate samples and associated physical and chemical data for ambient bioassessments in California. California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP) Bioassessment SOP 001. http://www.swrcb.ca.gov/water_issues/programs/swamp/tools.shtml#monitoring

must be collected in accordance with the most current SWAMP Bioassessment SOP, and as summarized in the SWAMP Stream Habitat Characterization Form – Full Version;[14] and

(iii) Freshwater algae samples must be collected in accordance with the SWAMP Standard Operating Procedures for Collecting Algae Samples.[15] Analysis of samples must include algal taxonomic composition (diatoms and soft algae) and algal biomass.

(b) The bioassessment samples, measurements, and appropriate water chemistry data must be used to calculate the following:

(i) An Index of Biological Integrity (IBI) for macroinvertebrates for each monitoring station where bioassessment monitoring was conducted, based on the most current calculation method;[16] and

(ii) An IBI for algae for each monitoring station where bioassessment monitoring was conducted, when a calculation method is developed.[17]

(c) In lieu of the requirements of Provision D.1.c.(5)(a), the Copermittees may conduct the bioassessment monitoring in accordance with the "Triad" assessment approach[18] to calculate the IBIs required for Provision D.1.c.(5)(b). The Copermittees must conduct sampling, analysis, and reporting of specified in-stream biological and habitat data according to the protocols specified in the SCCWRP Technical Report No. 539, or subsequent protocols, if developed.

(6) Dry Weather Receiving Water Hydromodification Monitoring

In addition to the hydromodification monitoring conducted as part of the Copermittees' Hydromodification Management Plans, hydromodification monitoring for each long-term receiving water monitoring station is required at least once during the term of this Order. The Copermittees must collect the

[14] Available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf
[15] Fetscher et al. 2009. Standard Operating Procedures for Collecting Stream Algae Samples and Associated Physical Habitat and Chemical Data for Ambient Bioassessments in California.
[16] The most current calculation method at the time the Order was adopted is outlined in "A Quantitative Tool for Assessing the Integrity of Southern California Coastal Streams" (Ode, et al. 2005. Environmental Management. Vol. 35, No. 1, pp. 1-13). If an updated or new calculation method is developed, either both (i.e. current and updated/new) methods must be used, or historical IBIs must be recalculated with the updated or new calculation method.
[17] When a calculation method is developed, IBIs must be calculated for all available and appropriate historical data.
[18] Stormwater Monitoring Coalition Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Technical Report #419. August 2004.

following hydromodification monitoring observations and measurements within an appropriate domain of analysis during at least one dry weather monitoring event for each long-term receiving water monitoring station:

(a) Channel conditions, including:

(i) Channel dimensions,

(ii) Hydrologic and geomorphic conditions, and

(iii) Presence and condition of vegetation and habitat;

(b) Location of discharge points;

(c) Habitat integrity;

(d) Photo documentation of existing erosion and habitat impacts, with location (i.e. latitude and longitude coordinates) where photos were taken;

(e) Measurement or estimate of dimensions of any existing channel bed or bank eroded areas, including length, width, and depth of any incisions; and

(f) Known or suspected cause(s) of existing downstream erosion or habitat impact, including flow, soil, slope, and vegetation conditions, as well as upstream land uses and contributing new and existing development.

d. WET WEATHER RECEIVING WATER MONITORING

During the term of the Order, the Copermittees must perform monitoring during at least three wet weather monitoring events at each long-term receiving water monitoring station. At least one wet weather monitoring event must be conducted during the first wet weather event of the wet season (October 1 – April 30), and at least one wet weather monitoring event during a wet weather event that occurs after February 1.

(1) Wet Weather Receiving Water Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each long-term receiving water monitoring station:

(a) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(b) The flow rates and volumes measured or estimated (data from nearby

USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);

(c) Station condition (i.e. deposits or stains, vegetation condition, structural condition, observable biology); and

(d) Presence and assessment of trash in and around station.

(2) Wet Weather Receiving Water Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each long-term receiving water monitoring station.

(3) Wet Weather Receiving Water Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each long-term receiving water monitoring station as follows:

(a) Analytes that are field measured are not required to be analyzed by a laboratory;

(b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;

(d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:

(i) Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or

(ii) Flow-weighted composites collected over the length of the storm event or a typical 24-hour period, which may be collected through the use of automated equipment;

(e) Only one analysis of the composite of aliquots is required;

(f) Analysis for the following constituents is required:

(i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,

(ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,

(iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,

(iv) Applicable SAL constituents, and

(v) Constituents listed in Table D-3.

(4) Wet Weather Receiving Water Toxicity Monitoring

For each wet weather monitoring event, the Copermittees must collect grab or composite samples from each long-term receiving water monitoring station to be analyzed for toxicity in accordance with Table D-5:

Table D-5. Wet Weather Toxicity Testing for Receiving Water Monitoring Stations

Freshwater Organism	Test Approach	USEPA Protocol[1]
Pimephales promelas	1 acute	EPA-821-R-02-012
Hyalella Azteca	1 acute	EPA-821-R-02-012
Psuedokirchneriella subcapitata	1 acute	EPA-821-R-02-013

Notes:
1. USEPA protocols must be utilized for toxicity testing unless alternate toxicity testing protocols have been approved by the San Diego Water Board.

e. OTHER RECEIVING WATER MONITORING REQUIREMENTS

(1) Regional Monitoring

The Copermittees must participate in the following regional receiving waters monitoring programs, as applicable to the Watershed Management Area and the Copermittee's MS4 discharges:

(a) Storm Water Monitoring Coalition Regional Monitoring; and

(b) Southern California Bight Regional Monitoring.

(2) Sediment Quality Monitoring

The applicable Copermittees must perform sediment monitoring to assess compliance with sediment quality receiving water limits applicable to MS4

discharges to enclosed bays and estuaries. The monitoring may be performed either by individual or multiple affected Copermittees to assess compliance with receiving water limits, or through participation in a water body monitoring coalition. The Copermittees must identify sediment sampling stations that are spatially representative of the sediment within the water body segment or region of interest. Sediment quality monitoring must be conducted in conformance with the monitoring requirements set forth in the State Water Board Sediment Quality Control Plan.

(3) ASBS Monitoring

For Watershed Management Areas with ASBS, the applicable Copermittees must implement the monitoring requirements of Attachment B to State Water Board Resolution No. 2012-0012, included in Attachment A to this Order.

f. ALTERNATIVE WATERSHED MONITORING REQUIREMENTS

The San Diego Water Board may direct the Copermittees to participate in an effort to develop alternative watershed monitoring with other regulated entities, other interested parties, and the San Diego Water Board to refine, coordinate, and implement regional monitoring and assessment programs to determine the status and trends of water quality conditions in 1) coastal waters, 2) enclosed bays, harbors, estuaries, and lagoons, and/or 3) streams. As directed by the San Diego Water Board, such alternative watershed monitoring would be done in place and stead of the commensurate requirements set forth in Provision D.1.

2. MS4 Outfall Discharge Monitoring Requirements

The Copermittees must develop and conduct a program to monitor the discharges from the major MS4 outfalls to receiving waters in each Watershed Management Area during dry weather and wet weather. Following acceptance of the Water Quality Improvement Plans and schedule for implementation of monitoring for each Watershed Management Area, the Copermittees must conduct MS4 outfall discharge monitoring during implementation of the Water Quality Improvement Plan to assess the effectiveness of their jurisdictional runoff management programs toward effectively prohibiting non-storm water discharges into the MS4 and reducing pollutants in ~~storm water~~ discharges ~~to and~~ from their MS4s to the MEP. Any available monitoring data not collected specifically for this Order that meet the quality assurance criteria of the Copermittees and the monitoring requirements of this Order may be utilized by the Copermittees. The Copermittees must conduct the following MS4 outfall monitoring procedures:

Comment [A37]: Suggest same edits for SD and OC.

a. TRANSITIONAL MS4 OUTFALL DISCHARGE MONITORING

Beginning October 1st or May 1st (whichever is sooner) following enrollment under this order and until~~Until~~ the monitoring requirements of Provisions D.2.b-c

are incorporated into a Water Quality Improvement Plan and schedule for implementation of monitoring that is accepted by the San Diego Water Board pursuant to Provision F.1, the Copermittees must conduct the following monitoring of MS4 outfall discharges to flowing receiving waters ~~monitoring~~ in the Watershed Management Area:

(1) MS4 Outfall Discharge Monitoring Station Inventory

Each Municipal Copermittee must identify all major MS4 outfalls (including those operated by a Special District Copermittee) that discharge directly to receiving waters within its jurisdiction and geo-locate those outfalls on a map of the MS4 pursuant to Provision E.2.b.(1). This information must be compiled into a MS4 outfall discharge monitoring station inventory, and must include the following information:

(a) Latitude and longitude of MS4 outfall point of discharge;

(b) Watershed Management Area;

(c) Hydrologic subarea;

(d) Outlet size;

(e) Accessibility (i.e. safety and without disturbance of critical habitat);

(f) Approximate drainage area; and

(g) Classification of whether the MS4 outfall is known to have persistent dry weather flows, transient dry weather flows, no dry weather flows, or unknown dry weather flows.

(2) Transitional Dry Weather MS4 Outfall ~~Discharge~~ Field Screening ~~Monitoring~~

Until the monitoring requirements of Provision D.2.b are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1, each Municipal Copermittee must perform the following dry weather MS4 outfall field screening monitoring to identify non-storm water and illicit discharges being discharged from MS4s within its jurisdiction in accordance with Provision E.2.c, to determine which discharges are transient ~~flows~~ and which are persistent discharges to flowing receiving waters~~flows~~, and prioritize the dry weather MS4 discharges that will be investigated and eliminated in accordance with Provision E.2.d. ~~Each Copermittee must conduct the following dry weather MS4 outfall discharge field screening monitoring within its jurisdiction:~~

Comment [A38]: Suggested change of title to better characterize the requirements of this section, compared to that of D.2.b.

Comments in this section are discussed in section 3.5.3 of the comment letter.

Comment [A39]: Duplicative of previous sentence

(a) Transitional Dry Weather MS4 Outfall Discharge Field Screening Monitoring Frequency

Each Municipal Copermittee must field screen the accessible MS4 outfalls in its inventory developed pursuant to Provision D.2.a.(1) as follows:

(i) ~~For Copermittees with less than 125 major MS4 outfalls that discharge to receiving waters within a Watershed Management Area, at least 80 percent of the outfalls must be visually inspected two times per year during dry weather conditions.~~

(ii) For Municipal Copermittees with ~~125 major MS4 outfalls or more, but~~ less than or equal to 500 MS4 outfalls~~,~~ that discharge to receiving waters within a Watershed Management Area, ~~all~~ at least 80 percent of the accessible outfalls must be visually inspected at least annually during dry weather conditions.

(iii) For Municipal Copermittees with more than 500 major MS4 outfalls that discharge to receiving waters within a Watershed Management Area, at least 500 outfalls must be visually inspected at least annually during dry weather conditions. Copermittees with more than 500 major MS4 outfalls within a Watershed Management Area must identify and prioritize at least 500 outfalls to be inspected considering the following:

[a] Assessment of connectivity of the discharge to a flowing receiving water;
[b] Reported exceedances of NALs in water quality monitoring data;
[c] Surrounding land uses;
[d] Presence of constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List; and
[e] Flow rate.

(iv) Municipal Copermittees with more than 500 major MS4 outfalls within its jurisdiction that are located in more than one Watershed Management Area, at least 500 major MS4 outfalls within its inventory must be visually inspected at least annually during dry weather conditions. Copermittees with more than 500 major MS4 outfalls in more than one Watershed Management Area must identify and prioritize at least 500 outfalls to be inspected considering the following:

[a] Assessment of connectivity of the discharge to a flowing receiving water;
[b] Reported exceedances of NALs in water quality monitoring data;
[c] Surrounding land uses;

[d] Presence of constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List; and

[e] Flow rate.

(v) Inspections of major MS4 outfalls conducted in response to public reports and staff or contractor reports and notifications may count toward the required visual inspections of MS4 outfall discharge monitoring stations.

(b) Transitional Dry Weather MS4 Outfall Discharge Field Screening Visual Observations

(i) An antecedent dry period of at least 72 hours following any storm event producing measurable rainfall greater than 0.1 inch is required prior to conducting field screening visual observations during a field screening monitoring event.

(ii) During the field screening monitoring event, each Municipal Copermittee must record visual observations consistent with Table D-6 at each MS4 outfall discharge monitoring station inspected.

Table D-6. Field Screening Visual Observations for MS4 Outfall Discharge Monitoring Stations

Field Observations
• Station identification and location • Presence of flow, or pooled or ponded water • If flow is present: - Flow estimation (i.e. width of water surface, approximate depth of water, approximate flow velocity, flow rate) - Flow characteristics (i.e. presence of floatables, surface scum, sheens, odor, color) - Flow source(s) suspected or identified from non-storm water source investigation - Flow source(s) eliminated during non-storm water source identification • If pooled or ponded water is present: - Characteristics of pooled or ponded water (i.e. presence of floatables, surface scum, sheens, odor, color) - Known or suspected source(s) of pooled or ponded water • Assessment of any observed MS4 discharge ~~with~~ to a flowing receiving water. • Station description (i.e. deposits or stains, vegetation condition, structural condition, observable biology) • Presence and assessment of trash in and around station • Evidence or signs of illicit connections or illegal dumping

(iii) Each Municipal Copermittee must implement the requirements of Provisions E.2.d.(2)(c)-(e) based on the field observations.

(iv) Each Copermittee must evaluate field observations together with existing information available from prior reports, inspections and monitoring results to determine whether any observed flowing,

pooled, or ponded waters are likely to be transient or persistent flow.[19]

Comment [A40]: See footnote edits

(c) Transitional Dry Weather MS4 Outfall Discharge Field Screening ~~Monitoring~~ Records

Based upon the results of the transitional dry weather MS4 outfall discharge field screening monitoring conducted pursuant to Provisions D.2.a.(2)(a)-(b), each Municipal Copermittee must update its MS4 outfall discharge monitoring station inventory, compiled pursuant to Provision D.2.a.(1), with any new information on the classification of whether the MS4 outfall produces persistent flow, transient flow, or no dry weather flow.

(3) Transitional Wet Weather MS4 Outfall Discharge Monitoring

Comment [A41]: See discussion in section 3.5.3 of the comment letter.

Until the monitoring requirements of Provision D.2.c are incorporated into a Water Quality Improvement Plan that is accepted by the San Diego Water Board pursuant to Provision F.1, the Copermittees must conduct the following wet weather MS4 outfall discharge monitoring within the Watershed Management Area:

(a) Transitional Wet Weather MS4 Outfall Discharge Monitoring Stations

The Copermittees must select at least five wet weather MS4 outfall discharge monitoring stations from the inventories developed pursuant to Provision D.2.a.(1) that are representative of storm water discharges from areas consisting primarily of residential, commercial, industrial, and typical mixed-use land uses present within the Watershed Management Area.

(b) Transitional Wet Weather MS4 Outfall Discharge Monitoring Frequency

Each wet weather MS4 outfall discharge monitoring station selected pursuant to Provision D.2.a.(3)(a) must be monitored twice during the wet season (October 1 – April 30~~)~~.) in the transitional period. The~~). One~~ wet weather monitoring ~~event~~events shall be selected to be representative of the range of hydrologic conditions experienced in the region. At least 10% of samples~~event~~ must be conducted during the first wet weather event of the wet season, ~~and~~to include~~and one wet weather monitoring event~~ at least one such sample in each Watershed Management Area~~, a month after the first wet weather event of the wet season.~~

[19] Persistent flow, for the purposes of provision II.D.2.b.(2) is defined as the presence of an MS4 discharge that is hydraulically connected to a flowing receiving~~, pooled, or ponded~~ water more than 72 hours after a measureable rainfall event of 0.1 inch or greater, during three consecutive monitoring and/or inspection events. All other flowing, pooled, or ponded water is considered transient.

(c) Transitional Wet Weather MS4 Outfall Discharge Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded of the flow from~~at~~ each wet weather MS4 outfall discharge monitoring station:

(i) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and

(ii) The flow rates and volumes measured or estimated from the outfall (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);

(iii) ~~Station condition (i.e. deposits or stains, vegetation condition, structural condition, observable biology); and~~

(iv) Presence ~~and assessment~~ of trash in and around station.

Comment [A42]: This isn't appropriate for a wet weather event.

Comment [A43]: This isn't appropriate for a wet weather event.

(d) Transitional Wet Weather MS4 Outfall Discharge Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each wet weather MS4 outfall discharge monitoring station.

(e) Transitional Wet Weather MS4 Outfall Discharge Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each wet weather MS4 outfall discharge monitoring station as follows:

(i) Analytes that are field measured are not required to be analyzed by a laboratory;

(ii) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(iii) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, and indicator bacteria;

(iv) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant

concentrations and runoff flows using one of the following techniques:

[a] Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or
[b] Flow-weighted composites collected over the length of the storm event or a typical 24 hour period, whichever is shorter, which may be collected through the use of automated equipment, or
[c] If automated compositing is not feasible, a composite sample may be collected using a minimum of 4 grab samples, collected during the first 24 hours of the storm water discharge, or for the entire storm water discharge if the storm event is less than 24 hours;

(v) Only one analysis of the composite of aliquots is required;

(vi) The samples must be analyzed for the following constituents:

[a] Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
[b] Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order, and
[c] Constituents listed in in Table D-7.

Table D-7. Analytical Monitoring Constituents for Wet Weather MS4 Outfall Discharge Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Indicator Bacteria
• Total Dissolved Solids • Total Suspended Solids • Turbidity • Total Hardness • Total Organic Carbon • Dissolved Organic Carbon • Sulfate • Methylene Blue Active Substances (MBAS) • Total Phosphorus • Orthophosphate • Nitrite[1] • Nitrate[1] • Total Kjeldhal Nitrogen • Ammonia	• Arsenic • Cadmium • Chromium • Copper • Iron • Lead • Nickel • Selenium • Thallium • Zinc	• Total Coliform • Fecal Coliform[2] • *Enterococcus*

Notes:
1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
2. *E. Coli* may be substituted for Fecal Coliform.

(f) Other Transitional Wet Weather MS4 Outfall Discharge Monitoring

The San Diego County Copermittees must continue the wet weather MS4 outfall monitoring program developed under Order No. R9-2007-0001, as approved by the San Diego Water Board, through its planned completion.

b. DRY WEATHER MS4 OUTFALL DISCHARGE MONITORING

Each Municipal Copermittee must perform the following dry weather MS4 outfall monitoring within its jurisdiction to identify non-storm water and illicit discharges within its jurisdiction pursuant to Provision E.2.c, and to prioritize the dry weather MS4 discharges that will be investigated and eliminated pursuant to Provision E.2.d. ~~Each Copermittee must conduct the following dry weather MS4 outfall discharge monitoring within its jurisdiction:~~

Comment [A44]: Repetitive of previous sentence

(1) Dry Weather MS4 Outfall Discharge Field Screening Monitoring

Comment [A45]: See discussion in section 3.5.3 of the comment letter.

Each Municipal Copermittee must continue to perform the dry weather MS4 outfall discharge field screening monitoring in accordance with the requirements of Provision D.2.a.(2). ~~The~~ however the Municipal Copermittee may adjust the field screening monitoring frequencies and locations for the MS4 outfalls in its inventory, as needed, to identify and eliminate sources of persistent ~~flow~~ non-storm water illegal discharges from the MS4 to flowing receiving waters in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan. ~~, provided the~~

~~number of visual inspections performed is equivalent to the number of visual inspections required under Provision D.2.a.(2)(a).~~

Comment [A46]: See comments in comment letter

(2) Non-Storm Water Persistent Flow MS4 Outfall Discharge Monitoring

Each Municipal Copermittee must perform the following non-storm water monitoring of MS4 outfalls that persistently ~~flow MS4 outfall~~ discharge to flowing receiving waters ~~monitoring~~ to determine which persistent non-storm water discharges contain concentrations of pollutants below NALs, and which persistent non-storm water discharges impact receiving water quality during dry weather. ~~Each Copermittee must conduct the following non-storm water persistent flow MS4 outfall discharge monitoring within its jurisdiction:~~

Comment [A47]: Repetitive of previous sentence.

(a) Prioritization of Non-Storm Water Persistent Flow MS4 Outfalls

Based upon the dry weather MS4 outfall discharge field screening monitoring records developed pursuant to Provision D.2.a.(2)(c), each Municipal Copermittee must identify and prioritize the MS4 outfalls within its jurisdiction that have~~with~~ persistent discharges to flowing receiving waters ~~flows~~ based on the highest priority water quality conditions identified in the Water Quality Improvement Plan and any additional criteria developed by the Copermittee, which may include historical data and data from sources other than what the Copermittee collects.

(b) Non-Storm Water Persistent Flow MS4 Outfall Discharge Monitoring Frequency

Comment [A48]: See comment letter section 3.5.3

(i) Based on the prioritization of major MS4 outfalls developed under Provision D.2.b.(2)(a), each Municipal Copermittee must identify, at a minimum, the top 10 percent of the~~10~~ highest priority major MS4 outfalls with non-storm water persistent flows that the Copermittee will monitor within each Watershed Management Area within its jurisdiction, with a minimum of one persistent ~~flow~~discharge outfall, and a maximum of 5 required per WMA. The location of the selected highest priority non-storm water persistent ~~flow~~ discharge MS4 outfall monitoring stations must be identified on the map required pursuant to Provision E.2.b.(1).

(ii) Each of the highest priority non-storm water persistent flow MS4 outfall monitoring stations identified pursuant to Provision D.2.b.(2)(b)(i) must be monitored under dry weather conditions at least ~~semi~~ annually until one of the following occurs:

[a] The non-storm water discharges have been effectively eliminated (i.e. no flowing, pooled, or ponded water) for three consecutive dry weather monitoring events; or

[b] The source(s) of the persistent flows has been identified as a category of non-storm water discharges that does not require an NPDES permit and does not have to be addressed as an illicit discharge because it was not identified as a source of pollutants (i.e. constituents in non-storm water discharge do not exceed NALs), and the persistent flow can be re-prioritized to a lower priority; or

[c] The constituents in the persistent flow non-storm water discharge do not exceed NALs, and the persistent flow can be re-prioritized to a lower priority; or

[d] The source(s) of the persistent flows has been identified as a non-storm water discharge authorized by a separate NPDES permit.

(iii) Where the criteria under Provision D.2.b.(2)(c)(ii) are not met, but the threat to water quality has been reduced by the Copermittee, the highest priority persistent flow MS4 outfall monitoring stations may be reprioritized accordingly for continued dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.b.(1).

(iv) Each Municipal Copermittee must document removal or re-prioritization of the highest priority persistent flow MS4 outfall monitoring stations identified under Provision D.2.b.(2)(b) in the Annual Report. Persistent flow MS4 outfall monitoring stations that have been removed must be replaced with the next highest prioritized MS4 major outfall in the Watershed Management Area within its jurisdiction, unless there are no remaining qualifying major MS4 outfalls within the Copermittee's jurisdiction in the Watershed Management Area.

(c) Non-Storm Water Persistent Flow MS4 Outfall Discharge Field Observations

During each semi-annual monitoring event, each Municipal Copermittee must record field observations consistent with Table D-6 at each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction.

(d) Non-Storm Water Persistent Flow MS4 Outfall Discharge Field Monitoring

During each ~~semi-annual~~ monitoring event, if conditions allow the collection of the data, each Municipal Copermittee must monitor and record the parameters in Table D-2 at each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction.

(e) Non-Storm Water Persistent Flow MS4 Outfall Discharge Analytical Monitoring

Comment [A49]: See discussion in section 3.5.3 of the comment letter.

During each semi-annual monitoring event in which measurable flow from the MS4 outfall to a flowing receiving water is present, each Municipal Copermittee must collect and analyze samples from each of the highest priority persistent flow MS4 outfall monitoring stations within its jurisdiction as follows:

(i) Analytes that are field measured are not required to be analyzed by a laboratory;

(ii) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(iii) During development of the WQIP, for each WMA, consider the following sources to select constituents for collection of~~Collect~~ grab or composite samples to be analyzed at a qualified analytical laboratory::~~for the following constituents:~~

[a] Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,
[b] Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,
[c] Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order,
[d] Applicable NAL constituents, and
[e] Constituents listed in Table D-8, unless the Copermittee has historical data that can demonstrate or provide justification that the analysis of the constituent is not necessary.

(iv) Copermittees may adjust the analytical list for a given WMA in successive monitoring events to add or eliminate constituents based on data that can demonstrate or provide justification regarding need or lack of need for the analysis of specific constituents.

Table D-8. Analytical Monitoring Constituents for Persistent Flow MS4 Outfall Discharge Monitoring Stations

Conventionals, Nutrients	Metals (Total and Dissolved)	Indicator Bacteria
• Total Dissolved Solids • Total Suspended Solids • Total Hardness • Total Phosphorus • Orthophosphate • Nitrite[1] • Nitrate[1] • Total Kjeldhal Nitrogen	• Cadmium • Copper • Lead • Zinc	• Total Coliform • Fecal Coliform[2] • *Enterococcus*

• Ammonia		

Notes:
1. Nitrite and nitrate may be combined and reported as nitrite+nitrate.
2. *E. Coli* may be substituted for Fecal Coliform.

~~(iv)~~(v) If the Copermittee identifies and eliminates the source of the persistent flow non-storm water discharge, analysis of the sample is not required.

c. WET WEATHER MS4 OUTFALL DISCHARGE MONITORING

The Copermittees must perform wet weather MS4 outfall monitoring to identify sources areas of pollutants in ~~storm water~~ discharges from the MS4s in the Watershed Management Area. The Copermittees must conduct the following wet weather MS4 outfall discharge monitoring within the Watershed Management Area:

(1) Wet Weather MS4 Outfall Discharge Monitoring Stations

The Copermittees may adjust the wet weather MS4 outfall discharge monitoring locations and frequencies in the Watershed Management Area, as needed, to identify sources of pollutants in storm water discharges from MS4s in the Watershed Management Area in accordance with the highest priority water quality conditions identified in the Water Quality Improvement Plan, provided the number of stations is at least equivalent to the number of stations required under Provision D.2.a.(3)(a).

(2) Wet Weather MS4 Outfall Discharge Monitoring Frequency

The Copermittees must monitor the wet weather MS4 outfall discharge monitoring stations in the Watershed Management Area at an appropriate frequency to identify source areas of pollutants in ~~storm water~~ discharges from the MS4s causing or contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan.

(3) Wet Weather MS4 Outfall Discharge Field Observations

For each wet weather monitoring event, the following narrative descriptions and observations must be recorded at each wet weather MS4 outfall discharge monitoring station:

(a) A narrative description of the station that includes the location, date and duration of the storm event(s) sampled, rainfall estimates of the storm event, and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and

(b) The flow rates and volumes measured or estimated (data from nearby USGS gauging stations may be utilized, or flow rates may be measured or

estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), section 3.2.1, or other method proposed by the Copermittees that is acceptable to the San Diego Water Board);

~~(c) Station condition (i.e. deposits or stains, vegetation condition, structural condition, observable biology); and~~

~~(d) Presence and assessment of trash in and around station.~~

Comment [A50]: These are inappropriate for wet weather observations.

(4) Wet Weather MS4 Outfall Discharge Field Monitoring

For each wet weather monitoring event, the Copermittees must monitor and record the parameters in Table D-2 at each wet weather MS4 outfall discharge monitoring station.

(5) Wet Weather MS4 Outfall Discharge Analytical Monitoring

For each wet weather monitoring event, the Copermittees must collect and analyze samples from each wet weather MS4 outfall discharge monitoring station as follows:

(a) Analytes that are field measured are not required to be analyzed by a laboratory;

(b) The Copermittees must implement consistent sample collection methods for regional comparability of data, unless site-specific conditions indicate the need for alternate methods;

(c) Grab samples may be collected for pH, temperature, specific conductivity, dissolved oxygen, turbidity, hardness, and indicator bacteria;

(d) For all other constituents, composite samples must be collected for a duration adequate to be representative of changes in pollutant concentrations and runoff flows using one of the following techniques:

(i) Time-weighted composites composed of 24 discrete hourly samples, which may be collected through the use of automated equipment, or

(ii) Flow-weighted composites collected over the length of the storm event or a typical 24 hour period, whichever is shorter, which may be collected through the use of automated equipment, or

(iii) If automated compositing is not feasible, a composite sample may be collected using a minimum of 4 grab samples, collected during the first 24 hours of the storm water discharge, or for the entire storm water discharge if the storm event is less than 24 hours.

(e) Only one analysis of the composite of aliquots is required;

(f) Analysis for the following constituents is required:

(i) Constituents contributing to the highest priority water quality conditions identified in the Water Quality Improvement Plan,

(ii) Constituents listed as a cause for impairment of receiving waters in the Watershed Management Area listed on the CWA section 303(d) List,

(iii) Constituents for implementation plans or load reduction plans (e.g. Bacteria Load Reduction Plans, Comprehensive Load Reduction Plans) developed for watersheds where the Copermittees are listed responsible parties under the TMDLs in Attachment E to this Order, and

(iv) Applicable SAL constituents.

3. Special Studies

Comment [A51]: See discussion in section 3.5.3 of the comment letter.

a. Within the term of this Order, the Copermittees must initiate~~develop and implement~~ the following special studies:

(1) At least two~~three~~ special studies in each Watershed Management Area to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that cause or contribute to highest priority water quality conditions identified in the Water Quality Improvement Plan.

(2) At least one~~two~~ special study~~studies~~ for the San Diego Region to address pollutant and/or stressor data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that are impacting receiving waters on a regional basis in the San Diego Region.

(3) One of the two~~three~~ special studies in each Watershed Management Area may be replaced by a special study implemented pursuant to Provision D.3.a.(2).

b. The special studies must, at a minimum, be in conformance with the following criteria:

(1) The special studies must be related to the highest priority water quality conditions identified by the Copermittees in the Watershed Management Area and/or for the entire San Diego Region;

(2) The special studies developed pursuant to Provision D.3.a.(1) must:

(a) Be implemented within the applicable Watershed Management Area, and

(b) Require some form of participation by all the Copermittees within the Watershed Management Area;

(3) The special studies developed pursuant to Provision D.3.a.(2) must:

(a) Be implemented within the San Diego Region, and

(b) Require some form of participation by all Copermittees covered under the requirements of this Order.

c. Special studies developed to identify sources of pollutants and/or stressors should be pollutant and/or stressor specific and based on historical monitoring data and monitoring performed pursuant to Provisions D.1 and D.2. Development of source identification special studies should include the following:

(1) A compilation of known information on the specific pollutant and/or stressor, including data on potential sources and movement of the pollutant and/or stressor within the watershed. Data generated by the Copermittees and others, as well as information available from a literature research on the pollutant and/or stressor should be compiled and analyzed as appropriate.

(2) An identification of data gaps, based on the compiled information generated on the specific pollutant and/or stressor in Provision D.3.d.(1). Source identification special studies should be developed to fill identified data gaps.

(3) A monitoring plan that will collect and provide data the Copermittees can utilize to do the following:

(a) Quantify the relative loading or impact of a pollutant and/or stressor from a particular source or pollutant generating activity;

(b) Improve understanding of the fate of a pollutant and/or stressor in the environment;

(c) Develop an inventory of known and suspected sources of a pollutant and/or stressor in the Watershed Management Area; and/or

(d) Prioritize known and suspected sources of a pollutant and/or stressor based on relative magnitude in discharges, geographical distribution (i.e.,

regional or localized), frequency of occurrence in discharges, human health risk, and controllability.

d. Special studies initiated prior to the termacceptance of thethis Orderthe Water Quality Improvement Plan that meet the requirements of Provision D.3.b and are implementedcompleted during the term of this Order may be utilized to fulfill the special study requirements of Provision D.3.a.

e. The Copermittees must submit the monitoring plans for the special studies in the Water Quality Improvement Plans required pursuant to Provision F.1.

f. The Copermittees are encouraged to share the results of the special studies regionally among the Copermittees to provide information useful in improving and adapting the management of non-storm water and storm water runoff through the implementation of the Water Quality Improvement Plans.

4. Assessment Requirements

Each Copermittee must evaluate the data collected pursuant to Provisions D.1, D.2 and D.3, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E, to assess the progress of the water quality improvement strategies in the Water Quality Improvement Plan toward achieving compliance with Provisions A.1.a, A.1.c and A.2.a. Assessments must be performed as described in the following provisions:

a. RECEIVING WATERS ASSESSMENTS

(1) The Copermittees must assess and report the conditions of the receiving waters in the Watershed Management Area as follows:

(a) Based on data collected pursuant to Provision D.1.a, the assessments under Provision D.4.a.(2) must be included in the transitionalfirst Annual Report required pursuant to Provision F.3.b.(21).

(b) Based on the data collected pursuant to Provisions D.1.a-e, the assessments required under Provision D.4.a.(2) must be included in the Report of Waste Discharge required pursuant to Provision F.5.b.

(2) The Copermittees must assess the status and trends of receiving water quality conditions in 1) coastal waters, 2) enclosed bays, harbors, estuaries, and lagoons, and 3) streams under dry weather and wet weather conditions, as those conditions are affected by discharges from the Copermittees' MS4, to determine the progress towards meeting interim or final goals of the Water Quality Implementation Plan for the Watershed Management Area. For each of the three types of receiving waters that are present in each Watershed Management Area the applicable Copermittees must:

Comment [A52]: See our edits to that section

Comment [A53]: See discussion in section 3.5.3 of the comment letter.

(a) Determine whether or not the conditions of the receiving waters are meeting any applicable numeric goals established pursuant to provision B.2.e.~~protective of the designated beneficial uses~~;

~~(b) Identify the most critical beneficial uses that must be protected or restored to ensure overall health of the receiving water;~~

~~(c) Determine whether or not those critical beneficial uses are being protected and where those beneficial used must be restored;~~

~~(d)~~(b) Identify short-term and/or long-term improvements or degradation of Receiving Water conditions related to those numeric goals~~those critical beneficial uses~~;

~~(e)~~(c) Identify data gaps in the monitoring data necessary to assess Provisions D.4.a.(2)(a)-(d).

b. MS4 OUTFALL DISCHARGES ASSESSMENTS

(1) Non-Storm Water Discharges Reduction Assessments

(a) ~~Each Copermittee must assess and report the progress of its illicit discharge detection and elimination program, required to be implemented pursuant to Provision E.2, toward reducing and effectively prohibiting non-storm water and illicit discharges into the MS4 within its jurisdiction as follows:~~

~~(i) Based on data collected pursuant to Provisions D.2.a.(2), the assessments under Provision D.4.b.(1)(b) must be included when complete in the Annual Report required pursuant to Provision F.3.b.(1).~~

~~(ii) Based on the data collected pursuant to Provisions D.2.b, the assessments required under Provision D.4.b.(1)(c) must be included in the first Annual Report required pursuant to Provision F.3.b.(1), and annually thereafter.~~

~~(iii) Based on the data collected pursuant to Provisions D.2.b, the assessment required under Provision D.4.b.(1)(c) must be included in the Report of Waste Discharge required pursuant to F.5.b.~~

(b) Based on the transitional dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.a.(2), each

Comment [A54]: See discussion in section 3.5.3 of the comment letter for key changes. Other changes are described in comments below.

Comment [A55]: For clarity and simplicity, these timelines were integrated into the following sections.

Municipal Copermittee must assess and report the following, as applicable to discharges from the MS4 (including Special District Copermittee MS4s) to flowing receiving waters within their jurisdiction, in the Annual Report required pursuant to Provision F.3.b.(2):~~:~~

Comment [A56]: Per edits to that section

(i) Identify the known and suspected controllable sources (e.g. facilities, areas, land uses, pollutant generating activities) of transient and persistent flow discharges to flowing receiving waters~~flows~~ within the Copermittee's jurisdiction in the Watershed Management Area;

(ii) Identify sources of transient and persistent flow discharges to flowing receiving waters~~flows~~ within the Copermittee's jurisdiction in the Watershed Management Area that have been reduced or eliminated; and

(iii) Identify modifications to the field screening monitoring locations and frequencies for the MS4 outfalls in its inventory necessary to identify and eliminate sources of persistent flow non-storm water discharges to flowing receiving waters, pursuant to Provision D.2.b.(1).

(c) Based on the dry weather MS4 outfall discharge field screening monitoring required pursuant to Provision D.2.b, each Municipal Copermittee must assess and report the following, as applicable to discharges from the MS4 (including Special District Copermittee MS4s) within their jurisdiction, in each Annual Report required pursuant to F.3.b.(3) and in the Report of Waste Discharge required pursuant to Provision F.5.b.:~~:~~

Comment [A57]: Per edits to that section

(i) The assessments required pursuant to Provision D.4.b.(1)(a~~b~~);

Comment [A58]: Per edits above

(ii) Based on the data collected and applicable NALs in the Water Quality Improvement Plan, rank the MS4 outfalls in the Copermittee's jurisdiction according to potential threat to receiving water quality, and produce a prioritized list of major MS4 outfalls for follow-up action to update the Water Quality Improvement Plan, with the goal of eliminating persistent flow non-storm water discharges to flowing receiving waters and/or pollutant loads in order of the ranked priority list through targeted programmatic actions and source investigations;

(iii) For the highest priority major MS4 outfalls with persistent flow discharges to a flowing receiving water~~flows~~ that are in exceedance of NALs, identify the known and suspected sources within the Copermittee's jurisdiction in the Watershed Management Area that may cause or contribute to the NAL exceedances;

(iv) Each Copermittee must analyze the data collected pursuant to Provision D.2.b.(2), and: ~~utilize a model or other method, to calculate or estimate the non-storm water volumes and pollutant loads collectively discharged from all the major MS4s outfalls in its jurisdiction identified as having persistent dry weather flows during~~

Comment [A59]: Edits to this section (and sub-sections) is different than SD edits.

~~the monitoring year. These calculations or estimates must be updated annually. Each Copermittee must calculate or estimate:~~

[a] Calculate or estimate annual non-storm water volumes and pollutant loads (associated with the priority constituents identified in the WQIP) collectively discharged from the monitored persistently flowing ~~Copermittee's~~ major MS4 outfalls discharging to flowing receiving waters within the Copermittee's jurisdiction, or discharged into another Copermittee's MS4 as demonstrated through provision E.2.d.~~with an estimate of the percent contribution from each known and suspected source for each MS4 outfall~~;

[b] Identify ~~identify~~ and quantify, where feasible, known sources of non-stormwater flows not [b] ~~Annual non-storm water volumes and pollutant loads from areas or facilities~~ subject to the Copermittee's legal authority that are discharged from the Copermittee's major MS4 outfalls to downstream receiving waters.

(v) Each Copermittee must review the data collected pursuant to Provision D.2.b and findings from the assessments required pursuant to Provision D.4.b.(1)(c)(i)-(iv) ~~once per Permit term~~on an annual ~~basis, and then report~~ within the Regional Monitoring and Assessment Report per Provision F.3.c., the following ~~to~~:

[a] Identify reductions and progress in achieving reductions in non-storm water and illicit discharges to the Copermittee's MS4 in the Watershed Management Area;

[b] Assess the effectiveness of water quality improvement strategies being implemented by the Copermittees within the Watershed Management Area toward reducing or eliminating non-storm water and pollutant loads discharging from the MS4 to receiving waters within its jurisdiction, with an estimate, if possible, of the non-storm water volume and/or pollutant load reductions attributable to specific water quality strategies implemented by the Copermittee; and

[c] Identify modifications necessary to increase the effectiveness of the water quality improvement strategies implemented by the Copermittee in the Watershed Management Area toward reducing or eliminating non-storm water and pollutant loads discharging from the MS4 to receiving waters within its jurisdiction.

(vi) Identify data gaps in the monitoring data necessary to assess Provisions D.4.b.(2)(c)(i)-(v).

(2) Storm Water Pollutant Discharges Reduction Assessments

(a) ~~The Copermittees must assess and report the progress of the water quality improvement strategies, required to be implemented pursuant to~~

Comment [A60]: This is to help ensure jurisdictional accountability for what is being discharged from their jurisdiction.

~~Provisions B and E, toward reducing pollutants in storm water discharges from the MS4s within the Watershed Management Area as follows:~~

~~(i) Based on data collected pursuant to Provisions D.2.a.(3), the assessments under Provision D.4.b.(2)(b) must be included in the first Annual Report required pursuant to Provision F.3.b.(1).~~

~~Based on the data collected pursuant to Provisions D.2.c, the assessments required under ProvisionProvision first Annual Report required pursuant to Provision F.3.b.(1), and annually thereafter.~~

~~Based on the data collected pursuant to Provisions D.2.c, the assessment required under Provisions D.4.b.(2)(c)-(d) must be included in the Report of Waste Discharge required pursuant to F.5.b.~~

(b) Based on the transitional wet weather MS4 outfall discharge monitoring required pursuant to Provision D.2.a.(3) the Copermittees must assess and report the following in the Transitional Period Monitoring Report required pursuant to Provision F.3.b.(2):

(i) The Copermittees must analyze the monitoring data collected pursuant to Provision D.2.a.(3), and utilize a watershed model or other method, to calculate or estimate: ~~storm water volumes and pollutant loads discharged from the MS4s in each Copermittee's jurisdiction within the Watershed Management Area. The Copermittees must calculate or estimate the following for each monitoring year:~~

[a] The average storm water runoff coefficient for each land use type within the Watershed Management Area;

[b] The volume of storm water and pollutant loads discharged from each of the Copermittee's monitored major MS4 outfalls in its jurisdiction to receiving waters within the Watershed Management Area for each monitored storm event with measurable rainfall greater than 0.1 inch, for each of the priority water quality constituents identified in the WQIP;

[c] The total volume and pollutant loads potentially discharged from each Municipal Copermittee's jurisdiction within the watershed management area, for each monitored event, extrapolated from the data produced from the monitored outfalls.

~~The pollutant loads discharged from each of the Copermittee's major MS4 outfalls in its jurisdiction to receiving waters within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch; and~~

~~[d] The percent contribution of storm water volumes and pollutant loads discharged from each land use type within the drainage basin to each of the Copermittee's major MS4 outfalls in its~~

Comment [A61]: See discussion in section 3.5.3 of the comment letter.

Comment [A62]: Removed as this was confusing as it was duplicative of the subsections below.

Comment [A63]: There is no need to perform this analysis for other pollutants not identified as priorities in the WQIP.

~~jurisdiction to receiving waters within the Watershed Management Area for each storm event with measurable rainfall greater than 0.1 inch.~~

(ii) Identify modifications to the wet weather MS4 outfall discharge monitoring locations and frequencies necessary to identify ~~sources~~ pollutants in storm water discharges from the MS4s in the Watershed Management Area pursuant to Provision D.2.c.(1).

(c) Based on the wet weather MS4 outfall discharge monitoring required pursuant to Provision D.2.c the Copermittees must assess and report (i) and (ii) below in the annual reports required per F.3.b.(3), and (i) through (iv) below in the Regional Monitoring and Assessment Report required per F.3.c. ~~the following~~:

(i) The assessments required pursuant to Provision D.4.b.(2)(a~~b~~);

(ii) Based on the data collected and applicable SALs in the Water Quality Improvement Plan, analyze and compare the monitoring data to the analyses and assumptions used to develop the Water Quality Improvement Plans, including strategies developed per Provision B.3, and evaluate whether ~~,rank the MS4 outfalls in the Watershed Management Area according to potential threat to receiving water quality, and produce a prioritized list of major MS4~~ there is a need to update the Water Quality Improvement Plan;

(iii) The Copermittees must review the data collected pursuant to Provision D.2.c and findings from the assessments required pursuant to Provisions D.4.b.(2)(c)(i)-(ii) ~~on an annual basis~~ to:

[a] Identify reductions and progress in achieving reductions in pollutant concentrations and/or pollutant loads from different land uses and/or drainage areas discharging from the Copermittees' MS4s in the Watershed Management Area;

[b] Assess the effectiveness of water quality improvement strategies being implemented by the Copermittees within the Watershed Management Area toward reducing pollutants in ~~storm water~~ discharges from the MS4s to receiving waters within the Watershed Management Area to the MEP, with an estimate, if possible, of the pollutant load reductions attributable to specific water quality strategies implemented by the Copermittees; and

[c] Identify modifications necessary to increase the effectiveness of the water quality improvement strategies implemented by the Copermittees in the Watershed Management Area toward reducing pollutants in ~~storm water~~ discharges from the MS4s to receiving waters in the Watershed Management Area to the MEP.

(iv) Identify data gaps in the monitoring data necessary to assess Provisions D.4.b.(2)(c)(i)-(iii).

Comment [A64]: See discussion in section 3.5.3 of the comment letter.

Comment [A65]: Per edits to that section

Comment [A66]: Per edits above

(d) Within the Regional Monitoring and Assessment report required pursuant to F.3.c. ~~The~~ Copermittees must evaluate all the data collected pursuant to Provision D.2.c, and incorporate new outfall monitoring data into time series plots for each long-term monitoring constituent for the Watershed Management Area, and perform statistical trends analysis on the cumulative long-term wet weather MS4 outfall discharge water quality data set.

c. SPECIAL STUDIES ASSESSMENTS

The Copermittees must in the applicable annual report required pursuant to F.3.b., ~~annually~~ evaluate the results and findings from the special studies developed and implemented pursuant to Provision D.3, and assess their relevance to the Copermittees' efforts to characterize receiving water conditions, understand sources of pollutants and/or stressors, and control and reduce the discharges of pollutants from the MS4 outfalls to receiving waters in the Watershed Management Area. The Copermittees must report the results of the special studies assessments applicable to the Watershed Management Area, and identify any necessary modifications or updates to the Water Quality Improvement Plan based on the results in the Annual Reports required pursuant to Provision F.3.b.

d. INTEGRATED ASSESSMENT OF WATER QUALITY IMPROVEMENT PLAN

As part of the iterative approach and adaptive management process required for the Water Quality Improvement Plan pursuant to Provision B.5, the Copermittees in each Watershed Management Area must integrate the data collected pursuant to Provisions D.1-D.3, the findings from the assessments required pursuant to Provisions D.4.a-c, and information collected during the implementation of the jurisdictional runoff management programs required pursuant to Provision E to assess the effectiveness of, and identify necessary modifications to, the Water Quality Improvement Plan as follows:

(1) The Copermittees must re-evaluate the priority water quality conditions and numeric goals for the Watershed Management Area, as needed, during the term of this Order pursuant to Provision B.5.a. The re-evaluation and recommendations for modifications to the priority water quality conditions, and/or numeric goals and corresponding schedules may be provided in the Annual Reports required pursuant to Provision F.3.b, but must at least be provided in the Regional Monitoring and Assessment Report ~~of Waste Discharge~~ pursuant to Provision F.3.c ~~5.b~~. The priority water quality conditions and numeric goals for the Watershed Management Area must be re-evaluated as follows:

(a) Re-evaluate the receiving water conditions in the Watershed Management Area in accordance with Provision B.2.a;

(b) Re-evaluate the impacts on receiving waters in the Watershed Management Area from MS4 discharges in accordance with Provision B.2.b;

(c) Re-evaluate the identification of MS4 sources of pollutants and/or stressors in accordance with Provision B.2.d;

(d) Identify beneficial uses of the receiving waters that are protected or must be restored in accordance with Provision D.4.a;

(e) Evaluate the progress toward achieving the interim and final numeric goals for restoring impacted beneficial uses in the receiving waters.

(2) The Copermittees must re-evaluate the water quality improvement strategies for the Watershed Management Area during the term of this Order pursuant to Provision B.5.b. The re-evaluation and recommendations for modifications to the water quality improvement strategies and schedules may be provided in the Annual Reports required pursuant to Provision F.3.b, but must at least be provided in the Regional Monitoring and Assessment Report pursuant to Provision F.3.c~~must be provided in the Annual Reports required pursuant to Provision F.3.b, and provided in the Report of Waste Discharge pursuant to Provision F.5.b~~. The water quality improvement strategies for the Watershed Management Area must be re-evaluated as follows:

(a) Identify the non-storm water and storm water pollutant loads from the Copermittees' MS4 outfalls in the Watershed Management Area, calculated or estimated pursuant to Provisions D.4.b;

(b) Identify the non-storm water and storm water pollutant load reductions, or other improvements to receiving water or water quality conditions, that are necessary to attain the interim and final numeric goals identified in the WQIP~~for restoring impacted beneficial uses in the receiving waters~~;

(c) Identify any~~the~~ non-storm water and storm water pollutant load reductions, or other improvements to the quality of MS4 discharges, that are necessary for the Copermittees to ~~demonstrate that non-storm water and storm water~~ reduce discharges of pollutants from their MS4s that have been demonstrated to be~~are not~~ causing or contributing to exceedances of receiving water limitations;

Comment [A67]: See discussion in section 3.5.3 of the comment letter.

(d) Evaluate the progress of the water quality improvement strategies toward achieving the interim and final numeric goals identified in the WQIP~~for restoring impacted beneficial uses in the receiving waters~~.

(3) The Copermittees must re-evaluate and adapt the water quality monitoring and assessment program for the Watershed Management Area when new information becomes available to improve the monitoring and assessment

program pursuant to Provision B.5.c. The re-evaluation and recommendations for modifications to the monitoring and assessment program may be provided in the Annual Reports required pursuant to Provision F.3.b, but must at least be provided in the Regional Monitoring and Assessment Report ~~of Waste Discharge~~ pursuant to Provision F.3.c~~5.b~~. Modifications to the water quality monitoring and assessment program must be consistent with the requirements of Provision D.1-D.3. The re-evaluation of the water quality monitoring and assessment program for the Watershed Management Area must consider the data gaps identified by the assessments required pursuant to Provisions D.4.a-b, and results of the special studies implemented pursuant to Provision D.4.c.

5. Monitoring Provisions

Each Copermittee must comply with all the monitoring, reporting, and recordkeeping provisions of the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

E. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAMS

The purpose of this provision is for each Copermittee to implement a program to control the contribution of pollutants to and the discharges from the MS4 within its jurisdiction. The goal of the jurisdictional runoff management programs is to implement strategies that effectively prohibit non-storm water discharges to the MS4 and reduce the discharge of pollutants in ~~storm water~~ to the MEP. This goal will be accomplished through implementing the jurisdictional runoff management programs in accordance with the strategies identified in the Water Quality Improvement Plans.

Each Copermittee must update its jurisdictional runoff management program document, in accordance with Provision F.2.a, to incorporate all the requirements of Provision E, consistent with their legal authority. Until the Copermittee has updated its jurisdictional runoff management program document with the applicable requirements of Provision E, the Copermittee must continue implementing its current jurisdictional runoff management program.

Modification of Jurisdictional Runoff Management Program Requirements

Modifications shall be considered and where selected, proposed according to the process in Provision B.5. Proposed modifications may increase, decrease, and/or replace minimum requirements identified in Provision E.

1. Legal Authority Establishment and Enforcement

Comment [A68]: See discussion in section 3.6 of the comment letter.

a. Each Copermittee must establish, maintain, and enforce adequate legal authority within its jurisdiction to control pollutant discharges into and from its MS4 through statute, ordinance, permit, or series of contracts, ~~order, or similar means~~ which~~.~~ ~~This legal authority must~~, at a minimum, authorize the Copermittee to:

(1) Effectively prohibit through ordinance, order or other similar means~~Prohibit and eliminate all~~ illicit discharges ~~and illicit connections~~ to its MS4;

(2) Control, through ordinance, permit, contract, order or similar means the contribution of pollutants in discharges to the MS4 by storm water discharges ~~of runoff~~ associated with industrial and construction activity ~~to its MS4~~, and ~~control~~ the quality of storm water discharges ~~runoff~~ from sites of industrial and construction activity~~sites~~, whose discharges have not been separately authorized through ~~that do not, including industrial and construction sites which~~ have coverage under the statewide General Permit for Discharges of Storm Water Associated with Industrial Activities (Industrial General Permit) or General Permit for Discharges of Storm Water Associated with Construction Activities (Construction General Permit)~~, as well as to those sites which do not;~~

Comment [A69]: See discussion in section 3.6.2 of the comment letter.

(3) Control, through ordinance, order or similar means the discharge to the MS4 of spills, dumping, or disposal of materials other than storm water ~~into its~~

Comment [A70]: See discussion in section 3.6.2 of the comment letter.

~~MS4~~;

(4) Control through interagency agreements among Copermittees the contribution of pollutants from one portion of the MS4 to another portion of the MS4;

(5) ~~Control, by coordinating and cooperating with other owners of the MS4 such as Caltrans, the U.S. federal government, or sovereign Native American Tribes through interagency agreements, where possible, the contribution of from their portion of the MS4 to the portion of the MS4 within the Copermittee's jurisdiction;~~

(6) Require compliance with conditions in its ~~statutes,~~ ordinances, permits, contracts, or orders~~, or similar means to hold dischargers to its MS4 accountable for their contributions of pollutants and flows~~;

(7) ~~Require the use of BMPs to prevent or reduce the discharge of pollutants in storm water from its MS4 to the MEP;~~

(8) ~~Require documentation on the effectiveness of BMPs implemented to prevent or reduce the discharge of pollutants in storm water from its MS4 to the MEP;~~

(9) ~~Utilize enforcement mechanisms to require compliance with its statutes, ordinances, permits, contracts, orders, or similar means; and~~

(10) Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with permit conditions~~its statutes, ordinances, permits, contracts, orders, or similar means and with the requirements of this Order~~, including the prohibition of illicit discharges and connections to its MS4; ~~the Copermittee must also have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities, including construction sites, discharging into its MS4.~~

b. With the first Annual Report required pursuant to Provision F.3.b, each Copermittee must submit a statement certified by its Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative that the Copermittee has taken the necessary steps to obtain and maintain full legal authority within its jurisdiction to implement and enforce each of the requirements contained in this Order.

2. Illicit Discharge Detection and Elimination

Each Copermittee must implement a program to actively detect and eliminate illicit discharges and improper disposal into the MS4, or otherwise require the discharger

Comment [A71]: See discussion in section 3.6.2 of the comment letter.

Comment [A72]: See discussion in section 3.6.2 of the comment letter.

Comment [A73]: See discussion in section 3.6.2 of the comment letter.

Comment [A74]: See discussion in section 3.6.2 of the comment letter.

Comment [A75]: See discussion in section 3.7 of the comment letter.

to apply for and obtain a separate NPDES permit. The illicit discharge detection and elimination program must be implemented in accordance with the strategies identified in the Water Quality Improvement Plan and include, at a minimum, the following requirements:

STRATEGIES TO ADDRESS THE HIGHEST PRIORITY WATER QUALITY CONDITIONS

Each Copermittee must describe in its jurisdictional runoff management program document the strategies and/or activities that will be implemented as part of the illicit discharge detection and elimination program to address ~~non-storm water and~~ illicit discharges and connections that the Copermittee has identified as potential sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area as follows:

(1) Provide specific details about how the strategies and/or activities will be implemented (e.g. designate ~~additional~~ BMPs, focus education, and/or increase/decrease frequency of inspections in specific areas); and

(2) The strategies and/or activities ~~must~~ may be modified from ~~consistent with~~ the default requirements of Provisions E.2.b-e~~a-d and~~ to be consistent with the strategies identified in the Water Quality Improvement Plan;

(3) The requirements of the programs as outlined in the following sub-provisions may be modified and prioritized as appropriate for consistency with the highest water quality priorities and strategies as identified in the corresponding Water Quality improvement Plan(s).

a. NON-STORM WATER DISCHARGES

To the extent allowable by law, each~~Each~~ Copermittee must address all non-storm water discharges ~~from~~into the MS4 as illicit discharges, where the likelihood exists that they are a source of pollutants to the Receiving Waters, unless ~~a non-storm water~~the discharge is either identified as a discharge authorized by a separate NPDES permit, or identified as a category of non-storm water discharges or flows that is consistent with~~must be addressed pursuant to~~ the following requirements:

(1) ~~Discharges of non-storm water to the MS4 from the following categories must be addressed as illicit dischargeunless the discharge has coverage under NPDES Permit No. CAG919001 (Order No. R9-2007-0034, or subsequent order) for discharges to San Diego Bay, or NPDES Permit No. CAG919002 (Order No. R9-2008-0002, or subsequent order) for discharges to surface waters other than San Diego Bay.~~

Comment [A76]: See discussion in section 3.7.2 of the comment letter.

~~(a) Uncontaminated pumped ground water;~~

~~(b) Discharges from foundation drains;~~[20]

~~(c) Water from crawl space pumps; and~~

~~(d) Water from footing drains.~~[19]

(2) Discharges of non-storm water from water line flushing and water main breaks to the MS4 must be addressed as illicit discharges unless the discharge has coverage under a valid NPDES Permit~~, No. CAG 679001~~ (Order No. R9-2010-0003, or a subsequent order). This category includes potable water line flushing ~~and water main break~~ discharges from water purveyors issued a water supply permit by the California Department of Public Health or federal military installations. Discharges from recycled or reclaimed water lines to the MS4 must be addressed as illicit discharges, unless the discharges have coverage under a separate NPDES permit.

Comment [A77]: See discussion in section 3.7.2 of the comment letter.

(3) Discharges of non-storm water into the MS4 from the following categories must be addressed by the Copermittee as illicit discharges only if the Copermittee or the San Diego Water Board identifies the individual discharge as a source of pollutants to receiving waters:

Comment [A78]: See discussion in section 3.7.2 of the comment letter.

(a) Diverted stream flows;

(b) Rising ground waters;

(c) Uncontaminated ground water infiltration to MS4s;

(d) Uncontaminated pumped ground water;

(e) Springs;

(f) Water from crawl space pumps;

~~(c)~~(g) Flows from riparian habitats and wetlands;

(h) Landscape irrigation;

(i) Irrigation water;

(j) Lawn watering;

Comment [A79]: See Legal Comments discussion.

[20] ~~Provision E.2.a.(1) only applies to this category on non-storm water if the system is designed to be located at or below the highest historical groundwater table to actively or passively extract groundwater during any part of the year.~~

~~(d)~~(k) Discharges from potable water sources;

~~(e)~~(l) Discharges from foundation drains;[21] ~~-~~and

(m)Discharges from footing drains. .[21]

(4) Discharges of non-storm water into the MS4 from the following categories must be controlled by the requirements given below through statute, ordinance, permit, contract, order, or similar means~~. Discharges of non-storm water to the MS4 from the following categories not controlled by the requirements given below through~~ If such statutes, ordinances, permits, contracts, orders, or similar means have not been enacted by the Copermittee, the applicable categories below must be addressed by the Copermittee as illicit discharges.

Comment [A80]: See discussion in section 3.7.2 of the comment letter.

(a) Air conditioning condensation

The discharge of air conditioning condensation should~~must~~ be directed to landscaped areas or other pervious surfaces where feasible.

(b) Individual residential vehicle washing

(i) The discharge of wash water ~~must~~ should be directed to landscaped areas or other pervious surfaces where feasible; and

(ii) Minimize the use of water for vehicle washing, use as little washing detergent and other vehicle wash products as possible, wash vehicles at commercial wash facilities, and implement other practices or behaviors that will prevent the discharge of pollutants associated with individual residential vehicle washing from entering the MS4.

(c) Dechlorinated swimming pool discharges

(i) Eliminate residual chlorine, algaecide, filter backwash, or other pollutants from swimming pools prior to discharging to the MS4; and

(ii) The discharge of saline swimming pool water must be directed to the sanitary sewer, landscaped areas, or other pervious surfaces that can accommodate the volume of water, unless the saline swimming pool water can be discharged via a pipe or concrete channel directly to a naturally saline water body (e.g. Pacific Ocean).

(5) Firefighting discharges to the MS4 must be addressed by the Copermittee as

Comment [A81]: See discussion in section 3.7.2 of the comment letter.

[21] ~~Provision E.2.a.(3) only applies to this category of non-storm water discharge if the system is designed to be located above the highest historical groundwater table at all times of the year, and the system is only expected to discharge non-storm water under unusual circumstances.~~

follows:~~illicit discharges only if the Copermittee or the San Diego Water Board identifies the discharge as a significant source of pollutants to receiving waters. Firefighting discharges to the MS4 not identified as a significant source of pollutants to receiving waters, must be addressed, at a minimum, as follows:~~

(a) Non-emergency firefighting discharges

(i) Building fire suppression system maintenance discharges (e.g~~.~~,. sprinkler line flushing) to the MS4 must be addressed as illicit discharges unless appropriate BMPs are implemented.

(ii) Non-emergency firefighting discharges (i.e., discharges from controlled or practice blazes, firefighting training, and maintenance activities not associated with building fire suppression systems) must be addressed by a program, to be developed and implemented by the Copermittee in conjunction with the local Fire Authority/District, to reduce or eliminate pollutants in such discharges from entering the MS4.

(b) Emergency firefighting discharges (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited.

~~Each Copermittee should develop and encourage implementation of BMPs to reduce or eliminate pollutants in emergency firefighting discharges to the MS4s and receiving waters within its jurisdiction. During emergency situations, priority of efforts should be directed toward life, property, and the environment (in descending order). BMPs should not interfere with immediate emergency response operations or impact public health and safety.~~

(6) If the Copermittee or San Diego Water Board identifies any category of non-storm water discharges listed under Provisions E.2.a.(1)-(4) as a source of pollutants to receiving waters, the category must be effectively prohibited through ordinance, order, or similar means and addressed as an illicit discharge.

(7) ~~Each Copermittee must, where feasible, reduce or eliminate non-storm water discharges listed under Provisions E.2.a.(1)-(4) into its MS4 whether or not the non-storm water discharge has been identified as an illicit discharge, unless a non-storm water discharge is identified as a discharge authorized by a separate NPDES permit.~~

Comment [A82]: See discussion in section 3.7.2 of the comment letter.

b. PREVENT AND DETECT ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must include the following measures within its program to prevent and detect illicit discharges to the MS4:

(1) Each Copermittee must maintain an updated map of its entire MS4 and the corresponding drainage areas. The accuracy of the MS4 map must be confirmed during the field screening required pursuant to Provision E.2.c. The MS4 map must be included as part of the jurisdictional runoff management program document. Any geographic information system (GIS) layers or files used by the Copermittee to maintain the MS4 map must be made available to the San Diego Water Board upon request. The MS4 map must identify the following:

(a) All segments of the MS4 owned, operated, and maintained by the Copermittee;

(b) All known locations of inlets that discharge and/or collect runoff into the Copermittee's MS4;

(c) All known locations of connections with other MS4s not owned or operated by the Copermittee (e.g. Caltrans MS4s);

(d) All known locations of major MS4 outfalls as defined by 40 CFR §122.26(b)(5-6) ~~and private outfalls,~~ that discharge runoff collected from areas within the Copermittee's jurisdiction;

(e) All segments of receiving waters within the Copermittee's jurisdiction that receive and convey runoff discharged from the Copermittee's MS4 outfalls;

(f) Locations of the MS4 outfalls, identified pursuant to Provision D.2.a.(1), within its jurisdiction; and

(g) Locations of the non-storm water persistent flow MS4 outfall discharge monitoring stations, identified pursuant to Provision D.2.b.(2)(b), within its jurisdiction.

(2) Each Copermittee must use Copermittee personnel and contractors to assist in identifying and reporting illicit discharges and connections during their daily employment activities.

(3) Each Copermittee must promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges to or from the MS4, including the following methods for public reporting:

(a) Operate a public hotline, which can be Copermittee-specific or shared by the Copermittees, and must be capable of receiving reports in both English and Spanish 24 hours per day and seven days per week; and

Comment [A83]: See discussion in section 3.7.2 of the comment letter.

(b) Designate an e-mail address for receiving electronic reports from the public, which can be Copermittee-specific or shared by the Copermittees, and must be prominently displayed on the Copermittee's webpage and the Regional Clearinghouse required pursuant to Provision F.4.

(4) Each Copermittee must implement practices and procedures (including a notification mechanism) to prevent, respond to, contain, and clean up any spills that may discharge into the MS4 within its jurisdiction from any source. Such practices and procedures may include the coordination with other parties, such as sanitary sewer operators. The Copermittee must coordinate, to the extent possible, with spill response teams to prevent entry of spills into the MS4~~, and prevent contamination of surface water, ground water, and soil.~~ The Copermittee must coordinate spill prevention, containment, and response activities throughout all appropriate internal~~Copermittee~~ departments, programs, and agencies.

Comment [A84]: See discussion in section 3.7.2 of the comment letter.

(5) Each Copermittee must implement practices and procedures to ~~prevent~~ control and limit infiltration of seepage from sanitary sewers owned by a Copermittee agency (including private laterals and failing septic systems) to the MS4.

(6) Each Copermittee shall~~must~~ coordinate, when necessary, with upstream Copermittees and/or entities to prevent illicit discharges from upstream sources into the MS4 within its jurisdiction.

c. FIELD SCREENING

Each Copermittee must conduct field screening (i.e. visual observations, field testing, and/or analytical testing) of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect non-storm water and illicit discharges and connections to the MS4 in accordance with the dry weather MS4 outfall discharge monitoring requirements in Provisions D.2.a.(2) and D.2.b.(1).

d. INVESTIGATE AND ELIMINATE ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee must include the following measures within its program to investigate and eliminate illicit discharges to the MS4 to comply with provision A.1.b:

(1) Each Copermittee must prioritize and determine when follow-up investigations will be performed in response to visual observations and/or water quality monitoring data collected during an investigation of a detected non-storm water ~~or~~ illicit discharge into or from the MS4. The criteria for prioritizing investigations must consider the following:

(a) Pollutants identified as causing or contributing to the highest water quality

priorities identified in the Water Quality Improvement Plan;

(b) Pollutants identified as causing or contributing, or threatening to cause or contribute to impairments in water bodies on the 303(d) List and/or in environmentally sensitive areas (ESAs), located within its jurisdiction;

(c) Pollutants identified from sources or land uses known to exist within the area, drainage basin, or watershed that discharges to the portion of the MS4 within its jurisdiction included in the investigation;

(d) Pollutants identified as causing or contributing to an exceedance of a NAL in the Water Quality Improvement Plan, where the source has not been identified as natural or otherwise permitted; and

(e) Pollutants identified as an immediate and significant threat to human health or the environment.

(2) Each Copermittee must implement procedures to investigate and inspect portions of its MS4 that, based on reports or notifications, field screening, or other appropriate information, indicate a reasonable potential of receiving, containing, or discharging pollutants due to illicit discharges, or illicit connections~~, or other sources of non-storm water~~. The procedures must include the following:

(a) Each Copermittee must develop criteria to:

(i) Assess the validity of each report or notification received; and

(ii) Prioritize the response to each report or notification received.

(b) Each Copermittee must prioritize and respond to each valid report or notification (e.g., public reports, staff or contractor reports and notifications, etc.) of an incident in a timely manner.

(c) ~~Each~~In accordance with the procedures defined in Provision E.2.d.(1), each~~Each~~ Copermittee must investigate and seek to identify the source(s) of discharges of non-storm water illicit discharges or illicit connections ~~where flows are~~ observed into and from the MS4 during the field screening required pursuant to Provision D.2.b.(1) as follows:

(i) Obvious illicit discharges (i.e., unusual color or odor) must be immediately investigated to identify the source(s) of non-storm water illegal discharges;

(ii) The investigation must include field investigations to identify sources or potential sources for the discharge, unless the source or potential source has already been identified during previous investigations; and

(iii) The investigation may include follow-up field investigations and/or reviewing Copermittee inventories and other land use data to identify potential sources of the discharge.

(d) Each Copermittee must maintain records and a database of the following information:

(i) Location of incident, including hydrologic subarea, portion of MS4 receiving the non-storm water ~~or~~ illicit discharge, and point of discharge or potential discharge from MS4 to receiving water;

(ii) Source of information initiating the investigation (e.g., public reports, staff or contractor reports and notifications, field screening, etc.);

(iii) Date the information used to initiate the investigation was received;

(iv) Date the investigation was initiated;

(v) Dates of follow-up investigations;

(vi) Identified or suspected source of the illicit discharge or connection, if determined;

(vii) Known or suspected related incidents, if any;

(viii) Result of the investigation; and

(ix) If a source cannot be identified and the investigation is not continued, a rationale for why a discharge does not pose a threat to water quality and/or does not require additional investigation.

(e) Each Copermittee must ~~track~~ document, and where feasible quantify, any readily~~and seek to~~ identifiable~~y~~ the source(s) of non-storm water illegal discharges from the MS4 where there is evidence of non-storm water ~~having been discharged~~illegal discharges or connections into or from the MS4 (e.g., pooled water), in accordance with MS4 outfall discharge monitoring requirements in Provisions D.2.a.(2) and D.2.b.

Comment [A85]: See discussion in section 3.7.2 of the comment letter.

(3) Each Copermittee must initiate the implementation of procedures, in a timely manner, to eliminate all detected and identified illicit discharges and connections within its jurisdiction. The procedures must include the following responses:

(a) Each Copermittee must enforce its legal authority, as required under Provision E.1, to eliminate illicit discharges and connections to the MS4.

(b) If the Copermittee identifies the source as a controllable source of non-storm water ~~or~~ illicit discharge or connection, the Copermittee must implement its Enforcement Response Plan pursuant to Provision E.6 and enforce its legal authority to effectively prohibit and with the goal of eliminati~~ng~~e illicit discharges and connections to its MS4.

(c) If the Copermittee identifies the source of the discharge as a category of non-storm water discharges in Provision E.2.a, and the discharge is in exceedance of NALs in the Water Quality Improvement Plan, then the Copermittee must determine if: (1) this is an isolated incident or set of circumstances that will be addressed through its Enforcement Response Plan pursuant to Provision E.6, or (2) the category of discharge must be addressed through the effective prohibition of that category of discharge as an illicit discharge pursuant to Provision E.2.a.(6).

(d) If the Copermittee suspects the source of the non-storm water discharge as natural in origin (i.e. non-anthropogenically influenced) and in conveyance into the MS4, then the Copermittee must document and provide the data and evidence necessary to demonstrate to the San Diego Water Board that it is natural in origin and does not require further investigation.

(e) If the Copermittee identifies that the discharge is coming from another Copermittees' jurisdiction, the receiving Copermittee must document and provide the findings to the upstream Copermittee. The obligation to implement the requirements of provision E.2.d.(3) are thenceforth the responsibility of the upstream Copermittee.

(f) If the Copermittee identifies the source as a non-storm water discharge that has been separately authorized by the San Diego Water Board, or that is contributing pollutants to the MS4 and that may require coverage under a WDR from the San Diego Water Board, the Copermittee shall provide all relevant findings to the San Diego Water Board and may back charge the Regional Board for the entire cost of conducting the source investigation.

~~(e)~~(g) If the Copermittee is unable to identify and document the source of a recurring non-storm water discharge to or from the MS4, then the Copermittee must ~~address the discharge as an illicit discharge and~~ update its jurisdictional runoff management program to address the common and suspected sources of the non-storm water discharge within its jurisdiction in accordance with the Copermittee's priorities.

(4) Each Copermittee must submit a summary of the non-storm water discharges and illicit discharges and connections investigated and eliminated within its jurisdiction with each Annual Report required under Provision F.3.b of this Order.

3. Development Planning

Each Copermittee must, within their jurisdiction, use their land use and planning

Comment [A86]: See discussion in section 3.7.2 of the comment letter.

Comment [A87]: See discussion in section 3.8 of the comment letter.

authorities, to the extent that they may lawfully impose requirements, to implement a development planning program in accordance with the strategies identified in the Water Quality Improvement Plan and includes, at a minimum, the following requirements:

STRATEGIES TO ADDRESS THE HIGHEST PRIORITY WATER QUALITY CONDITIONS

Comment [A88]: See discussion in section 3.8.2 of the comment letter.

Each Copermittee must describe in its jurisdictional runoff management program document the strategies and/or activities that will be implemented as part of the development planning program to address development and redevelopment projects that may become sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area as follows:

(1) Provide specific details about how the strategies and/or activities will be implemented (e.g. designate additional or alternative BMPs, focus education, increase frequency of verifications and/or inspections, alternative compliance options);

(2) Each Copermittee must identify areas within its jurisdiction where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance retrofitting and/or stream, channel, or habitat rehabilitation projects;

(3) Each Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify regional alternative compliance projects that Priority Development Projects may be allowed or should be encouraged to implement or participate in implementing; and

(4) The requirements of the programs as outlined in the following sub-provisions may be modified and prioritized as appropriate for consistency with the highest water quality priorities and strategies as identified in the corresponding Water Quality improvement Plan(s). ~~The strategies and/or activities must be consistent with the requirements of Provisions E.3.a-c and E.3.e-f and the strategies identified in the Water Quality Improvement Plan.~~

a. BMP REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS

Each Copermittee, as practical and feasible, must prescribe the following BMP requirements during the planning process (i.e. prior to project approval and issuance of local permits) for all development projects (regardless of project type or size), where local permits are issued, including unpaved roads and flood management projects, except emergency / public safety projects implemented for the protection of persons and property:

(1) General Requirements

(a) Onsite BMPs must be located so as to remove pollutants from runoff prior to its discharge to any receiving waters, and as close to the source as possible; and

(b) Structural BMPs must not be constructed within a waters of the U.S.. ~~or waters of the state.~~

(2) Source Control BMP Requirements

The following source control BMPs must be implemented at all development projects where applicable and feasible:

(a) Prevention of illicit discharges into the MS4;

(b) Storm drain system stenciling or signage;

(c) Properly designed outdoor material storage areas;

(d) Properly designed outdoor work areas;

(e) Properly designed trash storage areas; and

(f) Any additional BMPs determined necessary by the Copermittee to minimize pollutant generation at each project.

(3) Low Impact Development (LID) ~~BMP Requirements~~Principles

Comment [A89]: See discussion in section 3.8.2 of the comment letter.

The following LID ~~BMPs~~ Principles must be implemented at all development projects where applicable and feasible:

(a) Maintenance or restoration of natural storage reservoirs and drainage corridors (including topographic depressions, areas of permeable soils, natural swales, and ephemeral and intermittent streams);[22]

(b) Buffer zones for natural water bodies (where buffer zones are technically infeasible, require project applicant to include other buffers such as trees, access restrictions, etc.);

(c) Conservation of natural areas within the project footprint including existing trees, other vegetation, and soils;

[22] Development projects proposing to dredge or fill materials in waters of the U.S. must obtain a CWA Section 401 Water Quality Certification. Projects proposing to dredge or fill waters of the state must obtain waste discharge requirements.

(d) Construction of streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided public safety is not compromised;

(e) Minimization of the impervious footprint of the project;

(f) Minimization of soil compaction to landscaped areas;

(g) Disconnection of impervious surfaces through distributed pervious areas;

(h) Landscaped or other pervious areas designed and constructed to effectively receive and infiltrate, retain and/or treat runoff from impervious areas, prior to discharging to the MS4;

(i) Small collection strategies located at, or as close as possible to, the source (i.e. the point where storm water initially meets the ground) to minimize the transport of runoff and pollutants to the MS4 and receiving waters;

(j) Use of permeable materials for projects with low traffic areas and appropriate soil conditions;

(k) Landscaping with native or drought tolerant species; and

(l) Harvesting and using precipitation.

b. PRIORITY DEVELOPMENT PROJECTS

(1) Definition of Priority Development Project

Priority Development Projects include the following:

(a) All new development projects that fall under the Priority Development Project categories listed under Provision E.3.b.(2) (where a new development project feature, such as a parking lot, falls into a Priority Development Project category, the entire project footprint is subject to Priority Development Project requirements); and

(b) Those redevelopment projects that create, add, or replace at least 5,000 square feet of impervious surfaces on an already developed site, and the redevelopment project is a Priority Development Project category listed under Provision E.3.b.(2) (where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to Priority Development Project requirements, the performance requirements of Provisions E.3.c.(1) and E.3.c.(2) apply only to the addition or replacement, and not to the entire development; where redevelopment

results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the performance requirements of Provisions E.3.c.(1) and E.3.c.(2) apply to the entire development).

(c) Projects where redevelopment results in an increase of more than fifty percent of impervious surfaces of a previously existing development, and the existing development *was* subject to previous Priority Project Development Requirements, only the altered portion of development is subject to the new Priority Development Project requirements.

Comment [A90]: See discussion in section 3.8.2 of the comment letter.

(2) Priority Development Project Categories

Comment [A91]: See discussion in section 3.8.2 of the comment letter.

(a) New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This category includes commercial, industrial, residential, mixed-use, and public development projects on public or private land which fall under the planning and building authority of the Copermittee.

(b) New development projects that create 5,000 square feet or more of impervious surfaces (collectively over the entire project site), and are designed for support one or more of the following uses (see Appendix for definitions):

(i) Automotive repair shop
(ii) Restaurant
(iii) Parking lot[23]
(iv) Street, road, highway, freeway
(v) Retail gasoline outlet (RGO)

Comment [A92]: See footnote

~~(b) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.~~

~~(c) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is 5,000 square feet or more.~~

~~(d) Hillside development projects. This category includes any development which creates 5,000 square feet or more of impervious surface which is~~

[23] Excluding parking lots that are not subject to runoff, such as but not limited to covered or subterranean parking lots

~~located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.~~

~~(e)~~(c) New development projects that create 2,500 square feet or more of impervious surfaces (collectively over the entire project site), and are ~~Environmentally sensitive areas (ESAs). This category includes any development~~ located within, directly adjacent to, or discharging directly to an ESA, ~~which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10 percent or more of its naturally occurring condition.~~ "Directly adjacent to" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that collects runoff from the subject development or redevelopment site and terminates at or in receiving waters within the ESA and is not commingled with flows from adjacent or other upstream lands.

~~(f) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce that has 5,000 square feet or more of impervious surface.~~

~~(g) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface that is 5,000 square feet or more used for the transportation of automobiles, trucks, motorcycles, and other vehicles.~~

~~(h) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.~~

~~(i)~~(d) Large development projects. This category includes any post-construction pollutant-generating new development projects that result in the permanent disturbance of one acre or more of land.

(3) Priority Development Project Exemptions

Comment [A93]: See discussion in section 3.8.2 of the comment letter.

Each Copermittee has the discretion to exempt the following projects from being defined as Priority Development Projects:

(a) New paved sidewalks, driveways, parking lots, bicycle lanes, or trails that meet the following criteria:

(i) Designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR

(ii) Designed and constructed to be hydraulically disconnected from paved streets or roads; OR

(iii) Designed and constructed with permeable pavements or surfaces in accordance with USEPA Green Streets guidance.[24]

(b) Any impervious surface that is 5,000 square feet or more used for the transportation of automobiles, trucks, motorcycles, and other vehicles that is designed and constructed to the Maximum Extent Practicable in accordance with the USEPA Green Streets Guidance "Managing Wet Weather with Green Infrastructure: Green Streets"[25]. ~~Retrofitting of existing paved alleys, streets or roads that meet the following criteria:~~

~~(i) Must be two lanes or less; AND~~

~~(ii) Must be a retrofitting project implemented as part of an alternative compliance project option under Provision E.3.c.(3)(b)(v) to achieve the performance requirements of Provisions E.3.c.(1) and/or E.3.c.(2) for a Priority Development Project; AND~~

~~(iii) Designed and constructed in accordance with the USEPA Green Streets guidance.[26]~~

(c) Single-family residential projects that meet the following criteria:

(i) Must not be constructed as part of a larger development or proposed subdivision;

(ii) Successfully incorporate and document that they have incorporated, each of the applicable Source Control and LID BMP strategies identified in provisions E.3.a.(2)-(3) to the MEP.

~~(c) New single family residences that meet the following criteria:~~

~~(i) Must not be constructed as part of a larger development or proposed subdivision; AND~~

~~(ii) Designed and constructed to be certified under the U.S. Green Building Council (USGCB) Leadership in Energy and Environmental Design (LEED) for Homes green building certification program, receiving at least four (4) Surface Water Management credits under the Sustainable Sites category[27] OR~~

~~Designed and constructed with structural BMPs that will achieve the~~

[24] USEPA. 2008. http://water.epa.gov/infrastructure/greeninfrastructure/upload/gi_munichandbook_green_streets.pdf and http://water.epa.gov/infrastructure/greeninfrastructure/gi_policy.cfm#municipalhandbook ~~See "Managing Wet Weather with Green Infrastructure – Municipal Handbook: Green Streets" (USEPA, 2008).~~

~~[26] Ibid.~~

~~[27] See LEED for Homes rating system at http://www.usgbc.org~~

~~performance requirements of Provisions E.3.c.(1) and E.3.c.(2) onsite~~

~~(d) Redevelopment of existing single family residences that meet the following criteria:~~

~~(i) Designed and constructed to be certified under the USGCB LEED for Homes green building certification program, receiving at least four (4) Surface Water Management credits under the Sustainable Sites category;~~[28] ~~OR~~

~~(ii) Designed and constructed with structural BMPs that will achieve the performance requirements of Provisions E.3.c.(1) and E.3.c.(2) onsite.~~

(d) Watershed Protection Projects that meet the following criteria:

(i) Projects undertaken to rehabilitate or prevent environmental, social, and economic damage to the watershed, including receiving waters, by providing one or more of the following:

- Water quality protection by the proper management of stormwater and floodplains
- Flood risk reduction to adjacent land uses, stored matter and stockpiled material
- Elimination of the comingling of stormwater and hazardous materials
- Erosion Mitigation
- Restoration of Rivers and Ecosystems
- Groundwater Recharge
- Creation of new open space and wetlands
- Programs for water conservation, stormwater capture and management
- Retrofit projects constructed to improve water quality or address hydromodification.

(ii) AND are not expected to be pollutant generating or are designed to reduce existing pollutant loads

(iii) AND incorporate and document that they have incorporated, each of the applicable Source Control and LID BMP strategies identified in provisions E.3.a.(2)-(3) to the MEP.

(e) Emergency public safety projects in any of the Priority Development Categories may be excluded if the delay caused due to the requirement for a SSMP compromises public safety, public health and/or environmental protection

[28] ~~See LEED for Homes rating system at http://www.usgbc.org~~

c. Priority Development Project Structural BMP Performance Requirements

In addition to the BMP requirements listed for all development projects under Provision E.3.a, Priority Development Projects must also implement structural BMPs that conform to performance requirements below. If watershed-specific performance requirements are ~~may be~~ developed as part of a Water Quality Improvement Plan; these requirements would take precedence over the general performance requirements below. The watershed-specific requirement must provide at least equal protection as the general performance requirements below.

(1) Storm Water Pollutant Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite structural BMPs to control pollutants in storm water that may be discharged from a project as follows:

(a) Each Priority Development Project must be required to implement LID BMPs that are designed to retain (i.e. intercept, store, infiltrate, evaporate, and evapotranspire) onsite the pollutants contained in the design capture volume. The design capture volume is equivalent to:

(i) The volume of storm water runoff produced from a 24-hour 85th percentile storm event;[29] OR

(ii) The volume of storm water runoff produced from a 24-hour 85th percentile storm event, that would be retained onsite ~~if~~ in the pre-project condition. ~~site was fully undeveloped and naturally vegetated, as determined using continuous simulation modeling techniques based on site-specific soil conditions and typical native vegetative cover.~~

(b) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of~~to~~ complying with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1)(a).

~~(c) If a Priority Development project is allowed to utilize alternative compliance pursuant to Provisions E.3.c.(1)(b), flow-thru conventional~~

[29] This volume is not a single volume to be applied to all areas covered by this Order. The size of the 85th percentile storm event is different for various parts of the San Diego Region. The Copermittees are encouraged to calculate the 85th percentile storm event for each of its jurisdictions using local rain data pertinent to its particular jurisdiction. In addition, isopluvial maps may be used to extrapolate rainfall data to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees must describe their method for using isopluvial maps in its BMP Design Manuals. The volume is a single event-based volume that occurs after an extended dry period.

Comment [A94]: See discussion in section 3.8.2 of the comment letter.

~~treatment control BMPs must be implemented to treat the portion of the design capture volume that is not retained onsite. Additionally, project applicants must mitigate for the portion of the pollutant load in the design capture volume that is not retained onsite through one or more alternative compliance options under Provision E.3.c.(3). Conventional treatment control BMPs must be sized and designed to:~~

~~(i) Remove pollutants from storm water to the MEP;~~

~~(ii) Filter or treat either: 1) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event, or 2) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two;~~

~~(iii) Be ranked with high or medium pollutant removal efficiency for the Priority Development Project's most significant pollutants of concern. Conventional treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of conventional treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.~~

(2) Hydromodification Management BMP Requirements

Comment [A95]: See discussion in section 3.8.2 of the comment letter.

Each Copermittee must require each Priority Development Project disturbing greater than one acre to implement management measures~~onsite structural BMPs~~ to ensure ~~manage hydromodification~~ that ~~may be caused by~~ storm water runoff discharged from the~~a~~ project won't cause adverse Hydromodification impacts in the downstream receiving waters as follows:

The Copermittees in each Watershed Management Area may establish within the WQIP, watershed specific mitigation requirements that will apply to priority development projects, based on the susceptibility of the receiving waters to Hydromodification impacts caused by the project, and consistent with the priorities and strategies identified in the WQIP. Such requirements may be uniform across a Hydrologic Unit, or identified at an appropriate smaller scale to ensure that receiving waters are properly protected.

(a) Post-project runoff flow rates and durations must not exceed pre-project ~~development (naturally occurring)~~ runoff flow rates and durations by more than 10 percent (for the range of flows that result in increased potential for erosion, or degraded instream habitat conditions downstream of Priority Development Projects~~)~~.

(i) In evaluating the range of flows that results in increased potential for

erosion of natural (non-hardened) channels, the lower boundary must correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks.

~~(ii) For artificially hardened channels, analysis to identify the lower boundary must use characteristics of a natural stream segment similar to that found in the watershed. The lower boundary must correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or erodes the toe of the channel banks.~~

~~(iii)~~(ii) The Copermittees may use monitoring results collected pursuant to Provision D.1.a.(2) to re-define the range of flows resulting in increased potential for erosion, or degraded instream habitat conditions, as warranted by the data.

(b) Priority Development Projects ~~Post-project runoff flow rates and durations~~ must implement appropriate measures to minimize the ~~compensate for~~ the loss of sediment supply delivered ~~due~~ to the Receiving Waters, consistent with WQIP priorities, ~~development project,~~ should loss of sediment supply be anticipated to occur as a result of the development project.

(c) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of~~to comply with~~ the performance requirements of Provisions E.3.c.(2)(a)-(b).

(d) Exemptions

Each Copermittee has the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provisions E.3.c.(2)(a)-(b) where the project:

(i) Discharges storm water runoff into existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean;

(ii) Discharges of storm water into conveyance channels whose bed and bank are engineered and maintained for the 10-year ultimate development flow rate all the way from the point of discharge from the project to an water body that is sufficiently resistant to hydromodification (water storage reservoirs, lakes, enclosed embayments, pacific ocean, or other water bodies identified in the WQIP);

~~(ii)~~(iii) Is a redevelopment Priority Development Project that meets the alternative compliance requirements of Provision E.3.c.(3)(b)(ii); or

~~(iii)~~(iv) Discharges storm water runoff into other areas identified by the San Diego Water Board as exempt from the requirements of Provisions E.3.c.(2)(a)-(b), through an approved WQIP.

(3) Alternative Compliance to Onsite Structural BMP Performance Requirements

Comment [A96]: See discussion in section 3.8.2 of the comment letter.

(a) Applicability

At the discretion of each Copermittee, Priority Development Projects may be allowed to implement one or more of the alternative compliance project options described in E.3.c.(3)(b) below, in lieu of complying with the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2), under the following conditions:

(i) The Copermittee must determine that implementation of the alternative compliance option will have an equal or greater overall water quality benefit for the Watershed Management Area than fully complying with the performance requirements of Provisions E.3.c.(1) and E.3.c.(2) onsite;

(ii) The alternative compliance options must be designed by a registered professional engineer, geologist, architect, biologist, hydrologist, landscape architect, or other appropriate certified professional;

(iii) The alternative compliance option must be consistent with the strategies developed within the WQIP, for the highest priority water quality conditions.

(iv) The alternative compliance options must be implemented within the same Watershed Management Area as the Priority Development Project, and preferably within the same hydrologic subarea;

(v) The alternative compliance options must have reliable sources of funding for operation and maintenance.

(b) Alternative Compliance Options

(i) *LID Biofiltration Treatment Control BMPs*

LID biofiltration treatment control BMPs may be used as an alternative compliance option if the BMPs are sized and designed to:

[a] Remove pollutants from storm water to the MEP; AND
[b] Have an appropriate surface loading rate to prevent erosion, scour and channeling; AND
[c] Biofilter at least 1.0 times the design capture volume that is not reliably retained onsite

(ii) *LEED Certified Redevelopment Projects*

Priority Development Projects that are designed and constructed to be certified under the USGCB LEED for New Construction and Major Renovations green building certification program, or other locally accepted certification of equivalent effectiveness, may be considered as an acceptable alternative compliance option if the project meets the following criteria:

[a] The project is designed to receive at least: One (1) Site Design credit, and Two (2) Stormwater Design credits under the Sustainable Sites category.[30], and

[b] The existing and future configuration of the receiving water must not be unnaturally altered or adversely impacted by the project.

(iii) *Watershed-Based Planned Development Projects*

Priority Development Projects greater than 100 acres in total project size (or smaller than 100 acres in size yet part of a larger common plan of development that is over 100 acres) may be considered as an acceptable alternative compliance option if the project meets the following conditions:

[a] The Priority Development Project was planned utilizing watershed and/or subwatershed based water quality, hydrologic, and fluvial geomorphologic planning principles that implement regional LID BMPs in accordance with the performance and location criteria of this Order and acceptable to the San Diego Water Board;

[b] Regional LID BMPs may be used provided that the BMPs capture and retain the volume of runoff produced from the design capture volume defined in Provision E.3.c.(1)(a)(i) and that such controls are located upstream of receiving waters;

[c] Regional LID BMPs must clearly exhibit that they will not result in a net impact from pollutant loadings over and above the impact caused by capture and retention of the design capture volume;

[d] Any portion of the design capture volume that is not retained by the regional LID BMPs must be treated using biofiltration BMPs; and

[e] Where regional LID BMPs are demonstrated to the Copermittee as technically infeasible to retain the entire design capture volume, any volume up to and including the design capture volume not retained by regional LID BMPs, nor treated by biofiltration BMPs, must be treated using conventional treatment control BMPs and the project applicant must implement additional alternative compliance project, in-lieu fee and/or water quality

[30] See LEED for New Construction and Major Renovations rating system at http://www.usgbc.org

credit system options below.

(iv) *Offsite Projects*

Offsite Projects, such as but not limited to Regional BMPs; Retrofitting Projects; Channel, Stream or Habitat Rehabilitation Projects; Water Supply Augmentation Projects; or other Offsite Projects proposed by a project proponent, may be considered as an acceptable alternative compliance option if the offsite project meets the following requirements:

- The project must provide a net result of at least the same level of pollutant removal, and/or protection from potential downstream and upstream erosion in the receiving water as would be required to meet the performance requirements of Provision E.3.c.(1) and E.3.c.(2), as applicable.
- The project must be consistent with the strategies identified in the WQIP.
- The project must be constructed and operational prior to occupancy being granted for the PDP.

(v) *Conventional Treatment Control BMPs*

Onsite Conventional Treatment Control BMPs may be used as an alternative compliance option, only if the following criteria have been met:

[a] It has been demonstrated to the satisfaction of the Copermittee that it is technically infeasible to comply with the onsite requirements of E.3.c.(1), AND

[b] It has been demonstrated to the satisfaction of the Copermittee that it is technically infeasible to implement onsite Biofiltration Treatment Control BMPs, AND

[c] The Conventional Treatment Control BMPs will remove pollutants from storm water to the MEP; AND

[d] The Conventional Treatment Control BMPs will filter or treat either: 1) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event, or 2) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two; AND

[e] The Conventional Treatment Control BMPs are ranked with high or medium pollutant removal efficiency for the Priority Development Project's most significant pollutants of concern. Conventional treatment control BMPs with a low removal

efficiency ranking must only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of conventional treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

~~(a) Applicability~~

~~At the discretion of each Copermittee, Priority Development Projects may be allowed to utilize an alternative option to comply with the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2) under the following conditions:~~

~~(i) The Copermittee must determine that implementation of the alternative compliance option will have a greater overall water quality benefit for the Watershed Management Area than fully complying with the performance requirements of Provisions E.3.c.(1) and E.3.c.(2) onsite;~~

~~(ii) The alternative compliance options must be designed by a registered professional engineer, geologist, architector landscape architect;~~

~~(iii) The alternative compliance options must be implemented within the same hydrologichydrologic unit as the Priority Development Project, and preferably within the same hydrologic subarea;~~

~~(iv) Receiving waters must not be utilized to convey storm water runoff to the alternative compliance options;~~

~~(v) The pollutants in storm water runoff from the Priority Development Project must be treated to the MEP by the alternative compliance options prior to being discharged to receiving waters;~~

~~(vi) Unless otherwise allowed by Provision E.3.c.(3)(b), the alternative compliance options must have a net result of at least the same level of pollutant removal as would have been achieved if the Priority Development Project had fully complied with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1) onsite;~~

~~(vii) Unless otherwise allowed by Provision E.3.c.(3)(b), the alternative compliance options must have a net result of at least the same level of protection from potential downstream and upstream erosion in the receiving water as would have been achieved if the Priority Development Project had fully complied with the hydromodification management BMP performance requirements of Provision E.3.c.(2) onsite; and~~

~~(viii) The alternative compliance options utilized by the Priority Development Project must have reliable sources of funding for operation and maintenance.~~

(b) Alternative Compliance Project Options

The Copermittee may allow implementation of one or more of the following project options as part of an alternative approach to complying with the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2):

(i) *Onsite LID Biofiltration Treatment Control BMPs*

The Copermittee may allow Priority Development Projects to utilize onsite LID biofiltration treatment control BMPs to comply with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1). Onsite LID biofiltration treatment control BMPs must be sized and designed to:

[a] Remove pollutants from storm water to the MEP; AND
[b] Have an appropriate surface loading rate to prevent erosion, scour and channeling within the BMP; AND
[c] Biofilter at least 1.5 times the design capture volume that is not reliably retained onsite; OR
[d] Biofilter up to the design capture volume that is not reliably retained onsite, AND 1) treat the remaining portion of the design capture volume not retained onsite with conventional treatment control BMPs in accordance with Provision E.3.c.(1)(c), and 2) if necessary, mitigate for the portion of the pollutant load in the design capture volume not retained onsite through one or more alternative compliance project, in-lieu fee and/or water quality credit system options below.

(ii) *LEED Certified Redevelopment Projects*

The Copermittee may allow redevelopment Priority Development Projects to comply with designed and constructed to be certified under the USGCB LEED for New Construction and Major Renovations green building certification program. The Priority Development Project must receive at least one (1) Site Design credit and two (2) Stormwater Design credits under the Sustainable Sites category.[31] In addition, the existing and future configuration of the receiving water must not be unnaturally altered or adversely impacted by storm water flow rates and durations discharged from the site.

(iii) *Watershed Based Planned Development Projects*

The Copermittee may allow Priority Development Projects greater than 100 acres in total project size (or smaller than 100 acres in size

[31] See LEED for New Construction and Major Renovations rating system at http://www.usgbc.org

yet part of a larger common plan of development that is over 100 acres) to comply with the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2). The Priority Development Project must comply with the following conditions:

[a] The Priority Development Project was planned utilizing watershed and/or subwatershed based water quality, hydrologic, and fluvial geomorphologic planning principles that implement regional LID BMPs in accordance with the performance and location criteria of this Order and acceptable to the San Diego Water Board;

[b] Regional LID BMPs may be used provided that the BMPs capture and retain the volume of runoff produced from the design capture volume defined in Provision E.3.c.(1)(a)(i) and that such controls are located upstream of receiving waters;

[c] Regional LID BMPs must clearly exhibit that they will not result in a net impact from pollutant loadings over and above the impact caused by capture and retention of the design capture volume;

[d] Any portion of the design capture volume that is not retained by the regional LID BMPs must be treated using biofiltration BMPs; and

[e] Where regional LID BMPs are demonstrated to the Copermittee as technically infeasible to retain the entire design capture volume, any volume up to and including the design capture volume not retained by regional LID BMPs, nor treated by biofiltration BMPs, must be treated using conventional treatment control BMPs and the project applicant must implement additional alternative compliance project, in-lieu fee and/or water quality credit system options below.

(iv) *Offsite Regional BMPs*

[a] The Copermittee may allow Priority Development Projects to utilize offsite regional BMPs to comply with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1) if the offsite regional BMPs have the capacity to receive and retain at least 1.1 times the design capture volume that is not reliably retained onsite.

[b] The Copermittee may allow Priority Development Projects to utilize offsite regional BMPs to comply with the hydromodification management BMP performance requirements of Provision E.3.c.(2) if the offsite regional BMPs have the capacity to manage the storm water flows rates and durations from the site such that the receiving waters are protected from the potential for increased erosion that would be caused if the unmanaged portion of the runoff was discharged from the site.

(v) *Offsite Retrofitting Projects*

~~The Copermittee may allow Priority Development Projects to utilize offsite retrofitting projects to comply with the storm water pollutant control and hydromodification management BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2) if the retrofitting projects have been identified within the strategies included in the Water Quality Improvement Plan, or identified as potential retrofitting projects by the Copermittee pursuant to Provision E.5.~~

~~(vi) *Offsite Channel, Stream, or Habitat Rehabilitation Projects*~~

~~The Copermittee may allow Priority Development Projects to utilize offsite channel, stream, or habitat rehabilitation projects to comply with the hydromodification management BMP performance requirements of Provision E.3.c.(2) if the rehabilitation projects have been identified within the strategies included in the Water Quality Improvement Plan, or identified as potential channel rehabilitation projects by the Copermittee pursuant to Provision E.5. The channel, stream, or habitat rehabilitation project cannot be utilized for pollutant treatmentexcept where artificial wetlands areand located upstream of receiving waters.~~

~~(vii) *Offsite Regional Water Supply Augmentation Projects*~~

~~The Copermittee may allow Priority Development Projects to utilize offsite regional water supply augmentation projects (i.e. groundwater recharge, recycled water, storm water harvesting) to comply with the storm water pollutant control and hydromodification management BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2) if the projects have been identified within the strategies included in the Water Quality Improvement Plan.~~

~~(viii) *Project Applicant Proposed Alternative Compliance Projects*~~

~~The Copermittee may allow one or more Priority Development Project applicant(s) to propose and implement alternative compliance projects to comply with the storm water pollutant control and hydromodification management BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2) if the alternative compliance projects are consistent with, and will address the highest water quality priorities of the Water Quality Improvement Plan, and comply with the requirements of Provision E.3.c.(3)(a).~~

(c) Alternative Compliance In-Lieu Fee Option

The Copermittee may develop and implement an alternative compliance in-lieu fee option, individually or with other Copermittees and/or entities, as a means for designing, developing, constructing, operating and/or maintaining offsite alternative compliance projects under Provision E.3.c.(3)(b). Priority Development Projects allowed to utilize the

alternative compliance in-lieu fee option must comply with the following conditions:

(i) The in-lieu fee must be collected and held in accordance with the Mitigation Fee Act and all other applicable development fee laws. ~~transferred to the Copermittee (for public projects) or an escrow account (for private projects) prior to the date construction of the Priority Development Project is initiated~~.

(ii) If the in-lieu fee is applied to the development, design, ~~and~~ construction, operation and maintenance of offsite alternative compliance projects, the following conditions must be met:

[a] The offsite alternative compliance projects must meet ~~allow~~ the criteria identified within E.3.c.(3)(b)-, for each Priority Development Project relying on~~to comply with~~ the alternative compliance project;~~onsite BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2);~~

[b] The offsite alternative compliance projects must be constructed as soon as possible, but no later than 4 years after the certificate of occupancy is granted for the first Priority Development Project that contributed funds toward the construction of the offsite alternative compliance projects, unless a longer period of time is provided for in an approved WQIP~~authorized by the San Diego Water Board Executive Officer~~;

~~[c] The in-lieu fee for the Priority Development Project must include mitigation of the pollutant loads and increased storm water flow rates and durations that are allowed to discharge from the site before the offsite alternative compliance projects are constructed; and~~

[d] The in-lieu fee must also include the cost to operate and maintain the offsite alternative compliance projects for the anticipated life of the constructed priority development project.

(iii) If the in-lieu fee applies only~~is applied~~ to the operation and maintenance of offsite alternative compliance projects that have already been constructed, the offsite alternative compliance projects must meet~~allow~~ the requirements of E.3.c.(3)(a)(iv) and (v) as applicable, for each Priority Development Project relying on~~to comply with~~ the alternative compliance project..~~onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2).~~

(d) Alternative Compliance Water Quality Credit System Option

The Copermittee may develop and implement an alternative compliance water quality credit system option, individually or with other Copermittees

Comment [A97]: Please see Legal Comments.

and/or entities, provided that such a credit system clearly exhibits that it will not allow discharges from Priority Development Projects to cause or contribute to a net impact over and above the impact caused by projects meeting the onsite structural BMP performance requirements of Provisions E.3.c.(1) and E.3.c.(2). Any credit system that a Copermittee chooses to implement must be submitted to the San Diego Water Board Executive Officer for review and acceptance as part of the Water Quality Improvement Plan.

(4) Long-Term Structural BMP Maintenance

Each Copermittee must require the project applicant to submit proof of the mechanism under which ongoing long-term maintenance of all structural BMPs will be conducted.

(5) Infiltration and Groundwater Protection

(a) Structural BMPs designed to primarily function as large, centralized infiltration devices (such as large infiltration trenches and infiltration basins) must not cause or contribute to an exceedance of an applicable groundwater quality objective. At a minimum, such infiltration BMPs must be in conformance with the design criteria listed below, unless the development project applicant demonstrates to the Copermittee that one or more of the specific design criteria listed below are not necessary to protect groundwater quality. The design criteria listed below do not apply to small infiltration systems dispersed throughout a development project.

(i) Runoff must undergo pretreatment such as sedimentation or filtration prior to infiltration;

(ii) Pollution prevention and source control BMPs must be implemented at a level appropriate to protect groundwater quality at sites where infiltration BMPs are to be used;

(iii) Infiltration BMPs must be adequately maintained to remove pollutants in storm water to the MEP;

(iv) The vertical distance from the base of any infiltration BMP to the seasonal high groundwater mark must be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;

(v) The soil through which infiltration is to occur must have physical and chemical characteristics (e.g., appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of runoff for the protection of groundwater beneficial uses;

(vi) Infiltration BMPs must not be used for areas of industrial or light

industrial activity, and other high threat to water quality land uses and activities as designated by each Copermittee, unless first treated or filtered to remove pollutants prior to infiltration; and

(vii) Infiltration BMPs must be located a minimum of 100 feet horizontally from any water supply wells.

(b) The Copermittee may develop, individually or with other Copermittees, alternative mandatory design criteria to that listed above for infiltration BMPs which are designed to primarily function as centralized infiltration devices. Before implementing the alternative design criteria in the development planning process the Copermitee(s) must:

(i) Notify the San Diego Water Board of the intent to implement the alternative design criteria submitted; and

(ii) Comply with any conditions set by the San Diego Water Board.

d. BMP DESIGN MANUAL UPDATE

Each Copermittee must update and implement its BMP Design Manual[32] pursuant to Provision F.2.b. ~~Until the Copermittee has updated its BMP Design Manual with the requirements of Provisions E.3.a-c, the Copermittee must continue implementing its current BMP Design Manual. Unless directed otherwise by the San Diego Water Board, the Copermittee must implement the BMP Design Manual within 180 days of completing the update.~~ The update of the BMP Design Manual must include the following:

Comment [A98]: This info was incorporated into F.2.b.

(1) Updated procedures to determine the nature and extent of storm water requirements applicable to a potential development or redevelopment projects. These procedures must inform project applicants of the storm water management requirements applicable to their project including, but not limited to, general requirements for all development projects, structural BMP design procedures and requirements, hydromodification management requirements, requirements specific to phased projects, and procedures specific to private developments and public improvement projects;

(2) Updated procedures to identify ~~pollutants and conditions of concern for selecting~~ the most appropriate structural BMPs that consider, at a minimum, the following:

(a) The requirements of E.3.c.(1) and (2)

~~(a)~~(b) Receiving water quality (including pollutants for which receiving waters are listed as impaired under the CWA section 303(d) List);

[32] The BMP Design Manual was formerly known as the Standard Storm Water Mitigation Plan under Order Nos. R9-2007-0001, R9-2009-0002, and R9-2010-0016.

~~(b)~~(c) Pollutants, stressors, and/or receiving water conditions that cause or contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;

~~(c)~~(d) Land use type of the project and pollutants associated with that land use type; and

~~(d)~~(e) Pollutants expected to be present onsite.

(3) Updated procedures for designing structural BMPs, including any updated performance requirements to be consistent with the requirements of Provision E.3.c for all structural BMPs listed in the BMP Design Manual;

(4) Long-term maintenance criteria for each structural BMP listed in the BMP Design Manual; and

(5) Alternative compliance criteria, in accordance with the requirements under Provision E.3.c.(3), if the Copermittee elects to allow Priority Development Projects within its jurisdiction to utilize alternative compliance.

e. PRIORITY DEVELOPMENT PROJECT BMP IMPLEMENTATION AND OVERSIGHT

Each Copermittee must implement a program that requires and confirms structural BMPs on all Priority Development Projects are designed, constructed, and maintained to remove pollutants in storm water to the MEP.

(1) Structural BMP Approval and Verification Process

(a) Each Copermittee must require and confirm that for all Priority Development Project applications that have not received prior lawful approval by the Copermittee by 18 months after the commencement of coverage under this Order, the requirements of Provision E.3 are implemented. For project applications that have received prior lawful approval by 18 months after the commencement of coverage under this Order, the Copermittee may allow previous land development requirements to apply.

(b) Each Copermittee must identify the roles and responsibilities of their various municipal departments in implementing the structural BMP requirements, including each stage of a project from application review and approval through BMP maintenance and inspections.

(c) Each Copermittee must require and confirm that appropriate easements and ownerships are properly recorded in public records and the information is conveyed to all appropriate parties when there is a change in project or site ownership.

(d) Each Copermittee must require and confirm that prior to occupancy and/or intended use of any portion of the Priority Development Project, each structural BMP is inspected to verify that it has been constructed and is operating in compliance with all of its specifications, plans, permits, ordinances, and the requirements of this Order.

(2) Priority Development Project Inventory and Prioritization

(a) Each Copermittee must develop, maintain, and update ~~at~~regularly~~at least annually~~, a watershed-based database to track and inventory all constructed Priority Development Projects and associated structural BMPs within its jurisdiction. Inventories must be accurate and complete beginning from January 2002 for the San Diego County Copermittees, February 2003 for the Orange County Copermittees, and July 2005 for the Riverside County Copermittees~~.~~, where data is available.~~.~~ The use of an automated database system, such as GIS, is highly recommended. The database must include, at a minimum, the following information:

(i) Priority Development Project location (address and hydrologic subarea);

(ii) Descriptions of structural BMP type(s);

(iii) Date(s) of construction;

(iv) Party responsible for structural BMP maintenance;

(v) Dates and findings of structural BMP maintenance verifications; and

(vi) Corrective actions and/or resolutions when applicable.

(b) Each Copermittee must prioritize the Priority Development Projects with structural BMPs within its jurisdiction. The designation of Priority Development Projects as high priority must consider the following:

(i) The highest water quality priorities identified in the Water Quality Improvement Plan;

(ii) Receiving water quality;

(iii) Number and sizes of structural BMPs;

(iv) Recommended maintenance frequency of structural BMPs;

(v) Likelihood of operation and maintenance issues of structural BMPs;

(vi) Land use and expected pollutants generated; and

(vii) Compliance record.

(3) Structural BMP Maintenance Verifications and Inspections

Each Copermittee is required to verify that structural BMPs on each Priority

Development Project are adequately maintained, and continue to operate effectively to remove pollutants in storm water to the MEP through inspections, self-certifications, surveys, or other equally effective approaches.

(a) All (100 percent) of the structural BMPs at Priority Development Projects that are designated as high priority must be inspected directly by the Copermittee annually prior to each rainy season;

(b) For verifications performed through a means other than direct Copermittee inspection, adequate documentation must be required by the Copermittee to provide assurance that the required maintenance of structural BMPs at each Priority Development Project has been completed; and

(c) Appropriate follow-up measures (including re-inspections, enforcement, etc.) must be conducted to ensure that structural BMPs at each Priority Development Project continue to reduce pollutants in storm water to the MEP as originally designed.

f. DEVELOPMENT PROJECT ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all development projects, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

g. ~~STRATEGIES TO ADDRESS THE HIGHEST PRIORITY WATER QUALITY CONDITIONS~~

Comment [A99]: This section was moved to the beginning of provision E.3.

~~Each Copermittee must describe in its jurisdictional runoff management program document the strategies and/or activities that will be implemented as part of the development planning program to address development and redevelopment projects that may become sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area as follows:~~

~~(5) Provide specific details about how the strategies and/or activities will be implemented (e.g. designate additional BMPs, focus education, increase frequency of verifications and/or inspections, alternative compliance options);~~

~~(6) Each Copermittee must identify areas within its jurisdiction where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance retrofitting and/or stream, channel, or habitat rehabilitation projects;~~

~~(7) Each Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify regional alternative compliance projects that Priority Development Projects may be allowed or should be encouraged to implement or participate in implementing; and~~

~~(8) The strategies and/or activities must be consistent with the requirements of Provisions E.3.a-c and E.3.e-f and the strategies identified in the Water Quality Improvement Plan.~~

4. Construction Management

Each Copermittee must implement a construction management program in accordance with the strategies identified in the Water Quality Improvement Plan and includes, at a minimum, the following requirements:

STRATEGIES TO ADDRESS THE HIGHEST PRIORITY WATER QUALITY CONDITIONS

Comment [A100]: This section was moved from provision E.4.f, Changes are shown in Redline

Each Copermittee must describe in its jurisdictional runoff management program document the strategies and/or activities that will be implemented as part of the construction management program to address construction sites that the Copermittee has identified as potential sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area as follows:

(1) Provide specific details about how the strategies and/or activities will be implemented (e.g. designate additional BMPs, focus education, and/or increase/decrease frequency of inspections for specific types of sites and/or activities); and

(2) The strategies and/or activities must be consistent with the requirements of Provisions E.4.c-e and the strategies identified in the Water Quality Improvement Plan.

(3) The requirements of the programs as outlined in the following sub-provisions may be modified and prioritized as appropriate for consistency with the highest water quality priorities and strategies as identified in the corresponding Water Quality improvement Plan(s).

a. PROJECT APPROVAL PROCESS

Prior to issuance of any local permit(s) that allows the commencement of construction projects that involve ground disturbance or soil disturbing activities that has the reasonable potential to discharge a pollutant load to and from the MS4, as defined in each Copermittees' JRMP~~can potentially generate pollutants in storm water runoff~~, each Copermittee must:

(1) Require a ~~site-specific~~ Pollution Control Plan~~pollution control~~, construction BMP, and/or erosion and sediment control plan, to be submitted by the project applicant to the Copermittee;

(2) Confirm the Pollution Control Plan~~pollution control~~, construction BMP, and/or erosion and sediment control plan, complies with the local grading ordinance, other applicable local ordinances, and the requirements of this Order;

(3) Confirm the Pollution Control Plan~~pollution control~~, construction BMP, and/or erosion and sediment control plan, includes seasonally appropriate and effective BMPs and management measures described in Provision E.4.c, as applicable to the project; and

(4) Verify that the project applicant has obtained coverage under ~~applicable permits, including, but not limited to~~ the Construction General Permit~~, Clean Water Act Section 401 Water Quality Certification and Section 404 Permit, and California Department of Fish and Game Streambed Alteration Agreement~~.

b. Construction Site Inventory and Tracking

(1) Each Copermittee must maintain, and update ~~at least monthly~~regularly, a watershed-based inventory of all construction projects issued a local permit that allows ground disturbance or soil disturbing activities that can potentially generate pollutants in storm water runoff. The use of an automated database system, such as GIS, is highly recommended. The inventory must include:

(a) Relevant contact information for each site (e.g., name, address, phone, and email for the owner and contractor);

(b) The basic site information including location (address and hydrologic subarea), Waste Discharge Identification (WDID) number (if applicable), size of the site, and approximate area of disturbance;

(c) Whether or not the site is considered a high threat to water quality, as defined in Provision E.4.b.(2) below;

(d) The project start and ~~anticipated~~ completion dates;

~~(e) Current construction phase;~~

~~(f)~~(e) The required inspection frequency, as defined in the Copermittee's jurisdictional runoff management program document;

~~(g)~~(f) The date the Copermittee accepted and/or approved the ~~site-specific~~ pollution control plan, construction BMP, and/or erosion and sediment control plan; and

~~(h)~~(g) Whether or not there are ongoing enforcement actions administered to the site.

Comment [A101]: Some of the info can only be updated based on an inspection, which may or may not be monthly year round for all sites.

Comment [A102]: The anticipated completion date is often unknown and can fluctuate based on unpredictable and unforeseen circumstances. Keeping track of accurate dates in an inventory would be difficult and would not add significant value to the database. Construction Inspectors keep a close eye on the progress of projects and would not need to rely on inventory data to achieve effective stormwater management and oversight. Once a project is completed, the date can be entered into the database,.

(2) Each Copermittee must identify all construction sites within its jurisdiction that represent a high threat to downstream surface water quality. The designation of construction sites as high threat to water quality must consider the following:

(a) Sites located within a hydrologic subarea where sediment is known or suspected to contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(b) Sites located within the same hydrologic subarea and tributary to a water body segment listed as impaired for sediment on the CWA section 303(d) List;

(c) Sites located within, directly adjacent to, or discharging directly to a receiving water within an ESA; and

(d) Other sites determined by the Copermittees or the San Diego Water Board as a high threat to water quality.

c. CONSTRUCTION SITE BMP IMPLEMENTATION

Each Copermittee must implement, or require the implementation of effective BMPs (for Copermittee construction sites and private construction sites, respectively) to reduce discharges of pollutants in ~~storm water~~ runoff from construction sites to the MEP, and effectively prohibit~~prevent~~ non-storm water discharges from construction sites into the MS4. These BMPs must be site specific, seasonally appropriate, and construction phase appropriate. BMPs must be implemented at each construction site year round. Dry season BMP implementation must plan for and address unseasonal rain events that may occur during the dry season (May 1 through September 30). Copermittees must implement, or require the implementation of, BMPs in the following categories:

(1) Project Planning;

(2) Good Site Management "Housekeeping", including waste management;

(3) Non-storm Water Management;

(4) Erosion Control;

(5) Sediment Control;

(6) Run-on and Run-off Control; and

(7) Active/Passive Sediment Treatment Systems, where applicable.

Comment [A103]: See discussion in section 3.9.1 of the comment letter.

d. CONSTRUCTION SITE INSPECTIONS

Each Copermittee must conduct construction site inspections to require and confirm compliance with its local permits and applicable local ordinances, and the requirements of this Order. Priority for site inspections must consider threat to water quality pursuant to Provision E.4.b as well as the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.

(1) Inspection Frequency

(a) Each Copermittee must conduct inspections at all inventoried sites, including high threat to water quality sites, at an appropriate frequency for each phase of construction to confirm~~ensure~~ the site reduces the discharge of pollutants in runoff~~storm water~~ from construction sites to the MEP, and effectively prevents non-storm water discharges from entering the MS4.

(b) Each Copermittee must establish appropriate inspection frequencies for high threat to water quality sites, and all other sites, for each phase of construction. Inspection frequencies appropriate for addressing the highest water quality priorities identified in the Water Quality Improvement Plan, and for complying with the requirements of this Order must be identified in each Copermittee's jurisdictional runoff management program document.

(c) Based upon inspection findings, each Copermittee must implement all follow-up actions (i.e., re-inspection, enforcement) necessary to require and confirm site compliance with its local permits and applicable local ordinances, and the requirements of this Order.

(2) Inspection Content

Inspections of construction sites by the Copermittee must include, at a minimum:

(a) Verification of coverage under the Construction General Permit (Notice of Intent (NOI) and/or WDID number) during initial inspections, when applicable;

(b) Assessment of compliance with its local permits and applicable local ordinances related to pollution prevention, including the implementation and maintenance of applicable BMPs;

(c) Assessment of BMP adequacy and effectiveness;

(d) Visual observations of actual non-storm water discharges;

(e) Visual observations of actual or potential discharge of sediment and/or construction related materials from the site;

(f) Visual observations of actual or potential illicit connections; and

(g) If any violations are found and BMP corrections are needed, inspectors must take and document appropriate actions in accordance with the Enforcement Response Plan pursuant to Provision E.6.

(3) Inspection Tracking and Records

Each Copermittee must track all inspections and re-inspections at all inventoried construction sites. The Copermittee must retain all inspection records in an electronic database or tabular format, which must be made available to the San Diego Water Board upon request. Inspection records must include, at a minimum:

(a) Site name, location (address and hydrologic subarea), and WDID number (if applicable);

(b) Inspection date;

(c) Weather condition during~~Approximate amount of rainfall since last~~ inspection;

(d) Description of problems observed with BMPs and indication of need for BMP addition/repair/replacement and any scheduled re-inspection, and date of re-inspection;

(e) Descriptions of any other specific inspection comments which must, at a minimum, include rationales for longer compliance time;

(f) Description of enforcement actions issued in accordance with the Enforcement Response Plan pursuant to Provision E.6; and

(g) Resolution of problems noted and date problems fixed.

e. CONSTRUCTION SITE ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all its inventoried construction sites, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

5. Existing Development Management

Comment [A104]: See discussion in section 3.10 of the comment letter.

Each Copermittee must implement an existing development management program in accordance with the strategies identified in the Water Quality Improvement Plan. and includes, at a minimum, the following requirements:

STRATEGIES TO ADDRESS THE HIGHEST PRIORITY WATER QUALITY CONDITIONS

Comment [A105]: Moved from sub-provision e. Changes shown in redline

Each Copermittee must implement the water quality improvement strategies, where necessary, to address areas of existing development within its jurisdiction that are identified as sources of pollutants and/or stressors contributing to the highest priority water quality conditions in the Watershed Management Area. For the existing development management program, the following strategies must be implemented:

(1) Specific Existing Development Management Program Strategies

Each Copermittee must describe in its jurisdictional runoff management program document the strategies and/or activities that will be implemented within its jurisdiction to address areas of existing development that the Copermittee has identified as sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area as follows:

(a) Provide specific details about how the strategies and/or activities will be implemented (e.g. designate additional BMPs, focus education, and/or increase/decrease frequency of inspections for specific types of facilities, areas and/or activities);

(b) The facilities and/or areas within the Copermittee's jurisdiction where the strategies and/or activities will be implemented; and

(2) The requirements of the programs as outlined in the following sub-provisions may be modified and prioritized as appropriate for consistency with the highest water quality priorities and strategies as identified in the corresponding Water Quality improvement Plan(s). ~~The strategies and/or activities must be consistent with the requirements of Provisions E.5.b-d and the strategies identified in the Water Quality Improvement Plan.~~

a. EXISTING DEVELOPMENT INVENTORY AND TRACKING

Each Copermittee must maintain, and update at least annually, a watershed-based inventory of the existing development within its jurisdiction that ~~may~~has the reasonable potential to~~may~~ discharge a high priority pollutant load to and from the MS4, as defined in the Copermittee's JRMP. The use of an automated database system, such as GIS, is highly recommended. The inventory must, at a minimum, evaluate and include the following if identified as a source of a high priority pollutant~~include~~:

(1) Name, location (hydrological subarea and address, if applicable) of the following types of existing development with its jurisdiction:

(a) Commercial facilities or areas;

(b) Industrial facilities;

(c) Copermittee owned Municipal facilities, including:

(i) MS4 and related structures,[33]

(ii) Roads, streets, and highways,

(iii) Parking facilities,

(iv) Municipal airfields,

(v) Parks and recreation facilities,

(vi) Flood management projects and flood control devices and structures,

(vii) Operating or closed municipal landfills,

(viii) Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewer collection systems,

(ix) Corporate yards, including maintenance and storage yards for materials, waste, equipment, and vehicles,

(x) Hazardous waste collection facilities,

(xi) Other treatment, storage or disposal facilities for municipal waste, and

(xii) Other Copermittee owned municipal facilities that the Copermittee determines may contribute a significant high priority pollutant load to the MS4; and

(d) Residential areas, which may be designated by one or more of the following:

(i) Residential management area,

(ii) Drainage basin or area,

(iii) Land use (e.g., single family, multi-family, rural),

(iv) Neighborhood,

[33] The inventory may refer to the MS4 map required to be maintained pursuant to Provision E.2.b.(1).

(v) Common Interest Area,

(vi) Home Owner Association,

(vii) Mobile home park, and/or

(viii) Other designations accepted by the San Diego Water Board Executive Officer.

(2) A description of the facility or area, including the following information:

(a) Classification as commercial, industrial, municipal, or residential;

(b) Status of facility or area as active or inactive;

(c) Identification if a business is a mobile business;

(d) SIC Code or NAICS Code, if applicable;

(e) Industrial General Permit NOI and/or WDID number, if applicable;

(f) Identification if a residential area is or includes a Common Interest Area / Home Owner Association, or mobile home park;

(g) Identification of pollutants generated and potentially generated by the facility or area;

(h) Whether the facility or area is adjacent to an ESA;

(i) Whether the facility or area is tributary to and within the same hydrologic subarea as a water body segment listed as impaired on the CWA section 303(d) List and generates pollutants for which the water body segment is impaired; and

(j) Whether the facility or area contributes or potentially contributes to the highest priority water quality conditions identified in the Water Quality Improvement Plan.

(3) An annually updated map showing the location of inventoried existing development, watershed boundaries, and water bodies.

b. EXISTING DEVELOPMENT BMP IMPLEMENTATION AND MAINTENANCE

Each Copermittee must designate a minimum set of BMPs required for all inventoried existing development, including special event venues. The designated minimum BMPs must be specific to facility or area types and pollutant generating activities, as appropriate.

(1) Commercial, Industrial, and Municipal Facilities and Areas

(a) Pollution Prevention

Each Copermittee must require the use of appropriate pollution prevention methods by the commercial, industrial, and municipal facilities and areas in its inventoried existing development, as determined necessary by the Copermittee to address the priorities and strategies addressed in the WQIP.

(b) BMP Implementation

Each Copermittee must ~~implement, or~~ require the implementation of, designated BMPs at commercial facilities and areas, industrial facilities, and implement designated BMPs at municipal facilities in its inventoried existing development, as determined necessary by the Copermittee to address the priorities and strategies addressed in the WQIP.

(c) BMP Operation and Maintenance

(i) Each Copermittee must properly operate and maintain, or require the proper operation and maintenance of designated BMPs at commercial facilities and areas, industrial facilities, and municipal facilities in its inventoried existing development.

(ii) Each Copermittee must implement a schedule of operation and maintenance activities for its MS4 and related structures (including but not limited to catch basins, storm drain inlets, detention basins, etc.), and verify proper operation of all its municipal structural treatment controls designed to reduce pollutants (including floatables) in storm water discharges to or from its MS4s and related drainage structures. Operation and maintenance activities may include, but is not limited to, the following:

[a] Inspections of the MS4 and related structures;
[b] Cleaning of the MS4 and related structures; and
[c] Proper disposal of materials removed from cleaning of the MS4 and related structures.

(iii) Each Copermittee must implement a schedule of operation and maintenance for public streets, unpaved roads, paved roads, and paved highways and freeways within its jurisdiction to minimize pollutants that can be discharged in storm water.

(iv) Each Copermittee must implement the following controls to prevent infiltration of sewage into the MS4 from leaking sanitary sewers:

[a]. Copermittees that operate both a municipal sanitary sewer system and a MS4 must implement controls and measures to

Comment [A106]: See discussion in section 3.10.2 of the comment letter.

prevent and eliminate seeping sewage from infiltrating the MS4.

[b]- Copermittees that do not operate both a municipal sanitary sewer system and a MS4 must coordinate with sewering agencies to keep themselves informed of relevant and appropriate maintenance activities and sanitary sewage projects in their jurisdiction that may cause or contribute to seepage of sewage into the MS4.

(d) Pesticides, Herbicides, and Fertilizers BMPs

Each Copermittee must ~~implement BMPs, or~~ require the implementation of BMPs, to reduce pollutants in runoff~~storm water~~ discharges to the MEP and effectively prohibit non-storm water discharges associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from commercial facilities and areas, industrial facilities;~~,~~ and implement such BMPs at municipal facilities in its inventoried existing development. Such BMPs must include, as appropriate, educational activities, permits, certifications and other measures for applicators and distributors.

(2) Residential Areas

(a) Pollution Prevention

Each Copermittee must promote and encourage the use of pollution prevention methods, where appropriate, by the residential areas in its inventoried existing development.

(b) BMP Implementation

Each Copermittee must promote and encourage the implementation of designated BMPs at residential areas in its inventoried existing development.

(c) BMP Operation and Maintenance

Each Copermittee must properly operate and maintain, or require the proper operation and maintenance of designated BMPs at residential areas in its inventoried existing development.

(d) Pesticides, Herbicides, and Fertilizers BMPs

Each Copermittee must promote and encourage the implementation of BMPs to reduce pollutants in runoff~~storm water~~ discharges to the MEP and effectively prohibit non-storm water discharges associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from residential areas in its inventoried existing development.

Comment [A107]: See discussion in section 3.10.2 of the comment letter.

c. EXISTING DEVELOPMENT INSPECTIONS

Each Copermittee must conduct inspections of inventoried existing development that have been identified by the Copermittee as having the reasonable potential to discharge pollutant loads from their MS4, to ensure compliance with applicable local ordinances and permits, and the requirements of this Order.

(1) Inspection Frequency

(a) Each Copermittee must establish appropriate inspection frequencies for inventoried existing development in accordance with the following requirements:

(i) At a minimum, inventoried existing development must be inspected once every five years utilizing one or more of the following methods:

[a] Drive-by inspections by Copermittee municipal and contract staff,
[b] Onsite inspections by Copermittee municipal and contract staff, and/or
[c] Inspections by volunteer monitoring or patrol programs trained by the Copermittee;

(ii) The frequency of inspections must be appropriate to confirm that BMPs are being implemented to reduce the discharge of pollutants in runoff~~storm water~~ from the MS4 to the MEP and effectively prohibit non-storm water discharges to the MS4;

(iii) The frequency of inspections must be based on the potential for a facility or area to discharge non-storm water and pollutants in storm water, and should reflect the priorities set forth in the Water Quality Improvement Plan;

~~(iv) Each Copermittee must annually perform onsite inspections of an equivalent of at least 20 percent of the commercial facilities and areas, industrial facilities, and municipal facilities in its inventoried existing development;[34] and~~

~~(v)~~(iv) Inventoried existing development must be inspected by the Copermittee, as needed, in response to valid public complaints and findings from the Copermittee's municipal and contract staff or volunteer monitoring or patrol program inspections.

(b) Based upon inspection findings, each Copermittee must implement all follow-up actions (i.e. education and outreach, re-inspection, enforcement) necessary to require and confirm compliance with its applicable local

Comment [A108]: Recommend keeping this instead of SD proposed 'during the permit term'. The 'during the permit term' language is problematic for businesses that are added to the inventory during the permit term. For example, if a business is added to the inventory one month before the expiration of the permit, it may not be reasonable to expect it to be immediately inspected. It is also problematic for Riverside (and OC?), who may be added to the permit less than two years before the end of the permit term.

Comment [A109]: See discussion in section 3.10.2 of the comment letter.

~~[34] If any commercial, industrial, or municipal facilities or areas require multiple onsite inspections during any given year, those additional inspection may count toward the total annual inspection requirement. This requirement excludes linear municipal facilities (i.e., MS4, streets, roads and highways).~~

ordinances and permits and the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

(2) Inspection Content

(a) Inspections of existing development by the Copermittee or volunteer monitoring or patrol programs must include, at a minimum:

(i) Visual inspections for actual non-storm water discharges, if present;

(ii) Visual inspections for actual or potential discharge of pollutants, if present;

(iii) Visual inspections for actual or potential illicit connections, if present; and

(iv) Verification that the description of the facility or area in the inventory, required pursuant to Provision E.5.a.(2), has not changed.

(b) Onsite inspections of existing development by the Copermittee must include, at a minimum:

(i) Assessment of compliance with its applicable local ordinances and permits related to non-storm water and storm water discharges and runoff;

(ii) Assessment of the implementation of the designated BMPs;

(iii) Verification of coverage under the Industrial General Permit, when applicable; and

(iv) If any problems or violations are found, inspectors must take and document appropriate actions in accordance with the Enforcement Response Plan pursuant to Provision E.6.

(3) Inspection Tracking and Records

Each Copermittee must track all inspections and re-inspections at all inventoried existing development. The Copermittee must retain all inspection records in an electronic database or tabular format, which must be made available to the San Diego Water Board upon request. Inspection records must include, at a minimum:

(a) Name and location of facility or area (address and hydrologic subarea) consistent with the inventory name and location, pursuant to Provision E.5.a.(1);

(b) Inspection and re-inspection date(s);

(c) Inspection method(s) (i.e. drive-by, onsite);

(d) Observations and findings from the inspection(s);

(e) For onsite inspections of existing development by Copermittee municipal or contract staff, the records must also include, as applicable:

(i) Description of any problems or violations found during the inspection(s),

(ii) Description of enforcement actions issued in accordance with the Enforcement Response Plan pursuant to Provision E.6, and

(iii) The date problems or violations were resolved.

d. EXISTING DEVELOPMENT ENFORCEMENT

Each Copermittee must enforce its legal authority established pursuant to Provision E.1 for all its inventoried existing development, as necessary, to achieve compliance with the requirements of this Order, in accordance with its Enforcement Response Plan pursuant to Provision E.6.

e. RETROFITTING AND REHABILITATION~~STRATEGIES TO ADDRESS THE HIGHEST PRIORITY WATER QUALITY CONDITIONS~~

~~Each Copermittee must implement the water quality improvement strategies, where necessary, to address areas of existing development within its jurisdiction that are identified as sources of pollutants and/or stressors contributing to the highest priority water quality conditions in the Watershed Management Area. For the existing development management program, the following strategies must be implemented:~~

~~(3)~~ Specific Existing Development Management Program Strategies

~~Each Copermittee must describe in its jurisdictional runoff management program document the strategies and/or activities that will be implemented within its jurisdiction to address areas of existing development that the Copermittee has identified as sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area as follows:~~

~~(a) Provide specific details about how the strategies and/or activities will be implemented (e.g. designate additional BMPs, focus education, and/or increase/decrease frequency of inspections for specific types of facilities, areas and/or activities);~~

~~(b) The facilities and/or areas within the Copermittee's jurisdiction where the strategies and/or activities will be implemented; and~~

~~(c)~~(a) ~~The strategies and/or activities must be consistent with the requirements of Provisions E.5.b-d and the strategies identified in the Water Quality Improvement Plan.~~

~~(4)~~(3) Retrofitting Areas of Existing Development

Where identified in the WQIP as a required strategy to address the highest priority water quality conditions, each~~Each~~ Copermittee must describe in its jurisdictional runoff management program document, a program to retrofit areas of existing development within its jurisdiction to address identified sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area. The program must be implemented as follows:

(a) Each Copermittee must, where necessary pursuant to the strategies identified in the WQIP, identify areas of existing development as candidates for retrofitting, focusing on areas where retrofitting will address pollutants and/or stressors that contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(b) Candidates for retrofitting projects may be utilized to reduce pollutants that may be discharged in storm water from areas of existing development, and/or address storm water runoff flows and durations from areas of existing development that cause or contribute to hydromodification in receiving waters;

(c) Each Copermittee must develop a strategy to facilitate the implementation of retrofitting projects, where needed in areas of existing development identified as candidates;

(d) Each Copermittee should identify areas of existing development where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance retrofitting projects; and

(e) Where retrofitting projects within specific areas of existing development are determined to be infeasible to address the highest priority water quality conditions in the Water Quality Improvement Plan, the Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify, develop, and implement regional retrofitting projects (i.e. projects that can receive and/or treat storm water from one or more areas of existing development and will result in a net benefit to water quality and the environment) adjacent to and/or downstream of the areas of existing development.

~~(5)~~(4) Stream, Channel and/or Habitat Rehabilitation in Areas of Existing Development

Where identified in the WQIP as a required strategy to address the highest priority water quality conditions, each~~Each~~ Copermittee must describe in its jurisdictional runoff management program document, a program to rehabilitate streams, channels, and/or habitats in areas of existing development within its jurisdiction to address the highest priority water quality conditions in the Watershed Management Area. The program must be implemented as follows:

(a) Each Copermittee must, where necessary pursuant to the strategies identified in the WQIP, identify streams, channels, and/or habitats in areas of existing development as candidates for rehabilitation, focusing on areas where stream, channel, and/or habitat rehabilitation projects will address the highest priority water quality conditions identified in the Water Quality Improvement Plan;

(b) Candidates for stream, channel, and/or habitat rehabilitation projects may be utilized to address storm water runoff flows and durations from areas of existing development that cause or contribute to hydromodification in receiving waters, rehabilitate channelized or hydromodified streams, restore wetland and riparian habitat, restore watershed functions, and/or ~~restore~~ protect beneficial uses of receiving waters;

(c) Each Copermittee must develop a strategy to facilitate the implementation of stream, channel, and/or habitat rehabilitation projects, where needed, in areas of existing development identified as candidates;

(d) Each Copermittee should identify areas of existing development where Priority Development Projects may be allowed or should be encouraged to implement or contribute toward the implementation of alternative compliance stream, channel, and/or habitat rehabilitation projects; and

(e) Where stream, channel, and/or habitat rehabilitation projects within specific areas of existing development are determined to be infeasible to address the highest priority water quality conditions in the Water Quality Improvement Plan, the Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify, develop, and implement regional stream, channel, and/or habitat rehabilitation projects (i.e. projects that can receive storm water from one or more areas of existing development and will result in a net benefit to water quality and the environment).

(5) Upon Regional Board Executive Officer approval the Copermittees may reallocate resources in the WQIPs for retrofit and rehabilitation project(s).

6. Enforcement Response Plans

Each Copermittee must develop and implement an Enforcement Response Plan as part of its jurisdictional runoff management program document. The Enforcement Response Plan must describe the applicable approaches and options to enforce its legal authority established pursuant to Provision E.1, as necessary, to achieve compliance with the requirements of this Order. Copermittees may continue to utilize and implement established, equivalent guidelines and procedures for enforcement. If such equivalent guidelines and procedures have not been developed, ~~T~~the Enforcement Response Plan must include the following:

a. ENFORCEMENT RESPONSE PLAN COMPONENTS

The Enforcement Response Plan must include the following individual components:

(1) Illicit Discharge Detection and Elimination Enforcement Component;

(2) Development Planning Enforcement Component;

(3) Construction Management Enforcement Component; and

(4) Existing Development Enforcement Component.

b. ENFORCEMENT RESPONSE APPROACHES AND OPTIONS

Each component of the Enforcement Response Plan must describe the enforcement response approaches that the Copermittee will implement to compel compliance with its statutes, ordinances, permits, contracts, orders, or similar means, and the requirements of this Order. The description must include the protocols for implementing progressively stricter enforcement responses. The enforcement response approaches must include appropriate sanctions, as legally appropriate, to compel compliance, including, at a minimum, the following tools or their equivalent:

(1) Verbal and written notices of violation;

(2) Cleanup requirements;

(3) Fines;

(4) Bonding requirements;

(5) Administrative and criminal (if intentional or criminally negligent) penalties;

(6) Liens;

(7) Stop work orders; and

(8) Permit and occupancy denials.

c. CORRECTION OF VIOLATIONS

(1) Violations must be corrected in a timely manner with the goal of correcting the violations within 30 calendar days after the violations are discovered, or prior to the next predicted rain event, whichever is sooner.

(2) The status of the enforcement actions ~~If more than 30 calendar days are required to achieve compliance, then a rationale~~ must be recorded and updated in the applicable electronic database or tabular system used to track violations.

d. ~~ESCALATED~~ PROGRESSIVE ENFORCEMENT

(1) The Enforcement Response Plan must include a definition of "~~escalated~~ progressive enforcement." ~~Escalated~~ Progressive enforcement must include a series of enforcement actions that match the severity of the violations and include distinct, progressive steps. ~~any enforcement scenario where a violation or other non-compliance is determined to cause or contribute to the highest priority water quality conditions identified in the Water Quality Improvement Plan~~. ~~Escalated~~ Progressive enforcement may be defined differently for development planning, construction sites, commercial facilities or areas, industrial facilities, municipal facilities, and/or residential areas.

(2) Where the Copermittee determines ~~escalated~~ the identified progressive enforcement steps ~~is~~are not required, a rationale must be recorded in the applicable electronic database or tabular system used to track violations.

(3) ~~Escalated~~ Progressive enforcement actions must continue to increase in severity, as necessary, to compel compliance as soon as possible.

e. REPORTING OF NON-COMPLIANT SITES

(1) Each Copermittee must notify the San Diego Water Board in writing within ~~22~~5 calendar~~2 working~~ days of issuing escalated enforcement (as defined in the Copermittee's Enforcement Response Plan) to a construction site that poses a significant threat to water quality as a result of violations or other non-compliance with its permits and applicable local ordinances, and the requirements of this Order. Written notification may be provided electronically by email.

Comment [A110]: This is just asking for paperwork violations if someone forgets to write a specific justification – even if all appropriate steps are being diligently pursued. Request alternatively to simply require that the status be updated as appropriate.

Comment [A111]: See discussion in section 3.11.2 of the comment letter.

(2) Each Copermittee must notify the San Diego Water Board of non-filers under the Industrial General Permit and Construction General Permit by email to Nonfilers_R9@waterboards.ca.gov.

7. Public Education and Participation

Each Copermittee must implement, individually or with other Copermittees, a public education and participation program in accordance with the strategies identified in the Water Quality Improvement Plan to promote and encourage the development of programs, management practices, and behaviors that reduce the discharge of pollutants in runoff~~storm water~~ to the MEP, prevent controllable non-storm water discharges from entering the MS4, and protect water quality standards in receiving waters.

STRATEGIES TO ADDRESS THE HIGHEST PRIORITY WATER QUALITY CONDITIONS

Comment [A112]: Recommended move from (c)

Each Copermittee must describe in its jurisdictional runoff management program document the strategies and/or activities that will be implemented within its jurisdiction, as applicable, to educate the public and encourage public participation to address potential sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area as follows:

(1) The target audiences and/or areas within the Copermittee's jurisdiction where the strategies and/or activities will be implemented;

(2) Provide specific details about how the strategies and/or activities will be implemented (e.g. educational topics, materials and/or activities, public outreach and participation programs and/or opportunities);

(3) Each Copermittee should collaborate and cooperate with other Copermittees and/or entities in the Watershed Management Area to identify and implement regional public education and participation activities, programs and opportunities;

(4) Each Copermittee must incorporate a mechanism for evaluating and assessing educational and other public outreach activities, as needed, to identify progress and incorporate modifications necessary to increase the effectiveness of the public education and participation program.

(5) The requirements of the programs as outlined in the following sub-provisions

may be modified and prioritized as appropriate for consistency with the highest water quality priorities and strategies as identified in the corresponding Water Quality improvement Plan(s).

a. PUBLIC EDUCATION

The public education program component implemented within the Copermittee's jurisdiction must include, at a minimum, the following:

(1) Educational activities, public information activities, and other appropriate outreach activities intended to reduce pollutants associated with the ~~application of pesticides, herbicides and fertilizer and other pollutants of concern in storm water discharges to and from its MS4 to the MEP, as determined and prioritized by the Copermittee(s) by jurisdiction and/or watershed to address the~~ highest priority water quality conditions identified in the Water Quality Improvement Plan;

(2) Educational activities, public information activities, and other appropriate outreach activities to facilitate the proper management and disposal of used oil and toxic materials; and

(3) Appropriate education and training measures for specific target audiences, such as construction site operators, residents, underserved target audiences and school-aged children, as determined and prioritized by the Copermittee(s) by jurisdiction and/or watershed, based on high risk behaviors and pollutants of concern.

b. PUBLIC PARTICIPATION

The public participation program component implemented within the Copermittee's jurisdiction must include, at a minimum, the following:

(1) A process for members of the public to participate in updating the highest priority water quality conditions, numeric goals, and water quality improvement strategies in the Water Quality Improvement Plan.

(2) Opportunities for members of the public to participate in providing the Copermittee recommendations for improving the effectiveness of the water quality improvement strategies implemented within its jurisdiction.

(3) Opportunities for members of the public to participate in programs and/or activities that can result in the prevention or elimination of non-storm water discharges to the MS4, reduction of pollutants in ~~storm wate~~r discharges from

the MS4, and/or ~~restoration and~~ protection of the quality of receiving waters.

8. Fiscal Analysis

a. ~~Each Copermittee must secure the resources necessary to meet all the requirements of this Order~~.

b. Each Copermittee must conduct an annual fiscal analysis of its jurisdictional runoff management program in its entirety. The fiscal analysis must include the following:

(1) Identification of the various categories of expenditures necessary to implement the requirements of this Order, including a description of the specific capital, operation and maintenance, and other expenditure items to be accounted for in each category of expenditures;

(2) The staff resources needed and allocated to meet the requirements of this Order, including any development, implementation, and enforcement activities required;

(3) The estimated expenditures for Provisions E.8.b.(1) and E.8.b.(2) for the current fiscal year; and

(4) The source(s) of funds that are proposed to meet the necessary expenditures described in Provisions E.8.b.(1) and E.8.b.(2), including legal restrictions on the use of such funds, for the current fiscal year and next fiscal year.

c. Each Copermittee must submit a summary of the annual fiscal analysis with each Annual Report required pursuant to Provision F.3.b.

d. Each Copermittee must provide the documentation used to develop the summary of the annual fiscal analysis upon request by the San Diego Water Board.

Comment [A113]: Since the monitoring period is different than a fiscal year, we won't be able to consistently and accurately report monitoring costs incurred by the Copermittees. (which are a big part of overall budgets)

Comment [A114]: Please see Legal Comments.

F. REPORTING

Comment [A115]: See discussion in section 3.14 of the comment letter.

The purpose of this provision is to determine and document compliance with the requirements set forth in this Order. The goal of reporting is to communicate to the San Diego Water Board and the people of the State of California the implementation status of each jurisdictional runoff management program and compliance with the requirements of this Order. This goal is to be accomplished through the submittal of specific deliverables to the San Diego Water Board by the Copermittees.

1. Water Quality Improvement Plans

Comment [A116]: See discussion in section 3.14.1 of the comment letter.

The Copermittees for each Watershed Management Area must develop and submit the Water Quality Improvement Plan in accordance with the following requirements:

a. WATER QUALITY IMPROVEMENT PLAN DEVELOPMENT

Each Water Quality Improvement Plan must be developed in accordance with the following process:

(1) Priority Water Quality Conditions and Numeric Goals

(a) The Copermittees must implement a public participation process to solicit data and information to be utilized in the development and identification of the priority water quality conditions for the Watershed Management Area.

(b) The Copermittees are encouraged to involve the public and key stakeholders as early and often as possible during the development of the priority water quality conditions and numeric goals to be included in the Water Quality Improvement Plan.

(c) Within 6 months after the commencement of coverage under this Order, the Copermittees must develop and submit the Water Quality Improvement Plan requirements of Provision B.2 to the San Diego Water Board. The San Diego Water Board will issue a public notice and solicit public comments on the Water Quality Improvement Plan for a minimum of 60 days.

(d) The Copermittees must revise the priority water quality conditions and numeric goals based on comments received and/or recommendations or direction from the San Diego Water Board Executive Officer.

(2) Water Quality Improvement Strategies and Schedules

(a) The Copermittees are encouraged to involve the public and key stakeholders as early and often as possible during the development of the water quality improvement strategies and schedules to be included in the Water Quality Improvement Plan.

(b) Within 9 months after receipt~~the commencement~~ of public comments and/or recommendations from the Executive Officer per (1)(c) above~~coverage under this Order~~, the Copermittees must develop and submit the Water Quality Improvement Plan requirements of Provision B.3 to the San Diego Water Board. The San Diego Water Board will issue a public notice and solicit public comments on the Water Quality Improvement Plan for a minimum of 60 days.

(c) The Copermittees must revise the water quality improvement strategies and schedules based on comments received and/or recommendations or direction from the San Diego Water Board Executive Officer.

b. WATER QUALITY IMPROVEMENT PLAN SUBMITTAL

(1) Within 6~~18~~ months after receipt~~the commencement~~ of public comments and/or recommendations from the Executive Officer per (2)(c) above~~coverage under this Order~~, the Copermittees for each Watershed Management Area must submit a complete Water Quality Improvement Plan in accordance with the requirements of Provision B to the San Diego Water Board. The San Diego Water Board will issue a public notice and solicit public comments on the Water Quality Improvement Plan for a minimum of 30 days.

(2) Based on the comments received, the San Diego Water Board will determine whether to hold a public hearing or to limit public input to submittal of written comments. If no hearing is held the San Diego Water Board will notify the Copermittees within 6 months that the Water Quality Improvement Plan has been accepted as complete following its review and determination that the Water Quality Improvement Plan meets the requirements of this Order.

(3) The Copermittees must revise the Water Quality Improvement Plan based on comments received and/or recommendations or direction from the San Diego Water Board Executive Officer.

(4) The Water Quality Improvement Plan must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of acceptance by the San Diego Water Board.

(5) Copermittees must commence with implementation of the BMP strategies identified in the Water Quality Improvement Plan no later than the fiscal year (July 1) following San Diego Water Board approval of the Water Quality Improvement Plan, and the monitoring strategies identified in the Water Quality Improvement Plan no later than October 1st (or May 1st, whichever is sooner) following the San Diego Water Board approval of the Water Quality Improvement Plan.

2. Updates

a. JURISDICTIONAL RUNOFF MANAGEMENT PROGRAM DOCUMENT UPDATES

Each Copermittee must update its jurisdictional runoff management program document in accordance with the following requirements:

(1) Each Copermittee is encouraged to involve the public and key stakeholders as early and often as possible to solicit recommendations for updates to its jurisdictional runoff management program document.

(2) Each Copermittee must update its jurisdictional runoff management program document to incorporate the requirements of Provision E and the strategies identified in the applicable WQIPs no later than 6~~18~~ months after approval~~the commencement~~ of the applicable Water Quality Improvement Plans (or updates thereto).~~coverage under this Order.~~

(3) The updated JRMP document must be implemented beginning July 1st following completion of the update, unless directed otherwise by the Executive Officer.

~~(3)~~(4) Each Copermittee must submit any subsequent updates to its jurisdictional runoff management program, with a rationale for the modifications, either in the Annual Report required pursuant to Provision F.3.b, or as part of the Report of Waste Discharge required pursuant to Provision F.5.b.

~~(4)~~(5) The Copermittee must revise the modifications as directed by the San Diego Water Board Executive Officer.

~~(5)~~(6) Updated jurisdictional runoff management program documents must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of submitting the Annual Report.

b. BMP DESIGN MANUAL UPDATES

Each Copermittee must update its BMP Design Manual in accordance with the following requirements:

(1) Each Copermittee must update its BMP Design Manual to incorporate the requirements of Provisions E.3.a-d, and E.3.g. no later than 6~~18~~ months after approval~~the commencement~~ of the applicable Water Quality Improvement Plans..

(2) Unless directed otherwise by the San Diego Water Board, the Copermittee must implement the updated BMP Design Manual within 180 days of

Comment [A117]: See discussion in section 3.14.1 of the comment letter.

Comment [A118]: This is necessary for the WQIP strategies to inform the Development Planning process

Comment [A119]: An implementation date was missing from the Tentative Order

completing updates to the BMP Design Manual.

~~(1)~~(3) Until the Copermittee begins implementation of its updated BMP Design Manual, the Copermittee must continue implementing its current BMP Design Manual~~coverage under this Order~~.

~~(2)~~(4) Subsequent updates must be consistent with the requirements of Provisions E.3.a-d and must be submitted as part of the Annual Reports required pursuant to Provision F.3.b, or as part of the Report of Waste Discharge required pursuant to Provision F.5.b.

~~(3)~~(5) Updated BMP Design Manuals must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of completing the update.

c. WATER QUALITY IMPROVEMENT PLAN UPDATES

The Water Quality Improvement Plans must be updated in accordance with the following process:

(1) The Copermittees must implement a public participation process to solicit data and information to be utilized in updating the Water Quality Improvement Plan.

(2) The Copermittees are encouraged to involve the public and key stakeholders as early and often as possible during the updates to the Water Quality Improvement Plan.

(3) The Copermittees for each Watershed Management Area must submit requested updates to the Water Quality Improvement Plan, with the public input received and the rationale for the requested updates, either in the Annual Reports required pursuant to Provision F.3.b, or as part of the Report of Waste Discharge required pursuant to Provision F.5.b. The requested updates are considered accepted by the San Diego Water Board if no response is provided to the Copermittee after 3 months of submitting the request.

(4) The Copermittees must revise the requested updates as directed by the San Diego Water Board Executive Officer.

(5) Updated Water Quality Improvement Plans must be made available on the Regional Clearinghouse required pursuant to Provision F.4 within 30 days of acceptance of the requested updates by the San Diego Water Board.

3. Progress Reporting

Comment [A120]: This was moved to here

Comment [A121]: See discussion in section 3.14.1 of the comment letter.

a. PROGRESS REPORT PRESENTATIONS

The Copermittees for each Watershed Management Area must appear before the San Diego Water Board, as requested by the San Diego Water Board, to provide progress reports on the implementation of the Water Quality Improvement Plan and jurisdictional runoff management programs.

b. ANNUAL REPORTS

Comment [A122]: See discussion in section 3.14.1 of the comment letter.

(1) Transitional Period JRMP Reports: Each Copermittee must complete and submit a Jurisdictional Runoff Management Program Annual Report Form (Attachment D or accepted revision) no later than October 31 of each year prior to the implementation of updated JRMP programs pursuant to F.2.a. Each Copermittee must submit the information on the Jurisdictional Runoff Management Program Annual Report Form specific to the area within its jurisdiction in each Watershed Management Area.

(2) Transitional Period Monitoring Report: The transitional period monitoring conducted pursuant to D.1.a and D.2.a. shall be reported in a single report that covers the entire reporting period from the initiation of the transitional period monitoring (as described in D.1.a and D.2.a.), through September 30th following approval of the Water Quality Improvement Plan. The Transitional Period Monitoring Report shall include the assessments required per D.4.a.(1)(a), D.4.b.(1)(a) and D.4.b.(2)(a); and be submitted by January 31st following completion of the above mentioned transitional period.

~~(1)~~(3) Post-Transitional Annual Reports – Following the initial transitional period after enrollment into this Order, the~~The~~ Copermittees for each Watershed Management Area must submit an combined Annual Report for each reporting period no later than January 31 of the following year. The annual reporting period consists of two periods: 1) July 1 to June 30 of the following year for the jurisdictional runoff management programs, 2) October 1 to September 30 of the following year for the monitoring and assessment programs~~. The first Annual Report must be prepared for the reporting period beginning July 1 after commencement of coverage under this Order, and upon San Diego Water Board determination that the Water Quality Improvement Plan meets the requirements of this Order to June 30 in the following year for the jurisdictional runoff management programs, and September 30 in the following year for the monitoring and assessment programs.~~ Annual Reports must be made available on the Regional Clearinghouse required pursuant to Provision F.4. Each Annual Report must include the following:

(a) The receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1 and D.2, summarized and presented in tabular and graphical form;

(b) Progress of the special studies required pursuant to Provision D.3, and the results or findings when a special study, or each phase of a special study, is completed;

(c) The findings from the applicable assessments required pursuant to Provision D.4;

Comment [A123]: Not all are required annually.

(d) The progress of implementing the Water Quality Improvement Plan, including, but not limited to, the following:

(i) The progress toward achieving the interim and final numeric goals for the highest water quality priorities for the Watershed Management Area,

(ii) The water quality improvement strategies that were implemented and/or no longer implemented by each of the Copermittees during the reporting period and previous reporting periods, and are planned to be implemented during the next reporting period,

(iii) Proposed modifications to the water quality improvement strategies, with public input received and rationale for the proposed modifications,

(iv) Previously proposed modifications or updates incorporated into the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document and implemented by the Copermittees in the Watershed Management Area, and

(v) Proposed modifications or updates to the Water Quality Improvement Plan and/or each Copermittee's jurisdictional runoff management program document;

(e) A completed Jurisdictional Runoff Management Program Annual Report Form (Attachment D or accepted revision) for each Copermittee in the Watershed Management Area, certified by a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative.

~~(2) Each Copermittee must complete and submit a Jurisdictional Runoff Management Program Annual Report Form (Attachment D or accepted revision) no later than October 31 of each year until the first Annual Report is required to be submitted. Each Copermittee must submit the information on the Jurisdictional Runoff Management Program Annual Report Form specific to the area within its jurisdiction in each Watershed Management Area.~~

Comment [A124]: Adapted into new section (1)

~~(3)~~(4) Each Copermittee must provide any data or documentation utilized in

developing the Annual Report upon request by the San Diego Water Board. ~~AnyAny~~Copermittee~~Any~~ monitoring data utilized in developing the Annual Report must be uploaded to the California Environmental Data Exchange Network (CEDEN).[35] Any Copermittee monitoring and assessment data utilized in developing the Annual Report must be provided on the Regional Clearinghouse required pursuant to Provision F.4.

c. Regional Monitoring and Assessment Report

(1) The Copermittees must submit a Regional Monitoring and Assessment Report no later than 180 days in advance of the expiration date of this Order. The Regional Monitoring and Assessment Report may be submitted as part of the Report of Waste Discharge required pursuant to Provision F.5.b. The Regional Monitoring and Assessment Report shall incorporate the Integrated Assessment of the Water Quality Improvement Plan per D.4.d.

~~(1) The Copermittees must review the receiving water and MS4 outfall discharge monitoring data collected pursuant to Provisions D.1 and D.2, and findings from the assessments required pursuant to Provision D.4, to assess the following:~~

~~(2)~~

~~(3) The beneficial uses of the receiving waters within the San Diego Region that are protected or must be restored;~~

~~(4)~~

~~(5) The progress toward restoring impacted beneficial uses in the receiving waters within the San Diego Region; and~~

~~(6)~~

~~(7) Pollutants or conditions of emerging concern that may impact beneficial uses in the receiving waters within the San Diego Region.~~

~~(8)~~

~~(9) The Regional Monitoring and Assessment Report must include recommendations for improving the implementation and assessment of the Water Quality Improvement Plans and jurisdictional runoff management programs.~~

(2) Each Copermittee must provide any data or documentation utilized in developing the Regional Monitoring and Assessment Report upon request by the San Diego Water Board. Any monitoring and assessment data utilized in developing the Regional Monitoring and Assessment Report must be provided on the Regional Clearinghouse required pursuant to Provision F.4.

[35] Data must be uploaded to CEDEN Southern California Regional Data Center (http://www.sccwrp.org/Data/DataSubmission/SouthernCaliforniaRegionalDataCenter.aspx) using the templates provided on the CEDEN website.

4. Regional Clearinghouse

The Copermittees must develop, update, and maintain an internet-based Regional Clearinghouse that is made available to the public no later than 18 months after the effective date of this Order.[36]

a. The Copermittees, through the Regional Clearinghouse, must make the following documents and data available, organized by Watershed Management Area, which may be linked to other internet-based data portals and databases where the original documents are stored:

(1) Water Quality Improvement Plan for the Watershed Management Area, and all updated versions with date of update;

(2) Annual Reports for the Watershed Management Area;

(3) Jurisdictional Runoff Management Program document for each Copermittee within the Watershed Management Area, and all updated versions with date of update;

(4) BMP Design Manual for each Copermittee within the Watershed Management Area, and all updated versions with date of update;

(5) Reports from special studies (e.g. source identification, BMP effectiveness assessment) conducted in the Watershed Management Area;

(6) Monitoring data collected pursuant to Provision D for each Watershed Management Area must be uploaded to CEDEN,[37] with links to the uploaded data; and

(7) Available GIS data, layers, and/or shapefiles used to develop the maps generated and maintained by the Copermittees for the Water Quality Improvement Plans, Annual Reports, and jurisdictional runoff management program documents.

b. The Copermittees, through the Regional Clearinghouse, must make the following information and documents available:

(1) Contact information (point of contact, phone number, email address, and mailing address) for each Copermittee;

[36] The Copermittee may elect to develop and maintain the clearinghouse(s) provided by other Copermittees or agencies.

[37] Data must be uploaded to CEDEN Southern California Regional Data Center (http://www.sccwrp.org/Data/DataSubmission/SouthernCaliforniaRegionalDataCenter.aspx) using the templates provided on the CEDEN website.

(2) Public hotline number for reporting non-storm water and illicit discharges for each Copermittee;

(3) Email address for reporting non-storm water and illicit discharges for each Copermittee;

(4) Link to each Copermittee's website, if available, where the public may find additional information about the Copermittee's storm water management program and for requesting records for the implementation of its program;

(5) Information about opportunities for the public to participate in programs and/or activities that can result in the prevention or elimination of non-storm water discharges to the MS4, reduction of pollutants in ~~storm water~~ discharges from the MS4, and/or restoration and protection of the quality of receiving waters; and

(6) Reports from regional monitoring programs in which the Copermittees participate (e.g. Southern California Monitoring Coalition, Southern California Coastal Water Research Project Bight Monitoring);

(7) Regional Monitoring and Assessment Reports; and

(8) Any other information, data, and documents the Copermittees determine as appropriate for making available to the public.

5. Report of Waste Discharge

a. The Orange County Copermittees and the Riverside County Copermittees are required to submit a complete Report of Waste Discharge pursuant to the requirements of their current Orders. The San Diego Water Board will review and consider the Reports of Waste Discharge to determine whether modification to this Order, pursuant to the requirements of Provision H, will be required prior the Orange County Copermittees and/or Riverside County Copermittees becoming covered under this Order. The current Orders for the Orange County Copermittees and Riverside County Copermittees are rescinded upon notification of coverage under this Order except for enforcement purposes.

b. The Copermittees subject to the requirements of this Order must submit to the San Diego Water Board a complete Report of Waste Discharge as an application for the re-issuance of this Order and NPDES permit. The Report of Waste Discharge must be submitted no later than 180 days in advance of the expiration date of this Order. The Report of Waste Discharge must contain the following minimum information:

(1) Names and addresses of the Copermittees;

(2) Names and titles of the primary contacts of the Copermittees;

(3) Proposed changes to the Copermittees' Water Quality Improvement Plans and the supporting justification;

(4) Proposed changes to the Copermittees' jurisdictional runoff management programs and the supporting justification;

(5) Any other information necessary for the re-issuance of this Order;

(6) Any information to be included as part of the Report of Waste Discharge pursuant to the requirements of this Order; and

(7) Any other information required by federal regulations for NPDES permit reissuance.

6. Application for Early Coverage

a. The Orange County Copermittees, collectively, or Riverside County Copermittees, collectively, may apply for early coverage under this Order by submitting a Report of Waste Discharge Form 200 with a written request for early coverage under this Order.

Comment [A125]: This form requests information that is not applicable to MS4s.

b. The San Diego Water Board will review the application for early coverage. A notification of coverage under this Order will be issued to the Copermittees in the respective county by the San Diego Water Board upon completion of the early coverage application requirements. The effective coverage date will be specified in the notification of coverage. The Copermittees in the respective county are authorized to have MS4 discharges pursuant to the requirements of this Order starting on the effective coverage date specified in the notification of coverage. The existing Order for the respective county is rescinded upon the effective coverage date specified in the notification of coverage except for enforcement purposes.

7. Reporting Provisions

Each Copermittee must comply with all the reporting and recordkeeping provisions of the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

G. PRINCIPAL WATERSHED COPERMITTEE RESPONSIBILITIES

1. The Copermittees within each Watershed Management Area must designate a Principal Watershed Copermittee and notify the San Diego Water Board of the name of the Principal Watershed Copermittee. ~~An individual Copermittee should not be designated a Principal Watershed Copermittee for more than two Watershed Management Areas.~~ The notification may be submitted with the Water Quality Improvement Plan required pursuant to Provision F.1 of this Order.

2. The Principal Watershed Copermittee is responsible for, at a minimum, the following:

a. Serving as liaison between the Copermittees in the Watershed Management Area and the San Diego Water Board on general permit issues, and when necessary and appropriate, representing the Copermittees in the Watershed Management Area before the San Diego Water Board.

b. Facilitating the development of the Water Quality Improvement Plan in accordance with the requirements of Provision B of this Order

c. Coordinating the submittal of the deliverables required by Provisions F.1, F.2, F.3.a, and F.3.b of this Order.

d. Coordinating the development of~~and developing~~, with the other Principal Watershed Copermittees, the requirements of Provisions F.3.c, F.4, and F.5.b of this Order.

H. MODIFICATION OF PROGRAMS

1. Modifications of the Order may be initiated by the San Diego Water Board or by the Copermittees, including as part of the ROWD process applicable to the Orange County and Riverside County Copermittees. Requests by Copermittees must be made to the San Diego Water Board.

2. Minor modifications to the Order may be made by the San Diego Water Board Executive Officer, where the proposed modification complies with all the effective prohibitions and limitations, and other requirements of this Order.

3. Proposed modifications to the Order outside of the WQIP process that are not minor require amendment of this Order in accordance with this Order's rules, policies, and procedures.

4. The San Diego Water Board may re-open and modify this Order at any time prior to its expiration, after opportunity for public comment and a public hearing, if the State Water Board determines that revisions are warranted to those provisions of the Order addressing compliance with water quality standards in the receiving water and/or those provisions of the Order establishing an iterative process for implementation of management practices to assure compliance with water quality standards in the receiving water.

I. STANDARD PERMIT PROVISIONS AND GENERAL PROVISIONS

Each Copermittee must comply with all the Standard Permit Provisions and General Provisions contained in Attachment B to this Order.

ATTACHMENT A

DISCHARGE PROHIBITIONS AND SPECIAL PROTECTIONS

1. Basin Plan Waste Discharge Prohibitions

California Water Code Section 13243 provides that a Regional Water Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste or certain types of waste is not permitted. The following waste discharge effective prohibitions in the Water Quality Control Plan for the San Diego Basin (Basin Plan) are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a National Pollutant Discharge Elimination System (NPDES) permit or a dredged or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services (DHS) and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.

8. Any discharge to a storm water conveyance system that is not composed entirely of "*storm water*" is effectively prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities.] [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.

10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.

14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.

16. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.

17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at mean lower low water (MLLW) is prohibited.

18. The discharge of treated sewage from vessels, which do not have a properly functioning US Coast Guard certified Type I or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at mean lower low water (MLLW) is prohibited.

2. Attachment B to State Water Board Resolution 2012-0012

Special Protections for Areas of Special Biological Significance, Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges

I. PROVISIONS FOR POINT SOURCE DISCHARGES OF STORM WATER AND NONPOINT SOURCE WASTE DISCHARGES

The following terms, effective prohibitions, and special conditions (hereafter collectively referred to as special conditions) are established as limitations on point source storm water and nonpoint source discharges. These special conditions provide Special Protections for marine aquatic life and natural water quality in Areas of Special Biological Significance (ASBS), as required for State Water Quality Protection Areas pursuant to California Public Resources Code Sections 36700(f) and 36710(f). These Special Protections are adopted by the State Water Board as part of the California Ocean Plan (Ocean Plan) General Exception.

The special conditions are organized by category of discharge. The State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards (Regional Water Boards) will determine categories and the means of regulation for those categories [e.g., Point Source Storm Water National Pollutant Discharge Elimination System (NPDES) or Nonpoint Source].

A. PERMITTED POINT SOURCE DISCHARGES OF STORM WATER

1. General Provisions for Permitted Point Source Discharges of Storm Water

   a. Existing storm water discharges into an ASBS are allowed only under the following conditions:

      (1) The discharges are authorized by an NPDES permit issued by the State Water Board or Regional Water Board;

      (2) The discharges comply with all of the applicable terms, effective prohibitions, and special conditions contained in these Special Protections; and

      (3) The discharges:

         (i) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;

         (ii) Are designed to prevent soil erosion;

         (iii) Occur only during wet weather;

         (iv) Are composed of only storm water runoff.

   b. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.

   c. The discharge of trash is effectively prohibited.

d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no additional pollutant loading). “Existing storm water outfalls” are those that were constructed or under construction prior to January 1, 2005. “New contribution of waste” is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

e. Non-storm water discharges are effectively prohibited except as provided below:

(1) The term “non-storm water discharges” means any waste discharges from a municipal separate storm sewer system (MS4) or other NPDES permitted storm drain system to an ASBS that are not composed entirely of storm water.

(2) (i) The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:

(a) Discharges associated with emergency fire fighting operations.

(b) Foundation and footing drains.

(c) Water from crawl space or basement pumps.

(d) Hillside dewatering.

(e) Naturally occurring groundwater seepage via a storm drain.

(f) Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

(ii) An NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS only to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS.

(3) Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.

2. Compliance Plans for Inclusion in Storm Water Management Plans (SWMP) and Storm Water Pollution Prevention Plans (SWPPP).

The discharger shall specifically address the effective prohibition of non-storm water runoff and the requirement to maintain natural water quality for storm water discharges to an ASBS in an ASBS Compliance Plan to be included in its SWMP or a SWPPP, as appropriate to permit type. If a statewide permit includes a SWMP, then the discharger shall prepare a stand-alone compliance plan for ASBS discharges. The ASBS Compliance Plan is subject to approval by the Executive Director of the State Water Board (statewide permits) or

Executive Officer of the Regional Water Board (for permits issued by Regional Water Boards).

a. The Compliance Plan shall include a map of surface drainage of storm water runoff, showing areas of sheet runoff, prioritize discharges, and describe any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. Priority discharges are those that pose the greatest water quality threat and which are identified to require installation of structural BMPs. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable. The SWMP or SWPPP shall also include a procedure for updating the map and plan when changes are made to the storm water conveyance facilities.

b. The ASBS Compliance Plan shall describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.

c. For Municipal Separate Storm Sewer System (MS4s), the ASBS Compliance Plan shall require minimum inspection frequencies as follows:

   (1) The minimum inspection frequency for construction sites shall be weekly during rainy season;

   (2) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season;

   (3) The minimum inspection frequency for commercial facilities (e.g., restaurants) shall be twice during the rainy season; and

   (4) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season and maintained to remove trash and other anthropogenic debris.

d. The ASBS Compliance Plan shall address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits) that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:

   (1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or

   (2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges. The baseline for the reduction is the effective date of the Exception. The

baseline for these determinations is the effective date of the Exception, and the reductions must be achieved and documented within four (4) years of the effective date.

e. The ASBS Compliance Plan shall address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.

f. The ASBS Compliance Plan shall describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. Education and outreach efforts must adequately inform the public that direct discharges of pollutants from private property not entering an MS4 are effectively prohibited. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures, currently employed and planned for higher threat discharges and include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, permittees must first consider using LID practices to infiltrate, use, or evapotranspirate storm water runoff on-site.

g. The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.

h. If the results of the receiving water monitoring described in IV.B. of these special conditions indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and Regional Water Board within 30 days of receiving the results.

(1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.

(2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWMP or SWPPP for future implementation, and any additional BMPs that may be added to the SWMP or SWPPP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.

(3) Within 30 days of the approval of the report by the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits), the discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.

(4) As long as the discharger has complied with the procedures described above and is implementing the revised SWMP or SWPPP, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

(5) Compliance with this section does not excuse violations of any term, effective prohibition, or condition contained in these Special Protections.

3. Compliance Schedule

a. On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) are effectively prohibited.

b. Within one year from the effective date of the Exception, the discharger shall submit a written ASBS Compliance Plan to the State Water Board Executive Director (statewide permits) or Regional Water Board Executive Officer (Regional Water Board permits) that describes its strategy to comply with these special conditions, including the requirement to maintain natural water quality in the affected ASBS. The ASBS Compliance Plan shall include a time schedule to implement appropriate non-structural and structural controls (implementation schedule) to comply with these special conditions for inclusion in the discharger's SWMP or SWPPP, as appropriate to permit type.

c. Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these special conditions shall be implemented.

d. Within four (4) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these special conditions shall be operational.

e. Within four (4) years of the effective date of the Exception, all dischargers must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the discharger must re-sample the receiving water, pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See attached Flowchart.

f. The Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may only authorize additional time to comply with the special conditions d. and e., above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If a discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in d. or e. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

(1) for municipalities, a demonstration of significant hardship to discharger ratepayers, by showing the relationship of storm water fees to annual household income for residents within the discharger's jurisdictional area, and the discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or
(2) for other governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process.

B. NONPOINT SOURCE DISCHARGES

[NOT INCLUDED]
[PROVISIONS FOR NONPOINT SOURCE DISCHARGES NOT APPLICABLE]

II. ADDITIONAL REQUIREMENTS FOR PARKS AND RECREATION FACILITIES

[NOT INCLUDED]
[ADDITIONAL REQUIREMENTS FOR PARKS AND RECREATION FACILITIES NOT APPLICABLE]

III. ADDITIONAL REQUIREMENTS – WATERFRONT AND MARINE OPERATIONS

[NOT INCLUDED]
[ADDITIONAL REQUIREMENTS FOR WATERFRONT AND MARINE OPERATIONS NOT APPLICABLE]

IV. MONITORING REQUIREMENTS

Monitoring is mandatory for all dischargers to assure compliance with the Ocean Plan. Monitoring requirements include both: (A) core discharge monitoring, and (B) ocean receiving water monitoring. The State and Regional Water Boards must approve sampling site locations and any adjustments to the monitoring programs. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions prevail.

Analytical Chemistry Methods: All constituents must be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, must be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

A. CORE DISCHARGE MONITORING PROGRAM

1. General sampling requirements for timing and storm size:

   Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples (see section IV B) as described below.

2. Runoff flow measurements

   a. For municipal/industrial storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width (including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State and Regional Water Boards.
   b. This will be reported annually for each precipitation season to the State and Regional Water Boards.

3. Runoff samples – storm events

   a. For outfalls equal to or greater than 18 inches (0.46m) in diameter or width:

      (1) samples of storm water runoff shall be analyzed during the same storm as receiving water samples for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination, ; and

      (2) samples of storm water runoff shall be analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS

      (3) If an applicant has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further analyzed during the same storm as receiving water samples for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

   b. For outfalls equal to or greater than 36 inches (0.91m) in diameter or width:

      (1) samples of storm water runoff shall be analyzed during the same storm as receiving water samples for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination; and

      (2) samples of storm water runoff shall be further analyzed during the same storm as receiving water samples for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides

(pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates) and

(3) samples of storm water runoff shall be analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

c. For an applicant not participating in a regional monitoring program [see below in Section IV (B)] in addition to (a.) and (b.) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

4. The Executive Director of the State Water Board (statewide permits) or Executive Officer of the Regional Water Board (Regional Water Board permits) may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

B. OCEAN RECEIVING WATER AND REFERENCE AREA MONITORING PROGRAM

In addition to performing the Core Discharge Monitoring Program in Section II.A above, all applicants having authorized discharges must perform ocean receiving water monitoring. In order to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS, dischargers may choose either (1) an individual monitoring program, or (2) participation in a regional integrated monitoring program.

1. Individual Monitoring Program: The requirements listed below are for those dischargers who elect to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS. In addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

   a. Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in section (IV)(A)(3)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

      The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled at approximately the same time prior to (pre-storm) and during (or immediately after) the same storm (post storm). Reference water quality shall also be sampled and analyzed for the same constituents pre-storm and post-storm, during the same storms when receiving water is sampled. Reference stations will be

determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

b. Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod Eohaustorius estuarius must be performed.

c. A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.

d. Once during each five (5) year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (Mytilus californianus) and/or sand crabs (Emerita analoga or Blepharipoda occidentalis). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

e. Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

f. The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board (statewide permits) or Executive officer of the Regional Water Board (Regional Water Board permits) may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

2. Regional Integrated Monitoring Program: Dischargers may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the otherwise prescribed individual

monitoring approach (in Section IV.B.1) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

a. Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled per responsible party. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

b. ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than18 inches.) Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS per responsible party in that ASBS. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

c. Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected when annual storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons. For those ASBS dischargers that have already participated in the Southern California Bight 2008 ASBS regional monitoring effort, sampling may be limited to only one storm season.

d. Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.

3. Waterfront and Marine Operations: In addition to the above requirements for ocean receiving water monitoring, additional monitoring must be performed for marinas and boat launch and pier facilities:

a. For all marina or mooring field operators, in mooring fields with 10 or more occupied moorings, the ocean receiving water must be sampled for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), and ammonia nitrogen.

   (1) For mooring field operators opting for an individual monitoring program (Section IV.B.1 above), this sampling must occur weekly (on the weekend) from May through October.

   (2) For mooring field operators opting to participate in a regional integrated monitoring program (Section IV.B.2 above), this sampling must occur monthly from May through October on a high use weekend in each month. The Water Boards may allow a reduction in the frequency of sampling, through the regional monitoring program, after the first year of monitoring.

b. For all mooring field operators, the subtidal sediment (sand or finer, if present) within mooring fields and below piers shall be sampled and analyzed for Ocean Plan Table B metals (for marine aquatic life beneficial use), acute toxicity, PAHs, and tributyltin. For sediment toxicity testing, only an acute toxicity test using the amphipod Eohaustorius estuarius must be performed. This sampling shall occur at least three times during a five (5) year period. For mooring field operators opting to participate in a regional integrated monitoring program, the Water Boards may allow a reduction in the frequency of sampling after the first sampling effort's results are assessed.

Riverside Copermittee Redlines

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ATTACHMENT B

STANDARD PERMIT PROVISIONS AND GENERAL PROVISIONS

1. Standard Permit Provisions

Code of Federal Regulations Title 40 Section 122.41 (40 CFR 122.41) includes conditions, or provisions, that apply to all National Pollutant Discharge Elimination System (NPDES) permits. Additional provisions applicable to NPDES permits are in 40 CFR 122.42. All applicable provisions in 40 CFR 122.41 and 40 CFR 122.42 must be incorporated into this Order and NPDES permit. The applicable 40 CFR 122.41 and 40 CFR 122.42 provisions are as follows:

a. DUTY TO COMPLY [40 CFR 122.41(a)]

The Copermittee must comply with all of the provisions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The Copermittee must comply with effluent standards or effective prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or effective prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement. [40 CFR 122.41(a)(1)]

(2) The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who *negligently* violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of

not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.
[40 CFR 122.41(a)(2)]

(3) Any person may be assessed an administrative penalty by the San Diego Regional Water Quality Control Board (San Diego Water Board), State Water Resources Control Board (State Water Board), or United States Environmental Protection Agency (USEPA) for violating Section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.
[40 CFR 122.41(a)(3)]

b. DUTY TO REAPPLY [40 CFR 122.41(b)]

If a Copermittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Copermittee must apply for and obtain a new permit.

c. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE [40 CFR 122.41(c)]

It shall not be a defense for a Copermittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

d. DUTY TO MITIGATE [40 CFR 122.41(d)]

The Copermittee must take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

e. PROPER OPERATION AND MAINTENANCE [40 CFR 122.41(e)]

The Copermittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Copermittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a Copermittee only when the operation is necessary to achieve compliance with the conditions of this permit.

f. PERMIT ACTIONS [40 CFR 122.41(f)]

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Copermittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

g. PROPERTY RIGHTS [40 CFR 122.41(g)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

h. DUTY TO PROVIDE INFORMATION [40 CFR 122.41(h)]

The Copermittee must furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USPEA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Copermittee must also furnish to the San Diego Water Board, State Water Board, or USPEA upon request, copies of records required to be kept by this permit.

i. INSPECTION AND ENTRY [40 CFR 122.41(i)]

The Copermittee must allow the San Diego Water Board, State Water Board, USEPA, and/or their authorized representative (including an authorized contractor acting as their representative), upon presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the Copermittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit; [40 CFR 122.41(i)(1)]

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; [40 CFR 122.41(i)(2)]

(3) Inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; [40 CFR 122.41(i)(3)] and

(4) Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location. [40 CFR 122.41(i)(4)]

j. MONITORING AND RECORDS [40 CFR 122.41(j)]

(1) Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. [40 CFR 122.41(j)(1)]

(2) Except for records of monitoring information required by this permit related to the Copermittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR Part 503), the

Copermittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board at any time. [40 CFR 122.41(j)(2)]

(3) Records for monitoring information must include: [40 CFR 122.41(j)(3)]

(a) The date, exact place, and time of sampling or measurements; [40 CFR 122.41(j)(3)(i)]
(b) The individual(s) who performed the sampling or measurements; [40 CFR 122.41(j)(3)(ii)]
(c) The date(s) analyses were performed; [40 CFR 122.41(j)(3)(iii)]
(d) The individual(s) who performed the analyses; [40 CFR 122.41(j)(3)(iv)]
(e) The analytical techniques or methods used; [40 CFR 122.41(j)(3)(v)] and
(f) The results of such analyses. [40 CFR 122.41(j)(3)(vi)]

(4) Monitoring must be conducted according to test procedures under 40 CFR Part 136 unless another method is required under 40 CFR Subchapters N or O. [40 CFR 122.41(j)(4)]

In the case of pollutants for which there are no approved methods under 40 CFR Part 136 or otherwise required under 40 CFR Subchapters N and O, monitoring must be conducted according to a test procedure specified in the permit for such pollutants. [40 CFR 122.44(i)(1)(iv)]

(5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. [40 CFR 122.41(j)(5)]

k. SIGNATORY REQUIREMENT [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the San Diego Water Board, State Water Board, or USEPA must be signed and certified. (See 40 CFR 122.22) [40 CFR 122.41(k)(1)]

(a) *For a municipality, State, Federal, or other public agency.* [All applications must be signed] [b]y either a principal executive officer or ranking elected official. [40 CFR 122.22(a)(3)]

(b) All reports required by permits, and other information requested by the San Diego Water Board, State Water Board, or USEPA must be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if: [40 CFR 122.22(b)]

(i) The authorization is made in writing by a person described in paragraph (a) of this section; [40 CFR 122.22(b)(1)]

(ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) [40 CFR 122.22(b)(2)] and,

(iii) The written authorization is submitted to the San Diego Water Board and State Water Board. [40 CFR 122.22(b)(3)]

(c) *Changes to authorization.* If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative. [40 CFR 122.22(c)]

(d) *Certification.* Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." [40 CFR 122.22(d)]

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. [40 CFR 122.41(k)(2)]

I. REPORTING REQUIREMENTS [40 CFR 122.41(l)]

(1) *Planned changes.* The Copermittee must give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when: [40 CFR 122.41(l)(1)]

(a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); [40 CFR 122.41(l)(1)(i)] or

(b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which

are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1). [40 CFR 122.41(l)(1)(ii)]

(c) The alteration or addition results in a significant change in the Copermittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. [40 CFR 122.41(l)(1)(iii)]

(2) *Anticipated noncompliance*. The Copermittee must give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. [40 CFR 122.41(l)(2)]

(3) *Transfers*. This permit is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the permit to change the name of the Copermittee and incorporate such other requirements as may be necessary under the CWA. [40 CFR 122.41(l)(3)]

(4) *Monitoring reports.* Monitoring results must be reported at the intervals specified elsewhere in this permit. [40 CFR 122.41(l)(4)]

(a) Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. [40 CFR 122.41(l)(4)(i)]

(b) If the Copermittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or another method required for an industry-specific waste stream under 40 CFR Subchapters N or O, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board or State Water Board. [40 CFR 122.41(l)(4)(ii)]

(c) Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean unless otherwise specified in the permit. [40 CFR 122.41(l)(4)(iii)]

(5) *Compliance schedules*. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. [40 CFR 122.41(l)(5)]

(6) *Twenty-four hour reporting.*

(a) The Copermittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally within 24 hours from the time the Copermittee becomes aware of the circumstances. A written submission must also be provided within five (5) days of the time the Copermittee becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)(i)]

(b) The following must be included as information which must be reported within 24 hours under this paragraph: [40 CFR 122.41(l)(6)(ii)]

(i) Any unanticipated bypass that exceeds any effluent limitation in the permit (See 40 CFR 122.41(g)). [40 CFR 122.41(l)(6)(ii)(A)]
(ii) Any upset which exceeds any effluent limitation in the permit. [40 CFR 122.41(l)(6)(ii)(B)] and,
(iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the San Diego Water Board in the permit to be reported within 24 hours. (See 40 CFR 122.44(g)) [40 CFR 122.41(l)(6)(ii)(C)]

(c) The San Diego Water Board may waive the above-required written report on a case-by-case basis if the oral report has been received within 24 hours. [40 CFR 122.41(l)(6)(iii)]

(7) *Other noncompliance.* The Copermittee must report all instances of noncompliance not reported in accordance with the standard provisions required under 40 CFR 122.41(l)(4), (5), and (6), at the time monitoring reports are submitted. The reports must contain the information listed in the standard provisions required under 40 CFR 122.41(l)(6). [40 CFR 122.41(l)(7))]

(8) *Other information.* When the Copermittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Copermittee must promptly submit such facts or information. [40 CFR 122.41(l)(8)]

~~**m. BYPASS** [40 CFR 122.41(m)]~~

~~(1) *Definitions.*~~

~~(a) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. [40 CFR 122.41(m)(1)(i)] or~~

~~(b) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be~~

Comment [A126]: While this is a standard condition for NPDES permits, it is manifestly inapplicable to MS4 permits. Since BMPs constructed to comply with the Order include bypass provisions to protect their entirety, the Copermittees would have to notify the Regional Board whenever a storm was predicted. This provision should be deleted.

~~expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.~~
~~[40 CFR 122.41(m)(1)(ii)]~~

~~(2) *Bypass not exceeding limitations*. The Copermittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the standard provisions required under 40 CFR 122.41(m)(3) and (4).~~
~~[40 CFR 122.41(m)(2)]~~

~~(3) *Notice.*~~

~~(a) *Anticipated bypass*. If the Copermittee knows in advance of the need for a bypass, it must submit a notice, if possible at least ten days before the date of the bypass. [40 CFR 122.41(m)(3)(i)] or~~

~~(b) *Unanticipated bypass*. The Copermittee must submit notice of an unanticipated bypass in accordance with the standard provisions required under 40 CFR 122.41(l)(6) (24-hour notice).~~
~~[40 CFR 122.41(m)(3)(ii)]~~

~~(4) *Prohibition of Bypass.*~~

~~(a) Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Copermittee for bypass, unless:~~
~~[40 CFR 122.41(m)(4)(i)]~~

~~(i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; [40 CFR 122.41(m)(4)(i)(A)]~~
~~(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance;~~
~~[40 CFR 122.41(m)(4)(i)(B)] and,~~
~~(iii) The Copermittee submitted notice in accordance with the standard provisions required under 40 CFR 122.41(m)(3).~~
~~[40 CFR 122.41(m)(4)(i)(C)]~~

~~(b) The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed above.~~
~~[40 CFR 122.41(m)(4)(ii)]~~

~~n.~~m. **UPSET** [40 CFR 122.41(n)]

(1) *Definition.* "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Copermittee. An upset does not

include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. [40 CFR 122.41(n)(1)]

(2) *Effect of an upset*. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the standard provisions required under 40 CFR 122.41(n)(3) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. [40 CFR 122.41(n)(2)]

(3) *Conditions necessary for a demonstration of upset*. A Copermittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that: [40 CFR 122.41(n)(3)]

(a) An upset occurred and that the Copermittee can identify the cause(s) of the upset; [40 CFR 122.41(n)(3)(i)]
(b) The permitted facility was at the time being properly operated; [40 CFR 122.41(n)(3)(ii)] and
(c) The Copermittee submitted notice of the upset in accordance with the standard provisions required under 40 CFR 122.41(l)(6)(ii)(B) (24-hour notice). [40 CFR 122.41(n)(3)(iii)]
(d) The Copermittee complied with any remedial measures pursuant to the standard provisions required under 40 CFR 122.41(d). [40 CFR 122.41(n)(3)(iii)]

(4) *Burden of proof*. In any enforcement proceeding, the Copermittee seeking to establish the occurrence of an upset has the burden of proof. [40 CFR 122.41(n)(4)]

~~o.~~n. **STANDARD PERMIT PROVISIONS FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS**
[40 CFR 122.42(c)]

The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the San Diego Water Board or State Water Board under 40 CFR 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report must include:

(1) The status of implementing the components of the storm water management program that are established as permit conditions; [40 CFR 122.42(c)(1)]

(2) Proposed changes to the storm water management programs that are established as permit conditions. Such proposed changes must be consistent with 40 CFR 122.26(d)(2)(iii); [40 CFR 122.42(c)(2)] and

(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and (v); [40 CFR 122.42(c)(3)]

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year; [40 CFR 122.42(c)(4)]

(5) Annual expenditures and budget for year following each annual report; [40 CFR 122.42(c)(5)]

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; [40 CFR 122.42(c)(6)]

(7) Identification of water quality improvements or degradation. [40 CFR 122.42(c)(7)]

~~p.~~ o. **STANDARD PERMIT PROVISIONS FOR STORM WATER DISCHARGES** [40 CFR 122.42(d)]

The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) must require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

2. General Provisions

In addition to the standard provisions required to be incorporated into the Order and NPDES permit pursuant to 40 CFR 122.41 and 40 CFR 122.42, several other general provisions apply to this Order. The general provisions applicable to this Order and NPDES permit are as follows:

a. DISCHARGE OF WASTE IS A PRIVILEGE

No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights. [CWC Section 13263(g)]

b. DURATION OF ORDER AND NPDES PERMIT

(1) *Effective date*. This Order and NPDES permit becomes effective on the 50th day after its adoption provided the USEPA has no objection. If the USEPA objects to its issuance, this Order shall not become effective until such objection is withdrawn. This Order supersedes Order No. R9-2007-0001 upon the effective date of this Order, and supersedes Order Nos. R9-2009-0002 and R9-2010-0016 upon their expiration or earlier notice of coverage.

(2) *Expiration*. This Order and NPDES permit expires five years after its effective date. [40 CFR 122.46(a)]

(3) *Continuation of expired order*. After this Order and NPDES permit expires, the terms and conditions of this Order and NPDES permit are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.

c. AVAILABILITY

A copy of this Order must be kept at a readily accessible location and must be available to on-site personnel at all times.

d. CONFIDENTIALITY OF INFORMATION

Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the San Diego Water Board office.

Claims of confidentiality for the following information will be denied: [40 CFR 122.7(b)]

(1) The name and address of any permit applicant or Copermittee; [40 CFR 122.7(b)(1)] and

(2) Permit applications and attachments, permits, and effluent data. [40 CFR 122.7(b)(2)]

e. EFFLUENT LIMITATIONS

(1) *Interim effluent limitations*. The Copermittee must comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by the San Diego Water Board.

(2) *Other effluent limitations and standards*. If any applicable toxic effluent standard or effective prohibition (including any schedule of compliance specified in such effluent standard or effective prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or effective prohibition is more stringent than any limitation on the pollutant in the permit, the San Diego Water Board shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or effective prohibition. [40 CFR 122.44(b)(1~~)}}}].~~]

f. DUTY TO MINIMIZE OR CORRECT ADVERSE IMPACTS

The Copermittee must take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

g. PERMIT ACTIONS

The filing of a request by the Copermittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated

noncompliance with this Order does not stay any condition of this Order. (See 40 CFR 122.41(f)) In addition, the following provisions apply to this Order:

(1) Upon application by any affected person, or on its own motion, the San Diego Water Board may review and revise the requirements in this Order. All requirements must be reviewed periodically. [CWC Section 13263(e)]

(2) This Order may be terminated or modified for cause, including, but not limited to, all of the following: [CWC Section 13381]

(a) Violation of any condition contained in the requirements of this Order. [CWC Section 13381(a)]

(b) Obtaining the requirements in this Order by misrepresentation, or failure to disclose fully all relevant facts. [CWC Section 13381(b)]

(c) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge. [CWC Section 13381(c)]

(3) When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.

h. NPDES PERMITTED NON-STORM WATER DISCHARGES

The San Diego Water Board has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The San Diego Water Board or State Water Board may in the future, upon prior notice to the Copermittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to an MS4. A Copermittee will not be held responsible for pollutants in its MS4 discharge originating from an NPDES-permitted non-storm water discharge.

Comment [A127]: This comment reflects the appropriate responsibility between NPDES dischargers.

i. MONITORING

In addition to the standard provisions required under 40 CFR 122.41(j) and (l)(4), the following general monitoring provisions apply to this Order:

(1) Where procedures are not otherwise specified in Order, sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Management Plan (QAMP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP), adopted by the State Water Resources Control Board (State Water Board).

(2) Pursuant to 40 CFR 122.41(j)(2) and CWC Section 13383(a), each Copermittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board at any time.

Comment [A128]: This provision and the provision in Attachment B 1.j(2) conflict. The Water Board should reconcile these provisions or delete one.

(3) All chemical, bacteriological, and toxicity analyses must be conducted at a laboratory certified for such analyses by the California Department of Public Health or a laboratory approved by the San Diego Water Board.

(4) For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Copermittees must instruct their laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Copermittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR Part 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Copermittee must submit documentation from the laboratory to the San Diego Water Board for approval prior to raising the ML for any priority toxic pollutant.

j. ENFORCEMENT

(1) The San Diego Water Board is authorized to enforce the terms of this Order under several provisions of the CWC, including, but not limited to, CWC Sections 13385, 13386, and 13387.

(2) Nothing in this Order shall be construed to protect the Copermittee from its liabilities under federal, state, or local laws.

(3) The CWC provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

(4) Except as provided in the standard conditions required under 40 CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the Copermittee from civil or criminal penalties for noncompliance.

(5) Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties to which the Copermittee is or may be subject to under Section 311 of the CWA.

(6) Nothing in this Order shall be construed to preclude institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

k. SEVERABILITY

The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

l. APPLICATIONS

Any application submitted by a Copermittee for reissuance or modification of this Order must satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the California Code of Regulations.

m. IMPLEMENTATION

All plans, reports and subsequent amendments submitted in compliance with this Order must be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

n. REPORT SUBMITTALS

(1) All report submittals must include an executive summary, introduction, conclusion, recommendations, and signed certified statement.

(2) Each Copermittee must submit a signed certified statement covering its responsibilities for each applicable submittal.

(3) The Principal Watershed Copermittee(s) must submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.

(4) Unless otherwise directed, the Copermittees must submit one hard copy and one electronic copy of each report required under this Order to the San Diego Water Board, and one electronic copy to the USEPA.

(5) The Copermittees must submit reports and provide notifications as required by this Order to the following:

EXECUTIVE OFFICER
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 SKY PARK COURT, SUITE 100
SAN DIEGO CA 92123-4340
Telephone: (858) 467-2952 Fax: (858) 571-6972

EUGENE BROMLEY
US ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PERMITS ISSUANCE SECTION (W-5-1)
75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

ATTACHMENT C

ACRONYMS AND ABBREVIATIONS

AMAL	Average Monthly Action Level
ASBS	Area(s) of Special Biological Significance
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the San Diego Basin
CEQA	California Environmental Quality Act
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWC	California Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
ESAs	Environmentally Sensitive Areas
GIS	Geographic Information System
IBI	Index of Biological Integrity
LID	Low Impact Development
MDAL	Maximum Daily Action Level
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NAL	Non-Storm Water Action Level
NAICS	North American Industry Classification System
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
ROWD	Report of Waste Discharge (application for NPDES reissuance)
SAL	Storm Water Action Level
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SIC	Standard Industrial Classification Code
State Water Board	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
WDID	Waste Discharge Identification Number
WLA	Waste Load Allocation
WQBEL	Water Quality Based Effluent Limitation

DEFINITIONS

Active/Passive Sediment Treatment - Using mechanical, electrical or chemical means to flocculate or coagulate suspended sediment for removal from runoff from construction sites prior to discharge.

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Automotive Repair Shop – a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539 or equivalent NAICS code.

Average Monthly Action Level – The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month, or the geometric mean for bacteria, as applicable.

Beneficial Uses - The uses of water necessary for the survival or wellbeing of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. "Beneficial Uses" ~~of the waters of the State~~ that may be protected include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)].

Best Management Practices (BMPs) - Defined in 40 CFR 122.2 as schedules of activities, effective prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal discharge permits, BMPs may be used in the place of numeric effluent limits.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biotic integrity) of a water body.

Biofiltration - Practices that use vegetation and amended soils to detain and treat runoff from impervious areas. Treatment is through filtration, infiltration, adsorption, ion exchange, and biological uptake of pollutants.

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. *Environmental Management* 5:55-68 as: "A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

BMP Design Manual – A plan developed to eliminate, reduce, or mitigate the impacts of runoff from development projects, including Priority Development Projects.

Channel Rehabilitation and Improvement – Remedial measures or activities for the purpose of improving or restoring the environmental health of streams, channels or river systems. Techniques may vary from in-stream restoration techniques to off-line stormwater management practices installed in the system corridor or upland areas. Rehabilitation techniques may include, but are not limited to the following: riparian zone restoration, constructed wetlands, bank stabilization, channel modifications, and day lighting of drainage systems.

Comment [A129]: This term should be defined in Attachment C given its use in the Order.

Clean Water Act Section 303(d) Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Site – Any project, including projects requiring coverage under the Construction General Permit, that involves soil disturbing activities greater than 10,000 square feet including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation. This does not include interior construction activities such as interior remodeling, plumbing, electrical, or mechanical work.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste whether or not waters of the State are affected."

Copermittee – An incorporated city within the County of Orange, County of Riverside, or County of San Diego in the San Diego Region~~,~~ (Region 9),~~,~~ the County of Orange, the County of Riverside, the County of San Diego, the Orange County Flood Control District, the Riverside County Water Conservation and Flood Control District, the San Diego Regional Airport Authority, or the San Diego Unified Port District. See also "Municipal Copermittee" and "Special District Copermittee".

Comment [A130]: As set forth above, the Riverside County Copermittees make a distinction in these classes of Copermittees based on their respective legal authorities.

Copermittees – All of the individual Copermittees, collectively, unless the obligation in question is directed to one or a sub-group of Copermittees.

Comment [A131]: This clarifies that not all obligations in the Order directed to "Copermittees" are in fact applicable to all Copermittees.

Critical Channel Flow (Qc) – The channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Qc, it should be based on the weakest boundary material – either bed or bank.

Daily Discharge – Defined as either: (1) the total mass of the constituent discharged over the calendar day or any 24 hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g. concentration.)

The Daily Discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day, or other 24 hour period other than a day), or by the arithmetic mean of analytical results from one or more grab samples taken over the course of a

day.

Development Projects - Construction, rehabilitation, redevelopment, or reconstruction of any public or private residential project, industrial~~,~~ or commercial facility, or any other projects designed for post-construction human activity or occupation and involving land disturbance activities.

Comment [A132]: This definition clarifies the nature of Development Projects covered under the Order.

Direct Discharge to an Environmentally Sensitive Area – refers to outflow from a drainage conveyance system that collects runoff from the subject development or redevelopment site and terminates at or in receiving waters within the ESA, and is not commingled with flows from adjacent or other upstream lands.

Dry Season –May 1 to September 30.

Dry Weather – Weather is considered dry if the preceding 72 hours has been without measurable precipitation (>0.1 inch).

Enclosed Bays – Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost bay works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays do not include inland surface waters or ocean waters.

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting. This permit is concerned particularly with non-naturally occurring Erosion that eventually results in a Sediment discharge from MS4s into Receiving Waters.

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; areas designated as preserves or their equivalent under the Natural Communities Conservation Program within the Cities and County of Orange; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

Estuaries – Waters, including coastal lagoons, located at the mouth of streams that serve as areas of mixing fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and ocean water. Estuaries do not include inland surface waters or ocean waters.

Existing Development – Any area that has been developed and exists for municipal, commercial, industrial, or residential purposes, uses, or activities. May include areas that are not actively used for its originally developed purpose, but may be re-purposed or redeveloped

for another use or activity.

Flow Duration – The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). The simplest way to visualize this is to consider a histogram of pre- and post-project flows using long-term records of hourly data. To maintain pre-development flow duration means that the total number of hours (counts) within each range of flows in a flow-duration histogram cannot increase between the pre- and post-development condition. Flow duration within the range of geomorphologically significant flows is important for managing erosion.

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as "any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code" [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other hazardous wastes generated during home improvement or maintenance activities.

Hydromodification – The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, such as stream channelization, concrete lining, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection – Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities [40 CFR 122.26(b)(2)]. Discharges from natural sources or from conditionally exempt sources described in this Order are not considered Illicit Discharges.

Inactive Areas – Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Infiltration – Water other than wastewater that enters a sewer system (including sewer service connections and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow [40 CFR 35.2005(20)].

Comment [A133]: Wrong definition. Should be defining infiltration (of stormwater into soil)

Inland Surface Waters – Includes all surface waters of the U.S.~~State~~ that do not include the ocean, enclosed bays, or estuaries.

Jurisdictional Runoff Management Program Document – A written description of the specific jurisdictional runoff management measures and programs that each Copermittee will implement to comply with this Order and ensure that illicit discharges are effectively prohibited, and storm water pollutant discharges in runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Low Impact Development (LID) – A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Low Impact Development Best Management Practices (LID BMPs) – LID BMPs include schedules of activities, effective prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States through storm water management and land development strategies that emphasize conservation ~~s~~and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions. LID BMPs include retention practices that do not allow runoff, such as infiltration, rain water harvesting and reuse, and evapotranspiration. LID BMPs also include flow-through practices such as biofiltration that may have some discharge of storm water following pollutant reduction.

Major Outfall – As defined in the Code of Federal Regulations, a major outfall is a MS4 outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (i.e. discharge from a single conveyance other than a circular pipe which is associated with a drainage area of more than 50 acres); or, for MS4s that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or equivalent), a MS4 outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (i.e. discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

Maximum Daily Action Level (MDAL) –The highest allowable daily discharge of a pollutant, over a calendar day (or 24 hour period). For pollutants with action levels expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with action levels expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) ~~for storm water~~ that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their runoff management programs. Their total collective and individual activities conducted pursuant to the runoff management programs becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the San Diego Water Board, the San Diego Water Board

defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

> "*To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:*
>
> a. *Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
> b. *Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
> c. *Public Acceptance: Does the BMP have public support?*
> d. *Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
> e. *Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.?*
>
> *The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP based solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."*

Monitoring Year – October 1 to September 30

Municipal Copermittee – Any Copermittee, exclusive of Special District Copermittees.

Comment [A134]: This definition clarifies distinction between municipal and special district copermittees.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.226. Copermittees need only comply with permit conditions relating to "discharges from the municipal separate storm sewers for which they are operators." 40 CFR 122.26(a)(vi).

Comment [A135]: These changes correct a citation and clarifies the responsibility of the copermittees as to other MS4s.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). ~~Non-storm water includes illicit discharges and NPDES permitted discharges.~~

Comment [A136]: This is overly limiting, There are other types of Non-storm discharges that do not fit these two categories (e.g. irrigated agriculture, natural flows, conditionally exempt flows, others). Rather than trying to identify all types of non-stormwater discharges, suggest just deleting this sentence.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act, a nuisance is "anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes."

Ocean Waters – the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board's California Ocean Plan.

Order – Unless otherwise specified, refers to this Order, Order No. R9-2013-0001 (NPDES No. CAS0109266)

Outfall – *Outfall* means a *point source* as defined by 40 CFR 122.2 at the point where a MS4 discharges to waters of the United States and does not include open conveyances connecting two MS4s, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United. 40 CFR 122.26(b)(9).

Comment [A137]: This federal regulatory definition clarifies the nature of an outfall.

Parking Lot – a land area or facility for the tempraory parking or storage of motor vehicles used personally, for business, or for commerce.

Comment [A138]: Definition placed in Attachment C for consistency.

Persistent Flow - Persistent flow is defined as the presence of an MS4 discharge that is hydraulically connected to a flowing~~, pooled, or ponded~~ receiving water more than 72 hours after a measureable rainfall event of 0.1 inch or greater during three consecutive monitoring and/or inspection events. All other flowing, pooled, or ponded water is considered transient.

Comment [A139]: Changes reflect the necessity of a connection to flowing receiving waters. Discharges that are pooled are not discharges to waters of the United States. Please see Comment Letter section 3.5.3.

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return

flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act, pollution is "the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses." Pollution may include contamination.

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Pre-Project~~Development~~ Runoff Conditions – Runoff conditions that exist~~existed~~ onsite immediately before the ~~existing development was constructed, or exists onsite before~~ planned development activities occur. Pre-development is not intended to be interpreted as that period before any human-induced land disturbance has occurred. 64 FR 68761.

Comment [A140]: This definition reflects the exact language used by U.S. EPA in the Federal Register. Moreover, it avoids the constitutional and statutory problems with requiring developers to mitigate for impacts not attributable to their project. It also is consistent with the CEQA standard for project impact mitigation.

Priority Development Projects - New development and redevelopment projects defined under Provision E.3.b of Order No. R9-2012-0011.

Properly Designed – Designed in accordance with the Copermittee's BMP Design Manual and/or any appropriate design requirements set forth by the Copermittee and based on widely accepted design criteria and in accordance with this Order.

Comment [A141]: This definition is required to address this standard, which is mentioned in the Order but not defined.

Rainy Season (aka Wet Season) –October 1 to April 30

Receiving Waters – Waters of the United States.

Receiving Water Limitations - Waste discharge requirements issued by the San Diego Water Board typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirements of CWA section 402(p)(3)(B).

Redevelopment - The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; parking lots; resurfacing existing roadways; cutting and reconfiguring of surface parking lots; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damaged pavement, such as pothole repair and emergency restoration and public safety projects.

Comment [A142]: The changes requested in this definition appropriately exempts de minimis or emergency/public safety projects.

Reporting Period – The period of information that is reported in the Annual Report. The reporting period consists of two components: 1) July 1 to June 30, consistent with the fiscal

year, for the implementation of the jurisdictional runoff management programs, and 2) October 1 to September 30, consistent with the monitoring year for the monitoring and assessment programs. Together, these two time periods constitute the reporting year for the Annual Report due January 31 following the end of the monitoring year.

Restaurant – a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).

Comment [A143]: Relocation of definition to Attachment C.

Retail gasoline outlet (RGO) – a business that sells automotive or truck fuel to the general public with a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

Comment [A144]: Definition added for clarity and consistency with prior redlines

Retain –Keep or hold in a particular place, condition, or position without discharge to ~~surface~~ Receiving W~~w~~aters.

Retrofitting – Storm water management practices put into place after development has occurred in watersheds where the practices previously did not exist~~.~~ or are ineffective.~~.~~ Retrofitting of developed areas is intended to improve water quality, protect downstream channels, reduce flooding, or meet other specific objectives. Retrofitting developed areas may include, but is not limited to replacing roofs with green roofs, disconnecting downspouts or impervious surfaces to drain to pervious surfaces, replacing impervious surfaces with pervious surfaces, installing rain barrels, installing rain gardens, and trash area enclosures.

Comment [A145]: Edit clarifies intent of definition.

Runoff - All flows in a storm water conveyance system that consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water including dry weather flows.

San Diego Water Board – As used in this document the term "San Diego Water Board" is synonymous with the term "Regional Board" as defined in Water Code section 13050(b) and is intended to refer to the California Regional Water Quality Control Board for the San Diego Region as specified in Water Code Section 13200.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) that is discharged into Receiving Waters is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources into Receiving Waters and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Special District Copermittee – A separate legal entity that may own or operate MS4 systems, but has no land use authorities outside of their MS4. The Riverside County Flood Control and Water Conservation District [and Orange County Flood Control District?] is a [are] Special District Copermittee[s].

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and runoff.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage. ~~Surface runoff and drainage pertains to runoff and drainage resulting from precipitation events.~~

Stream, Channel, or Habitat Rehabilitation – Measures or activities for the purpose of improving or restoring the environmental health (i.e. physical, chemical and biological integrity) of streams, channels, or river systems. Rehabilitation techniques may include, but are not limited to, riparian zone restoration, constructed wetlands, bank stabilization, channel reconfiguration, and daylighting drainage systems.

Street, Road, Highway, Freeway– Any paved impervious surface that is used for the transportation of automobiles, trucks, motorcycles, and other vehicles, with an ADT of at least 100 vehicles per day.

Comment [A146]: Definition relocated to Attachment C.

Comment [A147]: Consistent with RGO definition.

Structural BMPs - A subset of BMPs which detains, retains, filters, removes, or prevents the release of pollutants to surface waters from development projects in perpetuity, after construction of a project is completed.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Basin Plan, state in part…"All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life….The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge".

Treatment Control BMP – Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

Unpaved Road – Any long, narrow stretch without pavement used for traveling by motor passenger vehicles between two or more points. Unpaved roads are generally constructed of dirt, gravel, aggregate or macadam and may be improved or unimproved.

Waste - As defined in CWC Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of

water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans. Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne's definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards - Water quality standards, as defined in Clean Water Act section 303(c) consist of the beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of a water body and criteria (referred to as water quality objectives in the California Water Code) necessary to protect those uses. Under the Water Code, the water boards establish beneficial uses and water quality objectives in water quality control or basin plans. Together with an anti-degradation policy, these beneficial uses and water quality objectives serve as water quality standards under the Clean Water Act. In Clean Water Act parlance, state beneficial uses are called "designated uses" and state water quality objectives are called "criteria." Throughout this Order, the relevant term is used depending on the statutory scheme.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State. ~~regardless of circumstances or condition.~~

Comment [A148]: The intent of the definition is to cover natural water sources, and not anthropogenic structures that collect runoff to reduce volume/velocity or pollutants.

Waters of the United States - As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: "(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA."

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

Wet Season (aka Rainy Season) –October 1 to April 30

Wet Weather – Weather is considered wet if there is a storm event of 0.1 inches and greater and the following 72 hours, unless otherwise defined by the Copermittee for the purposes of monitoring consistent with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), or developed pursuant to another regulatory mechanism.

Comment [A149]: This is important as the monitoring requirements require you to sample the first 'Wet Weather' event. 0.1" of rainfall doesn't result in runoff in all watersheds. Copermittees should be able to define mobilization criteria to identify storms that are likely to produce runoff in that drainage area consistent with this EPA guidance.

LEGAL AND FACT SHEET COMMENTS ON TENTATIVE ORDER R9-2013-0001 MADE ON BEHALF OF THE RIVERSIDE COUNTY COPERMITTEES

This document provides comments on various legal issues raised by Tentative Order No. R9-2013-0001 (the "Draft Permit") and associated attachments, including Attachment F, the Fact Sheet/Technical Report ("Fact Sheet"), and are made on behalf of the Riverside County Flood Control & Water Conservation District ("District"), the County of Riverside and the Cities of Murrieta, Temecula and Wildomar (collectively, the "Riverside County Copermittees").

These legal comments are in addition to the other comments on the Draft Permit and attachments made by the Riverside County Copermittees (including the Comment Letter dated January 10, 2013 and signed by Jason E. Uhley, Chief of the District's Watershed Protection Division) and the redline attachment ("Redline"), as well as any comments or testimony which may be offered at the public hearing(s) on the Draft Permit. The Comment Letter and Redline also discuss legal issues. The Riverside County Copermittees appreciate this opportunity to comment and welcome any questions that Water Board staff may have.

These comments are submitted subject to the same reservations set forth in the Comment Letter regarding the Water Board's lack of authority, in the absence of agreement by the Riverside County Copermittees or the filing of a Report of Waste Discharge ("ROWD"), to issue a regional municipal separate storm sewer system ("MS4") permit to the Riverside County Copermittees. Submission of these comments does not waive this objection.

Request for Additional Public Comment

Before turning to comments on the Draft Permit, the Riverside County Copermittees wish to note that in view of the extensive comments made by them, as well as what we anticipate will be extensive comments by the South Orange County and San Diego County Copermittees, as well as from other stakeholders, it would greatly facilitate the permit adoption process if the Water Board were to release a revised Tentative Order for further review and comment prior to final adoption of the Permit. This will enable the Water Board staff to address the comments in a more orderly fashion and provide all parties with the opportunity to see how staff proposes to incorporate the comments in the Draft Permit.

Comments on Findings

Finding 2 and Fact Sheet Section VII.B: This finding recites that the Water Board "has the legal authority to issue a regional MS4 permit pursuant to its authority under Clean Water Act ("CWA") section 402(p)(3)(B) and 40 CFR 122.26(a)(i)(v)." Section VII.B of the Fact Sheet provides a more detailed rationale for this finding (at pages F-22-23).

The Riverside County Copermittees respectfully disagree with this finding and the analysis provided in the Fact Sheet. We do not believe that a regional MS4 permit is authorized under the CWA or the implementing regulations, absent agreement by the copermittees to be bound by such a MS4 permit (as is the case with the Bay Area MS4 permit covering discharges into the Bay).

The CWA itself does not explicitly authorize MS4 permits that, like the Draft Permit, cross county lines. CWA section 402(p)(3)(B) provides only that "[p]ermits for discharges from municipal storm sewers . . . may be issued on a system- or jurisdiction-wide basis." This language, contrary to the conclusion in Finding 2, indicates that a multi-county permit, covering several distinct non-interconnected municipal stormwater "systems" in multiple watersheds with multiple receiving waters, is not one issued on a "system-wide" basis and that an MS4 permit covering multiple jurisdictions in three different counties is not one issued on a "jurisdiction-wide basis." Because neither "system-wide" nor "jurisdiction-wide" are defined in the CWA, however, the CWA regulations must also be reviewed.

The regulatory provision cited in Finding 2, 40 CFR § 122.26(a)(1)(v), does not add clarity, since it merely repeats the "system-wide" and "jurisdiction-wide" language of the Act and the regulations define neither term. The regulations do, however, suggest that "system-wide" is not intended to cover multiple large MS4s in different jurisdictions. The regulations, at 40 CFR § 122.26(a)(1)(v) state that in making the determination to designate a system-wide or jurisdiction-wide basis" the permitting authority should consider the location of the "discharge" with respect to waters of the United States, the size of the discharge, the quantity and nature of the pollutants discharge and other relevant factors.

The Draft Permit covers multiple "discharges" into receiving waters located in three separate counties and the size, quality and nature of the discharges vary widely, due to varying hydrologic and climatic conditions in the three areas.

The Fact Sheet cites 40 CFR § 122.26(a)(3)(iv), which provides, in relevant part, that the Water Board "may issue one systemwide permit covering all, or a portion of all municipal separate storm systems in adjacent or interconnected large or medium municipal separate storm sewer systems." This provision does not, however, authorize issuance of a regional MS4 permit covering multiple counties and multiple watersheds that are not interconnected and which do not share a common receiving water. In fact, the only common fact uniting the various MS4s in the three counties under the Water Board's jurisdiction is that common jurisdiction.

First, even if the subject MS4 facilities otherwise met the criteria specified in the federal regulations (which, as noted below, they do not), the prospective permittees must apply for such a MS4 permit, as set forth in the first sentence of 40 CFR § 122.26(a)(3)(iv): "*One permit application may be submitted for all or a portion of all* municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems." (emphasis supplied). No such application has been filed with respect to the Draft Permit. Only the San Diego County copermittees submitted a ROWD for MS4 facilities within that county.[1]

[1] Moreover, the fact that permittees have the ability to determine the geographic scope of the permit is reinforced by the language in 40 CFR § 122.26(a)(3)(iii)(B), which allows an individual municipality to submit "a distinct permit application which only covers discharges from the [MS4] for which the owner is responsible . . ." If a permittee can "opt out" of a multi-MS4 permit by submitting a individual permit application, a permitting authority such as a water board cannot impose a multi-MS4 permit on that permittee.

Second, this provision requires that the MS4s to be covered in the permit be "adjacent or interconnected." This is not true with respect to the MS4s proposed to be included within the Draft Permit. For example, the MS4 within the Santa Margarita Region of Riverside County is not "interconnected" with any other MS4s except those within that region. This is true also of the MS4s within South Orange County and San Diego County, which are not interconnected. Additionally, none of the MS4s in the three counties is "adjacent" to each other – each is separated by miles of non-urban area. In the SMR for example, the confluence of Temecula and Murrieta Creeks to form the Santa Margarita River is miles upstream of Rainbow Creek, the first discharge from San Diego County to the River. And, the confluence of Temecula and Murrieta Creeks is over 30 miles from the discharge of the Santa Margarita River to the Pacific Ocean.

The next inquiry is whether the three separate county MS4s could be considered, together, to form a single "large municipal separate storm sewer system." The federal MS4 regulations define this term as follows:

> *Large municipal separate storm sewer system* means all municipal separate storm sewers that are either:
>
> (i) Located in an incorporated place with a population of 250,000 or more . . . ."
>
> (ii) Located in the counties listed in Appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or
>
> (iii) Owned or operated by a municipality other than those described [in paragraphs (i) and (ii)] . . . and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described [in paragraphs (i) and (ii)]. In making this determination the Director may consider the following factors:
>
> (A) Physical interconnections between the municipal separate storm sewers;
>
> (B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in [paragraph (i)];
>
> (C) The quantity and nature of pollutants discharged to waters of the United States;
>
> (D) The nature of the receiving waters; and
>
> (E) Other relevant factors, or
>
> (iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region

> defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described [in paragraphs (i), (ii) or (iii)].

40 CFR § 122.26(b)(4).

None of paragraphs (i), (ii) or (iii) authorizes a regional MS4 permit such as that envisioned in the Draft Permit. The Draft Permit applies beyond a single incorporated place, County or municipality. Of these paragraphs, only paragraph (iv) could arguably be used to define the MS4s in the three Counties as a single MS4 and thus authorize a regional permit. The key limiting language is, however, "within the boundaries of a region **defined by a storm water management regional authority,** based on a jurisdictional, watershed, or other appropriate basis . . . ." A regional water board is not a stormwater management regional authority. This is clear from the MS4 regulations, which provide that a "**regional authority may be responsible for submitting a permit application"** under certain conditions. 40 CFR § 122.26(a)(3)(iii)(C). Clearly, a Water Board is not responsible for submitting MS4 permit applications.

U.S. EPA, in the Preamble to the final Phase I MS4 regulations (55 Fed Reg. 47990, November 16, 1990), further illuminated the meaning of the regulatory language. The Preamble indicates that commenters proposed eight different MS4 permitting options:

> Option 1 – systems owned or operated by incorporated places augmented by integrated discharges; Option 2 – systems owned or operated by incorporated places augmented with significant other municipal discharges; Option 3 – systems owned or operated by counties; Option 4 – systems owned and operated by States or State departments of transportation; Option 5 – systems within the boundaries of an incorporated place; Option 6 – systems within the boundaries of counties; Option 7 – systems in census designated urbanized areas; and Option 8 – systems defined by watershed boundaries.

55 Fed Reg. at 48039. None of these options encompasses the fact pattern presented by the Draft Permit, which covers multiple counties and multiple watersheds, are not interconnected, do not share common receiving waters and are located in separate census designated urbanized areas.

In explaining the derivation of 40 CFR 122.26(b)(4)(iv), U.S. EPA noted that it was "an outgrowth of comments on all options, especially Option 4 (State owned systems/State highways) and Option 8 (watersheds)." 55 Fed. Reg. at 48040. Thus, the Caltrans MS4 permit (which applies statewide) is authorized under paragraph (iv), since the "storm water management regional authority" defining the region to be covered is Caltrans itself. No such single authority exists for the three-county area proposed to be included in the Draft Permit, which also would encompass multiple watersheds.

Moreover, paragraph (iv) provides that the regional authority must "petition" the U.S. EPA Director to have a single MS4 designated within the boundaries of the region defined by the regional authority. Because California has been delegated NPDES permitting authority, a regional authority would presumably need to petition its Water Board to authorize such a regional permit. Since no such regional authority exists to establish the geographical basis for a

three-county MS4 permit, there is no such entity to "petition" the Water Board to establish a regional permit. This is clear from the Preamble to the Phase I regulations, which indicate that "regional storm water authorities" established by "some States or counties" may "petition the Director [or its state designee] to assume a regional role. 55 Fed. Reg. at 48042. It is clear from the Preamble that it is not the Water Board that has the authority to make such a petition, but rather the "storm water authorities" (i.e., municipalities, districts and Caltrans).

It should be noted that the Bay Area Regional MS4 Permit was a joint Bay Area Water Board and copermittee effort, coordinated by the Bay Area Stormwater Agencies Management Association ("BASMAA"). It is not the case that the Bay Area Water Board imposed this regional MS4 permit. The copermittees, coordinated by BASMAA, themselves determined to develop a regional MS4 permit. Further, all of the copermittees to the Bay Area Regional MS4 Permit discharge to a common receiving water, San Francisco Bay. Also, an Alaska MS4 permit cited in a letter from the Office of Chief Counsel to county counsel for Orange and Riverside Counties was issued to several municipalities and entities within a single "borough," which is equivalent in Alaska to a county.

Additionally, neither the Riverside County Copermittees nor those in South Orange County have filed ROWDs with the San Diego Water Board, which serve as the application for an NPDES MS4 permit in California. Water Code § 13260. The current Riverside County MS4 permit for the Santa Margarita Region provides that the ROWD is not required to be filed until May 2015, 180 days prior to the November 10, 2015 expiration date of that permit. Order R9-2010-0016, Part II.K.2.c.

> This ROWD must include:
>
> (1) Proposed changes to the Copermittees' runoff management programs; (2) Proposed changes to monitoring programs; (3) Justification for proposed changes; (4) Name and mailing addresses of the Copermittees; (5) Names and titles of primary contacts of the Copermittees; (6) Any other information necessary for the reissuance of this Order and (7) Any other information required by federal regulations for permit reapplications.

Id. It should be noted that several items of this ROWD are specifically intended to assist in the formulation of a new, SMR-specific MS4 permit, including proposed changes to the runoff management and monitoring programs, as well as justification for such changes, information necessary for "reissuance" of the SMR MS4 permit and information required by the federal regulations for MS4 permit reapplications.

As a simple jurisdictional matter, the Water Board cannot issue a regional MS4 permit to MS4 dischargers that have not applied for it. Moreover, as noted above, the SMR copermittees are entitled to apply for an MS4 permit applicable to their jurisdiction. Further, each individual copermittee has the right to apply for a MS4 permit covering only its discharges, as has the City of Long Beach in the Los Angeles Region.

Finding 3, Finding 15, in Fact Sheet Section VII.A and in Multiple Locations Throughout Draft Permit: In Finding 3, the Fact Sheet and in multiple locations throughout the Draft Permit (which are identified in the redline of the Draft Permit submitted with these comments by the Riverside County Copermittees ("Redline")), it is stated that the maximum extent practicable ("MEP") applies only to "storm water" discharges from the MS4. This is not correct.[2]

In fact, the Clean Water Act does not distinguish between non-stormwater and stormwater in terms of MS4 discharges which must be controlled to the MEP standard. *See* 33 U.S.C. § 1342(p)(3)(B)(iii)(the MS4 permit "shall require controls to reduce the discharge of pollutants to the maximum extent practicable . . . ." While the heading of 33 U.S.C. § 1342(p) refers to "Municipal and industrial stormwater discharges," this is not dispositive, as 33 U.S.C. § 1342(p)(3)(B)(ii), which requires the effective prohibition of "non-stormwater discharges" into the MS4. Thus, the language of this heading does not in fact support the argument that the MEP standard applies only to pollutants in stormwater discharges.

That both non-stormwater and stormwater must be controlled to the MEP standard was made clear by U.S. EPA itself in the preamble to the final Phase I stormwater regulations. In that preamble, U.S. EPA made it clear that "MEP control measures" would be implemented to address not only pollutants in "storm water" but also from "non-storm water discharges." As the preamble states:

> "Permittees are required to develop management programs for four types of pollutant sources which discharge to large and medium municipal storm sewer systems. Discharges from [such systems] are usually expected to be composed primarily of: (1) Runoff from commercial and residential areas; (2) storm water runoff from industrial areas; (3) runoff from construction sites; and (4) *non-storm water discharges*. Part 2 of the permit application has been designed to allow [permittees] the opportunity to propose *MEP control measures for each* of these components of the discharge."

55 Fed. Reg. at 48052 (emphasis supplied).

This language sets forth USEPA's understanding of the plain language of the CWA: "pollutants" must be controlled to the MEP from any MS4 "discharge," not merely pollutants in stormwater.

Finding 11: This finding, in relevant part, states that "[h]istoric and current development makes use of natural drainage patterns and features as conveyances for runoff. Rivers, streams and creeks in developed areas used in this manner are part of the Copermittees' MS4s regardless of whether they are natural, anthropogenic, or partially modified features. In these cases, the rivers, streams and creeks in the developed areas of the Copermittees' jurisdictions are both an MS4 and receiving water." This conclusion is legally incorrect.

First, under no circumstance can a natural stream constitute an MS4. The definition of "MS4" in the CWA regulations (a definition found in Attachment C of the Draft Permit) refers to a

[2] Finding 15 also states, erroneously, that the MEP standard "is explicitly for "Municipal . . . *Stormwater Discharges* (emphasis added)" from the MS4.

"conveyance or system of conveyances" "owned or operated" by a municipality. 40 CFR §122.26(b)(8). In California, natural rivers and streams are not "owned" nor "operated" by the municipality through which they flow. Moreover, a municipality obviously cannot "operate" a natural creek or stream. In further support of the point that a MS4 is an artificial, not natural, watercourse, the types of "conveyances" identified in the regulation ("roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains") all refer to anthropogenic structures, not natural streams. 40 CFR § 122.26(b)(8).

Second, a "receiving water" cannot also be an MS4, as is plain from the CWA regulations. An MS4 is itself defined as discharging to waters of the United States. 40 C.F.R. §122.26(b)(8). An MS4 cannot, in essence, discharge to itself. Moreover, an "outfall" from an MS4 (the point at which the discharge enters a receiving water) does not, pursuant to 40 C.F.R §122.26 (b)(9), include conveyances connecting "segments of the same stream or other waters of the United States and are used to convey waters of the United States."

Moreover, U.S. EPA, in the Preamble to the initial version of the MS4 regulations (53 Fed. Reg. 49416 (Dec. 7, 1988)) expressly determined that "streams, wetlands and other water bodies that are waters of the United States are not storm sewers for the purposes of this rule" and that "stream channelization, and stream bed stabilization, which occur in waters of the United States" were not subject to National Pollutant Discharge Elimination System ("NPDES") permits under Section 402 of the CWA. 53 Fed. Reg. at 49442.

Additionally, the United States Supreme Court recently reversed the Ninth Circuit Court of Appeals and ruled that flows from sections of the Los Angeles and San Gabriel Rivers that are comprised of concrete flood control channels are not a "discharge" under the CWA, confirming that such rivers, even if improved, are "receiving waters" along with any natural portions of those rivers. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council*, 568 U.S. __(January 8, 2013) (slip op.).

The above-cited statement in the finding is incorrect and should be stricken, as recommended in the Redline.

Finding 12: This finding states, in relevant part, that "[a]s operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or otherwise control." This statement is legally incorrect, and ignores the salient point that the "discharger" of a pollutant is primarily responsible for controlling/permitting that discharge, under both the CWA and the Porter-Cologne Act. For example, under the Porter-Cologne Act, any persons discharging or proposing to discharge "waste" into waters of the state must file a report of waste discharge and obtain a waste discharge requirement. Water Code §§ 13260, 13263. The operator of the MS4 into which that water eventually flows is not "essentially accepting" responsibility for the discharge. The responsibility of the MS4 operator is established under the CWA, and that is to effectively prohibit non-stormwater discharges into [the MS4] and to control the discharge of pollutants from the MS4 to the MEP.

Moreover, the statement ignores the fact that in California, downstream property owners (including municipalities owning and operating MS4 facilities) must accept the flow of upstream waters. In fact, for a downstream municipality to block such flow would constitute an inverse condemnation or the creation of a nuisance under California law. *See Arreola v. County of Monterey* (2002) 99 Cal.App.4th 722 (obstruction of flood waters by improperly designed highway constituted inverse condemnation and nuisance).

Finding 28 and Fact Sheet Section VI: In the Finding, it is stated that the Water Board "finds that the requirements in this permit are not more stringent than the minimum federal requirements" and that therefore "a CWC section 13241 analysis is not required." The Finding further recites that notwithstanding this fact, "the San Diego Water Board has developed an economic analysis of the requirements in this Order."

For the reasons set forth in the comments of the Riverside County Copermittees, numerous provisions in the Draft Permit are in fact more stringent than the requirements of the CWA and its implementing regulations and therefore require an adequate Water Code § 13241 analysis. Unfortunately, this analysis is not provided in the Fact Sheet.

First, the economic analysis set forth in the Fact Sheet does not meet the requirements of Section 13241, as it does not analyze the six specific factors required to be analyzed under the section. Second, the analysis uses cost data from other sources, only a few of which were from the municipalities proposed to be included under the Draft Permit. These data are also a number of years old; the most recent study referenced in the Fact Sheet, the one done for the State Board by Cal State Sacramento, was dated January 2005 and included decade-old cost data from the City of Encinitas that dated from 2002-2003.

Third, the section of the Fact Sheet discussing the benefits of water quality notes that "there have been no studies for the San Diego Region to quantify the added value that surface waters with healthy water quality can provide." Thus, the Water Board has no evidence with which to compare the costs and benefits of the programs set forth in the Draft Permit. Moreover, the discussion makes the incorrect assumption that the alternative to the programs in the Draft Permit would be no controls on pollutants in urban runoff. As the Fact Sheet correctly notes, the Draft Permit is the fifth term MS4 permit for the copermittees. The previous four permits all contained increasingly complex and expensive control requirements, both structural and non-structural, designed to improve the quality of MS4 discharges. Thus, an appropriate cost analysis must compare the incremental costs of the programs set forth in the Draft Permit and the incremental benefits attributable to that permit. This has not been done in the Fact Sheet. Finally, the analysis does not recognize that the receiving waters provided economic benefits to residents of the San Diego Region long before issuance of the first MS4 permits in 1990. It is thus illogical to suggest that these pre-existing economic benefits would be lost if the Draft Permit is not adopted.

Finding 29 and Fact Sheet Section VII.F: The finding and the supporting argument in the Fact Sheet represents an attempt by Water Board staff to address whether the requirements of the Draft Permit represent an unfunded state mandate. That attempt, however, is beyond the scope of the Water Board's powers, since the *only* agency charged by the Legislature with determining

the presence of a state mandate, and whether that mandate is unfunded, is the Commission on State Mandates. Govt. Code § 17552; *Kinlaw v. State of California* (1991) 54 Cal.3d 326, 333. The Water Board has no jurisdiction to make a legal finding or discuss in the Fact Sheet that the Draft Permit, in whole or in part, does not constitute an unfunded state mandate.

Additionally fact sheets are required, under the CWA regulations, to provide the legal authority and reasons for each substantive permit provision (40 CFR § 124.8(a)(4); 40 CFR § 124.56(a)). *See also City of Rancho Cucamonga v. Regional Water Quality Control Board-Santa Ana Region* (2006), 135 Cal.App.4th 1377, 1382 (stating that fact sheets contains "the legal and factual grounds for the Water Board's recommendation to adopt the . . . permit"). Finding 29 and the discussion in Section VII.F of the Fact Sheet do not relate to any Draft Permit provision, nor provide legal authority or justification for the Draft Permit's adoption. As such, the finding and Fact Sheet discussion are surplussage and should be deleted.

The Riverside County Copermittees disagree with each of the arguments set forth in the Finding and Fact Sheet as to why the Draft Permit does not constitute an unfunded state mandate. Nevertheless, because the exclusive arena for such disagreements is the Commission on State Mandates, whose jurisdiction does not commence unless and until a test claim is filed before the Commission, the Copermittees need not and will not address those arguments.

Comments on Provisions in Draft Permit

Provision A and Fact Sheet Section VIII.A:

Lack of True Iterative Compliance Process

As set forth in the Redline and in the Comment Letter, the Riverside County Copermittees believe that to effectuate the iterative approach to compliance with water quality standards and other discharge prohibitions in the Draft Permit, the copermittees must be provided with the means to be in compliance. Based on monitoring, exceedances of water quality standards are occurring in the receiving waters subject to the Draft Permit, as set forth in Table G-14 to the latest 2011-2012 monitoring report submitted by the Riverside County Copermittees. Thus, if the copermittees are not provided an iterative means to be in compliance, which was contemplated by State Board's Order No. 2001-15, the copermittees will be issued an illegal MS4 permit, since it is a permit with which they cannot comply. This violates the intent of Congress in the CWA, which "is presumed not to have intended absurd (impossible) results." *Hughey v. JMS Development Corp.*, 78 F.3d 1523, 1529 (11th Cir. 1996); *accord, Mississippi River Revival v. City of Minneapolis*, 319 F.3d 1013, 1017-1018 (8th Cir. 2003).

With regard to the iterative process, Water Board staff has indicated numerous times during the workshop process that achievement of water quality standards is expected to take many years. The entire WQIP approach is aimed at the eventual attainment of such standards, as are the TMDLs issued to other copermittees, which have final compliance dates years into the future.

This approach is, however, put into jeopardy by the requirement, as expressed in the Fact Sheet at F-39, that the discharge prohibition and receiving water limitation provisions are

"independently applicable, meaning that compliance with one provision does not provide a 'safe harbor' where there is non-compliance with another provision (i.e., compliance with Provision A.4 does not shield a Copermittee who may have violated Provision A.1.a, A.1.c, or A.2.a from an enforcement action." While the Fact Sheet appropriately notes how this process should work through Provision A.4 (which "essentially requires the Copermittees to implement additional BMPs until MS4 discharges no longer cause or contribute to a violation of water quality standards") it also states that despite this iterative process, "the San Diego Water Board retains the discretion to take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits under the CWA." Fact Sheet at F-40.

The consequences of this approach cannot be overemphasized. Despite the copermittees' good faith undertaking to follow the iterative process outlined in Provision A.4, a Water Board enforcement proceeding or a citizen suit can be brought for violations of water quality standards and, if the citizen plaintiff is successful, a federal judge is empowered to use his/her injunctive powers under Section 505(a) of the CWA to throw out the WQIP, JRMP or other compliance efforts of the copermittees and require other efforts. In such a case, the time and money spent by the copermittees in trying to comply with the Draft Permit, as well as the effort spent by the copermittees and Water Board staff in developing the Draft Permit's terms, are completely wasted.

Thus, the essential conundrum of Provision A, as presently drafted, is clearly exposed. Even though a copermittee may spend significant sums and undertake significant tasks under its WQIP or JRMP, be conducting expensive monitoring and special studies, and be in *full compliance* with all of the programmatic requirements of the Draft Permit, it would still face either a Water Board enforcement action or a citizen suit under Section 505 of the CWA. And, such a suit would allege exceedances of water quality standards (some of which are hardly capable of laboratory detection, much less control) that the Water Board acknowledges cannot be achieved for years.

Provision A is not, however, required by the CWA, as held by the Ninth Circuit in *Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir. 1999). The holding in *Browner* is further reflected in State Board Order WQ 2001-15 (which the Fact Sheet acknowledges incorporates an "iterative process") which states:

> [O]ur [receiving water limitation] language, similar to the U.S. EPA's permit language discussed in the Browner case, **does not require strict compliance with water quality standards.** Our language requires that **storm water management plans be designed to achieve compliance with water quality standards**. **Compliance is to be achieved over time, through an iterative approach requiring improved BMPs**. As pointed out by the Browner court, there is nothing inconsistent between this approach and the determination that the Clean Water Act does not mandate strict compliance with water quality standards.

Order WQ 2001-15 at 7 (emphasis added). Thus, Provision A is inconsistent with the State Board's own precedential order, which requires the iterative approach effectuated by the suggested Redline changes.[3]

In further support, it may be noted that the U.S. EPA-drafted MS4 permit for the District of Columbia does not contain the type of language found in Provision A, but rather requires "an iterative and an adaptive management process for pollutant reduction and for achieving applicable water quality standard and/or total maximum daily load (TMDL) compliance." DC MS4 Permit Fact Sheet, page 5 (attached as Exhibit A).

Also, despite the assertion in the Fact Sheet that the copermittees are seeking a "safe harbor" from liability, this is incorrect. Every provision of an MS4 permit is subject to enforcement; given the complexity of the Draft Permit, the failure by a copermittee to comply with any provision could lead to such enforcement.

As noted above, MS4 discharges may not be achieving compliance with strict water quality standards, as recognized by the Issue Paper released by State Board staff in preparation for a November 20, 2012 workshop on receiving water limitation issues raised by *NRDC v. County of Los Angeles*. That Issue Paper stated that as "the storm water management programs of municipalities have matured, **an increasing body of monitoring data indicates that water quality standards are in fact not being met by many MS4s.**" (State Board Issue Paper, Page 2, emphasis supplied) (*see* Exhibit B.)

Perhaps most importantly, requiring strict and immediate compliance with discharge prohibition and receiving water limitations inhibits, not supports, the philosophy of the Draft Permit, which is to encourage the copermittees to focus on the most significant problems in their watersheds and to prioritize their resources to address those problems. Provision A, by contrast, discourages innovative approaches or prioritization, since all pollutants exceeding water quality standards create liability. Moreover, as discussed above, in the event of a citizen suit being brought such as that in the *NRDC* case, a federal judge could award injunctive relief to a successful plaintiff that could completely ignore or supplant the WQIP and other permit terms.

For additional discussion of receiving water limitations issues, please see Exhibit C, a letter submitted by the District to the State Board in connection with the recent workshop held by the State Board on receiving water limitations language. The Riverside County Copermittees hereby reference and incorporate this Exhibit into these comments.

The Riverside County Copermittees support a true iterative process that requires refinement and amendment of the WQIP and associated BMPs when receiving water limitation violations are recorded. That is the essence of the iterative process; the identification of problems and the development of BMPs to attempt to address those problems.

[3] While the Fact Sheet cites as authority *Natural Resources Defense Council v. County of Los Angeles*, discussed above, the Ninth Circuit was simply responding to language in the former Los Angeles County MS4 permit, and did not determine that such non-iterative language was required by the CWA.

The Redline proposes a means to achieve compliance using the WQIPs, which are intended to bring the copermittees into compliance with the discharge prohibition and receiving water limitation provisions of the Draft Permit over time. The Redline links compliance with Provisions A.1, A.2 and A.3 to A.4, which indicates that compliance is obtained through the preparation and updating of the WQIPs.

It must be noted, however, that the Riverside County Copermittees do not agree with the approach suggested by others, that any WQIP-based compliance approach be necessarily accompanied by a "Reasonable Assurance Analysis." Such an analysis could be extremely complex, expensive and time intensive to develop. Generally, such analyses are developed in the preparation of TMDLs and take a number of years to develop and refine. Given that the Santa Margarita Watershed has no adopted TMDLs, there are no comprehensive pollutant transport or BMP models available for the suite of constituents that might be considered for prioritization within a WQIP for that watershed. In the context of a TMDL, such models would be developed by the combined resources of the Water Board, stakeholders and dischargers. Requiring such an exercise to be undertaken solely with the public resources of the residents of the SMR is beyond the Copermittees' financial ability and would shift responsibility for development of TMDLs from the Water Board to the Copermittees.

Discussion in Fact Sheet

The Fact Sheet discussion also contains a number of legal and factual errors. First, the statement on page F-34 that non-stormwater discharges from the MS4 are subject to NPDES permitting requirements is unsupported by the plain language of the CWA, which (as noted above) applies the MEP standard to *all* discharges of pollutants from the MS4, not just those in stormwater. Also, such discharges are not subject to separate requirements under the NPDES program, as suggested on F-34, and non-storm water discharges are not the same, legally, as "illicit discharges." Please see discussion below.

Similarly, the Fact Sheet's conclusion that "Regional Water Boards are not limited by the iterative MEP approach to storm water regulation in crafting appropriate regulations for non-storm water discharges" is incorrect. The Fact Sheet correctly states that MEP has not been defined in the CWA or by U.S. EPA in the CWA regulations. However, the Fact Sheet incorrectly concludes that MEP is "ultimately defined" by the Water Boards or the State Board. What constitutes "MEP" is a question of federal law under the CWA, not a matter for definition by agencies which merely have been delegated the authority to enforce the CWA in California. The only source for such a finding is a memorandum from a State Board attorney, not case authority.

Moreover, Provisions B-E of the Draft Permit, far from establishing a "minimum framework" for the copermittees to achieve the MEP standard, sets forth in many cases requirements that far exceed the plain requirements of the CWA, the implementing regulations and in some cases even state law, or which require the copermittees to undertake steps that are not "practicable." These requirements are identified in the comments of the Riverside County Copermittees. In such respects, those requirements do not represent a "minimum framework" for MEP.

Other Issues

The Riverside County Copermittees also object to the provision in A.1.a and other portions of the Draft Permit that prohibit certain discharges into "waters of the state." The CWA regulates discharges into waters of the United States, which are surface waters. Expanding the prohibition to cover waters of the state expands the scope of the Draft Permit to protect groundwater, as a matter of state law. It should be noted that the recent Los Angeles County MS4 Permit appropriately applies this prohibition to waters of the United States.

Provision B.5: As noted in the Comment Letter, the CWA requires that illegal discharges into the MS4 be addressed by a program of steps taken to address such discharges. The Redline emphasizes that this program be guided by WQIP priorities, which is consistent with the overall intent of the Draft Program.

Provision E.2.a and E.2.a.(7): These provisions require the Copermittees to, as a part of their Illicit Discharge Detection and Elimination (IDDE) program, address all non-stormwater discharges as "illicit discharges," thus requiring the copermittees to "reduce or eliminate non-stormwater discharges" whether or not the discharges have been identified as "illicit."

The Fact Sheet asserts that "Provision E.2.a.(7) is consistent with the requirements of the CWA section 402(p)(3)(B)(ii) and 40CFR 122.26(d)(1)(v)(B). That assertion is not correct. Section 402(p)(3)(B)(ii) of the CWA states that MS4 permits "shall include a requirement to *effectively prohibit* non-stormwater discharges into the storm sewers" (emphasis supplied). The CWA regulations include two provisions designed to begin implementation of the "effective prohibition." The first provision requires MS4 permittees to perform a screening analysis, intended to provide sufficient information to develop priorities for a program to detect and remove illicit discharges. 40 CFR 122.26(d)(1)(iv)(D). The second requires MS4 permittees to develop a recommended site-specific management plan to detect and remove illicit discharges (or ensure they are covered by an NPDES permit) and to control improper disposal to MS4s. 40 CFR 122.26(d)(1)(iv)(D) and 122.26(d)(2)(B). The MS4 permittees are required to identify the non-stormwater discharge as an illicit discharge prior to having an obligation to effectively prohibit it. There is not otherwise a presumption to reduce or eliminate it.

40 CFR 122.26(d)(1)(v)(B), cited in the Fact Sheet, requires "[a] description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented."

The provision and rationale within the Fact Sheet blur the distinction between the copermittees' need to "effectively" prohibit non-stormwater discharges and to detect and eliminate illicit discharges.

- The requirement is "effectively prohibit" non-stormwater discharges, not "reduce or eliminate" non-stormwater discharges.
- Although copermittees are required to have a program to prevent illicit discharges to the MS4, non-stormwater discharges should only be addressed as illicit discharges where

such discharges are identified as sources of pollutants that may cause or contribute to an exceedance of a water quality objective.

- The IDDE program is established to detect and eliminate "illicit discharges", not non-stormwater discharges in general.

Please see the Redline for modifications to Provision E.2 addressing these issues.

Provision E.2.a.(3): In the Redline, the Riverside County Copermittees request that categories of irrigation runoff discharges (landscape irrigation, irrigation water and lawn watering) be considered as conditionally exempt discharges (not subject to treatment as illicit discharges).

The rationale for not including irrigation runoff discharges lacks a legal and factual basis. As noted in the Comment Letter, the only factual basis for this provision with respect to the Riverside County Copermittees is discussion in a public information informational brochure, which was itself based on a similar document from Orange County. Fact Sheet F-76. Despite assertions to the contrary in the Fact Sheet, this brochure does not represent a determination by the Riverside County Copermittees that irrigation runoff is a category of non-stormwater discharge that must be effectively prohibited. The other evidence in support of prohibiting the conditional exemption for irrigation runoff is entirely from different areas of the region, with different urban development patterns, lithology and hydrology. No specific determination has been made by the Copermittees (or the Water Board) that irrigation runoff in the Santa Margarita Region has actually been shown to be significant source of pollutants to receiving waters in the SMR.

EPA, in the preamble to the federal MS4 regulations, required that a *permittee* must make a finding that the "irrigation water" discharges must be a "source of pollutants to waters of the United States . . . ." 55 Fed. Reg. 48037. Moreover, such discharges must represent a "significant" source of pollutants to waters of the United States "under certain conditions." U.S. EPA, *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Application for Discharges from Municipal Separate Storm Sewer Systems,* November 1992 ("EPA Part 2 Guidance Manual"), at p. 6-33. These conditions require a focus not on an entire category of discharges, but rather a discharger-by-discharger examination.

In the MS4 regulatory preamble, EPA stated that "[i]n general, municipalities will not be held responsible for prohibited some specific components of discharges or flows listed below through their [MS4], even though such components may be considered non-storm water discharges, unless such discharges *are specifically identified on a case-by-case basis as needing to be addressed."* 55 Fed. Reg. 47995 (emphasis supplied). In the Guidance Manual, EPA states:

> If an applicant knows . . . that landscape irrigation water from a ***particular site*** flows through and picks up pesticides **or *excess*** nutrients from fertilizer applications, there may be a reasonable potential for a storm water discharge to result in a water quality impact. In such an event, the applicant should contact the NPDES permitting authority to request that the authority order ***the discharger*** . . . to obtain a separate NPDES permit (or in this case, the discharge could be controlled through the storm water management program of the MS4).

EPA Part 2 Guidance Manual, p. 6-33 (emphasis added). Read in this context of this language, the Water Board has no power greater than a municipality in terms of its ability to identify non-stormwater discharges as "illicit" and thus required to be regulated, and must identify specific discharges, and not entire categories of discharges. *See* 55 Fed. Reg. 48037. This has not been done in the Fact Sheet.

Provision E.3(c): This provision requires the Copermittees to compel development projects that may not result in a hydromodification impact to the applicable receiving waters, to implement on-site or "alternative compliance" hydromodification mitigation measures and to use using "pre-development (naturally occurring)" runoff reference condition as applied to sites that are, in fact, developed.

The Riverside County Copermittees are concerned that implementing these requirements would subject the Copermittees to liability under the takings clauses of the U.S. and California Constitutions as well as under the Mitigation Fee Act because of the questionable nexus between such a project's lack of actual hydromodification impacts upon the receiving waters, and the hydromodification management measures required in the Draft Permit.

When imposing a condition on a development permit, a local government is required under the federal and state constitutions to establish that the condition bears a reasonable relationship to the impacts of the development project. This rule applies even to legislatively enacted requirements and impact fees or exactions.[4] Moreover, fees imposed on a discretionary ad hoc basis are subject to heightened scrutiny under a two-part test. First, local governments must show that there is a substantial relationship between the burden created by the impact of development and any fee or exaction.[5] Second, a development project's impacts must bear a "rough proportionality" to any development fee or exaction.[6] Under California law, the *Nollan/Dolan* heightened scrutiny test also applies to in-lieu fees.[7]

The Legislature has memorialized these requirements in the Mitigation Fee Act, which establishes procedures that local governments must follow to impose impact fees.[8] Irrespective of whether the hydromodification management requirements are implemented by legislative act or on an ad hoc basis, the copermittees' attempt to enforce them as proposed in the Draft Permit would likely result in claims by developers and property owners alleging unconstitutional takings of private property and violations of the Mitigation Fee Act. This is because a developer could argue that limiting hydromodification impacts of already developed property to its "naturally occurring" state, or requiring hydromodification mitigation measures for impacts not imposed by the project, would not have a legally sufficient nexus to the impact of the development project.

In addition, the Copermittees wish to bring the Water Board's attention to a recent case, *Virginia Dept. of Transportation v. United States Environmental Protection Agency*, Civ. Action No.

[4] *Building Indus. Ass'n v. City of Patterson* (2009)171 Cal. App. 4th 886, 898.
[5] *Nollan v. California Coastal Comm'n*, 483 U.S. 825, 837 (1987).
[6] *Dolan v. City of Tigard*, 512 U.S. 374, 391 (1994).
[7] *Ehrlich v. City of Culver City* (1996) 12 Cal. 4th 854, 876.
[8] Cal. Gov't Code §§ 66000-66025.

1:12-CV-775 (E.D. Va. January 3, 2013) (slip op.), which is attached for the Water Board's convenience as Exhibit D. In this case, a federal district judge found that the CWA did not authorize U.S. EPA to regulate stormwater itself as a pollutant. The impact of this case is not known at this time, as it will probably be appealed to the Fourth Circuit Court of Appeals. Still, any approach to hydromodification which focuses on flows *per se*, as opposed to pollutants, may not withstand legal scrutiny.

Provision E.3.c.(3)(c)(i): This provision requires the entire alternative compliance in-lieu fee to be transferred to the copermittee or an escrow account prior to construction of a Priority Development Project (PDP). This provision is problematic, as development fees (which would include the in-lieu fees) are collected at the time of building permit issuance. In large-scale projects, permits may be issued (and development fees collected) in phases. Further, for master-planned developments, fees are generally negotiated through a development agreement to be collected based on certain development milestones. Therefore, collecting and holding the entire in-lieu fee prior to construction interferes with the development practice and may violate the Mitigation Fee Act and local development ordinances. The Redline requests that in-lieu fees be collected in accordance with state and local law.

Provision E.5: In addition to other comments on this provision and others in the Draft Permit relating to retrofitting, any requirements in Draft Permit relating to the retrofitting of engineered channels and other structures employed for flood control purposes must be consistent with the judgment of the flood control districts, to which the Legislature has assigned sole authority for the protection of the lives and property of their citizens from flooding. (Please see Comment Letter and proposed new findings in Redline for further discussion). Due to the urbanization of the counties over the past 150 years, as well as the particular topography and weather conditions found in Southern California, there is a great risk of flooding and hence the need for flood control structures and channels. The flood control districts have both the expertise and the sole legal authority to determine whether retrofitting of flood control structures can be accomplished in light of their statutory obligations, and that expertise and authority must be recognized in the Draft Permit.

Provision E.8: As noted in the Redline, the first requirement under Fiscal Analysis, that each "Copermittee must secure the resources necessary to meet all the requirements of this Order" has been deleted. This requirement is not found in the CWA regulations, which require only the conduct of a fiscal analysis. Moreover, this requirement intrudes on the home rule power of cities and counties by requiring, in essence, that municipal budgets must reflect the priority of compliance with the Order over any competing obligation, including police, fire protection and public health. A key issue in complying with stormwater and MS4 obligations is the ability of municipalities to afford the increasing costs associated with those obligations. In California, of course, the ability to raise taxes to pay for such obligations has been severely curtailed through several voter-approved propositions.

The Riverside County Copermittees request that Provision E.8.a be deleted.

EXHIBIT A

NPDES Permit No. DC0000221

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §§ 1251 *et seq.*

Government of the District of Columbia
The John A. Wilson Building
1350 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

is authorized to discharge from all portions of the municipal separate storm sewer system owned and operated by the District of Columbia to receiving waters named:

Potomac River, Anacostia River, Rock Creek and stream segments tributary to each such water body

in accordance with the Stormwater Management Program(s) dated February 19, 2009, subsequent updates, and related reports, strategies, effluent limitations, monitoring requirements and other conditions set forth in Parts I through IX herein.

The effective issuance date of this permit is: October 7, 2011.

This permit and the authorization to discharge shall expire at midnight, on: October 7, 2016.

Signed this 30th day of September, 2011.

Jon M. Capacasa, Director
Water Protection Division
U.S. Environmental Protection Agency
Region III

1. DISCHARGES AUTHORIZED UNDER THIS PERMIT

1.1 Permit Area

This permit covers all areas within the jurisdictional boundary of the District of Columbia served by, or otherwise contributing to discharges from, the Municipal Separate Storm Sewer System (MS4) owned or operated by the District of Columbia. This permit also covers all areas served by or contributing to discharges from MS4s owned or operated by other entities within the jurisdictional boundaries of the District of Columbia unless those areas have separate NPDES MS4 permit coverage or are specifically excluded herein from authorization under the District's stormwater program. Hereinafter these areas collectively are referred to as "MS4 Permit Area".

1.2 Authorized Discharges

This permit authorizes all stormwater point source discharges to waters of the United States from the District of Columbia's MS4 that comply with the requirements of this permit. This permit also authorizes the discharge of stormwater commingled with flows contributed by process wastewater, non-process wastewater, or stormwater associated with industrial activity provided such discharges are authorized under separate NPDES permits.

This permit authorizes the following non-stormwater discharges to the MS4 when appropriate stormwater activities and controls required through this permit have been applied and which are: (1) discharges resulting from clear water flows, roof drainage, dechlorinated water line flushing, landscape irrigation, ornamental fountains, diverted stream flows, rising ground waters, uncontaminated ground water infiltration to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation waters, springs, footing drains, lawn watering, individual resident car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, wash water, fire fighting activities, and similar types of activities; and (2) which are managed so that water quality is not further impaired and that the requirements of the federal Clean Water Act, 33 U.S.C. §§ 1251 *et seq.*, and EPA regulations are met.

1.3 Limitations to Coverage

1.3.1 Non-stormwater Discharges

The permittee, as defined herein, shall effectively prohibit non-stormwater discharges into the MS4, except to the extent such discharges are regulated with an NPDES permit.

1.3.2 Waivers and Exemptions

This permit does not authorize the discharge of any pollutant from the MS4 which arises from or is based on any existing waivers and exemptions that may otherwise apply and are not consistent with the Federal Clean Water Act and other pertinent guidance, policies, and regulations. This narrative prohibition on the applicability of such waivers and exemptions extends to any activity that would otherwise be authorized under District law, regulations or

ordinance but which impedes the reduction or control of pollutants through the use of stormwater control measures and/or prevents compliance with the narrative /numeric effluent limits of this permit. Any such discharge not otherwise authorized may constitute a violation of this permit.

1.4 Discharge Limitations

The permittee must manage, implement and enforce a stormwater management program (SWMP) in accordance with the Clean Water Act and corresponding stormwater NPDES regulations, 40 C.F.R. Part 122, to meet the following requirements:

1.4.1. Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with existing District of Columbia Water Quality Standards (DCWQS);

1.4.2. Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with 33 U.S.C. § 1342(p)(3)(B)(iii); 40 C.F.R. § 122.44(k)(2) and (3); and

1.4.3. Comply with all other provisions and requirements contained in this permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with the performance standards and provisions contained in Parts 2 through 8 of this permit shall constitute adequate progress toward compliance with DCWQS and WLAs for this permit term.

2. LEGAL AUTHORITY, RESOURCES AND STORMWATER PROGRAM ADMINSTRATION

2.1 Legal Authority

2.1.1 The permittee shall use its existing legal authority to control discharges to and from the Municipal Separate Storm Sewer System in order to prevent or reduce the discharge of pollutants to achieve water quality objectives, including but not limited to applicable water quality standards. To the extent deficiencies can be addressed through regulation or other Executive Branch action, the permittee shall remedy such deficiencies within 120 days. Deficiencies that can only be addressed through legislative action shall be remedied within 2 years of the effective date of this permit, except where otherwise stipulated, in accordance with the District's legislative process. Any changes to or deficiencies in the legal authority shall be explained in each Annual Report.

2.1.2 No later than 18 months following the effective date of this permit, the District shall update and implement Chapter 5 of Title 21 of District of Columbia Municipal Regulations (Water Quality and Pollution) ("updated DC Stormwater Regulations"), to address the control of stormwater throughout the MS4 Permit Area. Such regulations shall be consistent with this

FACT SHEET

National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4)
Permit No. DC0000221 (Government of the District of Columbia)

NPDES PERMIT NUMBER: DC0000221 (Reissuance)

FACILITY NAME AND MAILING ADDRESS:

Government of the District of Columbia
The John A. Wilson Building
1350 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

MS4 ADMINISTRATOR NAME AND MAILING ADDRESS:

Director, District Department of the Environment
1200 First Street, N.E., 6th Floor
Washington, D.C. 20002

FACILITY LOCATION:

District of Columbia's Municipal Separate Storm Sewer System (MS4)

RECEIVING WATERS:

Potomac River, Anacostia River, Rock Creek, and Stream Segments Tributary
To Each Such Water Body

INTRODUCTION:

Today's action finalizes reissuance of the District of Columbia Municipal Separate Storm Sewer System (MS4) Permit. In the Final Permit EPA has continued to integrate the adaptive management approach with enhanced control measures to address the complex issues associated with urban stormwater runoff within the corporate boundaries of the District of Columbia, where stormwater discharges via the Municipal Separate Storm Sewer System (MS4).

Since the United States Environmental Protection Agency, Region III (EPA) issued the District of Columbia (the District) its first MS4 Permit in 2000, the Agency has responded to a number of legal challenges involving both that Permit (as well as amendments thereto) and the second-round MS4 Permit issued in 2004. For the better part of ten years, the Agency has worked with various parties in the litigation, including the District and two non-governmental organizations, Defenders of Wildlife and Friends of the Earth, to address the concerns of the various parties. The Agency has engaged in both litigation and negotiation, including formal

mediation.[1] These activities ultimately led to an enhanced stormwater management strategy in the District, consisting of measurable outputs for addressing the issues raised during the litigation and mediation process.

FACILITY BACKGROUND AND DESCRIPTION:

The Government of the District of Columbia owns and operates its own MS4, which discharges stormwater from various outfall locations throughout the District into its waterways.[2]

On April 21, 2010 EPA public noticed the Draft Permit. The Draft Fact Sheet published with that Draft Permit contains more extensive permit background information, and the reader is referred to that document for the history of the District of Columbia MS4 permit.

The public comment period closed on June 4, 2010. EPA received comments from 21 individual commenters and an additional 53 form letters. The Draft Permit, Draft Fact Sheet, and comments received on those documents are all available at: http://www.epa.gov/reg3wapd/npdes/draft_permits.html. The Final Permit reflects many of the comments received. EPA is simultaneously releasing a responsiveness summary responding to these comments.

ACTION TO BE TAKEN:

EPA is today reissuing the District of Columbia NPDES MS4 Permit. The Final Permit replaces the 2004 Permit, which expired on August 18, 2009 and has been administratively extended since that time. The Final Permit incorporates concepts and approaches developed from studies and pilot projects that were planned and implemented by the District under the 2000 and 2004 MS4 permits and modifying Letters of Agreement, and implements Total Maximum Daily Loads (TMDLs) that have been finalized since the prior permit was issued, including the Chesapeake Bay TMDL. A number of applicable measurable performance standards have been incorporated into the Final Permit. These and other changes between the 2004 Permit and today's Final Permit are reflected in a Comparison Document that is part of today's Permit issuance.

WATER QUALITY IN DISTRICT RECEIVING WATERS:

The District's *2008 Integrated Report to the Environmental Protection Agency and U.S. Congress Pursuant to Sections 305(b) and 303(d) Clean Water Act*[3] documents the serious water

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1 A procedural history of Permit appeals can be viewed at the EPA Environmental Appeals Board web: http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/77355bee1a56a5aa8525711400542d23/b5e5b68e89edabe98525714f00731c6f!OpenDocument&Highlight=2,municipal.

2 Portions of the District are served by a combined sanitary and storm sewer system. The discharges from the combined sewer system are not subject to the MS4 permit, but are covered under NPDES Permit No. xxxx issued to the District of Columbia Water and Sewer Authority.

3 District Department of the Environment, *The District of Columbia Water Quality Assessment, 2008 Integrated Report to the Environmental Protection Agency and U.S. Congress Pursuant to Sections 305(b) and 303(d) Clean Water Act* (hereinafter "2008 Integrated Report").

quality impairments in the surface waters in and around the District. A number of the relevant designated uses are not being met, *e.g.*, aquatic life, fish consumption, and full body contact, and there are a number of specific pollutants of concern that have been identified (for additional discussion on relevant TMDLs *see* Section 4.10 of this Final Fact Sheet).

Commenters on the Draft Permit expressed some frustration over very slow progress or even lack of progress after a decade of implementation of the MS4 program and even longer for other water quality programs. EPA appreciates this concern. Although the District's receiving waters are affected by a range of discharge sources, discharges from the MS4 are a significant contributor of pollutants and cause of stream degradation. EPA also recognizes, however, that stormwater management efforts that achieve a reversal of the ongoing degradation of water quality caused by urban stormwater discharges entail a long term, multi-faceted approach.

Consistent with the federal stormwater regulations for characterizing discharges from the MS4 (40 C.F.R. §122.26(d)(2)(iii)), the first two permit terms for the District's MS4 program required end-of-pipe monitoring to determine the type and severity of pollutants discharging via the system. The monitoring program was not designed to evaluate receiving water quality *per se*, therefore detection of trends or patterns was not reasonably possible. Today's Final Permit includes requirements for a Revised Monitoring Program, and one of the objectives for the program is to use a suite of approaches and indicators to evaluate and track water quality over the long-term (*see* discussion of Section 5.1 in this Final Fact Sheet).
There have been identified improvements in some areas. For example the *2008 Integrated Report* noted improvements in the diversity of submerged aquatic vegetation in the Potomac River, as well as improvements in fish species richness in Rock Creek. Biota metrics are often the best indicators of the integrity of any aquatic system.

EPA also notes that there are a variety of indirect measures indicative of improvement. The federal stormwater regulations foresaw the difficulty, especially in the near-term, of detecting measurable improvement in receiving waters, and relied instead on indirect measures, such as estimates of pollutant load reductions (40 C.F.R. §122.26(d)(2)(v)). The District documents these types of indirect measures in its annual reports, *e.g.*, tons of solids collected from catch basin clean-outs, amount of household hazardous waste collected, number of trees planted, square footage of green roofs installed, and many other measures of success.[4]

EPA believes that documenting trends in water quality, whether improvements, no change, or even further degradation, is an important element of a municipal water quality program. Today's Final Permit recognizes this principle, both in the types of robust measures required as well as the transition to new monitoring paradigms. EPA encourages all interested parties to provide the District with input during the development of these program elements.

THIS FACT SHEET:

(http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/information2/water.reg.leg/DC_IR_2008_Revised_9-9-2008.pdf)

4 District MS4 Annual Reports can be found at: http://ddoe.dc.gov/ddoe/cwp/view,a,1209,q,495855.asp

This Final Fact Sheet is organized to correspond with the chronological organization and numbering in today's Final Permit. Where descriptions or discussions may be relevant to more than one element of the Final Permit the reader will be referred to the relevant section(s).

To keep today's Final Fact Sheet of readable length, many of the elements included in the fact sheet published with the Draft Permit (Draft Fact Sheet) on April 21, 2010 have not been repeated, but are referenced. Readers are referred to the Draft Fact Sheet published with the Draft Permit for additional discussion on provisions that have been finalized as proposed.[5] The Final Fact Sheet does discuss significant changes since the 2004 Permit (even if discussed in the Draft Fact Sheet). The Final Fact Sheet also contains additional explanation of the Final Permit where commenters requested additional clarification. In addition, this Final Fact Sheet explains modifications to the Final Permit where provisions were changed in response to comments.

In many cases EPA made a number of very simple modifications to the Final Permit, *e.g.*, a word, phrase, or minor reorganization, simply for purposes of clarification. These modifications were not intended to change the substance of the permit provisions, only to clarify them. Most of those types of edits are not discussed in this Final Fact Sheet, but EPA has provided a Comparison Document of the Draft and Final Permits for readers who would like that level of detail.

Many commenters noted that the Draft Permit was not logically organized. EPA agrees. The major reorganization principles include:

1) There is a new Section 3, Stormwater Management Program (SWMP) Plan consolidating the various plans, strategies and other documents developed in fulfillment of permit requirements.
2) All implementation measures, *i.e.*, those stipulating management measures and implementation policies, are included in Section 4 of today's Final Permit. This includes "Source Identification" elements (Section 3 in the Draft Permit) and "Other Applicable Provisions" elements (Section 8 in the Draft Permit), which included TMDL requirements.
3) All monitoring requirements are consolidated in Section 5 of the Final Permit.
4) All reporting requirements are consolidated in Section 6 of the Final Permit.

EPA also refers readers to the Responsiveness Summary released today along with the Final Permit and Final Fact Sheet, for responses to comments and questions received on the Draft Permit. That document contains additional detailed explanations of the rationale for changes made to the Draft Permit in the Final Permit.

Finally, EPA made significant effort to avoid appending or incorporating by reference other documents containing permit requirements into the Final Permit. In the interest of clarity

5 The Permit and Fact Sheet proposed on April 21, 2010 can be viewed at: http://www.epa.gov/reg3wapd/npdes/draft_permits.html

and transparency EPA, to the extent possible, has included all requirements directly in the permit. Thus, EPA reviewed a variety of documents with relevant implementation measures, *e.g.*, TMDL Implementation Plans and the 2008 Modified Letter of Agreement to the 2004 permit[6], and translated elements of those plans and strategies into specific permit requirements that are now contained in the Final Permit. This Fact Sheet provides an explanation of the sources of provisions that are significant and are a direct result of one of those strategies.

1. DISCHARGES AUTHORIZED UNDER THIS PERMIT

(1.2 Authorized Discharges): The Final Permit authorizes certain non-stormwater discharges, including discharges from water line flushing. One commenter noted that many of these discharges, especially from potable water systems, contain concentrations of chlorine that may exceed water quality standards. EPA agrees, and has therefore clarified that dechlorinated water line flushing is authorized to be discharged under the Final Permit.

(1.4 Discharge Limitations): Comments on the language in Part 1.4 varied widely. Some commenters did not believe it was reasonable to require discharges to meet water quality standards. Other commenters believed this to be an unambiguous requirement of the Clean Water Act.

Today's Final Permit is premised upon EPA's longstanding view that the MS4 NPDES permit program is both an iterative and an adaptive management process for pollutant reduction and for achieving applicable water quality standard and/or total maximum daily load (TMDL) compliance. *See generally,* "National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges," 55 F.R. 47990 (Nov. 16, 1990).

EPA is aware that many permittees, especially those in highly urbanized areas such as the District, likely will be unable to attain all applicable water quality standards within one or more MS4 permit cycles. Rather the attainment of applicable water quality standards as an incremental process is authorized under section 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1342(p)(3)(B)(iii), which requires an MS4 permit "to reduce the discharge of pollutants to the maximum extent practicable" (MEP) "and such other provisions" deemed appropriate to control pollutants in municipal stormwater discharges. To be clear, the goal of EPA's stormwater program is attainment of applicable water quality standards, but Congress expected that many municipal stormwater dischargers would need several permit cycles to achieve that goal.

Specifically, the Agency expects that attainment of applicable water quality standards in waters to which the District's MS4 discharges, requires staged implementation and increasingly more stringent requirements over several permitting cycles. During each cycle, EPA will continue to review deliverables from the District to ensure that its activities constitute sufficient progress toward standards attainment. With each permit reissuance EPA will continue to increase

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6 District Department of the Environment, *Modification to the Letter of Agreement dated November 27, 2007 for the NPDES Municipal Separate Storm Sewer (MS4) Permit DC0000222* (2008) http://www.epa.gov/reg3wapd/npdes/pdf/DCMS4/Letter.PDF

stringency until such time as standards are met in all receiving waters. Therefore today's Final Permit is clear that attainment of applicable water quality standards and consistency with the assumptions and requirements of any applicable WLA are requirements of the Permit, but, given the iterative nature of this requirement under CWA Section 402(p)(3)(B)(iii), the Final Permit is also clear that "compliance with all performance standards and provisions contained in the Final Permit shall constitute adequate progress toward compliance with DCWQS and WLAs for this permit term" (Section 1.4).

EPA believes that permitting authorities have the obligation to write permits with clear and enforceable provisions and thus the determination of what is the "maximum extent practicable" under a permit is one that must be made by the permitting authority and translated into provisions that are understandable and measurable. In this Final Permit EPA has carefully evaluated the maturity of the District stormwater program and the water quality status of the receiving waters, including TMDL wasteload allocations. In determining whether certain measures, actions and performance standards are practicable, EPA has also looked at other programs and measures around the country for feasibility of implementation. Therefore today's Final Permit does not qualify any provision with MEP thus leaving this determination to the discretion of the District. Instead each provision has already been determined to be the maximum extent practicable for this permit term for this discharger.

EPA modified the language in the Final Permit to provide clarity on the expectations consistent with the preceding explanation. Specifically Section 1.4.2 of the Final Permit requires that discharges 'attain' applicable wasteload allocations rather than just 'be consistent' with them, since the latter term is somewhat ambiguous.

In addition, the general discharge limitation 'no increase in pollutant loadings from discharges from the MS4 may occur to receiving waters' was removed because of the difficulty in measuring, demonstrating and enforcing this provision. Instead, consistent with EPA's belief that the Final Permit must include all of the enforceable requirements that would achieve this principle, the following discharge limitation is substituted: "comply with all other provisions and requirements contained in this permit, and in plans and schedules developed in fulfillment of this permit."

In addition, EPA made the following modifications: "Compliance with the performance standards and provisions contained in Parts 2 through 8 of this permit shall constitute adequate progress towards compliance with DCWQS and WLAs for this permit term" (*underlined text added*) (Section 1.4 of the Final Permit). EPA eliminated circularity with the addition of "Parts 2 through 8", clarifying that this requirement does not circle back to include the statements in 1.4.1 and 1.4.2, but rather interprets them. Also, although WLAs are a mechanism for attainment of water quality standards, EPA added the specific language "and WLAs" to make this concept explicit rather than just implicit. In addition this revised language emphasizes that the specific measures contained in the Final Permit, while appropriate for this permit term, will not necessarily constitute full compliance in subsequent permit terms. It is the expectation that with each permit reissuance, additional or enhanced requirements will be included with the objective

of ensuring that MS4 discharges do not cause or contribute to an exceedance of applicable water quality standards, including attainment of relevant WLAs.

2. LEGAL AUTHORITY, RESOURCES, AND STORMWATER PROGRAM ADMINISTRATION

(2.1 Legal Authority): Several commenters pointed out that there were a number of requirements in the Draft Permit without clear compliance schedules or deadlines, or with deadlines that did not correspond well to others in the permit. In the Final Permit, EPA has made several revisions to address these comments. For example, EPA changed a requirement that deficiencies in legal authority must be remedied "as soon as possible" to a 120-day requirement for deficiencies that can be addressed through regulation, and two years for deficiencies that require legislative action (Section 2.1.1). Also, EPA increased the compliance schedule for updating the District's stormwater regulation from twelve months to eighteen months, *id.,* so that this action could be adequately coordinated with the development of the District's new offsite mitigation/payment-in-lieu program (for more discussion see Section 4.1.3 below).

(2.2 Fiscal Resources): One commenter suggested eliminating the reference to the District's Enterprise Fund since funding was likely to come from a number of different budgets within the District. EPA agrees with this comment and has removed this reference.

On the other hand, many commenters noted that the implementation costs of the District's stormwater program will be significant. EPA agrees. The federal stormwater regulations identify the importance of adequate financial resources [40 C.F.R. §122.26(d)(1)(vi) and (d)(2)(vi)]. In addition, after seeing notable differences in the caliber of stormwater programs across the country, EPA recognizes that dedicated funding is critical for implementation of effective MS4 programs.[7,8,9] In 2009 the District established, and in 2010 revised, an impervious-based surface area fee for service to provide core funding to the stormwater program[10] (understanding that stormwater-related financing may still come from other sources as they fulfill multiple purposes, *e.g.,* street and public right-of-way retrofits). In conjunction with the 2010 rule-making to revise the fee the District issued a Frequently Asked Questions document[11] that indicates the intent to restrict this fee to its original purpose, *i.e.,* dedicated funding to implement the stormwater program and comply with MS4 permit requirements. EPA believes this action is essential, and he expects that the District will maintain a dedicated source of funding for the stormwater program.

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7 National Research Council, *Urban Stormwater Management in the United States* (2009) National Academy of Sciences http://www.nap.edu/catalog.php?record_id=12465

8 National Association of Flood and Stormwater Agencies, Funded by EPA, *Guidance for Municipal Stormwater Funding* (2006) http://www.nafsma.org/Guidance%20Manual%20Version%202X.pdf

9 EPA, *Funding Stormwater Programs* (2008) http://www.epa.gov/npdes/pubs/region3_factsheet_funding.pdf

10 District of Columbia, Rule 21-566 Stormwater Fees, http://www.dcregs.dc.gov/Gateway/RuleHome.aspx?RuleID=474056

11 District of Columbia, FAQ Document *Changes to the District's Stormwater Fee* (2010) http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/information2/water_reg_leg/Stormwater_Fee_FAQ_10-5-10_-final.pdf

EXHIBIT B

State Water Resources Control Board

Issue Paper
Municipal Storm Water Permit Receiving Water Limitations
Board Workshop
November 20, 2012

ISSUE:

The State Water Resources Control Board (State Water Board) has been asked, in public comments received on National Pollutant Discharge Elimination System (NPDES) permits for Municipal Separate Storm Sewer Systems (MS4s), to adopt permit provisions that create a partial or complete exemption from enforcement for violations of water quality standards while a discharger engages in an iterative process of improving controls (commonly referred to as a "safe harbor" provision). The State Water Board has scheduled a public workshop to consider the issue.

DISCUSSION:

Background:

The Clean Water Act generally requires NPDES permits to include technology-based effluent limitations and any more stringent limitations necessary to meet water quality standards. In the context of NPDES permits for MS4s, however, the Clean Water Act does not reference the requirement to meet water quality standards. MS4 discharges must meet a technology-based standard of reducing pollutants in the discharge to the Maximum Extent Practicable (MEP), but requirements to meet water quality standards are at the discretion of the permitting agency.[1] Further, under the Porter-Cologne Water Quality Control Act, waste discharge requirements must implement applicable water quality control plans, including water quality objectives; however, the Porter-Cologne Act also affords the State Water Board and regional water quality control boards (collectively, Water Boards) flexibility to consider other factors, such as economics, when establishing any NPDES permit requirements that are more stringent than required by the Clean Water Act.[2]

The State Water Board has exercised its discretion with regard to requiring compliance with water quality standards in MS4 permits by directing, in precedential orders, that MS4 permits contain provisions requiring discharges to be controlled so as not to cause or contribute to exceedances of water quality standards in receiving waters.[3] However, consistent with federal

[1] 33 U.S.C. § 1342(p); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.

[2] Wat. Code, §§ 13241, 13263; *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.

[3] SWRCB Order WQ 98-01 (*Environmental Health Coalition*), WQ 99-05 (*Environmental Health Coalition)*.

law, the State Water Board has found it appropriate to implement Best Management Practices (BMPs) in lieu of numeric water quality-based effluent limitations to meet water quality standards.[4] Additionally, in lieu of "strict compliance" with water quality standards, the State Water Board has prescribed an iterative process whereby an exceedance of a water quality standard triggers a process of BMP improvements: reporting of the violation, submission of a report describing proposed improvements to BMPs expected to better meet water quality standards, and implementation of these new BMPs.

While the Water Boards have generally directed dischargers to achieve compliance with water quality standards by improving control measures through the iterative process, the iterative process does not provide a "safe harbor" to MS4 permittees: that is, when a discharger is shown to be causing or contributing to an exceedance of water quality standards, that discharger is in violation of the relevant discharge prohibitions and receiving water limitations of the permit and potentially subject to enforcement by the Water Boards or through a citizen suit, even if the discharger is actively engaged in the iterative process. Despite the lack of a safe harbor provision, however, the Water Boards have, as a matter of practice, declined to initiate enforcement actions against MS4 permittees who have been actively engaged in the iterative process. The Water Boards' decisions to decline to include a safe harbor in MS4 permits have been upheld by courts of appeal.[5]

Need for and Purpose of Workshop:

The lack of a safe harbor in the iterative process was recently highlighted by the Ninth Circuit's decision in a citizen suit brought by the Natural Resources Defense Council (NRDC) against the County of Los Angeles and the Los Angeles County Flood Control District for violations of the receiving water limitations of their MS4 permit. The Ninth Circuit confirmed that, as the receiving water limitations of the Water Boards' MS4 permits are currently drafted, engagement in the iterative process does not excuse liability for violations of water quality standards.[6]

As the storm water management programs of municipalities have matured, an increasing body of monitoring data indicates that water quality standards are in fact not being met by many MS4s. MS4s accordingly assert that the receiving water limitations and iterative process provisions of the Water Boards' permits do not afford them with a viable path to compliance for these violations, which may take years of technical efforts to correct, especially for wet weather discharges. MS4s argue that they are increasingly vulnerable to citizen suits and/or Water Board enforcement. This concern has been raised by the California Stormwater Quality Association (CASQA) in comments on the proposed Phase II MS4 permit and by the California Department of Transportation (Caltrans) in comments on the Caltrans MS4 permit adopted

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[4] *See* SWRCB Orders WQ 91-03 (*Citizens for a Better Environment)*, WQ 98-01 (*Environmental Health Coalition*), WQ 2001-15 (*Building Industry Association of San Diego County*); *See also* 40 C.F.R. § 122.44(k); Interim Permitting Approach for Water Quality-Based Effluent Limitations In Storm Water Permits, USEPA, September 1995. In such orders and guidance, the State Water Board and Environmental Protection Agency acknowledge that the storm water program may evolve over time to incorporate stricter limitations, including improved BMPs to meet water quality standards or numeric water quality based effluent limitations.

[5] *Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866; *City of Rancho Cucamonga v. Regional Water Quality Control Bd.* (2006) 135 Cal.App.4th 1377; see also *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2011) 673 F.3d 880, 897, n.7.

[6] *Natural Resources Defense Council v. County of Los Angeles, supra*, 673 F.3d at p. 897. On July 13, 2012, the United States Supreme Court granted review of this case on other grounds.

September 19, 2012, as well as by numerous MS4s and interested persons in comments on both permits. The issue is additionally relevant to the Phase I MS4 permits issued by the regional water quality control boards.[7]

At the same time, the environmental community has commented that the iterative process has been underutilized and ineffective to date in bringing MS4 discharges into compliance with water quality standards. Environmental parties argue that direct enforcement of water quality standards is necessary to protect water quality, especially in such second- or third-generation permits where dischargers have already had a number of years to come into compliance.

Because of the broad applicability of any policy decisions regarding the receiving water limitations and iterative process provisions, the State Water Board is holding a public workshop to consider several alternatives in addressing the issue and to seek public input on these alternatives. Following the workshop, the State Water Board may propose revisions to the receiving water limitations in the Caltrans MS4 and Phase II MS4 permits, and as necessary, re-open those permits after public review and comment, to make the revisions.

ALTERNATIVES FOR CONSIDERATION:

The State Water Board may consider the alternatives below, individually or in combination, to address concerns with the receiving water limitations in the Caltrans or Phase II MS4 permits. While the listed alternatives attempt to capture the range of alternatives before the State Water Board, the Board welcomes comments proposing other options and will not be limiting its consideration to the alternatives as listed in this issue paper.

The receiving water limitations language prescribed by State Water Board Order WQ 99-05 is attached as Attachment 1 and forms the basis of Alternative 1. CASQA has submitted specific proposed language for the Receiving Water Limitations provision of the proposed Phase II MS4 permit (CASQA Proposal). The CASQA Proposal is attached as Attachment 2 and is referenced as appropriate in the discussion of the alternatives below.

Alternative 1: Keep the status quo of no safe harbor.

This alternative makes no changes to the existing State Water Board approach or to the current language of the adopted Caltrans MS4 permit or the proposed Phase II MS4 permit. As stated previously, the current MS4 permit provisions laying out the iterative process are based on language set forth in precedential State Water Board orders. (See Attachment 1.) Alternative 1 adheres to the prescribed language. Under this alternative, the Water Boards may choose to exercise their enforcement discretion to refrain from taking action against dischargers engaged in good faith implementation of the iterative process; however, they would not be constrained from enforcing the receiving water limitations when an MS4 causes or contributes to exceedances of water quality standards. As a limitation within an NPDES permit, dischargers who cause or contribute to an exceedance of water quality standards could be subject to citizen suits.

[7] Note that the issue is not relevant to any other NPDES permits, including permits for storm water discharges associated with industrial activity, because all other NPDES permits must include technology-based effluent limitations and any more stringent limitations necessary to meet water quality standards. (33 U.S.C. § 1311(b)(1)(C).)

Alternative 2: No safe harbor, but provide greater clarity and specificity for iterative process implementation and wet weather data analysis.

Greater clarity and specificity in the MS4 permits as to the iterative process requirements may result in increased efforts to improve controls and achieve compliance. Such clarity and specificity may include:

1. Clarification on how compliance with the relevant discharge prohibitions and receiving water limitations is determined, including type and frequency of monitoring;
2. Clarification that dischargers must begin the iterative process after documentation of violations without waiting to be directed to do so by the Water Boards;
3. Specification of the minimum efforts that will constitute meaningful compliance with the iterative process;
4. Specification of the scope of any corrective action, including whether it applies only at the location where exceedances are measured or throughout the relevant watershed;
5. Specification of additional wet weather data analysis to better define and assess the impact of municipal storm water discharges on receiving waters, as well as the efficacy of specific best management practices.

As the MS4 program continues to mature and more data becomes available, this alternative may be enhanced by the development of water quality-based effluent limitations for pollutants, as appropriate, as a means of determining compliance with receiving water limitations. In addition, the enhanced wet weather data could be used to identify surrogates that could be used as a measure of protecting beneficial uses. In time, the data could be used to develop actual wet weather water quality standards or wet weather implementation provisions for existing water quality standards that could be applied consistently on a statewide basis.

Given the nature of storm water discharges and of MS4s, questions such as where and how compliance with water quality standards should be measured and how narrowly or broadly corrective actions should be applied, pose complicated technical issues that require careful study and consideration. These challenges notwithstanding, water quality improvements are more likely to be achieved as the iterative process becomes automatic and dischargers follow clear guidelines for determining and addressing non-compliance with permit terms. Such improvements may dissuade the Water Boards and the public from bringing enforcement actions/citizen suits for all except the most egregious and repeated violations.

In addition to being a stand-alone alternative, Alternative 2 may be considered in combination with Alternatives 3 through 5. The CASQA Proposal incorporates some greater specificity in the iterative process requirements as a component of its proposed receiving water limitations.

Alternative 3: Safe harbor that applies only if a discharger is in compliance with the implementation provisions of an approved TMDL.

Under Alternative 3, the receiving water limitations would be amended to provide a safe harbor for permittees that are in compliance with the implementation provisions of a TMDL. In effect, as long as the permittee is in compliance with the TMDL (including any compliance schedule) the terms of the TMDL would replace the requirement to comply with water quality standards for the pollutants that are covered by the TMDL.

The CASQA Proposal contemplates a safe harbor for dischargers in compliance with a TMDL as a component of the receiving water limitations.

Alternative 4: Safe harbor that applies if a discharger is in compliance with the implementation provisions of an approved TMDL, as in Alternative 3, and, in addition, that applies when the discharger engages in good faith compliance with the iterative process for exceedances caused by wet weather discharges.

In addition to the safe harbor for TMDL implementation, Alternative 4 would provide a safe harbor when dischargers engage in the iterative process in good faith to address violations of permit terms caused by wet weather discharges. Thus, if a storm water discharge from an MS4 is causing or contributing to an exceedance of a water quality standard in the receiving water, the exceedance would not constitute a violation of the permit as long as the discharger was engaged in good faith efforts to address the exceedance through improved controls. Alternative 4 recognizes that wet weather discharges from MS4s frequently cause or contribute to violations of water quality standards and allows the MS4s time to address these violations by improving control measures.

However, the safe harbor would not extend to dry weather discharges. Non-storm water discharges are generally prohibited in MS4 permits and only a few categories of non-storm water discharges are exempted from the prohibition, with the condition that these exempted discharges also be prohibited if they are identified as sources of pollutants to receiving waters.

Alternative 5: Full safe harbor.

This alternative would provide a full safe harbor to dischargers complying with the implementation provisions of a TMDL or engaging in the iterative process to address exceedances caused by wet or dry weather discharges.

The CASQA Proposal attached provides for a full safe harbor.

Attachments Removed

EXHIBIT C

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RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

November 13, 2012

Honorable Members of the State Water Resources Control Board
Attn: Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Dear Honorable Board Members and Ms. Townsend: Re: Comment Letter – Receiving Water Limitations Language Workshop

I am writing on behalf of the Riverside County Flood Control and Water Conservation District ("District") regarding the State Water Resources Control Board's consideration of Receiving Water Limitations ("RWL") language in MS4 permits. This review was triggered by a decision of the Ninth Circuit United States Court of Appeals in *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2011) 673 F.3d 880, *cert granted,* __ U.S. __ (June 25, 2012) ("*NRDC*"). This letter is being submitted in advance of the State Board's November 20, 2012 workshop on reform of the RWL language to be incorporated into MS4 permits as a matter of statewide policy.

The District is the Principal Permittee for three Phase I MS4 permits applicable to municipalities across Riverside County: Order R8-2010-0033, issued by the Santa Ana Regional Water Board to municipalities within the Santa Ana River Region of Riverside County; Order R9-2010-016, issued by the San Diego Regional Water Board to municipalities within the Santa Margarita Region of Riverside County; and Order R7-2008-0001, issued by the Colorado River Regional Water Board to municipalities within the Whitewater River Region of Riverside County. Given our unique perspective as the manager of three Phase 1 MS4 permits, the District and its staff thus, have considerable experience and expertise in developing and administering MS4 permits, and a keen understanding of the issues that the above mentioned court case creates.

The District strongly supports reform of the RWL language to make clear the State Board's often-expressed intention that MS4 Permittees' compliance with RWL be effectuated through an iterative process. However, under the Ninth Circuit's interpretation, any MS4 discharge that causes or contributes to an exceedance of a Water Quality Standard subjects the MS4 Permittee to civil penalty liability, injunctive relief and the payment of attorneys' fees in an action brought by a citizen plaintiff, even where the Permittee is fully implementing the programmatic requirements of their MS4 Permit.

The District supports the California Stormwater Quality Association's ("CASQA") efforts to obtain RWL language that ensures that the iterative process favored by the State Board is honored. The District also supports the comments of the California State Association of Counties, and believes the proposed RWL language attached to those comments is a step in the right direction.

This letter contains additional District comments about the RWL language and the iterative process. We believe that they are best expressed in terms of correcting misperceptions regarding the current RWL language, as interpreted by the Ninth Circuit.

Misperception Number One: Strict compliance with Water Quality Standards is required of MS4 Permittees by the Clean Water Act.

The Clean Water Act provides that MS4 discharges must control pollutants in discharges from the MS4 to the "Maximum Extent Practicable" (33 U.S.C. § 1342(p)(3)(B)(iii)). Unlike the case with other NPDES Permittees, the Clean Water Act does not require that municipalities strictly comply with Water Quality Standards, as determined by the Ninth Circuit in *Browner v. Defenders of Wildlife*. The State Board's own precedential Order WQ 2001-15 recognizes this fact and states that the RWL language was intended to be consistent with the *Browner* case. In that Order, which interpreted RWL language similar to that in *NRDC*, the Board stated:

> *[O]ur language, similar to the U.S. EPA's permit language discussed in the Browner case, does not require strict compliance with water quality standards. Our language requires that storm water management plans be designed to achieve compliance with water quality standards. Compliance is to be achieved over time, through an iterative approach requiring improved BMPs. As pointed out by the Browner court, there is nothing inconsistent between this approach and the determination that the Clean Water Act does not mandate strict compliance with water quality standards.* [*Order WQ 2001-15 at 7 (emphasis added)].*

Unfortunately, the Ninth Circuit completely disregarded this language, and the Order, in holding that strict compliance was required of MS4 Permittees.

USEPA itself has issued MS4 permits (in non-delegated states) that do not contain RWL language requiring strict compliance with Water Quality Standards. Therefore, it is clear that such compliance is not required by the Clean Water Act nor is such compliance established by USEPA policy. The most prominent example of a recent MS4 permit promulgated by USEPA is that for the District of Columbia ("DC Permit") (relevant portions of which are attached as Exhibit A), which was adopted in 2011.

Part 1.4 of the DC Permit contains the requirements relating to Water Quality Standards and provides, in relevant part: "Compliance with the performance standards and provisions contained in Parts 2 through 8 of the permit shall constitute adequate progress towards compliance with DCWQS [water quality standards] and WLAs [established under TMDLs] for this permit term." The DC Permit Fact Sheet explains the rationale for that language as follows [DC Permit Fact Sheet, Pages 5-6, emphasis added, attached as Exhibit B]:

> *Comments on the language in Part 1.4 varied widely. Some commenters did not believe it was reasonable to require discharges to meet water quality standards. Other commenters believed this to be an unambiguous requirement of the Clean Water Act.*

Today's Final Permit is premised upon **EPA's longstanding view that the MS4 NPDES permit program is both an iterative and an adaptive management process for pollutant reduction and for achieving applicable water quality standard and/or total maximum daily load (TMDL) compliance.** *See generally, "National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges," 55 F.R. 47990 (Nov. 16, 1990).*

EPA is aware that many Permittees, especially those in highly urbanized areas such as the District, likely will be unable to attain all applicable water quality standards within one or more MS4 permit cycles. *Rather the attainment of applicable water quality standards* **as an incremental process** *is authorized under section 402(p)(3)(B)(iii) of the Clean Water Act, 33 U.S.C. § 1342(p)(3)(B)(iii), which requires an MS4 permit "to reduce the discharge of pollutants to the maximum extent practicable" (MEP) "and such other provisions" deemed appropriate to control pollutants in municipal stormwater discharges.* **To be clear, the goal of EPA's stormwater program is attainment of applicable water quality standards, but Congress expected that many municipal stormwater dischargers would need several permit cycles to achieve that goal.**

Specifically, the Agency expects that attainment of applicable water quality standards in waters to which the District's MS4 discharges, requires staged implementation and increasingly more stringent requirements over several permitting cycles. During each cycle, EPA will continue to review deliverables from the District to ensure that its activities constitute sufficient progress toward standards attainment. With each permit reissuance EPA will continue to increase stringency until such time as standards are met in all receiving waters. **Therefore today's Final Permit is clear that attainment of applicable water quality standards and consistency with the assumptions and requirements of any applicable WLA are requirements of the Permit, but, given the iterative nature of this requirement under CWA Section 402(p)(3)(B)(iii), the Final Permit is also clear that "compliance with all performance standards and provisions contained in the Final Permit shall constitute adequate progress toward compliance with DCWQS and WLAs for this permit term" (Section 1.4).**

USEPA is now proposing clarifying changes to this language and to other sections of the DC Permit as the result of a settlement with various parties. However, those changes do not require strict compliance with Water Quality Standards, but rather compliance through the programs developed under the Permit.

The State Board is thus, free to adopt new RWL language that effectuates its previously expressed intent that MS4 permits not require strict compliance with Water Quality Standards with regard to contributions from discharges from MS4s.

Misperception Number Two: The MS4 Permittees are Seeking a "Safe Harbor" that would Insulate them from Responsibility Under the Clean Water Act.

While State Board staff's "Issue Paper" uses the term "safe harbor" in describing the iterative process, the District believes that this is fundamentally misleading. Even a cursory review of the terms of a typical MS4 permit in California reveals that it is full of compliance points. In the three MS4 Permits in which the District serves as Principal Permittee, literally every sentence is a separate point of compliance.

This fact is supported by the language of the Permits themselves. For example, in Order R8-2010-0033 Part XX.G provides: **"The Permittees must comply with all terms, requirements, and conditions of this Order. Any violation of this Order constitutes a violation of the CWA, its regulations and the California Water Code, and is grounds for enforcement action . . . ."** (emphasis added). Similar provisions are contained in the other two Riverside County MS4 Permits. Even without the strict Water Quality Standard language imposed under the Ninth Circuit's opinion, there is no "safe harbor" from liability under the Clean Water Act or, where applicable, the California Water Code, for any Permittee that fails to fully implement each the detailed and prescriptive requirements of its MS4 Permit.

There is a fundamental difference however, between fully complying with activities within the control and responsibility of the Permittees, such as monitoring, implementing BMPs and performing other programmatic requirements of the MS4 Permit; and being forced to guarantee that MS4 discharges will not cause or contribute to exceedances of Water Quality Standards in Receiving Waters, a guarantee that the Permittees' have no ability to make.

What the District and other MS4 Permittees seek is relief from what is essentially "guaranteed non-compliance" where a Permittee can be found in violation of their MS4 Permit even if the exceedance occurs at no fault of or failure by the Permittee, or put another way, even in circumstances where there is nothing a Permittee could have done to prevent that exceedance from occurring. In such a case, the Permittee can be held liable for potentially millions of dollars in legal costs, penalties and other expenses. We note that the City of Malibu, a city of only 13,000 residents, spent more than $2 million in defending against a citizen suit filed with respect to its MS4 Permit and more than $6 million to settle the case, including payment of $750,000 in attorney fees to plaintiffs. Given the tremendous financial challenges faced by every California municipality, including the District, the County of Riverside and the Permittee cities within the County, such a diversion of resources that otherwise would be directed at clean water programs or other vital municipal programs is a poor policy choice. And, as noted, it is not a policy choice that is required by the Clean Water Act, nor is it required by USEPA in their own Permits.

The District recognizes that regulatory enforcement actions and citizen suits are authorized by the Clean Water Act and that such suits may be an appropriate remedy where, for example, a Permittee has failed to comply with the programmatic requirements of its MS4 Permit. Where, however, the Permittees are complying with those requirements in good faith but, due to circumstances beyond

their control, their MS4 discharge causes or contributes to a Water Quality Standard exceedance in Receiving Waters, a citizen suit based on those exceedances potentially throws away the work done by the Permittees and the Water Boards under the MS4 Permit, as discussed below.

Misperception Number Three: MS4 can achieve compliance with strict Water Quality Standards.

MS4 Permittees cannot guarantee that discharges from their MS4s will in fact, not cause or contribute to an exceedance of Water Quality Standards in a Receiving Water. The monitoring conducted under our MS4 Permits reflects exceedances of various Water Quality Standards in Receiving Waters, and we understand that such results are typical for MS4 discharges around the state (please see Pages 2-3 of the CASQA comment letter dated November 2, 2012). The extreme variability of stormwater quality and quantity itself (which, in Southern California, arrives infrequently and from widely varying storm sizes) combined with a multitude of potential pollutant sources beyond a Permittee's ability to truly "control", make it impossible for a municipality to ensure that no discharges from its MS4 will ever cause or contribute to exceedances of Water Quality Standards in Receiving Waters. This was recognized by the Issue Paper released by State Board staff in preparation for the November 20th workshop, which found that as "the storm water management programs of municipalities have matured, **an increasing body of monitoring data indicates that water quality standards are in fact not being met by many MS4s**" (Issue Paper, Page 2 (emphasis supplied)).

Thus, even if municipal Permittees are to be held strictly liable for the ensuring that no discharges from their MS4s cause or contribute to an exceedance of Water Quality Standards, as the Ninth Circuit has interpreted the current RWL language, those Permittees have no ability to attain those standards. The reasons are several-fold and include the following:

1) Unlike an industrial NPDES Permittee, a municipal Permittee is not typically the source of the pollutants in the MS4 discharge (whether wet or dry). The municipality can regulate sources to some degree (through, for example, the operation of structural and non-structural BMPs and implementation of an Illegal Connection/Illicit Discharge program), but the municipality cannot guarantee that pollutants will not enter the MS4 and then be discharged into the Receiving Waters.

2) Municipalities cannot control natural sources of pollutants that are discharged through the MS4. Monitoring has indicated that many pollutants are likely from natural and not anthropogenic sources.

3) While Permittees conduct extensive public education programs as part of their MS4 programs, municipalities cannot "control" human behavior, or "prevent" an individual from taking an action that might cause pollution to enter the MS4. As an example, a resident may, despite all ordinances, regulations, potential penalties or enforcement, public outreach, available BMPs, etc., choose not to pick up after their pets, and

stormwater may, through no fault of the Permittee, pick up animal waste and deposit into the MS4.

4) MS4 Permittees cannot "prevent" flows from entering their MS4. To protect the health and property of their residents, MS4 operators must allow the legitimate flows of water into their drains. This is especially true for the District, which is charged directly by the Legislature [in Water Code App. §48-9] with the task of taking necessary steps to protect the people, properties and watersheds of Riverside County from the negative impacts of flooding. The District cannot, in effect, cause flooding by preventing flows from entering their storm drain, simply because such flows may contain pollutants that cause a violation of the Receiving Waters Limitation provisions of their MS4 Permits. In fact, California law requires downstream property owners (such as MS4 operators) to accept flows from upstream property owners.

5) Further, the authorities granted to flood control districts, such as this District, by the Legislature are narrow and do not include the authority to condition or regulate the quality or nature of stormwater runoff discharged from up gradient properties. This responsibility is appropriately assigned by the Legislature to the Regional Boards.

Similarly, MS4 Permittees cannot guarantee compliance with Water Quality Standards in dry weather. "Alternative 4" in the staff's Issue Paper suggests an alternative RWL approach that would not extend the iterative approach to dry weather discharges. The District submits that this alternative does not reflect the reality of urban runoff. Monitoring conducted under the Riverside County MS4 Permits reflects exceedances of Water Quality Standards during dry weather as well as wet weather. There is no justification for imposition of strict liability for exceedances during such conditions, for the following reasons:

1) During dry weather, other NPDES-permitted discharges continue to flow into the Receiving Waters. For example, much of the flow in the Santa Ana River during dry weather conditions is from non-MS4 sources, such as publicly owned treatment works. Additionally, numerous other separate NPDES-permitted discharges will occur, potentially at concentrations of pollutants that exceed Water Quality Standards. Evidence generated during the *NRDC* case involving the County of Los Angeles, for example, indicated that NPDES permits covering hundreds of these dischargers, including POTWs allowed the discharge of pollutants at concentrations *greater* than Water Quality Standards. Because of these discharges, which are legal and authorized by the Regional Boards, the MS4 Permittees have essentially no more control over compliance with Water Quality Standards in dry weather than they would have during wet weather conditions.

2) Accidental or even intentional illicit discharges by third parties into the MS4 obviously can occur during dry weather as well as wet weather. Such discharges would potentially have an even greater impact on sampling, since they are not diluted by large volumes of stormwater. For example, a vehicular accident recently caused hundreds of gallons of

asphalt tar to enter Sandia Creek, a Receiving Water in Riverside County. While this spill was not discharged through an MS4, if the vehicular accident had occurred in another portion of the watershed, the spill could feasibly have entered into and been discharged from an MS4. Similarly in many places throughout the State, sanitary sewer systems are owned and operated by special districts that have no relation to the MS4 Permittees that own or operate the MS4 systems. Nevertheless, an overflow of such sanitary sewer systems may cause an unavoidable discharge into, and from a Permittee-owned MS4. Such accidental or illicit discharges cannot be "prevented" or "controlled" by the Permittees except to the extent that they can be cleaned up or blocked if promptly reported. However, if the discharge has reached Receiving Waters and caused a measured exceedance of Water Quality Standards, under the Ninth Circuit's interpretation, liability for civil penalties, injunctive relief and attorneys fees will attach to the MS4 Permittee.

3) Enforcing strict Water Quality Standard limits in dry or wet weather is counter-productive to the watershed planning-based MS4 Permits currently being promulgated by many regional water boards. Enforcing such limits will divert Permittee attention and resources from watershed-based, monitoring-heavy compliance programs, as will be discussed in greater detail below.

In essence, under the Ninth Circuit's interpretation of the current RWL language, the District, and potentially every other MS4 Permittee in the state, is in violation of its Permit any time that an exceedance of a Water Quality Standard is recorded and attributed to a discharge from its MS4. This means that the Regional Water Boards have issued, and continue to adopt permits that include RWL language **which cannot be complied with**. The Clean Water Act, however, does not require Permittees to achieve the impossible. *See, e.g., Hughey v. JMS Development Corp.* (11th Cir. 1996) 78 F.3d 1523, 1530 ("In interpreting the liability provisions of the CWA, we realize that Congress is presumed not to have intended absurd (impossible) results.").

Misperception Number Four: The Current RWL Language is more Protective of Receiving Water Quality.

This statement is not only untrue but maintaining the current RWL language actually **impedes** efforts to protect Receiving Water Quality.

We understand that some stakeholders believe that there should be Numeric Effluent Limitations (NELs) contained in the MS4 Permits for purposes of accountability. In response, we note that many MS4 permits now contain numeric Stormwater and Non-stormwater Action Levels ("SALs" and "NALs") or other numeric targets or goals, the exceedance of which trigger specific compliance responses by the Permittees. It is these action levels (which were advocated by the Blue Ribbon Panel established by the State Board to investigate the appropriateness of NELs in MS4 permits) which provide such "numeric" accountability. This is in addition to the numerous other compliance documentation and reporting provisions required of MS4 Permittees that also provide measures of accountability.

More importantly, the current RWL language as interpreted by the Ninth Circuit actually impedes efforts by municipalities to protect water quality. First, by requiring immediate compliance, the language undermines efforts to bring Water Quality Standard-impaired waterbodies into compliance through the Total Maximum Daily Load ("TMDL") program. TMDLs are designed with the recognition that, due to the complexity of the issues causing the waterbody to be impaired in the first place, meeting these requirements cannot be achieved immediately. Therefore, TMDL compliance plans include timelines to achieve such compliance over periods of years and sometimes decades.

Second, most MS4 permits have begun incorporating sophisticated watershed management plans, which prioritize pollutants by waterbody and attempt, through aggressive monitoring and source identification efforts, to identify and address the sources of those prioritized pollutants. Municipalities subject to strict RWL language will have no ability to prioritize pollutants, since they must address any pollutant that exceeds a Water Quality Standard, irrespective of the relative impact that that discharge may have had upon the environment or beneficial uses. Moreover, these watershed management plan approaches employ cooperative monitoring and other watershed-based approaches. Permittees faced with potential liability for any exceedance of Water Quality Standards in Receiving Waters that may be caused or contributed to by discharges of their MS4s, will not likely volunteer to cooperate on any watershed-based approach, if cooperation could subject them to additional unnecessary liability.

Third, in a citizen suit brought under the Clean Water Act, a federal judge is free to impose any appropriate injunctive relief to enforce a permit (33 U.S.C. § 1365(a)). Thus, for example, a court could ignore the provisions of a MS4 permit in ordering municipal defendants to address Water Quality Standard exceedances in Receiving Water. This means that the thousands of people-hours invested in the Permit's development, implementation and oversight by municipalities, the Regional Water Boards and other stakeholders would be wasted. In essence, under the Ninth Circuit's reading of the RWL language, all other language in an MS4 permit appears to be superfluous, since the RWL language would control all compliance efforts. This result, of course, is not required by plain language of the Clean Water Act.

Fourth, if a municipality is in unavoidable and automatic non-compliance with the requirements of its MS4 Permit, it will be unable to justify budgeting for water quality management programs and BMPs otherwise required by the Permit as the municipality will simply receive no benefit from making compliance investments. To gain public support for stormwater programs, a municipality must demonstrate to its residents that such investments will constitute compliance with the Permit.

Discussion of Alternatives

The State Board staff's Issue Paper sets forth five alternatives for consideration. Alternative 1, no change in the current RWL language, is completely unacceptable to the District (and, we believe, to other municipalities across the state) because it fails to address the "guaranteed non-compliance" problem of the current language.

Alternative 2, which proposes to maintain the language that puts the MS4 Permittees in a situation of unavoidable and potentially "guaranteed" non-compliance, but would add greater specification as to how the iterative process might be carried out, is also unacceptable as the MS4 Permittees will still have no viable means to ensure their compliance with the RWL language. While the District does not object in principle to RWL language that spells out clearly, and in achievable terms, what is required of MS4 Permittees when exceedances are recorded, such a change alone does not address the fundamental issues identified in this letter.

Alternative 3, which proposes to provide an iterative process for compliance with the RWL only for pollutants being addressed by dischargers in compliance with an approved TMDL, is better than the first two alternatives, but is still entirely insufficient. By failing to provide a viable means for compliance with the RWL language for non-TMDL pollutants, this alternative language would force Permittees into unavoidable non-compliance, and require them to redirect their efforts and resources away from the TMDL activities, to those other pollutants, due to the strict liability attached to those exceedances. This would be a poor policy choice, as pollutants that are not subject to a TMDL may have significantly less, or even no impact on beneficial uses in the Receiving Waters, as noted in the CASQA comment letter.

Alternative 4, which excludes dry weather discharges from the iterative process to comply with the RWL, is unacceptable for the reasons previously set forth regarding an MS4 Permittees inability to truly "prevent" or "control" accidental or illegal dry weather discharges.

Alternative 5, which provides viable means for compliance with the RWL, for all types of MS4 discharges, is the only viable solution among the alternatives presented by State Board staff. In an era of limited budgets, the only and best way to make progress toward improving the quality our Receiving Waters, is to provide MS4 Permittees the ability to prioritize their efforts, as required in the Watershed Management Plan provisions contained in the most recent MS4 Permits, including the Los Angeles County Permit and the proposed Regional Permit for the San Diego Regional Water Board. As previously discussed, such prioritization cannot occur in the context of strict liability for the exceedance of Water Quality Standards in the Receiving Waters. For all of the reasons set forth in this letter, no other alternative makes policy sense or is congruent with the Maximum Extent Practicable standard in the Clean Water Act.

The District would add that Alternative 5 should additionally incorporate the concept of achieving RWL compliance through watershed management plans, and requests the Board to direct staff to work with stakeholders to ensure that any revised RWL language does not force intermittent or minor exceedances of Water Quality Standards to become de-facto higher priorities than those set by the watershed stakeholders.

In summary, the District supports CASQA, the California State Association of Counties and other municipal stakeholders in advocating for a fully iterative and viable approach to compliance with RWL language in both wet and dry weather conditions. Only when such an approach is in place and endorsed by the State Board will Permittees, including the District, feel confident that they can focus

fully on efforts to address pollutants in discharges into and from their MS4s, and not on preparing for costly and pointless litigation.

The District therefore, respectfully requests the State Board direct its staff to commence development of new language providing for an enforceable, iterative and viable process for MS4 Permittees to comply with the RWL language included in MS4 permits.

We wish to thank you and State Board staff for your consideration of these comments and any further comments, written or oral, that the District may make on these important issues.

Very truly yours,

Steve Thomas

for WARREN D. WILLIAMS
General Manager-Chief Engineer

CP:cw
P8/150189

EXHIBIT D

FILED
JAN - 3 2013
CLERK, U.S. DISTRICT COURT
ALEXANDRIA, VIRGINIA

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Alexandria Division

VIRGINIA DEPARTMENT OF TRANSPORTATION, ET AL, Plaintiffs, -v- UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL, Defendants.	Civil Action No. 1:12-CV-775

Memorandum Opinion

Before the Court is the Plaintiffs' motion for judgment on the pleadings under Federal Rule of Civil Procedure 12(c). The Defendants opposed the motion, and the Plaintiffs replied. The Court heard oral arguments on December 14, 2012 and now issues this memorandum opinion and accompanying order granting the Plaintiffs' motion.

Background

The Clean Water Act, 33 U.S.C. § 1251 et seq., establishes the basic structure for regulating discharge of pollutants into the waters of the United States, and provides certain mechanisms to improve and maintain the quality of surface waters.

One such mechanism is the requirement that states identify "designated uses" for each body of water within their borders, as well as "water quality criteria" sufficient to support those uses. 33 U.S.C. § 1313(c)(2)(A). The Environmental Protection Agency ("EPA") evaluates the uses and criteria developed by the states, and either approves them or else proposes and

promulgates its own set of standards. § 1313(c)(3).

Once the standards are in place, each state is required to maintain a list—also subject to approval or modification by EPA—of its waterbodies that are "impaired" because they do not meet their respective water quality criteria. 33 U.S.C. § 1313(d)(1)(A). For each waterbody on the impaired list, the state is required to establish a set of total maximum daily loads ("TMDLs") sufficient to bring the body back into compliance with its water quality criteria. § 1313(d)(1)(C). Each TMDL establishes the maximum amount of a pollutant that may be added to the waterbody daily from all sources (runoff, point sources, etc.). EPA is required to publish a list of pollutants suitable for maximum daily load measurement, § 1314(a)(2)(D), and it has determined that *all* pollutants are suitable for TMDLs, *see* Total Maximum Daily Loads Under Clean Water Act, 43 Fed. Reg. 60,662. Therefore, any pollutant that falls within the relatively broad definition of "pollutant" set forth in § 1362(6) may be regulated via TMDL. EPA can approve or modify as it sees fit TMDLs proposed by the states. § 1313(d)(2).

Here the state in question is Virginia, and the waterbody is a 25-mile long tributary of the Potomac River, located in Fairfax County, called Accotink Creek. The creek has been the subject of litigation in the past that is not relevant to this matter except the result: EPA was required to set TMDLs for Accotink Creek once Virginia failed to do so by a certain date. Specifically, the creek had been identified as having "benthic impairments," which is to say the community of organisms that live on or near the bottom of the creek were not as numerous or healthy as they should be. EPA was to set appropriate TMDLs to improve the health of the benthic community in Accotink Creek.

On April 18, 2011, EPA established a TMDL for Accotink Creek which limited the flow rate of stormwater into Accotink Creek to 681.8 ft^3/acre-day. The TMDL was designed to

regulate the amount of sediment in the Accotink, because EPA believed sediment was a primary cause of the benthic impairment. Both parties agree that sediment is a pollutant, and that stormwater is not. EPA refers to stormwater flow rate as a "surrogate" for sediment.

The Plaintiffs are now challenging the TMDL on multiple grounds, but presently before the Court is a single issue: Does the Clean Water Act authorize the EPA to regulate the level of a pollutant in Accotink Creek by establishing a TMDL for the flow of a nonpollutant into the creek?

Analysis

I. Standard of Review

Count I of the complaint, at issue here, is brought under the Administrative Procedures Act. *See* Comp. ¶ 169. The APA "confines judicial review of executive branch decisions to the administrative record of proceedings before the pertinent agency." *Shipbuilders Council of Am. V. U.S. Dept. of Homeland Sec.*, 770 F. Supp. 2d 793, 802 (E.D. Va. 2011). As such, the district court "sits as an appellate tribunal," and APA claims can be resolved equally well in the context of Rule 12 or Rule 56. *Univ. Med. Ctr. Of S. Nev. V. Shalala*, 173 F.3d 438, 441 n. 3 (D.C. Cir. 1999).

Because Count I presents a question of statutory interpretation, the Court reviews EPA's decision using the two-step analysis set forth in *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984). For a given question of statutory interpretation, the first step under *Chevron* is to determine whether Congress addressed the "precise question at issue." 467 U.S. at 842. "If the intent of Congress is clear, that is the end of the matter . . . ." *Id.* If the Court cannot find that Congress has squarely addressed the question, the Court must move to Chevron's second step. In

the second step of statutory construction under *Chevron*, the Court must determine whether the agency's interpretation of the statute is "permissible." *Id.* at 843. The agency's construction is permissible if it is reasonable, but it need not be what the Court considers the *best* or *most reasonable* construction. *See id.* at 845. The Court is not to simply impose its own construction on the statute, but instead it gives deference to any reasonable statutory construction by the agency. *Id.* at 843.

II. Chevron Step One

Whether statutory ambiguity exists so that the issue cannot be settled at *Chevron's* first step is for the Court to decide, and the Court "owe[s] the agency no deference on the existence of ambiguity." *Am. Bar Ass'n v. FTC*, 430 F.3d 457, 468 (D.C. Cir. 2005). The Court begins the inquiry by "employing traditional tools of statutory construction." *Chevron*, 467 U.S. at 843 n.9. As always, the analysis begins with the text of the statute. *Nat'l Elec. Mfrs. Ass'n v. U.S. Dept't of Energy*, 654 F.3d 496, 504 (4th Cir. 2011).

The text of the statute that requires states to establish their own TMDLs, 33 U.S.C. § 1313(d)(1)(C), is:

> Each State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, **the total maximum daily load, for those pollutants which the Administrator identifies** under section 1314(a)(2) of this title as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. (emphasis added)

The next subsection, § 1313(d)(2), grants EPA the authority to set TMDLs when the state

has not done so adequately. "Pollutant" is a statutorily defined term. 33 U.S.C. § 1362(6).

The Court sees no ambiguity in the wording of this statute. EPA is charged with establishing TMDLs for the appropriate pollutants; that does not give them authority to regulate nonpollutants. The parties agree that sediment is a pollutant under 33 U.S.C. § 1362(6), and stormwater is not. Then how does EPA claim jurisdiction over setting TMDLs for stormwater?

EPA frames the stormwater TMDL as a surrogate. EPA's research apparently indicates that the "[sediment] load in Accotink Creek is a function of the amount of stormwater runoff generated within the watershed." Def. Opp. at 8. And EPA believes that framing the TMDL in terms of stormwater flow rate is superior to simply expressing it in terms of maximum sediment load.

The DC Circuit has considered and rejected a similar attempt by EPA to take liberties with the way Congress intended it to express its TMDLs. In *Friends of the Earth, Inc. v. Env. Protection Agency*, EPA had promulgated TMDLs for the Anacostia River that expressed the maximum load of certain pollutants in terms of annual and seasonal amounts. 446 F.3d 140, 143 (D.C. Cir. 2006). The court found that expressing a TMDL in terms of annual or seasonal maximums was not allowed, because the statute granted authority only for daily loads. *Id.* at 148. The court reached its conclusion even though EPA apparently made a strong argument that expressing TMDLs in terms of annual or seasonal loads was an effective and reasonable approach. *See id.* Presumably a daily load could have been derived by simply dividing the annual load by 365, yet the court still required expression in the terms dictated by Congress.

Here too, EPA hopes to express a TMDL in terms other than those contemplated by the statute, arguing that such an expression is the most effective method. But, as *Friends of the Earth* illustrates, EPA may not regulate something over which it has no statutorily granted power—

annual loads or nonpollutants—as a proxy for something over which it *is* granted power—daily loads or pollutants.

EPA's argument that its surrogate approach should be allowed because the statute does not specifically forbid it fails. EPA is not explicitly forbidden from establishing total maximum *annual* loads any more than they are explicitly barred from establishing TMDLs for nonpollutants. The question is whether the statute grants the agency the authority it is claiming, not whether the statute explicitly withholds that authority. And in this case, as in *Friends of the Earth*, the statute simply does not grant EPA the authority it claims.

The dicta in *Weyerhaeuser Co. v. Costle* is not as helpful to EPA's case as it would like. 590 F.2d 1011, 1022 n.6 (D.C. Cir. 1978). It is true that the court said in a footnote "[i]t is well recognized that EPA can use pollution parameters that are not harmful in themselves, but act as indicators of harm." *Id.* But in that case, the non-harmful pollution parameters the EPA sought to regulate were components of the effluent commonly discharged from paper mills, *id.* at 1022, making them effluents themselves. And power to regulate effluents is expressly granted to the EPA in the relevant statutory section. *See* 33 U.S.C. § 1314(b).

EPA would like to create the impression that Congress has given it loose rein to determine exactly what it could and could not regulate. On page 16 of its opposition to this motion, EPA points out that "Congress authorized EPA to determine which pollutants were suitable for TMDL calculation and measurement." (Internal quotes removed). While this may be true, EPA glosses over the fact that 33 U.S.C. § 1314(a)(2)(D) only gives EPA the power to regulate pollutants as that term is defined—by Congress—elsewhere in the statute. And, as discussed above, sediment is a pollutant for these purposes, but stormwater is not.

In a similar vein, EPA regulations which imply that the agency has discretion to set the

TMDL as it sees fit do not bear on the question now before the Court. EPA has promulgated a regulation allowing TMDLs to be "expressed in terms of either mass per time, toxicity, or other appropriate measure," 40 C.F.R. § 130.2(i), and another that allows TMDLs to be expressed as a "property of pollution," 50 Fed. Reg. 1774, 1776 (Jan. 11, 1985). But, EPA citing these regulations to demonstrate that the surrogate TMDL approach is permissible is mere bootstrapping. To the extent the regulations allow EPA to set TMDLs for nonpollutants, they exceed the statutory authority of EPA.

The plain language of the statute trumps all, but legislative history also supports Plaintiffs' argument. Congress's intent to limit EPA's discretion in this context is evidenced by the committee record cited by Plaintiffs, which has also been used by the Ninth Circuit, in which Senator Randolph, Chairman of the Senate committee that amended the act in 1972, explained, "We have written into law precise standards and definite guidelines on how the environment should be protected. We have done more than just provide broad directives [for] administrators to follow." Pl. Mot. 7, *citing Nw. Envtl. Def. Ctr. v. Brown*, 640 F.3d 1063, 1072 (9th Cir. 2011). Congress created a statutory scheme that included a precise definition of the word "pollutant," and then gave EPA authority to set TMDLs for those pollutants. Senator Randolph's comments strongly imply that Congress did not intend anything more or less than what is written in the statute.

The Court considers the language of 33 U.S.C. § 1313(d)(1)(C) to be unambiguous. Congress has spoken directly on the question at issue, and its answer is that EPA's authority does not extend to establishing TMDLs for nonpollutants as surrogates for pollutants. The legislative history of the CWA is consistent with this reading. Therefore, this Court finds EPA's interpretation of § 1313 and the related provisions to be impermissibly broad based on analysis

under the first step of *Chevron* analysis.

III. Chevron Step Two

Because the Court considers Congress's intent to be clear and unambiguously expressed by the language of the statute, it need not move to the second step of *Chevron* analysis. But the Court notes that there is substantial reason to believe EPA's motives go beyond "permissible gap-filling."

Page 9 of EPA's opposition says, "stormwater flow rates as a surrogate would more effectively address the process by which sediment impairs aquatic life in Accontink Creek." If the sediment levels in Accotink Creek have become dangerously high, what better way to address the problem than by limiting the amount of sediment permitted in the creek? If sediment level is truly "a function of" the amount of stormwater runoff, as EPA claims, then the TMDL could just as easily be expressed in terms of sediment load.

In fact, the Board of Supervisors of Fairfax County argued at the December 14th hearing (without objection from EPA) that EPA has approved 3,700 TMDLs for sediment nationwide, and in Virginia has addressed 111 benthic impairments with TMDLs. None of them regulated the flow rate of stormwater. By comparison, EPA has tried out its novel approach of regulating sediment via flow in only four instances nationwide, and all four attempts were challenged in court. One has settled, the other three are still pending.

The Court suspects that the decision to regulate stormwater flow as a surrogate for sediment load would not constitute a permissible construction of § 1313(d)(1)(C), even given the deference due at *Chevron's* second step. This is especially likely because EPA is attempting to increase the extent of its own authority via flow TMDLs, which courts must examine carefully.

See Brown & Williamson Tobacco Corp. v. Food & Drug Admin., 153 F.3d 155, 161-62 (4th Cir. 1998). EPA's attempt to set TMDLs for nonpollutants probably goes beyond "permissible gap-filling" and is instead an impermissible construction of the statute.

Conclusion

The language of § 1313(d)(1)(C) is clear. EPA is authorized to set TMDLs to regulate pollutants, and pollutants are carefully defined. Stormwater runoff is not a pollutant, so EPA is not authorized to regulate it via TMDL. Claiming that the stormwater maximum load is a surrogate for sediment, which is a pollutant and therefore regulable, does not bring stormwater within the ambit of EPA's TMDL authority. Whatever reason EPA has for thinking that a stormwater flow rate TMDL is a better way of limiting sediment load than a sediment load TMDL, EPA cannot be allowed to exceed its clearly limited statutory authority. For these reasons, the Plaintiffs' motion for Rule 12(c) judgment on the pleadings on Count I of their complaint is granted.

January 3, 2013
Alexandria, Virginia

/s/ LOG
Liam O'Grady
United States District Judge

FILED
JAN - 3 2013
CLERK, U.S. DISTRICT COURT
ALEXANDRIA, VIRGINIA

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Alexandria Division

VIRGINIA DEPARTMENT OF TRANSPORTATION, ET AL, Plaintiffs, -v- UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL, Defendants.	Civil Action No. 1:12-CV-775

Order

In accordance with the memorandum opinion that accompanies this order, it is now **ORDERED**:

1. Plaintiffs' motion (Dkt. No. 29) for judgment on the pleadings as to Count I of the complaint is **GRANTED**.
2. The clerk shall enter judgment in favor of the Plaintiffs.
3. The Accotink Creek TMDL is remanded to EPA for reconsideration consistent with this order.

January 3, 2013
Alexandria, Virginia

/s/
Liam O'Grady
United States District Judge

ATTACHMENT I-1

2005 STORMWATER UTILITY SURVEY

BLACK & VEATCH
building a world of difference™

ENERGY WATER INFORMATION GOVERNMENT

Black & Veatch is pleased to provide the results of its sixth national Stormwater Utility Survey, to help those involved in the stormwater industry stay well-informed across a range of issues. The survey results offer insight into the following topics:

- Organization/Administration
- Planning
- Operations
- Finance/Accounting
- Stormwater User Fees and Billing
- Quality Issues – Best Management Practices
- Public Information/Education
- Major Challenges Recently Faced
- Significant Events Affecting Utilities

These results can be used for numerous purposes, from performance management to financial planning to organization strengthening. At Black & Veatch, we understand the value of knowing what others are doing in the industry. For 90 years, meeting the needs of the utility industry has been at the core of our business. We are happy to discuss any questions you might have regarding this survey.

Profile of Respondents

- Responses were received from 99 utilities in 21 states and one Canadian province. All of these utilities are funded in whole or in part through user fees.
- Approximately 86 percent of the respondents serve a city, rather than a county or region.
- The population served by the respondents ranges from 1,400 (Atlantic Beach, FL) to 3.9 million people (Los Angeles, CA) and the area served varies from 3 to 1,500 square miles. Eighty-one percent indicate they are responsible for stormwater facilities only, while the balance report they are responsible for combined sanitary/stormwater facilities. Approximately 88 percent indicate that they use their own staff to provide a majority of operation and maintenance services.
- For those utilities that base charges on gross property area, equivalent residential units ranged from 1,600 square feet total area to 11,000 square feet, with a mean of 6,964 square feet. For those utilities that base charges on impervious area, impervious areas per equivalent residential unit ranged from 1,500 square feet to 10,000 square feet, with a mean of 2,647 square feet.

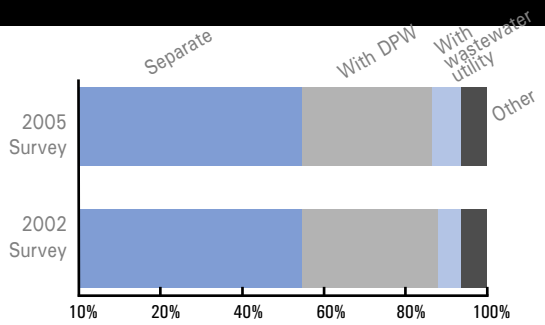
What's New

Feedback from participants prompted us to add a new question to the 2004-2005 version of the Stormwater Utility Survey. In recent years, a number of stormwater treatment systems have become commercially available. Fifty-six percent of respondents have installed at least one of these devices with the most popular being Stormceptor, StormFilter, and CDS Separator. Thirty-six percent have had a favorable experience with these devices in terms of treatment efficiency and ease of maintenance, while 41 percent are still in the evaluation process.

Organization / Administration

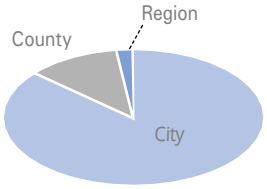
How is your operation organized?

55% Separate utility
32% Combined with Department of Public Works
7% Combined with wastewater utility
6% Other



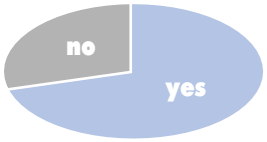
What area does your utility serve?

86% Within city limits
12% County
2% Region



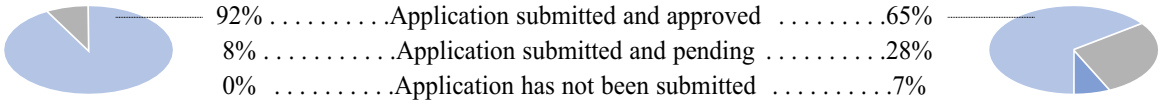
Does your state have specific statutes that govern the formation of stormwater utility and user fee financing?

71% Yes
29% No



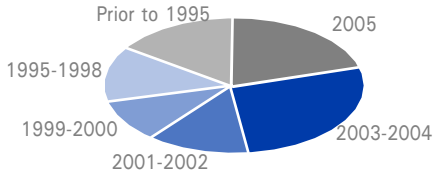
Planning

What is the status of your NPDES permit?



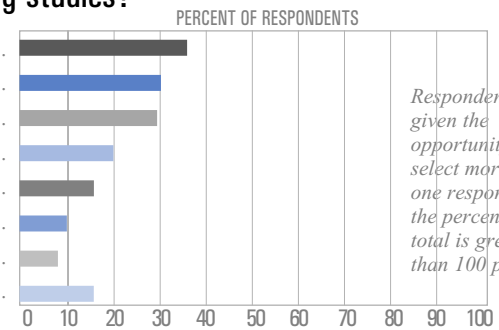
When was your most recent stormwater plan or stormwater facilities plan?

21% 2005
27% 2003–2004
13% 2001–2002
10% 1999–2000
13% 1995–1998
16% Prior to 1995



What stormwater computer models do you use for planning studies?

36% HEC-2
30% XP-SWMM
29% HEC-1
20% TR-55
16% EPA SWMM
10% HEC-RAS
7% HEC-HMS
15% Other

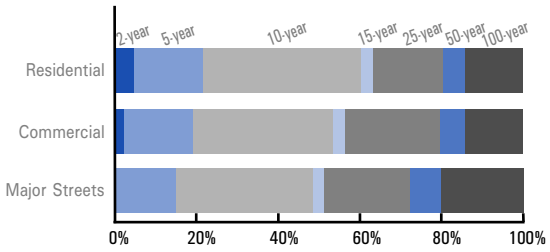


Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Planning (continued)

What return periods do you use to design your major stormwater structures?

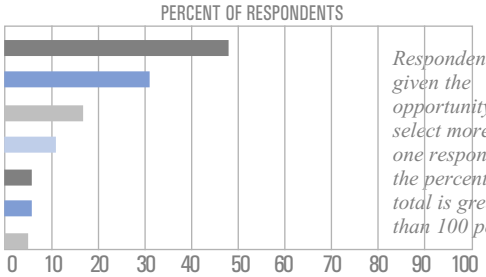
	Residential	Commercial	Major Streets
2-year	3%	1%	0%
5-year	18%	17%	14%
10-year	39%	35%	34%
15-year	3%	3%	3%
25-year	17%	23%	21%
50-year	6%	7%	8%
100-year	14%	14%	20%



Several respondents provided a range of return period.
The percentages above represent the smallest return period provided.

Which performance indicators do you consider most important in measuring improvement in stormwater management success?

47%	Flood control
31%	Monitoring pollutants
17%	Customer complaints/satisfaction
11%	Cost control measures
6%	Erosion control
6%	Maintenance
5%	Habitat

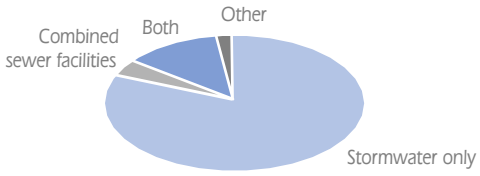


Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Operations

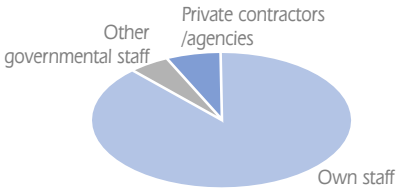
What is your utility responsible for?

81%	Stormwater facilities only
4%	Combined sewer (sanitary/stormwater) facilities
13%	Both
2%	Other



Who provides the majority of your O&M services?

88%	Own Staff
5%	Other Governmental Staff
7%	Private contractors/agencies

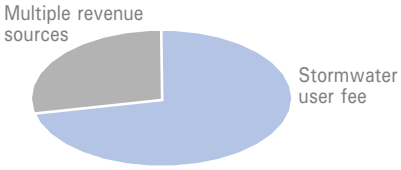


Finance/Accounting

What are your major (at least 90 percent of total income) revenue sources?

(Excludes 7 utilities that reported no single major source)

72% Stormwater user fee
28% Multiple revenue sources



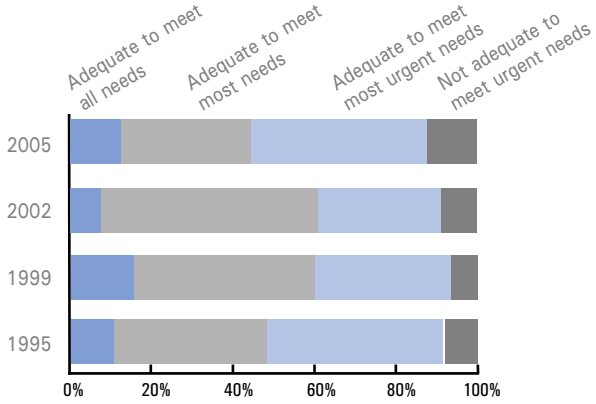
How adequate is available funding?

13% Adequate to meet all needs
2002 = 8% • 1999 = 16% • 1995 = 11%

32% Adequate to meet all needs
2002 =53% • 1999 = 44% • 1995 = 38%

43% Adequate to meet most urgent needs
2002 = 30% • 1999 = 34% • 1995 = 44%

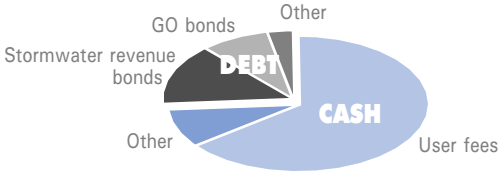
12% Not adequate to meet urgent needs
2002 = 9% • 1999 = 6% • 1995 = 7%



How is the majority of capital improvement needs financed?

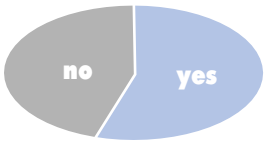
74% Cash financed
- 65% From user fees
- 0% From ad valorem taxes
- 9% Other

26% Debt financed
- 14% Stormwater revenue bonds
- 9% General obligation bonds
- 0% Combined bonds
- 3% Other



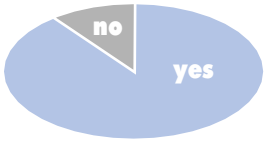
Does your accounting system permit cost tracking by operating activity (e.g., inlet cleaning)?

55% Yes
45% No



Does your accounting system identify user fee revenues by customer class (e.g., residential)?

89% Yes
11% No

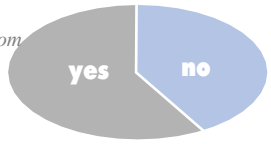


Stormwater User Fees and Billing

Were your rates revised in the last 12 months?

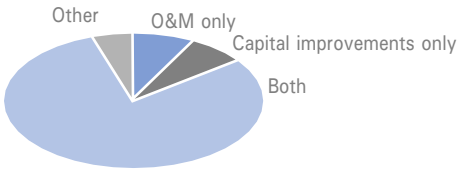
41% No
59% Yes

Increases ranged from 1% minimum to 117% maximum



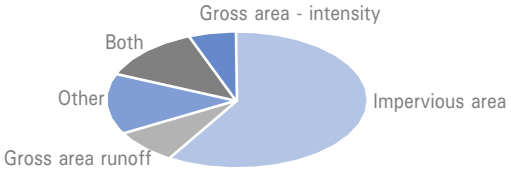
What are your user fees designed to pay for?

8% Operation and maintenance (O&M) expenses only
7% Capital improvements only
80% Both O&M expenses and capital improvements
5% Other



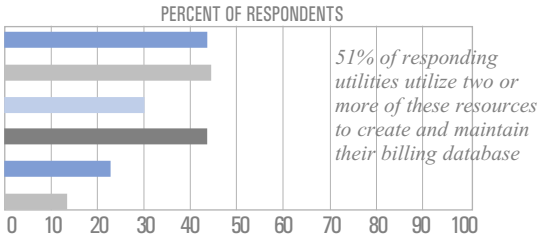
What is the basis for your user fees?

59% Impervious area
8% Gross area with intensity of development factor
14% Both impervious and gross areas
13% Other (e.g., number of rooms, water use, flat fee)
6% Gross area with runoff factor

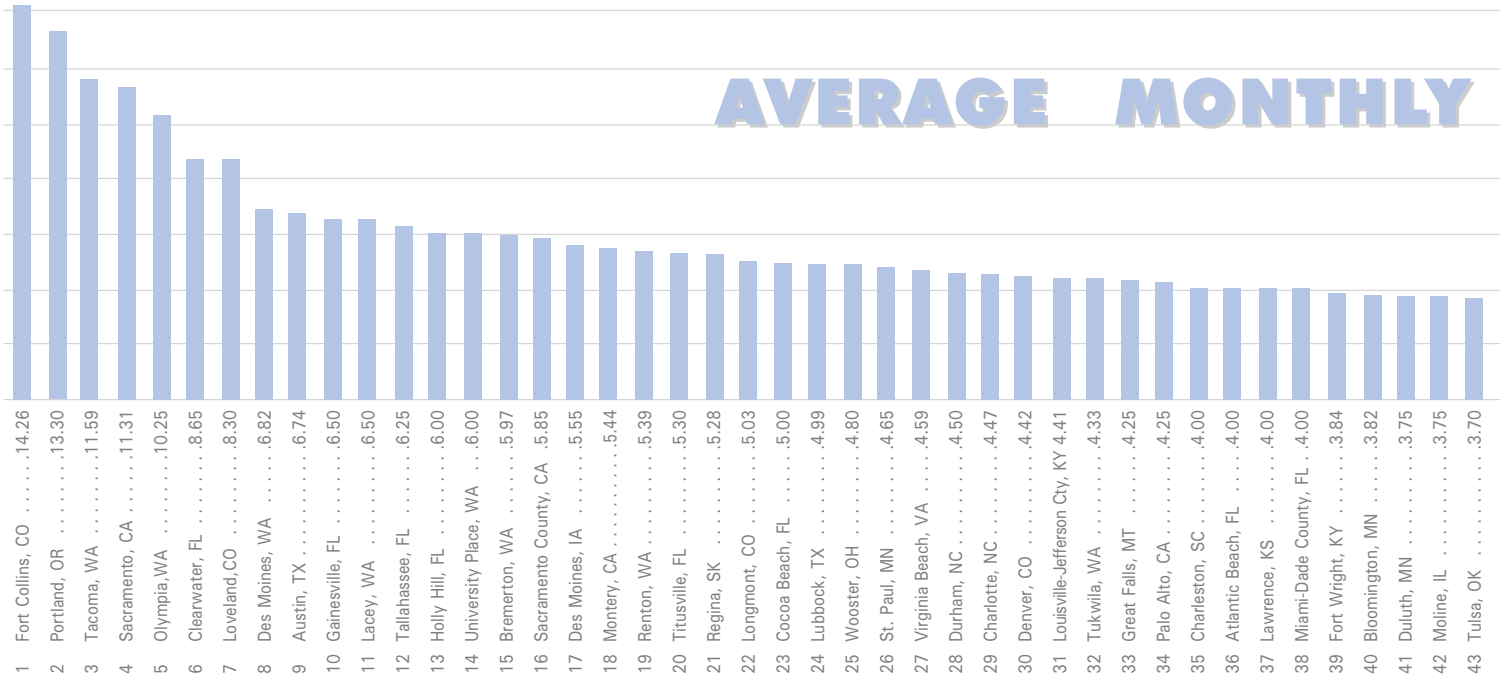


If user fees are area-based, what principal resources were employed to create and maintain the customer database used to compute charges?

42% Property tax assessor records
43% Aerial photographs
29% On-site property measurement
42% Geographic Information System (GIS)
22% Planimetric map take-offs
13% Other (e.g., building permits, site plans)



51% of responding utilities utilize two or more of these resources to create and maintain their billing database



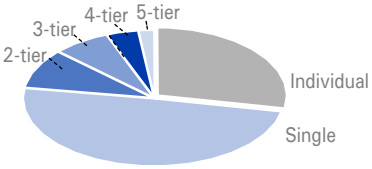
Are your stormwater charges based on individual or class average characteristics?

Residential

27% Individual parcel

73% Class average as:

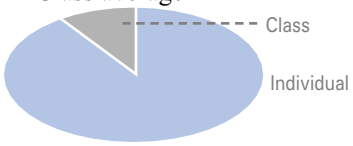
- 48% Single tier
- 9% 2-Tier rate
- 7% 3-Tier rate
- 4% 4-Tier rate
- 2% 5-Tier rate



Non-Residential

90% Individual parcel

10% Class average



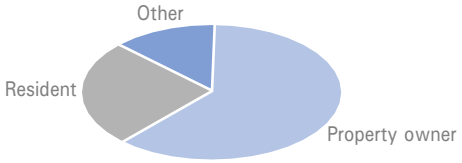
3% of respondents who answered class average did not provide the number of rate tiers.

Who is responsible for the payment of user fees?

62% Property owner

25% Resident

13% Other (e.g., water or other utility bill recipient)



How frequently do you bill?

56% Monthly

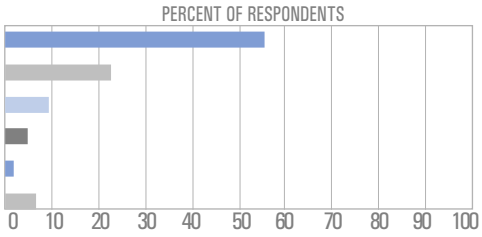
22% Annually

9% Bi-monthly

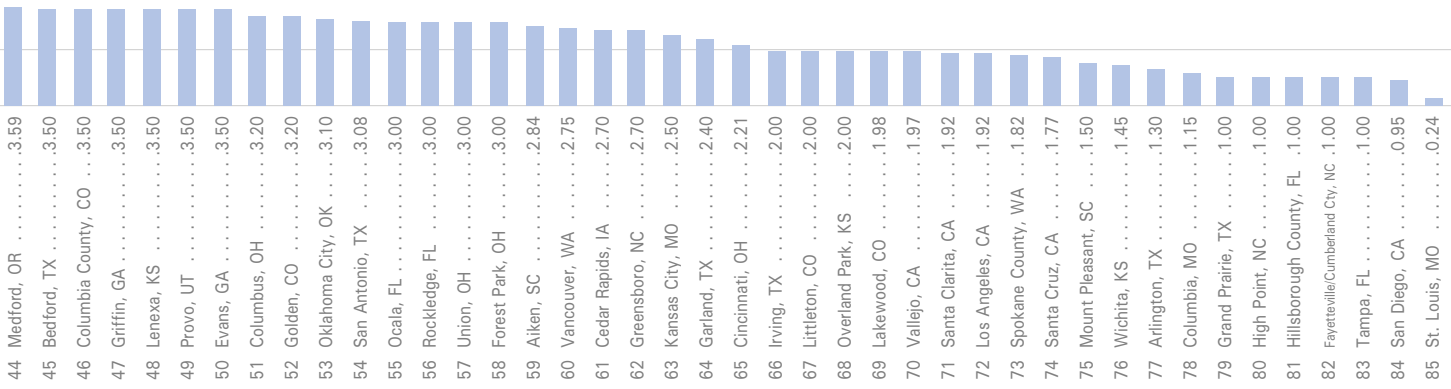
5% Quarterly

2% Semi-annually

6% Other

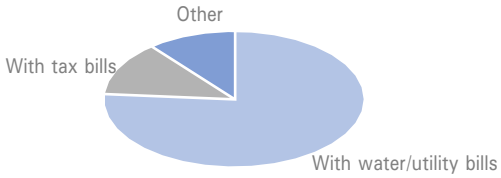


RESIDENTIAL CHARGE



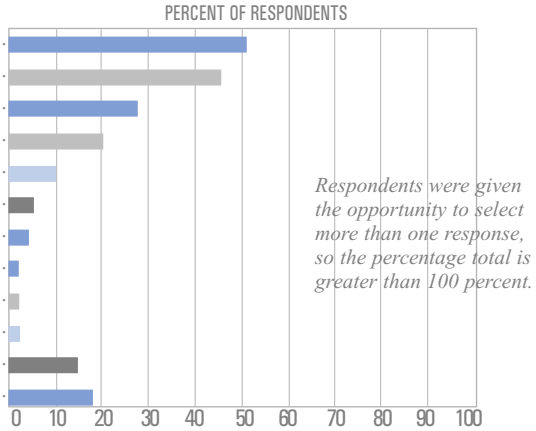
Stormwater User Fees and Billing (continued)

How are your user fees billed?



76% With water or other utility bills
13% With tax bills
11% Other

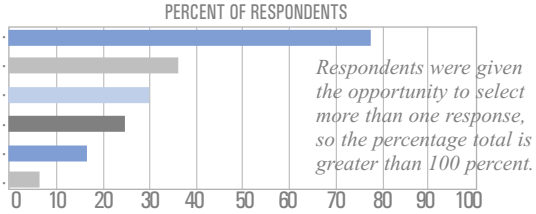
What types of properties are exempt from user fees?



51% Streets/highways
46% Undeveloped land
27% Rail rights-of-way
20% Public parks
10% Government
5% School districts
4% Churches
2% Airports
2% Colleges/universities
2% Water front
14% None
17% Other

Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

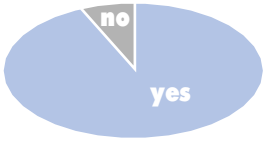
What customer classifications are recognized in your stormwater fee structure?



77% Residential
36% Commercial
30% Combined commercial/industrial
25% Other
17% Industrial
7% No designation

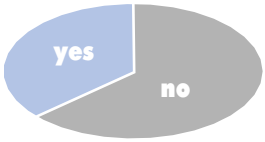
Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Are rates the same for all service areas or watersheds?



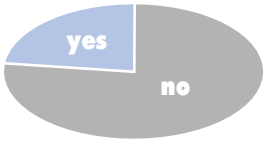
93% Yes
7% No

Are your user fees for single family dwellings the same as for individual multiple residential units, such as apartments and condominiums?



64% No
36% Yes

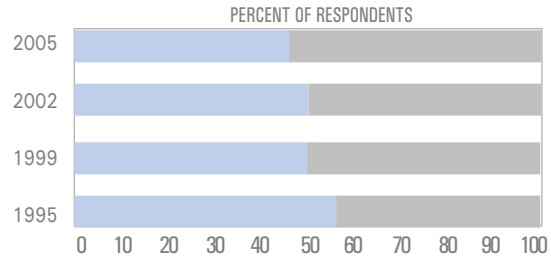
Are one-time impact/capital recovery fees applied to new stormwater utility customers or new development?



77% No
23% Yes

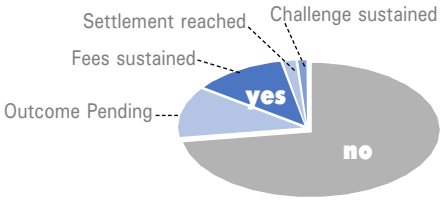
Are credits provided for private detention/retention facilities?

46% Yes
2002 = 53% • 1999 = 50% • 1995 = 57%
54% No



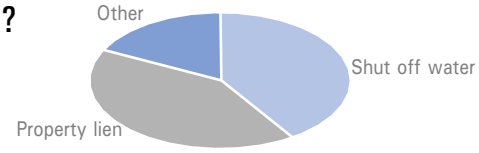
Have your user fees faced a legal challenge?

72% No
28% Yes
12% Outcome pending
12% Fees sustained
2% Settlement reached
1% Challenge sustained (2 later remedied by legislation)



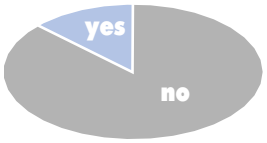
On what basis is payment of your user fees enforced?

41% Lien on property
42% Shut off water
18% Other



Is a significant share of your utility costs attributable to stormwater from outside your service area?

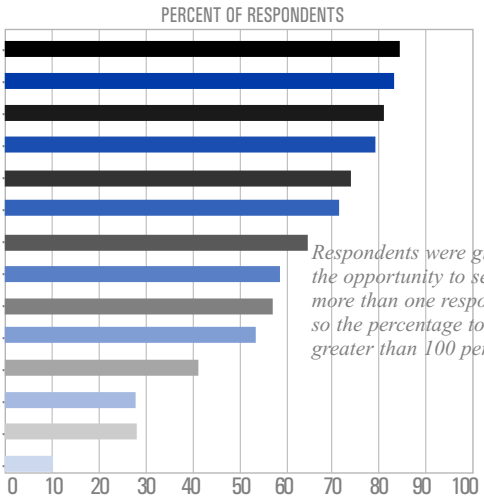
87% No
13% Yes



Quality Issues — Best Management Practices

Which programs and practices are being used to protect or improve water quality?

84% Public education
83% Erosion/sediment controls
81% Street sweeping
79% Detention/retention basins
73% Inlet stenciling
71% Illegal discharge detection
64% Stormwater quality monitoring
59% Public volunteer involvement
58% Residential toxins collection
53% Commercial/industrial regulation
41% Constructed wetlands
28% Lawn herbicide/pesticide control
28% Treatment
10% Other

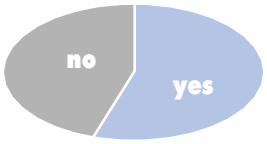


Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Quality Issues Best Management Practice (continued)

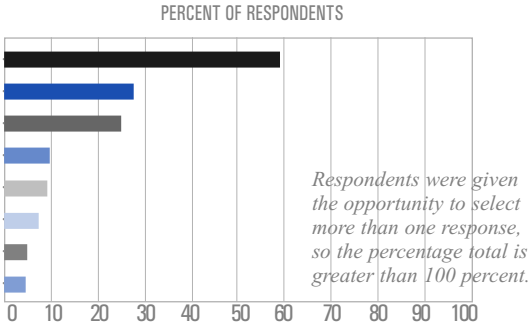
Q Have you installed any stormwater treatment systems in your stormwater conveyance system?

55% Yes
45% No



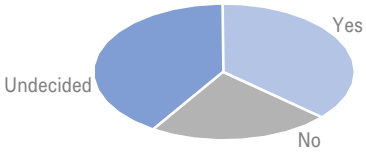
Devices installed:

59% Stormceptor
28% CDS Separator
24% StormFilter
9% Downstream Defend
9% Vortechnics
7% Bay Saver
4% Abtech
4% SunTree Technologies



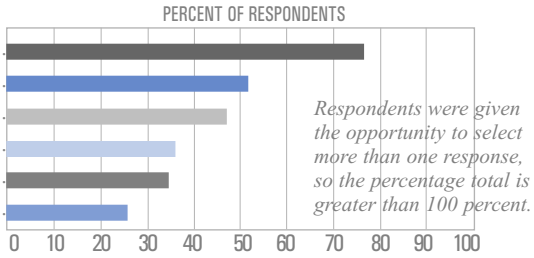
Have these devices met your expectations?

36% Yes
23% No
41% Undecided



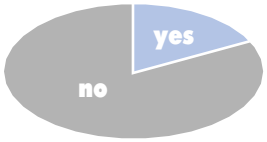
Q What contaminants are your greatest concern?

76% Sediments
51% Nutrients
47% Oil and grease
35% Heavy metals
34% Pesticides
25% Other



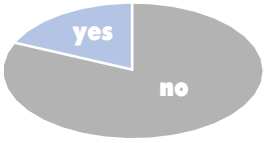
Q Are quality-based user fee credits or other incentives provided to encourage customers to control or reduce stormwater pollution?

18% Yes
82% No



Q Are your user fees specifically designed to provide for the separate recognition and equitable recovery of costs associated with stormwater quality management and quantity(runoff) management, respectively?

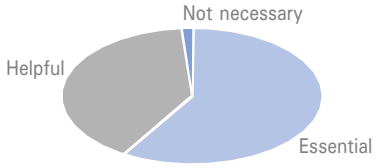
81% No
19% Yes



Public Information/Education

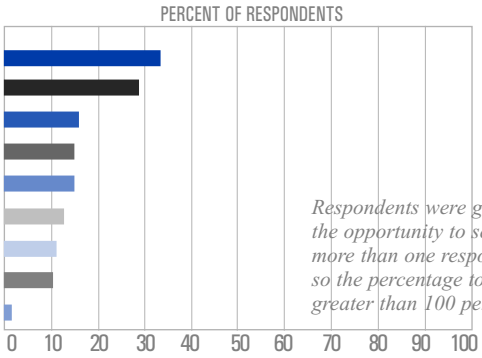
How important is an organized public information/education effort to the continuing success of a user fee funded stormwater utility?

59% Essential
40% Helpful
1% Not necessary



What means have you found to be the most effective in educating the public about utility services, program needs and financing, and citizen responsibilities?

33% Bill inserts
29% Public hearings/presentations
16% Internet
15% Brochures/flyers/newsletters
15% Newspaper
12% Television
11% Public schools
10% Speakers bureau
1% Direct mail



Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Major Challenges Recently Faced

Financial, rate, and billing related issues ..... 19 utilities
(e.g., financing growth, capital replacements, NPDES and other environmental mandates; rate increases, rate equitability, rate challenges; and billing database updating or conversion to GIS)

Weather and flooding issues ..... 10 utilities
(e.g., high amounts of rainfall, standing water, West Nile concerns, localized flooding)

Erosion control ..... 8 utilities
(e.g., run-off, erosion problems)

Regulatory and quality control compliance ..... 8 utilities
(e.g., illicit discharges, quality monitoring, and difficulties of complying with more stringent state and federal quality mandates related to Endangered Species Act, TMDLs, et al.)

Infrastructure planning issues ..... 7 utilities
(e.g., need for integrated flood, quality and environmental planning; remedy of specific infiltration/inflow or local flooding problems; and system-wide flood control master planning)

Jurisdictional issues ..... 3 utilities
(e.g., incorporation of added cities into service area and co-permittee coordination)

Public education ..... 2 utilities
(e.g., need for increased education regarding new programs or rate increases)

Significant Events Affecting Utilities in Past Two Years

NPDES compliance ..... 21 utilities

CIP related (funding, projects started/completed) ..... 14 utilities

User fee related (increases, lack of increases) ..... 14 utilities

Weather related (heavy rains, storms, drought) ..... 8 utilities

Organization/administration/staffing changes ..... 7 utilities

Public education/awareness ..... 4 utilities

Urban growth/decline in service area ..... 4 utilities

Legal challenges ..... 2 utilities

Some respondents listed the same events as positive, negative, or both (e.g., heavy rains or flooding brought both damage and increased public awareness of needs).

Stormwater Management

From run-off to potential revenue stream, stormwater management is uniquely challenging. It is often not source-specific, not metered or monitored closely within the community, and not tied to customers' daily decisions. Black & Veatch's Enterprise Management Solutions team assists utilities nationwide in stormwater management issues to help provide stable funding for operations as well as capital projects.

ABOUT ENTERPRISE MANAGEMENT SOLUTIONS

Black & Veatch is pleased to provide this survey as an industry service. For 90 years, meeting the needs of utilities nationwide has been at the core of our business. We understand the value of knowing how others are addressing the industry's complex issues. From organization effectiveness to financial structuring to risk management, it helps to know the industry's trusted business partner. Black & Veatch brings it all together.

BLACK & VEATCH
building a world of difference™

ENERGY WATER INFORMATION GOVERNMENT

For custom strategies, proven processes and high-value results, contact:
Anna White
Black & Veatch • 11401 Lamar Avenue • Overland Park, KS 66211 USA
Tel: 913-458-4322
Stormwater@bv.com

Black & Veatch Corporation is a leading global engineering, consulting and construction company specializing in infrastructure development in the fields of energy, water and information.
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ATTACHMENT I-2

City of San Clemente Clean Ocean Program & Fee
Frequently Asked Questions

What is the Clean Ocean Program?
It is the City's effort to prevent stormwater and urban runoff pollution from entering the storm drain system and being discharged at the beach.

Why does the City need a Clean Ocean Program?
- To protect the environment (water quality in local channels and coastal waters);
- To protect public health and safety (from bacteria and other pollution that could reach the beach);
- To protect local quality of life (local business/tourism, "beach town" reputation, etc.); and
- To meet State Water Code and Federal Clean Water Act permit requirements issued to South Orange County cities by the State.

Who developed the Clean Ocean Program?
The City prepared an Urban Runoff Management Plan (URMP), which included participation and feedback from the community as well as the City's Coastal Advisory Committee (local citizens appointed by the City Council to consider and provide advice on coastal and water quality issues). The URMP guides the Clean Ocean Program, and outlines activities and projects to meet the State and Federal water quality requirements and protect local water quality.

What does the Clean Ocean Program include?
- *Runoff treatment projects*
  - Poche Beach: A treatment system was constructed and is maintained to filter and kill bacteria in the runoff before it reaches the beach. Construction was completed in March of 2009. The system treats up to 1.1 million gallons per day. Weekly water quality tests indicate that the UV treatment removes between 95% - 99% of the bacteria in the storm drain runoff before it discharges to the beach. The current water quality grade at Poche Beach is an A+.
  - North Beach: A system was constructed to divert dry weather runoff away from North Beach and send it to the City's Water Reclamation Plant for treatment. The system started operating on June 1, 2009. It diverts and filters about 350,000 gallons per day. The current water quality grade at North Beach is an A+.
  - Underground storm drain units were installed to remove trash, oil & grease and sediment from runoff before it gets to the beach. Six units have been installed. They are located near Calafia Beach, in the Pier Bowl area, at the west ends of El Portal, at the end of Linda Lane and at Mariposa. In 2013, 35 cubic yards of material was captured and removed by these units. This is material that would have otherwise have ended up in the ocean.
- *Pollution prevention activities*
  - Street Sweeping: the City sweeps public residential streets twice per month and major streets and business areas about 3 times per week. Over 22,000 tons of material has been collected over the last ten several years, enough to fill 550 large (40 cubic yard) trash bins.
  - Catch Basin Inspection and Cleaning: the City inspects at least 2,205 catch basins annually, cleaning them as needed. In 2013, 2,432 catch basins were cleaned and a total of 914 cubic feet of material was removed.
  - Water Quality Testing: water samples from over 20 locations throughout town are sampled each year to help identify potential problem areas and monitor quality progress over time. Flow measurements are also taken to help measure progress in reducing urban runoff flows.
  - Special Studies: the City consulted with scientists to conduct an in depth investigation to find sources of bacteria in the Poche Beach watershed. A year long study which included molecular

marker testing culminated in focused recommendations and a strategic plan for reducing bacteria at Poche Beach. The final report of the study is located on the Clean Ocean Program website at www.sccleanocean.org.

- Commercial, Industrial and Construction Site Inspections: Inspections of businesses, industrial facilities and construction sites are conducted to make sure these sites are using proper Best Management Practices (BMPs) to prevent pollution from entering the storm drain system and reaching the beach. Over 9,000 inspections have been completed in the last 10 years.
- Spill Cleanups and Storm Drain Maintenance: A 24/7 hotline number (**366-1553**) is in place to respond to and cleanup spills or investigate reported illegal discharges. In addition, the City performs ongoing maintenance to ensure proper function of the storm drain system and inspects all public catch basins annually and removes materials that might be discharge into the system.
- Enforcement of Anti-pollution Ordinances: Dedicated officials enforce water quality laws to identify and correct violations. Depending on the severity of the violation, enforcement may include verbal warnings, written correction orders, and/or fines of $100, $200, or $500 per violation.
- Public Outreach and Education: Efforts promote awareness of stormwater and urban runoff pollution impacts, and ways the public can help prevent this pollution from happening in the first place.

What is the cost of implementing the Clean Ocean Program?
The cost to implement the program is about $2.2 million per year.

What is the cost of not implementing the Clean Ocean Program?
The City could be liable for large fines if the State finds that the City is not meeting the requirements of the stormwater permit regulations. Also, there are potential economic impacts (tourism, real estate values, etc.) if the City does not work to protect its healthy beach town reputation.

How is the Clean Ocean Program funded?
By a Clean Ocean utility fee charged to property owners. The fee is collected as a line item on the monthly utility bill for owners that get water service from the City. The fee is charged monthly but collected via a separate twice-yearly bill to San Clemente property owners that get water service from other providers (e.g. South Coast Water District or Santa Margarita Water District).

Why do property owners get charged the Clean Ocean Fee?
Developed and graded properties contribute runoff to the storm drain system (which includes pipes, channels, drain inlets and street gutters). This runoff contains or picks up pollution before it enters the storm drain, which the City must then address. Since providing storm drain and water quality services is like other utility services provided by the City (e.g. drinking water and sewer service), it is appropriate that property owners pay for the cost of this service.

How long will the continued fee be in effect? When will it end?
If approved by San Clemente property owners, the existing Clean Ocean Fee would be continued for an additional six and one-half (6.5) years, and would expire on June 30, 2020.

How much will the fee increase over the next 6.5 years?
The continued Clean Ocean Fee would be fixed and would not increase over the entire period.

Why are property owners voting on this fee?

Under the provisions of California Proposition 218, property owners must approve new property fees adopted by cities.

What is the change from the existing to the proposed Clean Ocean Fee?

Single Family Residential Monthly Fee		
	Current Fee	**Proposed New Fee**
Private street	$ 4.39	**$ 5.10**
Public street	$ 5.02	**$ 6.23**

Multi-Family Residential Monthly Fee		
	Current Fee (per residential unit)	**Proposed New Fee (per residential unit)**
Private street	$3.51	**$4.08**
Public street	$4.01	**$4.98**

Non-Residential (Commercial, Industrial, Business Park) Monthly Fee		
	Current Fee (per acre or fraction thereof)	**Proposed New Fee (per acre or fraction thereof)**
Private street	$43.90	**$51.00**
Public street	$50.20	**$62.30**
Note: Almost all non-residential streets within the City are public streets.		

Undeveloped, Graded Property Monthly Fee				
	Current Fee		**Proposed New Fee**	
	2 acres or less	*Each acre over 2 add:*	*2 acres or less*	*Each acre over 2 add:*
Private street	$2.20	$0.44	**$2.55**	**$0.51**
Public street	$2.51	$0.50	**$3.12**	**$0.62**
Note: There is no clean ocean fee charge for undeveloped, ungraded parcels.				

Note: Properties on private streets are charged a lower rate since the City doesn't provide street sweeping service on private streets.

How is the fee calculated?
The fee is based on a parcel's expected contribution of runoff, which is determined by an estimate of the impervious area on that parcel. Impervious areas include such things as buildings and pavement, which prevent or restrict storm water from getting into the soil and increase runoff from a parcel.

Why is the existing Clean Ocean Fee being proposed to be continued?
The fee funds a stormwater quality program that the State requires the City to implement. Since the fee was last approved, the State revised and adopted a new stormwater permit for the south Orange County area that contains more rigorous requirements. Also, the State recently adopted new requirements for bacteria pollution for which the City must comply.

What happens if continuation of the existing Clean Ocean Fee is not approved?
If the Clean Ocean Fee is not continued, the City will need to support the Clean Ocean Program with some other funding source. The most likely source would be the General Fund, which would result in about $2 million each year that would not be available for other needed projects and programs within the City.

How and when will the vote occur?
All record owners of property within the City that are directly subject to the proposed fee will receive an official mail-in ballot with a postage paid addressed return envelope. The ballots will be mailed to property owners on October 25, 2013. Return ballots are due on December 10, 2013.

How do I cast my vote?
Simply fill out the ballot and mail or deliver it to the San Clemente City Clerk by the due date noted on the ballot.

How do I get more information?
More information about the proposed fee continuation is available on the City's website at www.sccleanocean.org. You may also call the Environmental Programs Section at (949) 361-8204 or send an email to cleanwater@san-clemente.org.

What's the difference between storm drains and sewers – doesn't it all get treated?
Like most other cities, the City of San Clemente owns and operates a storm drain system, which is the network of channels and pipes that collect stormwater and urban runoff and discharges it into the ocean. Unlike sewer systems that send sewage to a treatment plant before being discharged, most storm drain systems, including the City's, were built to collect and convey runoff to prevent flooding but not to treat urban water runoff. Therefore, any pollutants that runoff carries into the storm drain system are discharged untreated along the City's shoreline.

Do other cities have a Clean Ocean Program?
They may call it something else, but all cities in the urbanized areas of Southern California are required by the State to implement stormwater and urban runoff programs to prevent discharges of pollution to creeks, rivers and the ocean.

How do we know that the Clean Ocean Program is working?
- The City records amounts of trash picked up by street sweepers and removed from underground treatment devices.
- Larger treatment projects include monitoring to compare water quality before and after treatment.
- The City tracks the number of enforcement actions and inspections to document these efforts.

Why should San Clemente property owners pay to clean up pollution from upstream cities?
Unlike most cities in Southern California, San Clemente's city boundary is very similar to the local watershed boundary. This means that San Clemente is a self-contained watershed, and that there are no upstream cities that contribute pollution through our local watershed. So the pollution in our storm drains comes from San Clemente properties, and not from out-of-town areas.

How can I help?
To learn about simple tips to help prevent urban runoff pollution, please visit www.sccleanocean.org or www.ocwatersheds.com.
To learn about potential volunteer opportunities (e.g. beach cleanups), please visit www.scwatersheds.com.

ATTACHMENT I-3

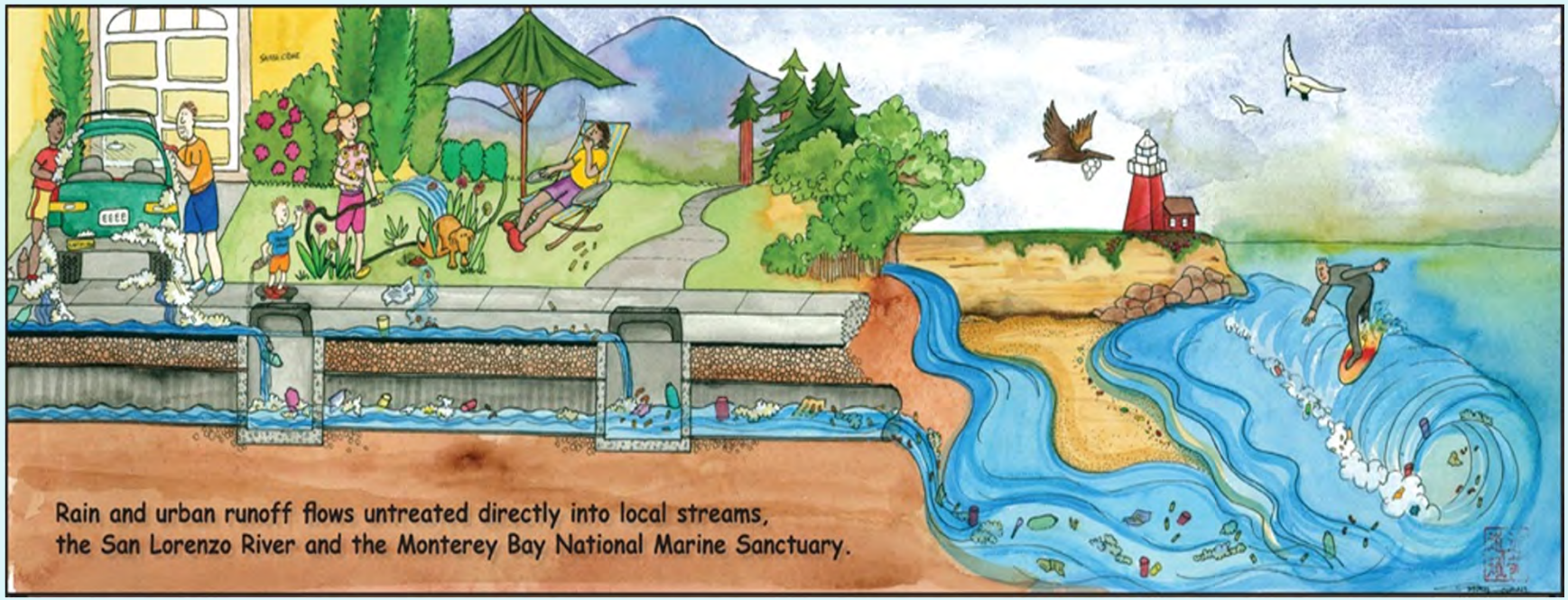
City Storm Water Program and Measure E: Clean River, Beaches and Ocean Fund

FY 2015 Highlights

Dedicated funding for programs

to prevent pollution from reaching our waterways and beaches

Urban Runoff



Rain and urban runoff flows untreated directly into local streams, the San Lorenzo River and Monterey Bay

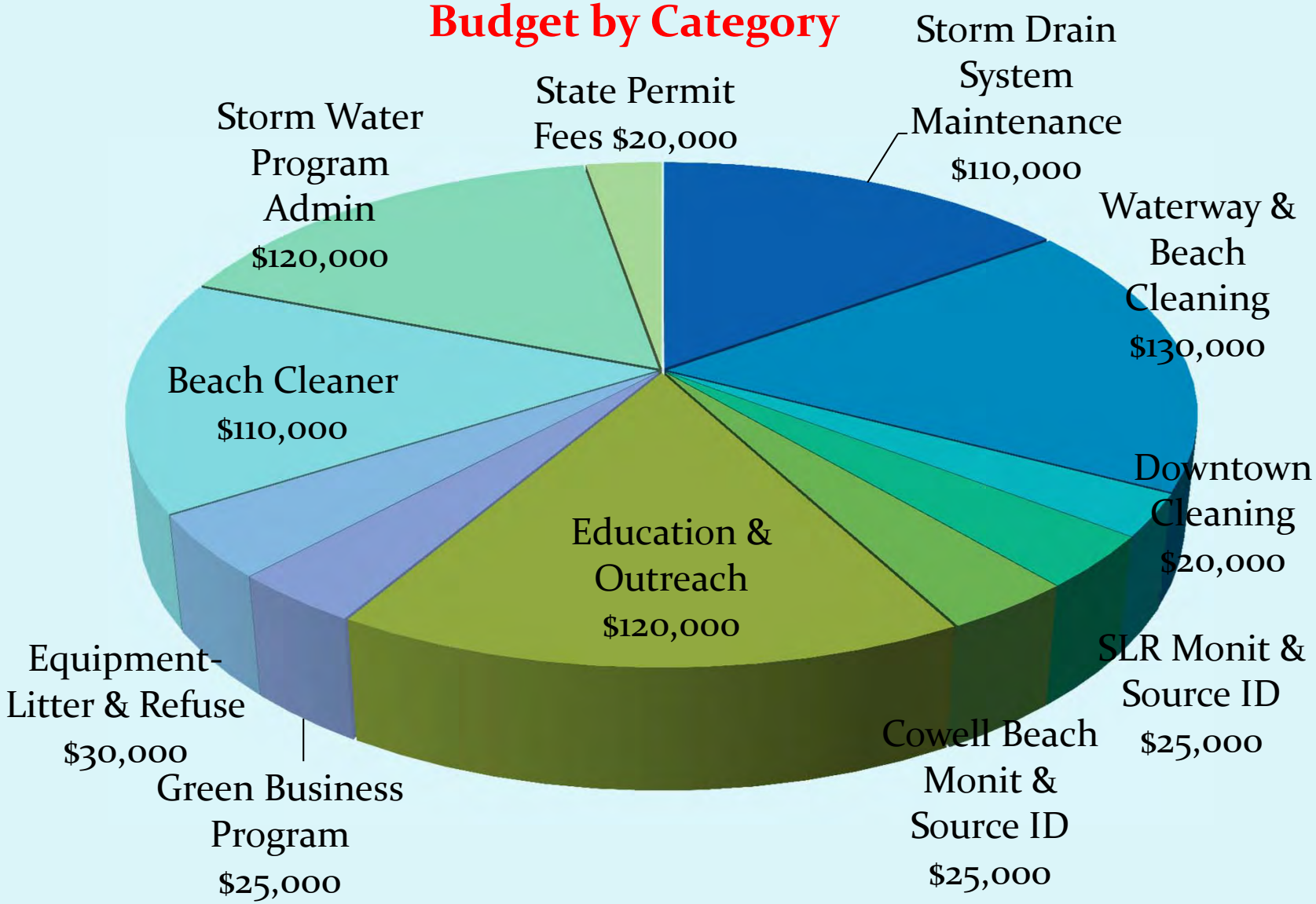
FY 2015 Expenses

- Storm Drain System Maintenance: $110,000
- Waterway & Beach Cleaning: $130,000
- Downtown Cleaning: $20,000
- San Lorenzo River Monitoring & Source ID: $25,000
- Cowell Beach Monitoring & Source ID: $25,000
- Education & Outreach: $120,000
- Green Business Program: $25,000
- Equipment: Litter & Refuse: $30,000
- Beach Cleaner: $110,000*
- Storm Water Program Staff: $120,000
- State Permit Fees=$20,000

Revenue: $630,000 Expenses: $740,000

FY 2015 Expenses

Budget by Category



Municipal Operations

Focus on cleaning:

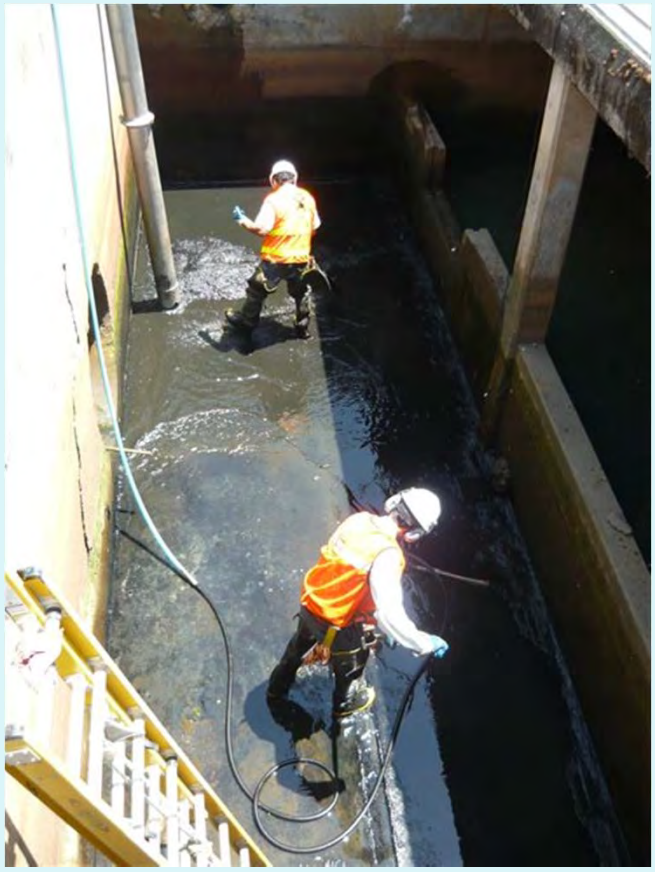
To keep debris & pollutants from flowing into the San Lorenzo River and Monterey Bay

- Storm drain pipelines
- Pump Stations
- River Toe Ditches
- Street Catch basins

Municipal Operations

City Crews clean:

- Storm drain pipelines-9 miles
- River pump stations-5 vaults



Municipal Operations

Storm Drain System Inspection & Cleaning:

- Extensive catch basin inspection & cleaning program. All downtown catch basins plus outlying areas inspected & cleaned.
  - Labor costs
  - Vactor Operation
  - Debris Disposal
  - Televising storm drain lines

Cost: $110,000

Waterway, River Levee & Beach Cleaning

Ongoing Maintenance Efforts:

- San Lorenzo River
  - Parks Temp Staff-$70,000
  - Contracted cleanups-$25,000

  Subtotal: $95,000

- Cowell & Main Beaches
  - Wharf Temp Staff $35,000

Cost: $130,000

Beach Cleaning

Beach Cleaning Machine for Cowell & Main Beaches

Cherrington Beach Cleaner
Cost: $110,000

Waterway, River Levee & Beach Cleaning

Parks Rangers Temp Staff-cleanups & restoration efforts

Cost=$70,000

Municipal Operations

Downtown Cleaning:

Hand Sweeping-Hope Services

Cost=$20,000

Municipal Operations

Downtown Cleaning: Alleyways

Cleaned by contractors

River Levee & Beach Volunteer Cleanups

Save Our Shores:

- San Lorenzo River-Adopt a Levee cleanups
- San Lorenzo River-4 seasonal cleanups
- Annual Coastal Cleanup Day-beach & river cleanups
- July 4th & 5-beach outreach & cleanups
- Disposal of debris

Cost=$25,000

Education & Outreach Program

School Programs:

- O'Neil Sea Odyssey-Field trip & class 4-5th grades
- Save The Whales-K-12th Grade class presentations
- Save Our Shores-Middle & High School assemblies and classes
- ZunZun-Musical Assemblies K-6th grades

Cost=$35,000

Education & Outreach Program

Volunteer Monitoring & Stewardship:

- CWC Snapshot Day
- CWC San Lorenzo River Alliance

Cost=$15,000

Education & Outreach Program

Residential Outreach:

- Arana Gulch Watershed Coordinator
- EA-Our Water Our World: pesticides & herbicides
- EA-Green Gardner Program
- RCD-Low Impact Development
- SW agencies-Region-wide TV ads

Cost=$15,000

Education & Outreach Program

Business Outreach & Recognition:

- City Clean Ocean Business Program
- Monterey Bay Green Business Program
- Green Gardner/ Landscaping Program

Cost=$30,000

Education & Outreach Program

Litter & Illegal Dumping:

Catch Basin Labeling (SOS)

Cost=$10,000

Cigarette Butt "Bait Tank" containers

San Lorenzo River Pollution Prevention

Litter & Illegal Dumping

- Trash/Recycling and Cigarette Butt containers on SLR levee & other areas

Cost=$15,000

SLR Watershed Monitoring

State Total Maximum Daily Load Limits: San Lorenzo River

- **TMDL: Bacteria and Sediment**
- State requires monitoring, remedial measures & reports
- Monitoring of SLR, Branciforte & Carbonera Creeks by City Lab & Env Compliance Program
- Results indicate birds and sediment are primary sources of elevated bacteria levels in SLR
- City is an active partner in the SLRA led by Coastal Watershed Council (staff time, funding, specialized lab work, data sharing)

Cost= $25,000 (Lab)

Cowell Beach

- City participates in Cowell Beach Working Group
- City & County both monitor Cowell Beach
- Results show low bacteria levels during winter months
- Sewer source unlikely since levels not high year round

In 2014, City added caffeine test as indicator of sewage (none found so far)
In 2015, City conducted a preliminary bacteria gradient study

New State Requirements
Outfall Inventory and Sampling

- Staff checked 236 storm drain outfalls
- 26 outfalls had flows during summer and were sampled
- Results showed 1 suspect outfall which led staff to identify a cracked storm drain

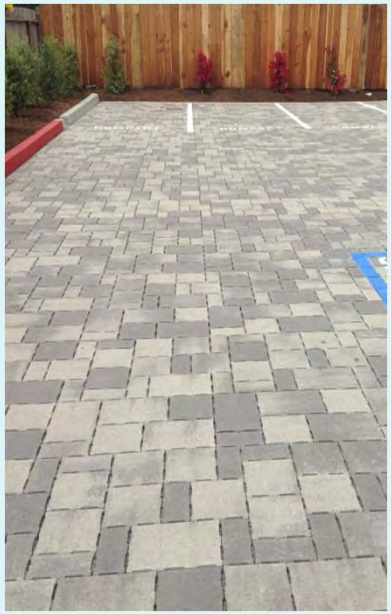
New State Requirements Construction: Erosion Control

- Grading ordinance revised June 2014: Projects need to submit erosion & sediment control plans
- Increased PW and Building staff oversight of construction projects

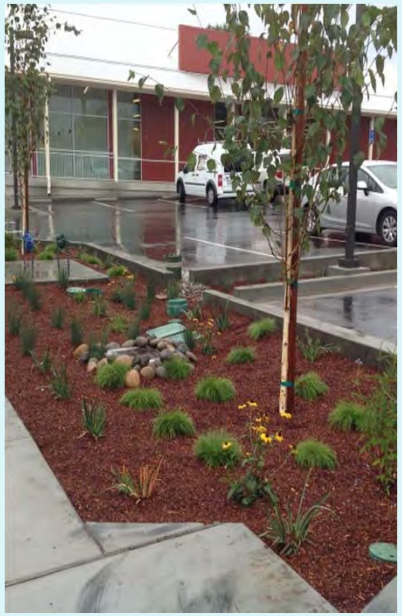
New State Requirements Development: Low-Impact Design

- New (2014) requirements to collect & infiltrate (sink) storm runoff on property
- Applies to private developments, retrofits, and City projects
- *Examples of LID techniques:*

Pervious Pavement



Bio-retention



Drainage Swale

Rain Barrel

Low-Impact Development on Recent Private Projects

Madrone Street (Sports Authority)

Frederick Street (Multi-family)

West Cliff Drive (Multi-family

Low-Impact Development on Recent City Projects

Kaiser Permanente Arena

Wharf Roundabout (not vegetated yet)

Arana Gulch Multi-Use Trail

Tannery Arts New Parking Lot

Grants & Projects

State Prop 84 Grant: Low Impact Development Design & Build Parking Lot #9

- Goal to reduce runoff & pollutant loads to River
- LID to sink rain runoff and divert pollutants into soil

Construction completed August 2015

Grants & Projects

State Prop 84 Grant: Low Impact Development Parking Lot #9

- Sloping & curb cuts to bio-swales redirect 75% of lot runoff

Grants & Projects

Bio-swales installed to sink rain runoff & filter pollutants

Vegetated bio-swale with curb cuts

Grants & Projects

Bio-swales installed to sink rain runoff & filter pollutants

Vegetated bio-swale with curb cuts

Grants & Projects

State Prop 84 Grant: Low Impact Development Design & Build Parking Lot #9

- Lot repaved as part of project
- Match $40,000 from FY14 budget

Grants & Projects

State Clean Beaches Initiative Grant & CIP Project

- Neary Lagoon Storm Drain Improvement Project
- Goal: Reduce bacteria levels at Cowell Beach
- Storm drain pipes exit at Cowell Beach-buried under sand in summer

Neary Lagoon Beach Outlet Vault

Grants & Projects

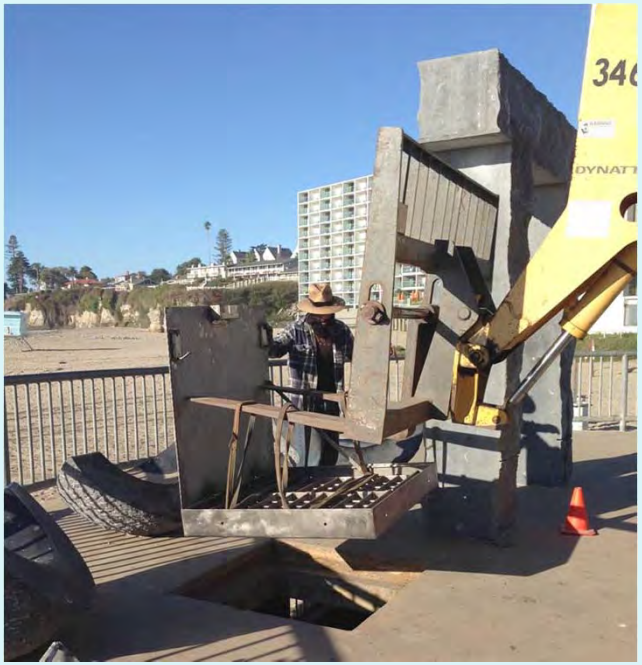
Neary Lagoon

Gates closed in Summer & opened in Winter

Installed Spring 2014

Grants & Projects

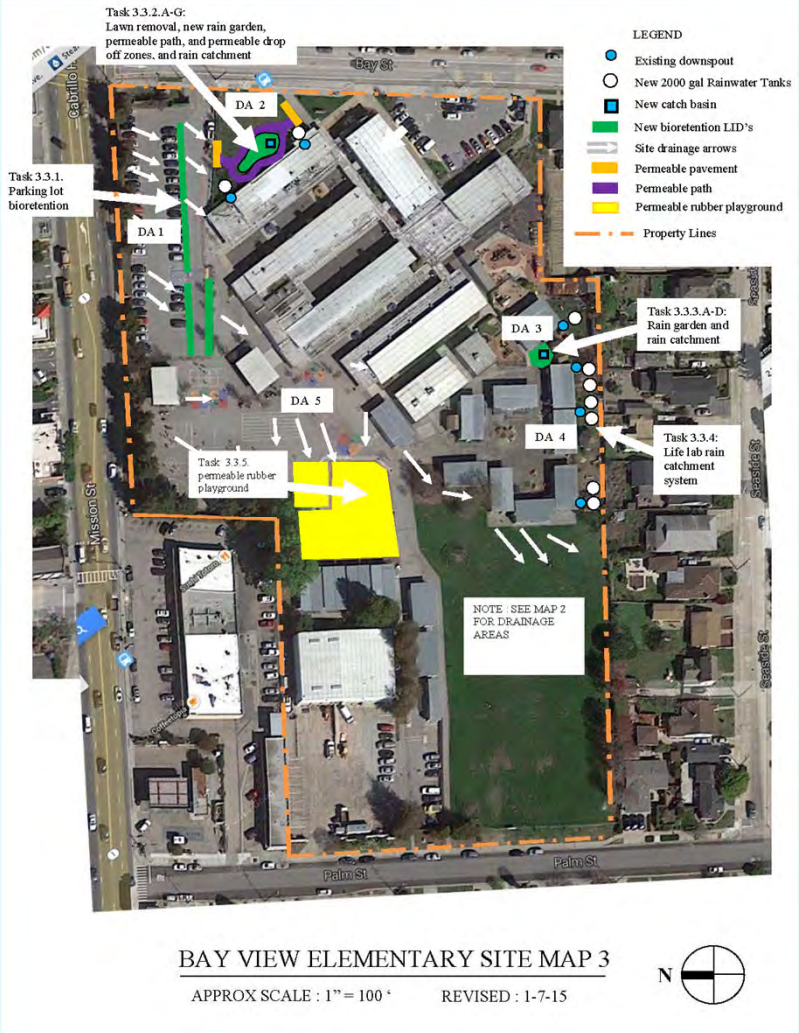
- New hatch at beach outlet vault
- Temp steel plate on gravity pipe opening at beach during summer
- Neary pump station & storm drain lines now cleaned late Spring & Fall



Grants & Projects

State DROPS Grant: Low Impact Design for Schools

- City partnered w/Santa Cruz City Schools and UCSC IDEASS
- $486,000 Grant Awarded to SC City Schools for Bay View Elementary
- Retrofit LID project: Bio-swales, pervious playground, and rain water catchment/cisterns
- City cost $15,000 (FY16) towards large rain garden and educational signage



The End

ATTACHMENT I-4

News

Palo Alto proceeds with storm water management fee increase

By **JACQUELINE LEE** | jlee1@bayareanewsgroup.com |
PUBLISHED: August 30, 2016 at 2:48 pm | UPDATED: August 31, 2016 at 7:56 am

PALO ALTO — Money from a proposed increase in storm water management fees would be spent more on operating costs than capital improvements, Palo Alto City Council decided on Monday, reversing a decision made earlier this year.

The council previously approved a resolution calling for a monthly fee of $13.65, up from $13.03.

The breakdown of the increased bill was going to be $6.62 as the base amount and $7.03 for capital improvements. Now, the allocation is reversed so that $7.48 is the base and $6.17 is for improvements.

City staff told council members that initial calculations were off because they were based on fiscal year 2016, rather than 2017, and more money is needed for operating costs.

A public protest hearing on the rate hike is set for Oct. 24. Property owners can file written opposition to the fee increase until then. If a majority does so, then the council has to terminate the fee increase process.

If there is no majority opposition, then the city will conduct a mail ballot election on the fee increase between Jan. 11 and Feb. 28.

If approved, the new fees would go into effect June 1 and generate about $6.9 million in revenue annually for the next 15 years.

In early 2015, the city identified about $37 million worth of capital improvements that are needed.

Property owners currently pay about $12.63 per month in storm drain bills.

Current fees will expire in June. If no action is taken to approve updated fees, then the rates will revert to $4.25, an amount property owners approved in 2005, which city leaders say is not enough to maintain operations.

Email Jacqueline Lee at jlee1@bayareanewsgroup.com or call her at 650-391-1334; follow her at twitter.com/jleenews.

Jacqueline Lee Jacqueline Lee is a reporter covering Palo Alto for the Bay Area News Group. Lee is an LA native and alum of USC Annenberg.

Follow Jacqueline Lee @jleenews

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ATTACHMENT I-5

Environment

Commercial Sewer Service Charge

Residential Sewer Service Charge

Contact Us

City of San José
Revenue Management – Sewer Billing Unit

200 East Santa Clara Street
4th Floor
San José, CA 95113

Phone: (408) 535-7055

Home > Environment > Utility Services > Stormwater > Storm Sewer Service Charge

Storm Sewer Service Charge

Storm Sewer Service Charge Rate

The Storm Sewer Service Charge rate structure charges users of the storm sewerage system in San José based on the relative quality and quantity of stormwater runoff contributed by residential, commercial, institutional, and industrial properties. The rate structure apportions the costs of storm sewer service to properties in proportion to their relative contribution of flow and pollution to the storm sewer system.

Rates are computed to recover projected costs of the following:

- Stormwater pollution control and permit compliance
- Management, operation, maintenance, and rehabilitation of the storm sewer system
- Improvements to the storm sewer system
- Street sweeping
- Administrative services

Storm Sewer Service Charge rates are reviewed and adjusted annually, as cost and service demand levels change. The current rate structure for storm sewerage services described below became effective July 1, 2011, with San José City Council adoption of Resolution No. 75857 on June 14, 2011. The rates are structured for the estimated cost recovery requirements and the service demand levels of Fiscal Year 2011-12. View the current residential rates and commercial rates.

For Fiscal Years 2013-14, 2014-15, and 2015-16, no rate increases were adopted. Rates maintain at the same level as Fiscal Year 2011-12.

If you have questions regarding rates for storm sewerage service, please call us at (408) 535-7055.

ATTACHMENT I-6

Sewer and Storm Water Fees

The charts below provide information on Sewer Fees and Storm Water Fees in the City of Alameda.

SEWER SERVICE FEE, CITY OF ALAMEDA

	FY2016	FY2017 % Increase 3.0%	FY2018 % Increase 3.0%	FY2019 % Increase 3.0%	FY2020 % Increase 3.0%
Single Family ($/month)	**$23.93**	$24.65	$25.39	$26.15	$26.93
Multi-Family ($/month)	**$21.54**	$22.19	$22.86	$23.55	$24.26
Commercial Fixed Charge ($/month) (includes first 730 cubic feet)	**$21.54**	$22.19	$22.86	$23.55	$24.26
Flow-Based Rate ($ per Hundred cubic feet)	**$2.96**	$3.05	$3.14	$3.23	$3.33

STORM WATER FEE, CITY OF ALAMEDA

The Fee is based on the amount of pollution that the City estimates enters the municipal storm water system as a result of the installation or maintenance of impervious surfaces.
2,000 square feet of impervious surface = 1 Impervious Surface Unit (ISU)

The Fee is calculated according to the following formula:
Number of Impervious Surface Units **(ISU)**
multiplied by
Fee per Equivalent Residential Unit **(ERU)**

	Storm Water Fee
Typical Single Family Residential Parcel A typical residential parcel has 5,000 square feet of surface area. 40 percent, or 2,000 square feet, is comprised of impervious surface (1 ISU).	**$56.15** (1 Equivalent Residential Unit fee)
Condominium (per unit) A typical condo unit has 600 square feet of impervious surface area (0.3 ISU).	**$16.85** (0.3 x 1 ERU)

Other parcels with Impervious Surfaces are subject to the Fee based upon stated formula Fee: Number of ISUs **multiplied by** Fee per ERU.

DECLARATION OF SERVICE BY EMAIL

I, the undersigned, declare as follows:

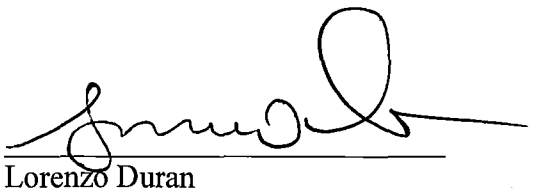
I am a resident of the County of Sacramento and I am over the age of 18 years, and not a party to the within action. My place of employment is 980 Ninth Street, Suite 300, Sacramento, California 95814.

On September 27, 2017, I served the:

- **SWRCB and SDRWQCB Comments on the Test Claim filed September 22, 2017**

  California Regional Water Quality Control Board, San Diego Region, Order No. R9-2010-0016, 11-TC-03
  County of Riverside, Riverside County Flood Control and Water Conservation District, Cities of Murrieta, Temecula, and Wildomar, Co-Claimants

By making it available on the Commission's website and providing notice of how to locate it to the email addresses provided on the attached mailing list.
I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on September 27, 2017 at Sacramento, California.



Lorenzo Duran
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COMMISSION ON STATE MANDATES

Mailing List

Last Updated: 9/21/17

Claim Number: 11-TC-03

Matter: California Regional Water Quality Control Board, San Diego Region, Order No. R9-2010-0016

Claimants: City of Murrieta
City of Temecula
City of Wildomar
County of Riverside
Riverside County Flood Control and Water Conservation District

TO ALL PARTIES, INTERESTED PARTIES, AND INTERESTED PERSONS:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.3.)

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ATTACHMENT I-7

MEASURE CW

The Clean Water, Clean Beach Parcel Tax

During the November 8, 2016 Special Municipal Election, Culver City residents voted on Measure CW, the Clean Water, Clean Beach Parcel Tax. The results are as follows: YES - 73.82%; NO - 26.18%. Funds raised by Measure CW will be used for improvements in water quality in Ballona Creek, Marina del Rey, Santa Monica Bay, and the Pacific Ocean. Measure CW required approval by 2/3 of those voting on the measure to pass.

Need for Measure CW

Dangerous bacteria, pesticides, toxic chemicals, oil and grease, trash and other pollutants are deposited on our roadways and flow into Ballona Creek, Marina del Rey, and the ocean through our storm drains, by rain, and other runoff water. These pollutants harm fish and wildlife, cause illness and infections for swimmers and surfers, and make beaches unsafe and unsightly for families and visitors. The State and Regional Water Quality Control Boards have implemented very strict pollution reduction regulations for storm water runoff. These regulations require the City of Culver City to develop and implement programs to reduce and prevent water pollution.

Purpose of Measure CW

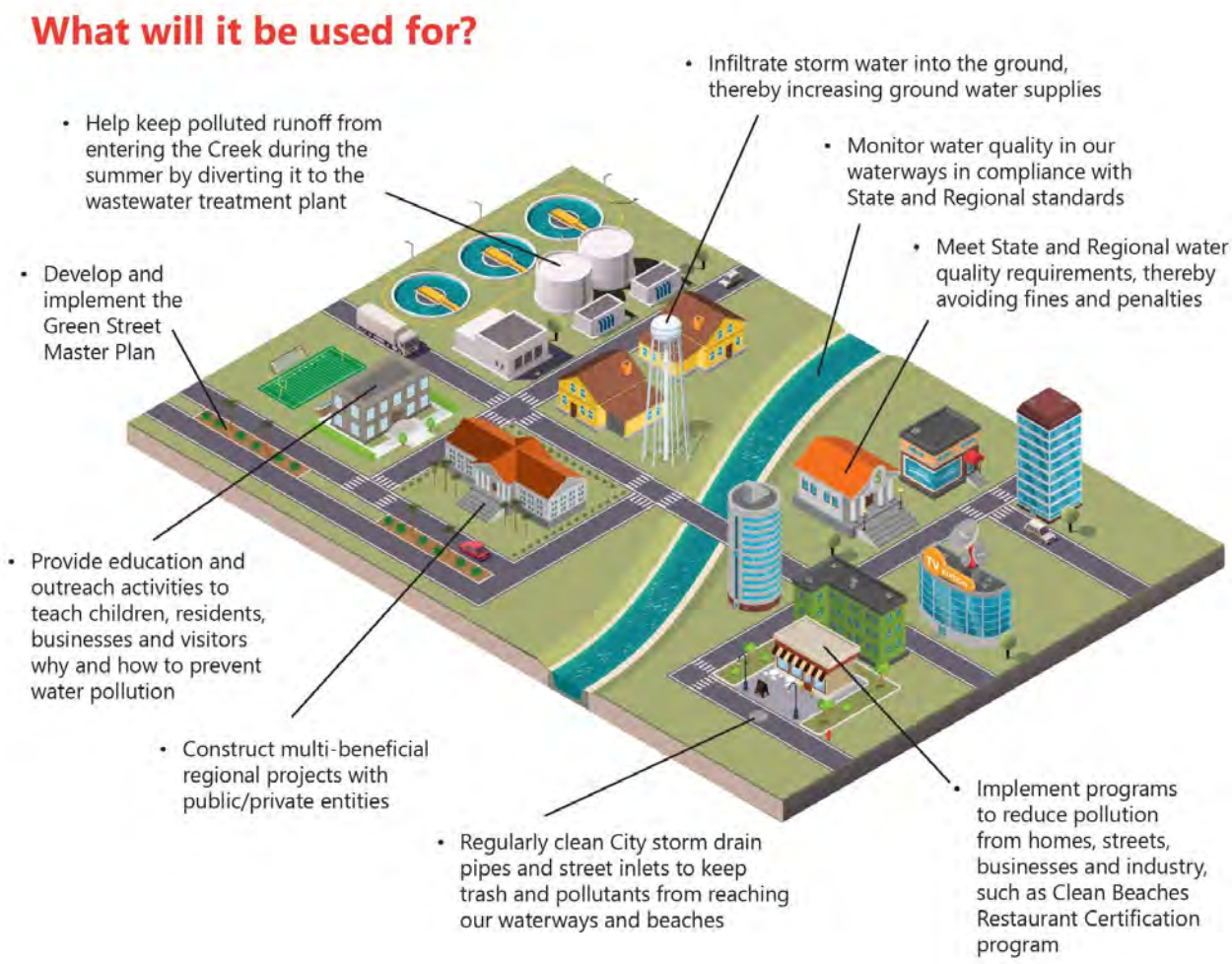
Measure CW establishes an annual Clean Water, Clean Beaches Parcel Tax in the City of Culver City. Measure CW was placed on the ballot by the City Council of the City of Culver City to create a dedicated source of funding to pay for water quality programs that will prevent pollution from reaching our waterways, beaches and the Ballona Creek Estuary. Measure CW required approval by 2/3 of those voting on the measure.

Cost of Measure CW

- $99 annually per single family residential parcel
- $69 annually per multi-family residential dwelling unit
- $1,096 annually per acre of land or portion thereof for non-residential

Each parcel owner of a non-residential property will be taxed $1,096 per acre of land (or portion thereof) annually. The $1,096 will be pro-rated for non-residential parcels less than one acre. For example, a non-residential parcel of one-half acre will be taxed $548. Land owners are taxed, not individual businesses located on the non-residential property. For larger parcels with multiple tenants, the land owner will receive one bill based on the size of the parcel, not the tenants.

Tax-exempt parcels will not be charged. Charges will first appear on the tax statements in fall 2017. Measure CW is expected to generate about $2 million per year. All Measure CW money will be used here in Culver City to reduce water pollution.



Use of Measure CW Funds

Measure CW funds will be placed in a special Clean Water, Clean Beaches Fund, and funds must be used exclusively for reducing and preventing water pollution and managing storm water and urban runoff. The Financial Advisory Committee will oversee how the funds are spent.

What you need to know about Measure CW.

View the quick Fact Guide on Measure CW.

Click below for important information on Measure CW

- Full Ballot Measure Text
- Argument in Favor
- Impartial Analysis

Click Below for the Enhanced Watershed Management Programs and Coordinated Integrated Monitoring Plans

Ballona Creek

Enhanced Watershed Management Program for the Ballona Creek Watershed

Coordinated Integrated Monitoring Program (CIMP) for the Ballona Creek Watershed

Marina Del Rey

Marina del Rey Enhanced Watershed Management Program Plan

Marina del Rey Coordinated Integrated Monitoring Program

City Contacts

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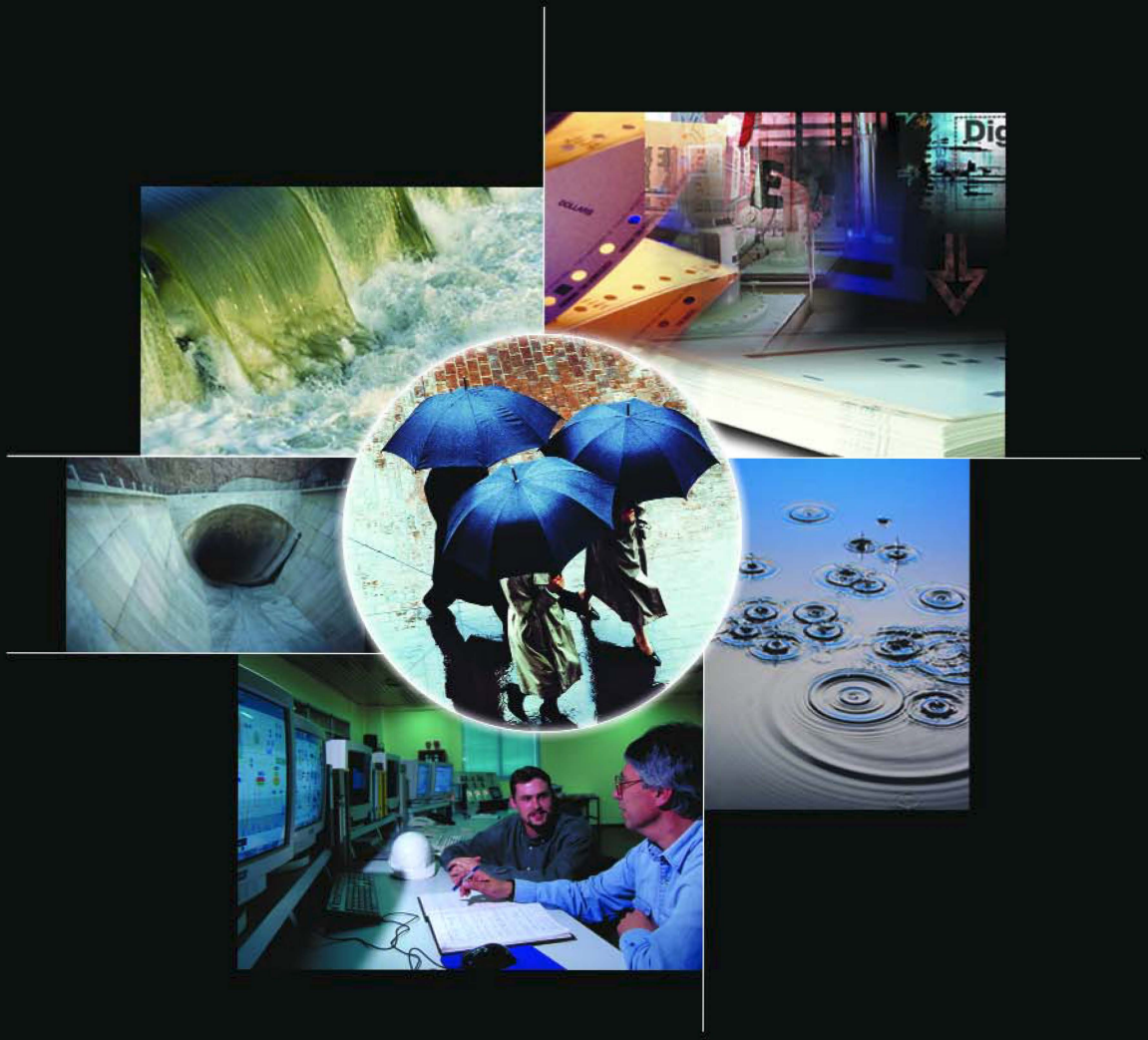
Jeff Muir, Chief Financial Officer e-mail or (310) 253-5865

ATTACHMENT I-1

2005 STORMWATER UTILITY SURVEY



BLACK & VEATCH
building a world of difference™

ENERGY WATER INFORMATION GOVERNMENT

Black & Veatch is pleased to provide the results of its sixth national Stormwater Utility Survey, to help those involved in the stormwater industry stay well-informed across a range of issues. The survey results offer insight into the following topics:

- Organization/Administration
- Planning
- Operations
- Finance/Accounting
- Stormwater User Fees and Billing
- Quality Issues – Best Management Practices
- Public Information/Education
- Major Challenges Recently Faced
- Significant Events Affecting Utilities

These results can be used for numerous purposes, from performance management to financial planning to organization strengthening. At Black & Veatch, we understand the value of knowing what others are doing in the industry. For 90 years, meeting the needs of the utility industry has been at the core of our business. We are happy to discuss any questions you might have regarding this survey.

Profile of Respondents

- Responses were received from 99 utilities in 21 states and one Canadian province. All of these utilities are funded in whole or in part through user fees.
- Approximately 86 percent of the respondents serve a city, rather than a county or region.
- The population served by the respondents ranges from 1,400 (Atlantic Beach, FL) to 3.9 million people (Los Angeles, CA) and the area served varies from 3 to 1,500 square miles. Eighty-one percent indicate they are responsible for stormwater facilities only, while the balance report they are responsible for combined sanitary/stormwater facilities. Approximately 88 percent indicate that they use their own staff to provide a majority of operation and maintenance services.
- For those utilities that base charges on gross property area, equivalent residential units ranged from 1,600 square feet total area to 11,000 square feet, with a mean of 6,964 square feet. For those utilities that base charges on impervious area, impervious areas per equivalent residential unit ranged from 1,500 square feet to 10,000 square feet, with a mean of 2,647 square feet.

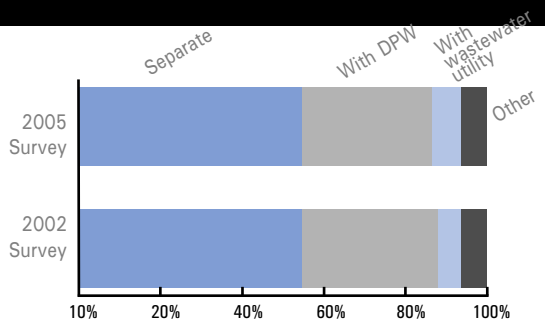
What's New

Feedback from participants prompted us to add a new question to the 2004-2005 version of the Stormwater Utility Survey. In recent years, a number of stormwater treatment systems have become commercially available. Fifty-six percent of respondents have installed at least one of these devices with the most popular being Stormceptor, StormFilter, and CDS Separator. Thirty-six percent have had a favorable experience with these devices in terms of treatment efficiency and ease of maintenance, while 41 percent are still in the evaluation process.

Organization / Administration

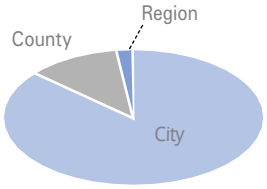
How is your operation organized?

55% Separate utility
32% Combined with Department of Public Works
7% Combined with wastewater utility
6% Other



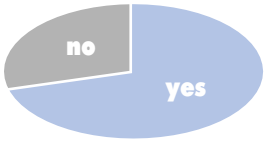
What area does your utility serve?

86% Within city limits
12% County
2% Region



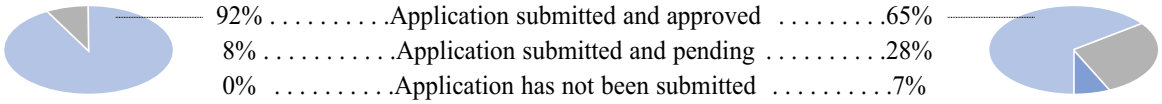
Does your state have specific statutes that govern the formation of stormwater utility and user fee financing?

71% Yes
29% No



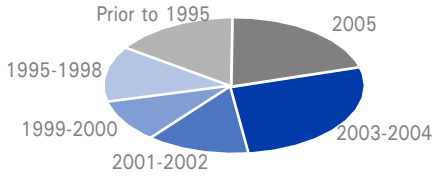
Planning

What is the status of your NPDES permit?



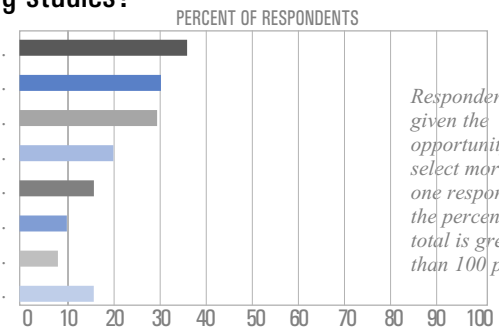
When was your most recent stormwater plan or stormwater facilities plan?

21% 2005
27% 2003–2004
13% 2001–2002
10% 1999–2000
13% 1995–1998
16% Prior to 1995



What stormwater computer models do you use for planning studies?

36% HEC-2
30% XP-SWMM
29% HEC-1
20% TR-55
16% EPA SWMM
10% HEC-RAS
7% HEC-HMS
15% Other

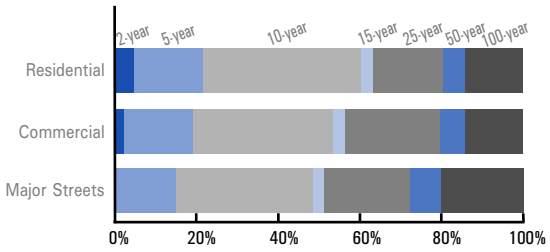


Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Planning (continued)

What return periods do you use to design your major stormwater structures?

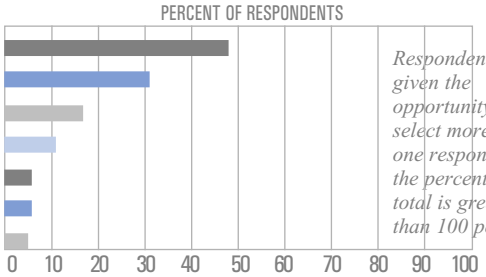
	Residential	Commercial	Major Streets
2-year	3%	1%	0%
5-year	18%	17%	14%
10-year	39%	35%	34%
15-year	3%	3%	3%
25-year	17%	23%	21%
50-year	6%	7%	8%
100-year	14%	14%	20%



Several respondents provided a range of return period.
The percentages above represent the smallest return period provided.

Which performance indicators do you consider most important in measuring improvement in stormwater management success?

47%	Flood control
31%	Monitoring pollutants
17%	Customer complaints/satisfaction
11%	Cost control measures
6%	Erosion control
6%	Maintenance
5%	Habitat

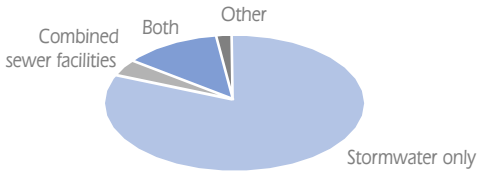


Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Operations

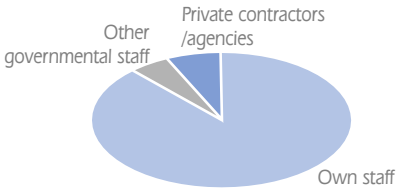
What is your utility responsible for?

81%	Stormwater facilities only
4%	Combined sewer (sanitary/stormwater) facilities
13%	Both
2%	Other



Who provides the majority of your O&M services?

88%	Own Staff
5%	Other Governmental Staff
7%	Private contractors/agencies

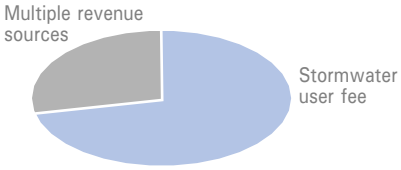


Finance/Accounting

What are your major (at least 90 percent of total income) revenue sources?

(Excludes 7 utilities that reported no single major source)

72% Stormwater user fee
28% Multiple revenue sources



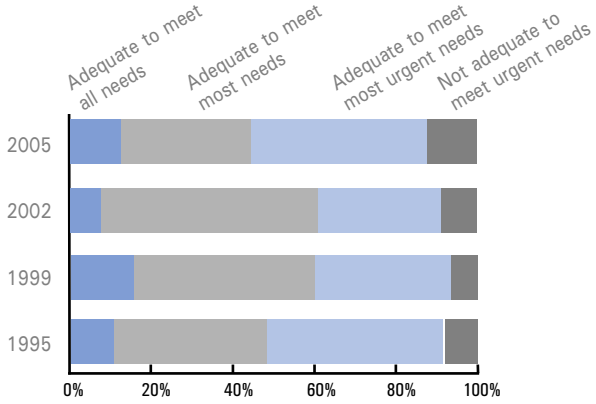
How adequate is available funding?

13% Adequate to meet all needs
2002 = 8% • 1999 = 16% • 1995 = 11%

32% Adequate to meet all needs
2002 =53% • 1999 = 44% • 1995 = 38%

43% Adequate to meet most urgent needs
2002 = 30% • 1999 = 34% • 1995 = 44%

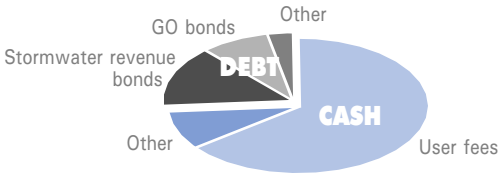
12% Not adequate to meet urgent needs
2002 = 9% • 1999 = 6% • 1995 = 7%



How is the majority of capital improvement needs financed?

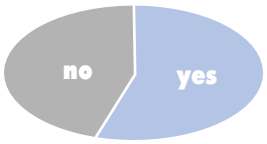
74% Cash financed
- 65% From user fees
- 0% From ad valorem taxes
- 9% Other

26% Debt financed
- 14% Stormwater revenue bonds
- 9% General obligation bonds
- 0% Combined bonds
- 3% Other



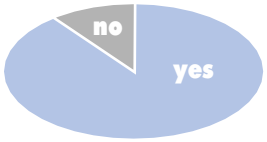
Does your accounting system permit cost tracking by operating activity (e.g., inlet cleaning)?

55% Yes
45% No



Does your accounting system identify user fee revenues by customer class (e.g., residential)?

89% Yes
11% No

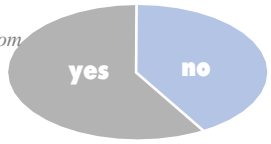


Stormwater User Fees and Billing

Q Were your rates revised in the last 12 months?

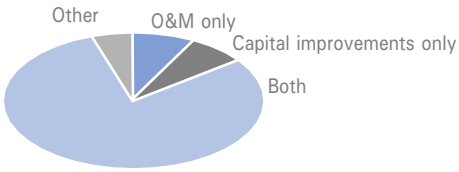
41% No
59% Yes

Increases ranged from 1% minimum to 117% maximum



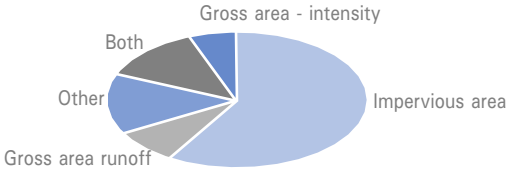
Q What are your user fees designed to pay for?

8% Operation and maintenance (O&M) expenses only
7% Capital improvements only
80% Both O&M expenses and capital improvements
5% Other



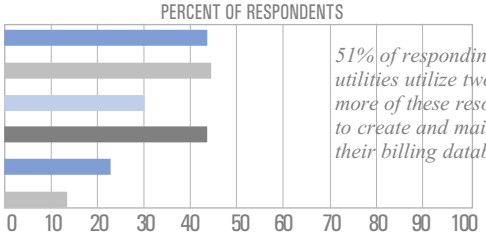
Q What is the basis for your user fees?

59% Impervious area
8% Gross area with intensity of development factor
14% Both impervious and gross areas
13% Other (e.g., number of rooms, water use, flat fee)
6% Gross area with runoff factor

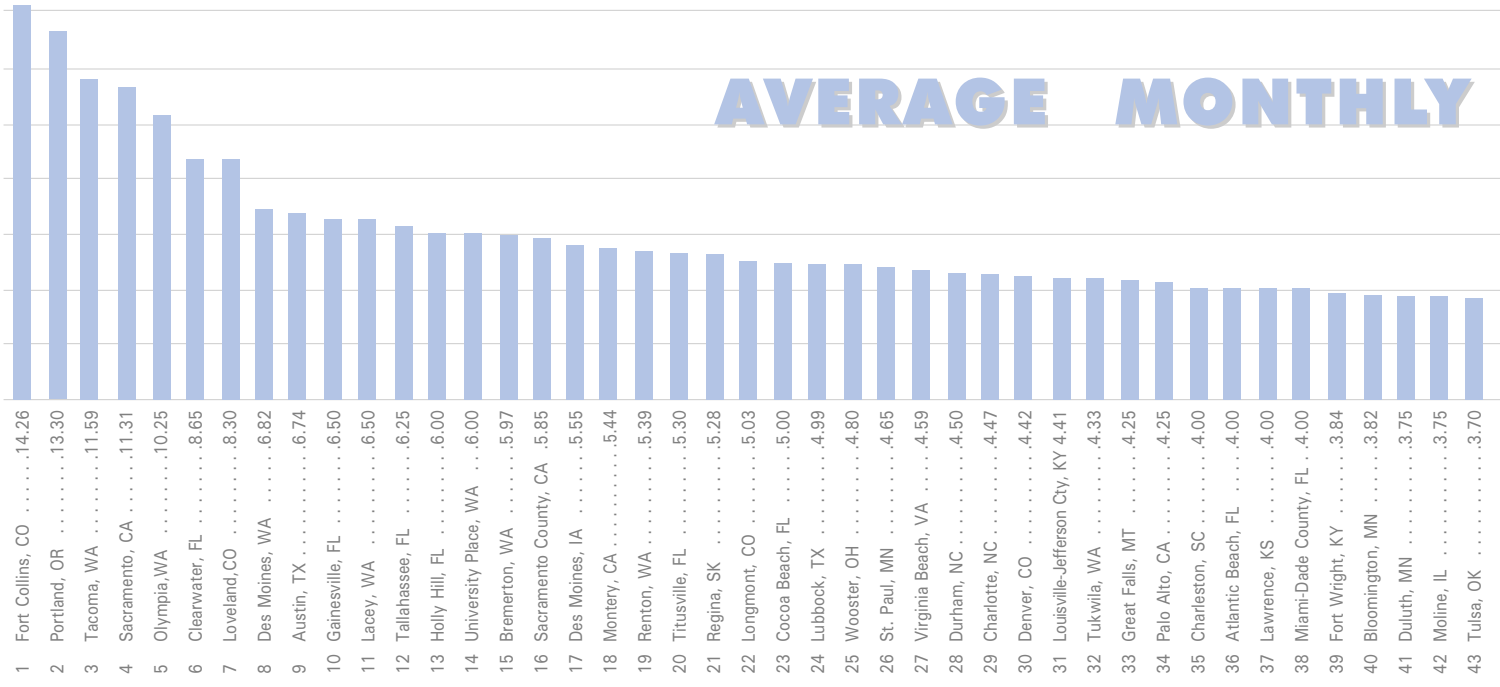


Q If user fees are area-based, what principal resources were employed to create and maintain the customer database used to compute charges?

42% Property tax assessor records
43% Aerial photographs
29% On-site property measurement
42% Geographic Information System (GIS)
22% Planimetric map take-offs
13% Other (e.g., building permits, site plans)



51% of responding utilities utilize two or more of these resources to create and maintain their billing database



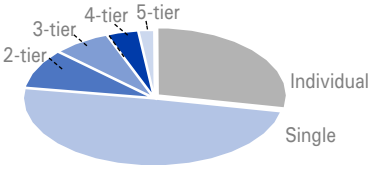
Are your stormwater charges based on individual or class average characteristics?

Residential

27% Individual parcel

73% Class average as:

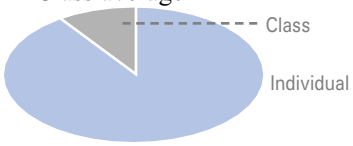
- 48% Single tier
- 9% 2-Tier rate
- 7% 3-Tier rate
- 4% 4-Tier rate
- 2% 5-Tier rate



Non-Residential

90% Individual parcel

10% Class average



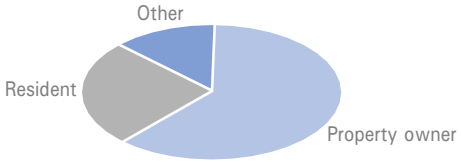
3% of respondents who answered class average did not provide the number of rate tiers.

Who is responsible for the payment of user fees?

62% Property owner

25% Resident

13% Other (e.g., water or other utility bill recipient)



How frequently do you bill?

56% Monthly

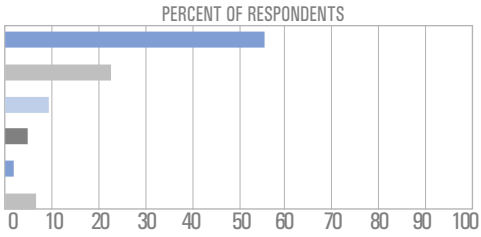
22% Annually

9% Bi-monthly

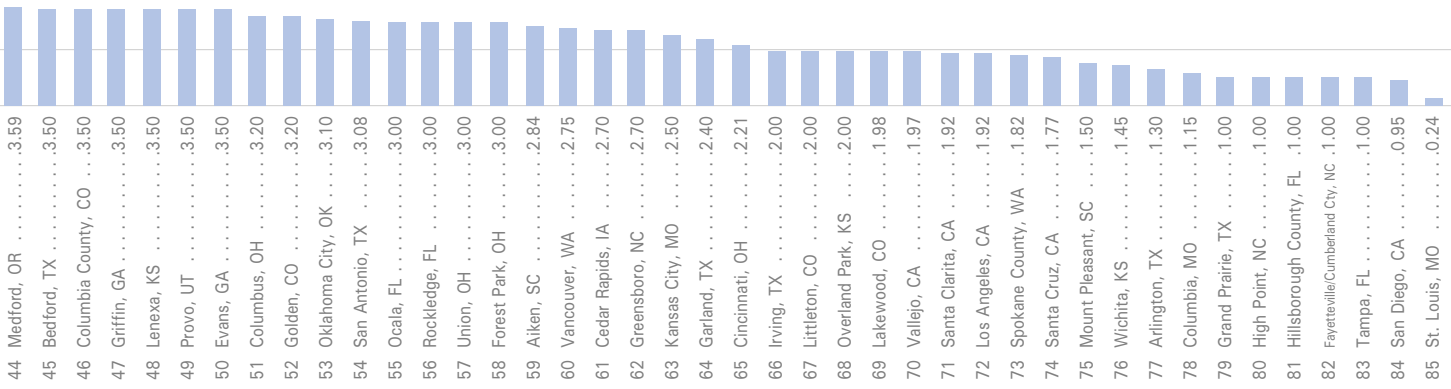
5% Quarterly

2% Semi-annually

6% Other

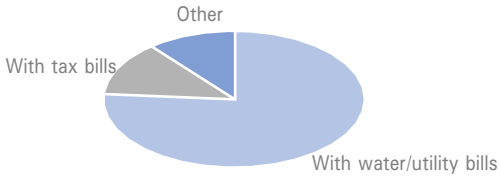


RESIDENTIAL CHARGE



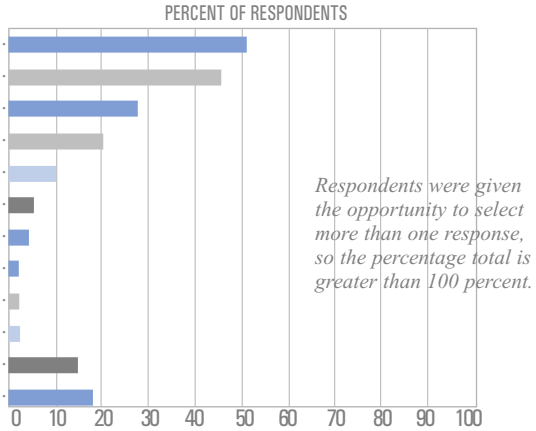
Stormwater User Fees and Billing (continued)

How are your user fees billed?



76% With water or other utility bills
13% With tax bills
11% Other

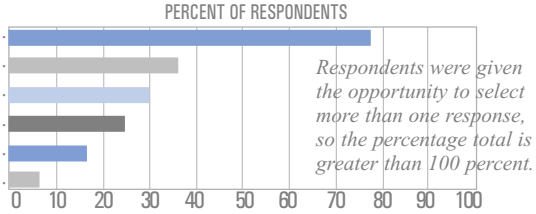
What types of properties are exempt from user fees?



Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

51% Streets/highways
46% Undeveloped land
27% Rail rights-of-way
20% Public parks
10% Government
5% School districts
4% Churches
2% Airports
2% Colleges/universities
2% Water front
14% None
17% Other

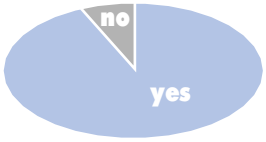
What customer classifications are recognized in your stormwater fee structure?



Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

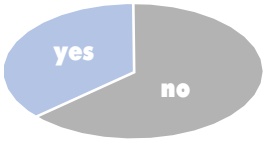
77% Residential
36% Commercial
30% Combined commercial/industrial
25% Other
17% Industrial
7% No designation

Are rates the same for all service areas or watersheds?



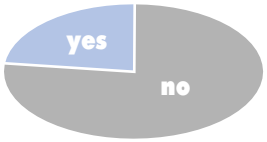
93% Yes
7% No

Are your user fees for single family dwellings the same as for individual multiple residential units, such as apartments and condominiums?



64% No
36% Yes

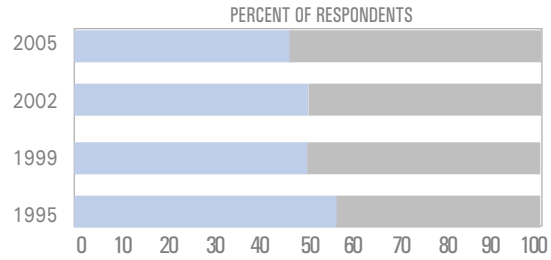
Are one-time impact/capital recovery fees applied to new stormwater utility customers or new development?



77% No
23% Yes

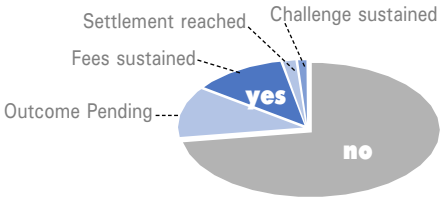
Are credits provided for private detention/retention facilities?

46% Yes
2002 = 53% • 1999 = 50% • 1995 = 57%
54% No



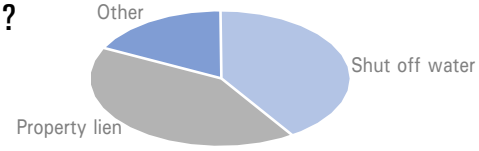
Have your user fees faced a legal challenge?

72% No
28% Yes
12% Outcome pending
12% Fees sustained
2% Settlement reached
1% Challenge sustained (2 later remedied by legislation)



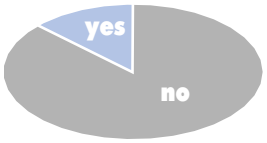
On what basis is payment of your user fees enforced?

41% Lien on property
42% Shut off water
18% Other



Is a significant share of your utility costs attributable to stormwater from outside your service area?

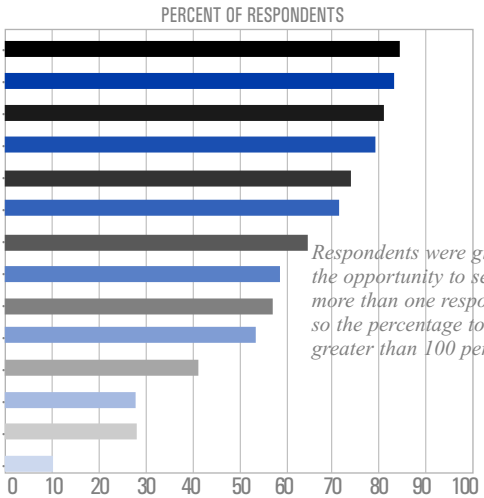
87% No
13% Yes



Quality Issues — Best Management Practices

Which programs and practices are being used to protect or improve water quality?

84% Public education
83% Erosion/sediment controls
81% Street sweeping
79% Detention/retention basins
73% Inlet stenciling
71% Illegal discharge detection
64% Stormwater quality monitoring
59% Public volunteer involvement
58% Residential toxins collection
53% Commercial/industrial regulation
41% Constructed wetlands
28% Lawn herbicide/pesticide control
28% Treatment
10% Other

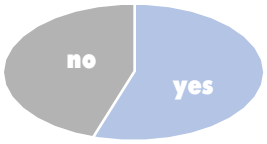


Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Quality Issues Best Management Practice (continued)

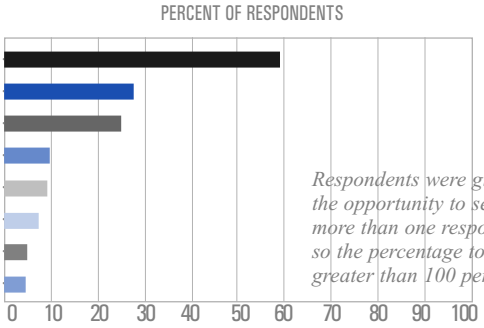
Q Have you installed any stormwater treatment systems in your stormwater conveyance system?

55% Yes
45% No



Devices installed:

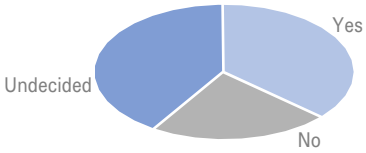
59% Stormceptor
28% CDS Separator
24% StormFilter
9% Downstream Defend
9% Vortechnics
7% Bay Saver
4% Abtech
4% SunTree Technologies



Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

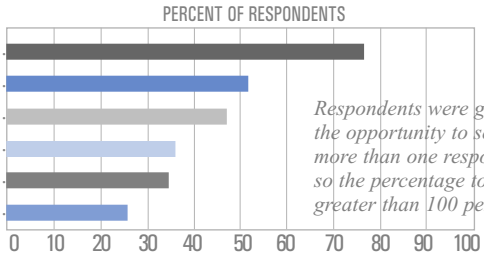
Have these devices met your expectations?

36% Yes
23% No
41% Undecided



Q What contaminants are your greatest concern?

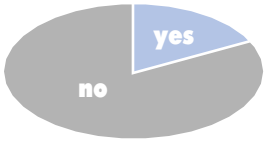
76% Sediments
51% Nutrients
47% Oil and grease
35% Heavy metals
34% Pesticides
25% Other



Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

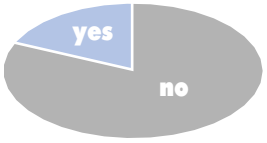
Q Are quality-based user fee credits or other incentives provided to encourage customers to control or reduce stormwater pollution?

18% Yes
82% No



Q Are your user fees specifically designed to provide for the separate recognition and equitable recovery of costs associated with stormwater quality management and quantity(runoff) management, respectively?

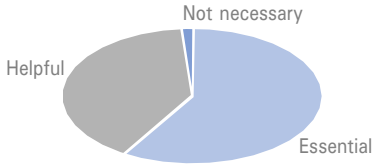
81% No
19% Yes



Public Information/Education

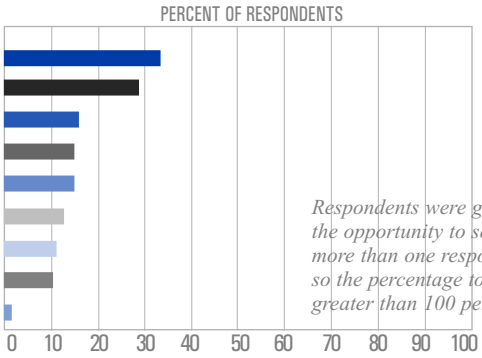
How important is an organized public information/education effort to the continuing success of a user fee funded stormwater utility?

59% Essential
40% Helpful
1% Not necessary



What means have you found to be the most effective in educating the public about utility services, program needs and financing, and citizen responsibilities?

33% Bill inserts
29% Public hearings/presentations
16% Internet
15% Brochures/flyers/newsletters
15% Newspaper
12% Television
11% Public schools
10% Speakers bureau
1% Direct mail



Respondents were given the opportunity to select more than one response, so the percentage total is greater than 100 percent.

Major Challenges Recently Faced

Financial, rate, and billing related issues ..... 19 utilities
(e.g., financing growth, capital replacements, NPDES and other environmental mandates; rate increases, rate equitability, rate challenges; and billing database updating or conversion to GIS)

Weather and flooding issues ..... 10 utilities
(e.g., high amounts of rainfall, standing water, West Nile concerns, localized flooding)

Erosion control ..... 8 utilities
(e.g., run-off, erosion problems)

Regulatory and quality control compliance ..... 8 utilities
(e.g., illicit discharges, quality monitoring, and difficulties of complying with more stringent state and federal quality mandates related to Endangered Species Act, TMDLs, et al.)

Infrastructure planning issues ..... 7 utilities
(e.g., need for integrated flood, quality and environmental planning; remedy of specific infiltration/inflow or local flooding problems; and system-wide flood control master planning)

Jurisdictional issues ..... 3 utilities
(e.g., incorporation of added cities into service area and co-permittee coordination)

Public education ..... 2 utilities
(e.g., need for increased education regarding new programs or rate increases)

Significant Events Affecting Utilities in Past Two Years

NPDES compliance ..... 21 utilities

CIP related (funding, projects started/completed) ..... 14 utilities

User fee related (increases, lack of increases) ..... 14 utilities

Weather related (heavy rains, storms, drought) ..... 8 utilities

Organization/administration/staffing changes ..... 7 utilities

Public education/awareness ..... 4 utilities

Urban growth/decline in service area ..... 4 utilities

Legal challenges ..... 2 utilities

Some respondents listed the same events as positive, negative, or both (e.g., heavy rains or flooding brought both damage and increased public awareness of needs).

Stormwater Management

From run-off to potential revenue stream, stormwater management is uniquely challenging. It is often not source-specific, not metered or monitored closely within the community, and not tied to customers' daily decisions. Black & Veatch's Enterprise Management Solutions team assists utilities nationwide in stormwater management issues to help provide stable funding for operations as well as capital projects.

ABOUT ENTERPRISE MANAGEMENT SOLUTIONS

Black & Veatch is pleased to provide this survey as an industry service. For 90 years, meeting the needs of utilities nationwide has been at the core of our business. We understand the value of knowing how others are addressing the industry's complex issues. From organization effectiveness to financial structuring to risk management, it helps to know the industry's trusted business partner. Black & Veatch brings it all together.

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ENERGY WATER INFORMATION GOVERNMENT

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Anna White
Black & Veatch • 11401 Lamar Avenue • Overland Park, KS 66211 USA
Tel: 913-458-4322
Stormwater@bv.com

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04/19/05

ATTACHMENT I-2

City of San Clemente Clean Ocean Program & Fee
Frequently Asked Questions

What is the Clean Ocean Program?
It is the City's effort to prevent stormwater and urban runoff pollution from entering the storm drain system and being discharged at the beach.

Why does the City need a Clean Ocean Program?
- To protect the environment (water quality in local channels and coastal waters);
- To protect public health and safety (from bacteria and other pollution that could reach the beach);
- To protect local quality of life (local business/tourism, "beach town" reputation, etc.); and
- To meet State Water Code and Federal Clean Water Act permit requirements issued to South Orange County cities by the State.

Who developed the Clean Ocean Program?
The City prepared an Urban Runoff Management Plan (URMP), which included participation and feedback from the community as well as the City's Coastal Advisory Committee (local citizens appointed by the City Council to consider and provide advice on coastal and water quality issues). The URMP guides the Clean Ocean Program, and outlines activities and projects to meet the State and Federal water quality requirements and protect local water quality.

What does the Clean Ocean Program include?
- *Runoff treatment projects*
  - Poche Beach: A treatment system was constructed and is maintained to filter and kill bacteria in the runoff before it reaches the beach. Construction was completed in March of 2009. The system treats up to 1.1 million gallons per day. Weekly water quality tests indicate that the UV treatment removes between 95% - 99% of the bacteria in the storm drain runoff before it discharges to the beach. The current water quality grade at Poche Beach is an A+.
  - North Beach: A system was constructed to divert dry weather runoff away from North Beach and send it to the City's Water Reclamation Plant for treatment. The system started operating on June 1, 2009. It diverts and filters about 350,000 gallons per day. The current water quality grade at North Beach is an A+.
  - Underground storm drain units were installed to remove trash, oil & grease and sediment from runoff before it gets to the beach. Six units have been installed. They are located near Calafia Beach, in the Pier Bowl area, at the west ends of El Portal, at the end of Linda Lane and at Mariposa. In 2013, 35 cubic yards of material was captured and removed by these units. This is material that would have otherwise have ended up in the ocean.
- *Pollution prevention activities*
  - Street Sweeping: the City sweeps public residential streets twice per month and major streets and business areas about 3 times per week. Over 22,000 tons of material has been collected over the last ten several years, enough to fill 550 large (40 cubic yard) trash bins.
  - Catch Basin Inspection and Cleaning: the City inspects at least 2,205 catch basins annually, cleaning them as needed. In 2013, 2,432 catch basins were cleaned and a total of 914 cubic feet of material was removed.
  - Water Quality Testing: water samples from over 20 locations throughout town are sampled each year to help identify potential problem areas and monitor quality progress over time. Flow measurements are also taken to help measure progress in reducing urban runoff flows.
  - Special Studies: the City consulted with scientists to conduct an in depth investigation to find sources of bacteria in the Poche Beach watershed. A year long study which included molecular

marker testing culminated in focused recommendations and a strategic plan for reducing bacteria at Poche Beach. The final report of the study is located on the Clean Ocean Program website at www.sccleanocean.org.

- Commercial, Industrial and Construction Site Inspections: Inspections of businesses, industrial facilities and construction sites are conducted to make sure these sites are using proper Best Management Practices (BMPs) to prevent pollution from entering the storm drain system and reaching the beach. Over 9,000 inspections have been completed in the last 10 years.
- Spill Cleanups and Storm Drain Maintenance: A 24/7 hotline number (**366-1553**) is in place to respond to and cleanup spills or investigate reported illegal discharges. In addition, the City performs ongoing maintenance to ensure proper function of the storm drain system and inspects all public catch basins annually and removes materials that might be discharge into the system.
- Enforcement of Anti-pollution Ordinances: Dedicated officials enforce water quality laws to identify and correct violations. Depending on the severity of the violation, enforcement may include verbal warnings, written correction orders, and/or fines of $100, $200, or $500 per violation.
- Public Outreach and Education: Efforts promote awareness of stormwater and urban runoff pollution impacts, and ways the public can help prevent this pollution from happening in the first place.

What is the cost of implementing the Clean Ocean Program?
The cost to implement the program is about $2.2 million per year.

What is the cost of not implementing the Clean Ocean Program?
The City could be liable for large fines if the State finds that the City is not meeting the requirements of the stormwater permit regulations. Also, there are potential economic impacts (tourism, real estate values, etc.) if the City does not work to protect its healthy beach town reputation.

How is the Clean Ocean Program funded?
By a Clean Ocean utility fee charged to property owners. The fee is collected as a line item on the monthly utility bill for owners that get water service from the City. The fee is charged monthly but collected via a separate twice-yearly bill to San Clemente property owners that get water service from other providers (e.g. South Coast Water District or Santa Margarita Water District).

Why do property owners get charged the Clean Ocean Fee?
Developed and graded properties contribute runoff to the storm drain system (which includes pipes, channels, drain inlets and street gutters). This runoff contains or picks up pollution before it enters the storm drain, which the City must then address. Since providing storm drain and water quality services is like other utility services provided by the City (e.g. drinking water and sewer service), it is appropriate that property owners pay for the cost of this service.

How long will the continued fee be in effect? When will it end?
If approved by San Clemente property owners, the existing Clean Ocean Fee would be continued for an additional six and one-half (6.5) years, and would expire on June 30, 2020.

How much will the fee increase over the next 6.5 years?
The continued Clean Ocean Fee would be fixed and would not increase over the entire period.

Why are property owners voting on this fee?

Under the provisions of California Proposition 218, property owners must approve new property fees adopted by cities.

What is the change from the existing to the proposed Clean Ocean Fee?

Single Family Residential Monthly Fee		
	Current Fee	**Proposed New Fee**
Private street	$ 4.39	**$ 5.10**
Public street	$ 5.02	**$ 6.23**

Multi-Family Residential Monthly Fee		
	Current Fee (per residential unit)	**Proposed New Fee (per residential unit)**
Private street	$3.51	**$4.08**
Public street	$4.01	**$4.98**

Non-Residential (Commercial, Industrial, Business Park) Monthly Fee		
	Current Fee (per acre or fraction thereof)	**Proposed New Fee (per acre or fraction thereof)**
Private street	$43.90	**$51.00**
Public street	$50.20	**$62.30**
Note: Almost all non-residential streets within the City are public streets.		

Undeveloped, Graded Property Monthly Fee				
	Current Fee		**Proposed New Fee**	
	2 acres or less	*Each acre over 2 add:*	*2 acres or less*	*Each acre over 2 add:*
Private street	$2.20	$0.44	**$2.55**	**$0.51**
Public street	$2.51	$0.50	**$3.12**	**$0.62**
Note: There is no clean ocean fee charge for undeveloped, ungraded parcels.				

Note: Properties on private streets are charged a lower rate since the City doesn't provide street sweeping service on private streets.

How is the fee calculated?
The fee is based on a parcel's expected contribution of runoff, which is determined by an estimate of the impervious area on that parcel. Impervious areas include such things as buildings and pavement, which prevent or restrict storm water from getting into the soil and increase runoff from a parcel.

Why is the existing Clean Ocean Fee being proposed to be continued?
The fee funds a stormwater quality program that the State requires the City to implement. Since the fee was last approved, the State revised and adopted a new stormwater permit for the south Orange County area that contains more rigorous requirements. Also, the State recently adopted new requirements for bacteria pollution for which the City must comply.

What happens if continuation of the existing Clean Ocean Fee is not approved?
If the Clean Ocean Fee is not continued, the City will need to support the Clean Ocean Program with some other funding source. The most likely source would be the General Fund, which would result in about $2 million each year that would not be available for other needed projects and programs within the City.

How and when will the vote occur?
All record owners of property within the City that are directly subject to the proposed fee will receive an official mail-in ballot with a postage paid addressed return envelope. The ballots will be mailed to property owners on October 25, 2013. Return ballots are due on December 10, 2013.

How do I cast my vote?
Simply fill out the ballot and mail or deliver it to the San Clemente City Clerk by the due date noted on the ballot.

How do I get more information?
More information about the proposed fee continuation is available on the City's website at www.sccleanocean.org. You may also call the Environmental Programs Section at (949) 361-8204 or send an email to cleanwater@san-clemente.org.

What's the difference between storm drains and sewers – doesn't it all get treated?
Like most other cities, the City of San Clemente owns and operates a storm drain system, which is the network of channels and pipes that collect stormwater and urban runoff and discharges it into the ocean. Unlike sewer systems that send sewage to a treatment plant before being discharged, most storm drain systems, including the City's, were built to collect and convey runoff to prevent flooding but not to treat urban water runoff. Therefore, any pollutants that runoff carries into the storm drain system are discharged untreated along the City's shoreline.

Do other cities have a Clean Ocean Program?
They may call it something else, but all cities in the urbanized areas of Southern California are required by the State to implement stormwater and urban runoff programs to prevent discharges of pollution to creeks, rivers and the ocean.

How do we know that the Clean Ocean Program is working?
- The City records amounts of trash picked up by street sweepers and removed from underground treatment devices.
- Larger treatment projects include monitoring to compare water quality before and after treatment.
- The City tracks the number of enforcement actions and inspections to document these efforts.

Why should San Clemente property owners pay to clean up pollution from upstream cities?
Unlike most cities in Southern California, San Clemente's city boundary is very similar to the local watershed boundary. This means that San Clemente is a self-contained watershed, and that there are no upstream cities that contribute pollution through our local watershed. So the pollution in our storm drains comes from San Clemente properties, and not from out-of-town areas.

How can I help?
To learn about simple tips to help prevent urban runoff pollution, please visit www.sccleanocean.org or www.ocwatersheds.com.
To learn about potential volunteer opportunities (e.g. beach cleanups), please visit www.scwatersheds.com.

ATTACHMENT I-3

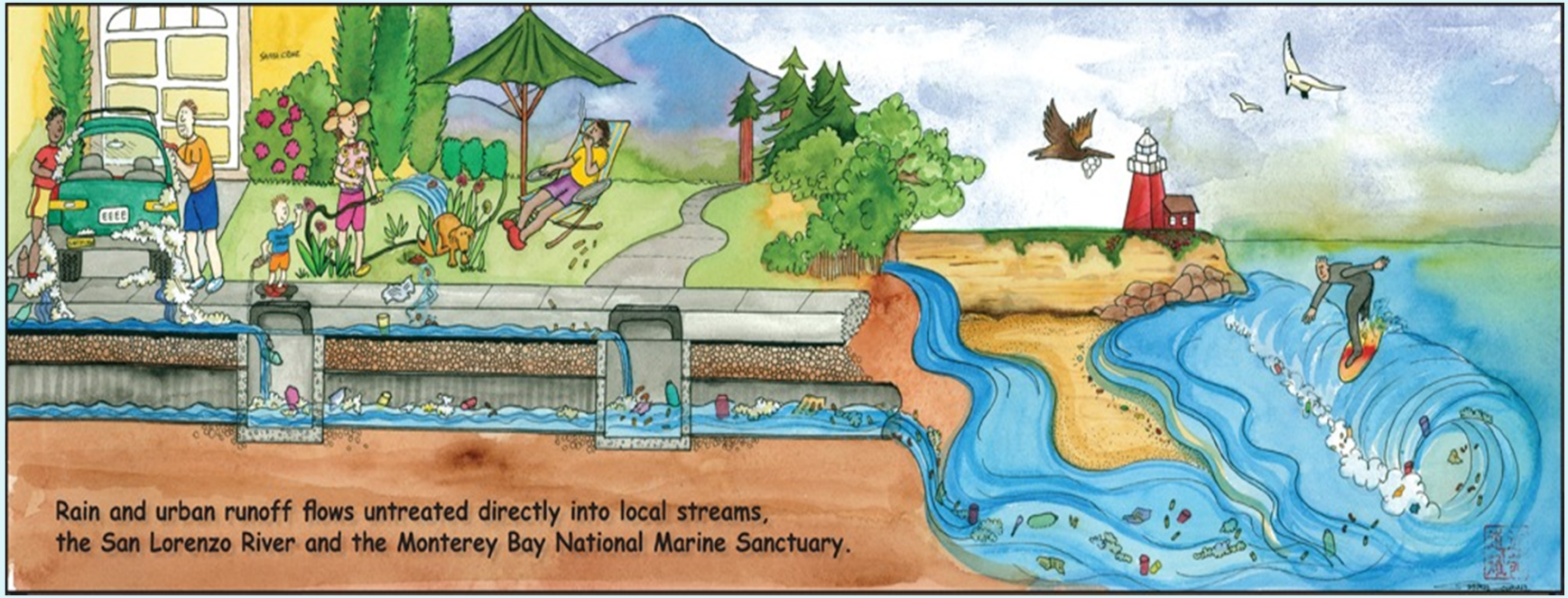
City Storm Water Program and Measure E: Clean River, Beaches and Ocean Fund

FY 2015 Highlights

Dedicated funding for programs

to prevent pollution from reaching our waterways and beaches

Urban Runoff



Rain and urban runoff flows untreated directly into local streams, the San Lorenzo River and Monterey Bay

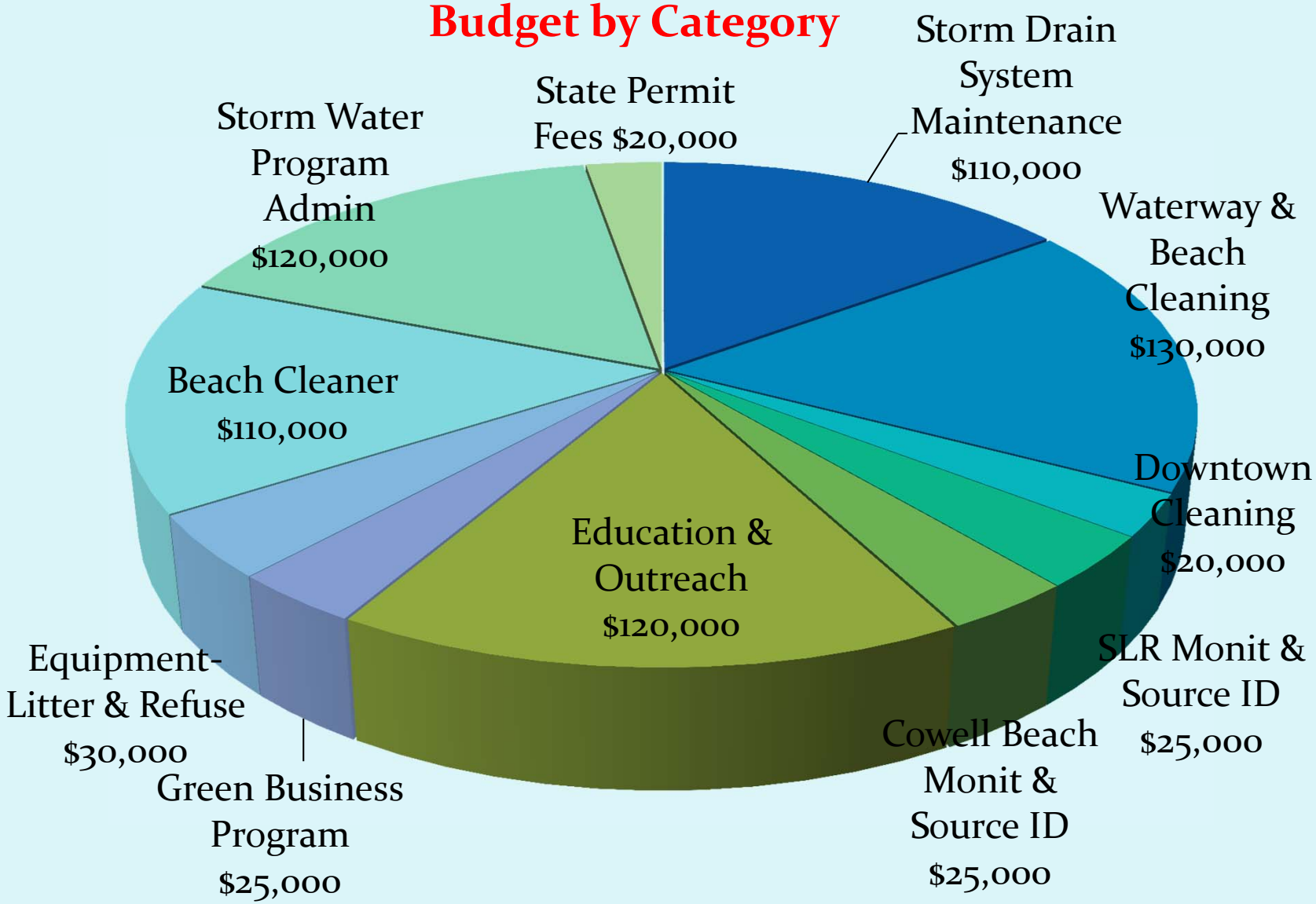
FY 2015 Expenses

- Storm Drain System Maintenance: $110,000
- Waterway & Beach Cleaning: $130,000
- Downtown Cleaning: $20,000
- San Lorenzo River Monitoring & Source ID: $25,000
- Cowell Beach Monitoring & Source ID: $25,000
- Education & Outreach: $120,000
- Green Business Program: $25,000
- Equipment: Litter & Refuse: $30,000
- Beach Cleaner: $110,000*
- Storm Water Program Staff: $120,000
- State Permit Fees=$20,000

Revenue: $630,000 Expenses: $740,000

FY 2015 Expenses

Budget by Category



Municipal Operations

Focus on cleaning:

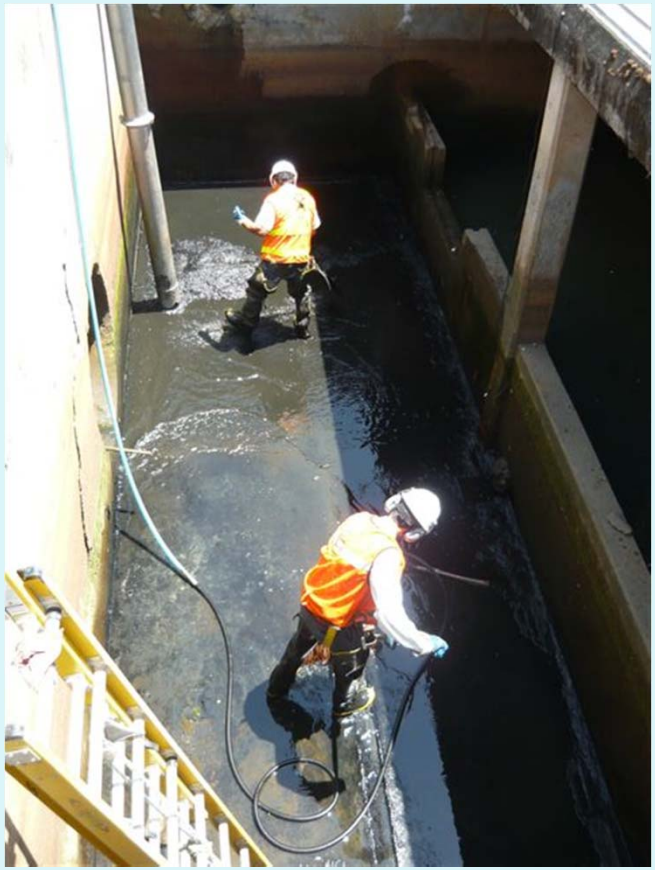
To keep debris & pollutants from flowing into the San Lorenzo River and Monterey Bay

- Storm drain pipelines
- Pump Stations
- River Toe Ditches
- Street Catch basins

Municipal Operations

City Crews clean:

- Storm drain pipelines-9 miles
- River pump stations-5 vaults



Municipal Operations

Storm Drain System Inspection & Cleaning:

- Extensive catch basin inspection & cleaning program. All downtown catch basins plus outlying areas inspected & cleaned.
  - Labor costs
  - Vactor Operation
  - Debris Disposal
  - Televising storm drain lines

Cost: $110,000

Waterway, River Levee & Beach Cleaning

Ongoing Maintenance Efforts:

- San Lorenzo River
  - Parks Temp Staff-$70,000
  - Contracted cleanups-$25,000

  Subtotal: $95,000

- Cowell & Main Beaches
  - Wharf Temp Staff $35,000

Cost: $130,000

Beach Cleaning

Beach Cleaning Machine for Cowell & Main Beaches

Cherrington Beach Cleaner
Cost: $110,000

Waterway, River Levee & Beach Cleaning

Parks Rangers Temp Staff-cleanups & restoration efforts

Cost=$70,000

Municipal Operations

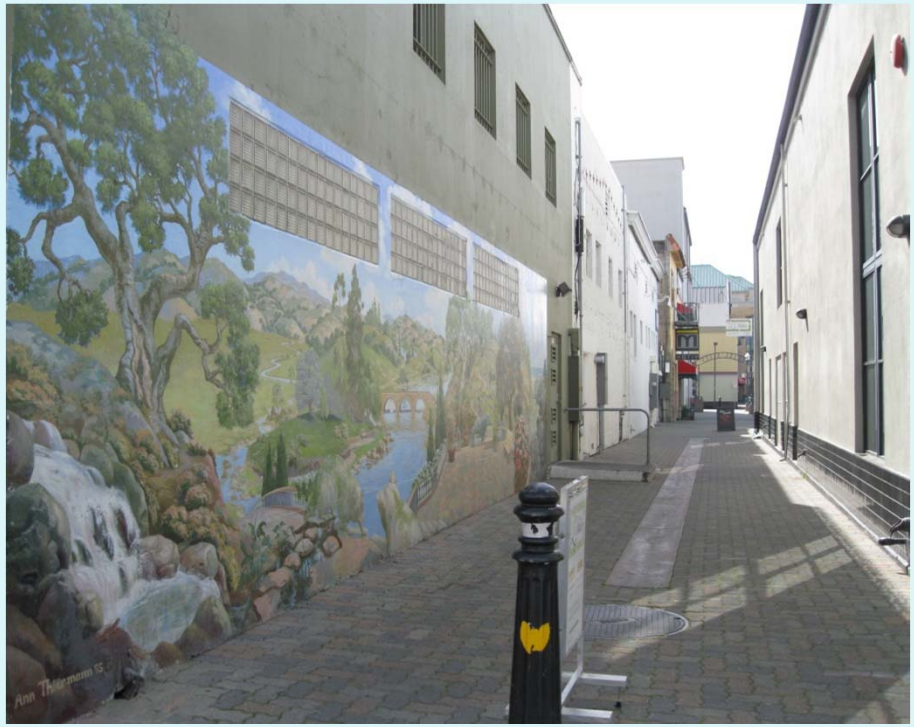
Downtown Cleaning:

Hand Sweeping-Hope Services

Cost=$20,000

Municipal Operations

Downtown Cleaning: Alleyways



Cleaned by contractors

River Levee & Beach Volunteer Cleanups

Save Our Shores:

- San Lorenzo River-Adopt a Levee cleanups
- San Lorenzo River-4 seasonal cleanups
- Annual Coastal Cleanup Day-beach & river cleanups
- July 4th & 5-beach outreach & cleanups
- Disposal of debris

Cost=$25,000

Education & Outreach Program

School Programs:

- O'Neil Sea Odyssey-Field trip & class 4-5th grades
- Save The Whales-K-12th Grade class presentations
- Save Our Shores-Middle & High School assemblies and classes
- ZunZun-Musical Assemblies K-6th grades

Cost=$35,000

Education & Outreach Program

Volunteer Monitoring & Stewardship:

- CWC Snapshot Day
- CWC San Lorenzo River Alliance

Cost=$15,000

Education & Outreach Program

Residential Outreach:

- Arana Gulch Watershed Coordinator
- EA-Our Water Our World: pesticides & herbicides
- EA-Green Gardner Program
- RCD-Low Impact Development
- SW agencies-Region-wide TV ads

Cost=$15,000

Education & Outreach Program

Business Outreach & Recognition:

- City Clean Ocean Business Program
- Monterey Bay Green Business Program
- Green Gardner/ Landscaping Program

Cost=$30,000

Education & Outreach Program

Litter & Illegal Dumping:

Catch Basin Labeling (SOS)

Cost=$10,000

Cigarette Butt "Bait Tank" containers

San Lorenzo River Pollution Prevention

Litter & Illegal Dumping

- Trash/Recycling and Cigarette Butt containers on SLR levee & other areas

Cost=$15,000

SLR Watershed Monitoring

State Total Maximum Daily Load Limits: San Lorenzo River

- **TMDL: Bacteria and Sediment**
- State requires monitoring, remedial measures & reports
- Monitoring of SLR, Branciforte & Carbonera Creeks by City Lab & Env Compliance Program
- Results indicate birds and sediment are primary sources of elevated bacteria levels in SLR
- City is an active partner in the SLRA led by Coastal Watershed Council (staff time, funding, specialized lab work, data sharing)

Cost= $25,000 (Lab)

Cowell Beach

- City participates in Cowell Beach Working Group
- City & County both monitor Cowell Beach
- Results show low bacteria levels during winter months
- Sewer source unlikely since levels not high year round

In 2014, City added caffeine test as indicator of sewage (none found so far)
In 2015, City conducted a preliminary bacteria gradient study

New State Requirements
Outfall Inventory and Sampling

- Staff checked 236 storm drain outfalls
- 26 outfalls had flows during summer and were sampled
- Results showed 1 suspect outfall which led staff to identify a cracked storm drain

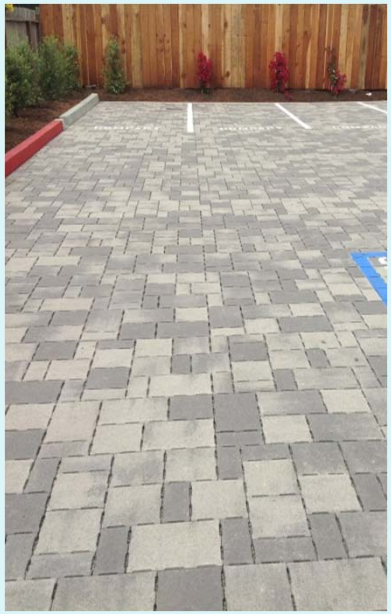
New State Requirements Construction: Erosion Control

- Grading ordinance revised June 2014: Projects need to submit erosion & sediment control plans
- Increased PW and Building staff oversight of construction projects

New State Requirements Development: Low-Impact Design

- New (2014) requirements to collect & infiltrate (sink) storm runoff on property
- Applies to private developments, retrofits, and City projects
- *Examples of LID techniques:*

Pervious Pavement



Bio-retention

Drainage Swale

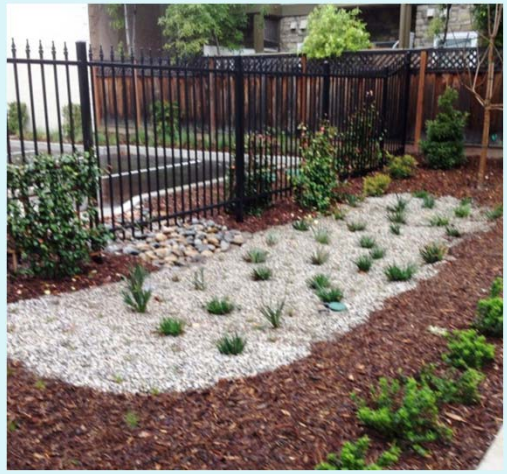
Rain Barrel

Low-Impact Development on Recent Private Projects

Madrone Street (Sports Authority)

Frederick Street (Multi-family)

West Cliff Drive (Multi-family



Low-Impact Development on Recent City Projects

Kaiser Permanente Arena

Wharf Roundabout (not vegetated yet)

Arana Gulch Multi-Use Trail

Tannery Arts New Parking Lot

Grants & Projects

State Prop 84 Grant: Low Impact Development Design & Build Parking Lot #9

- Goal to reduce runoff & pollutant loads to River
- LID to sink rain runoff and divert pollutants into soil

Construction completed August 2015

Grants & Projects

State Prop 84 Grant: Low Impact Development Parking Lot #9

- Sloping & curb cuts to bio-swales redirect 75% of lot runoff

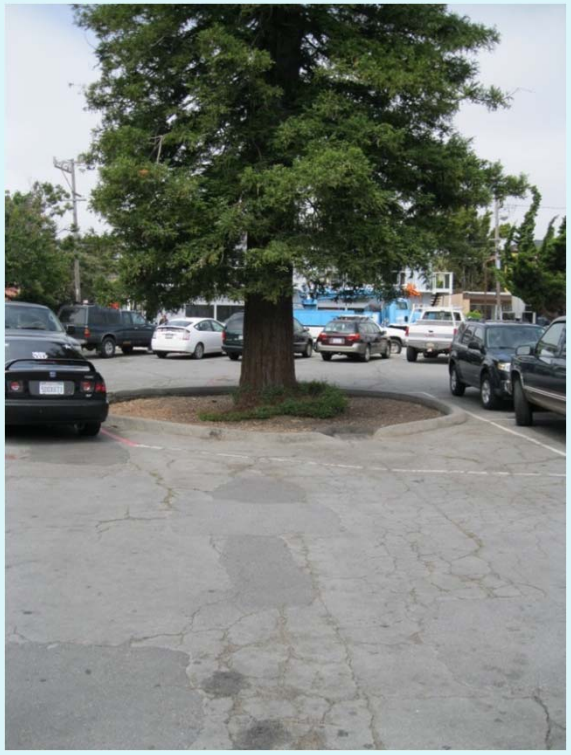
Grants & Projects

Bio-swales installed to sink rain runoff & filter pollutants

Vegetated bio-swale with curb cuts

Grants & Projects

Bio-swales installed to sink rain runoff & filter pollutants



Vegetated bio-swale with curb cuts

Grants & Projects

State Prop 84 Grant: Low Impact Development Design & Build Parking Lot #9

- Lot repaved as part of project
- Match $40,000 from FY14 budget

Grants & Projects

State Clean Beaches Initiative Grant & CIP Project

- Neary Lagoon Storm Drain Improvement Project
- Goal: Reduce bacteria levels at Cowell Beach
- Storm drain pipes exit at Cowell Beach-buried under sand in summer

Neary Lagoon Beach Outlet Vault

Grants & Projects

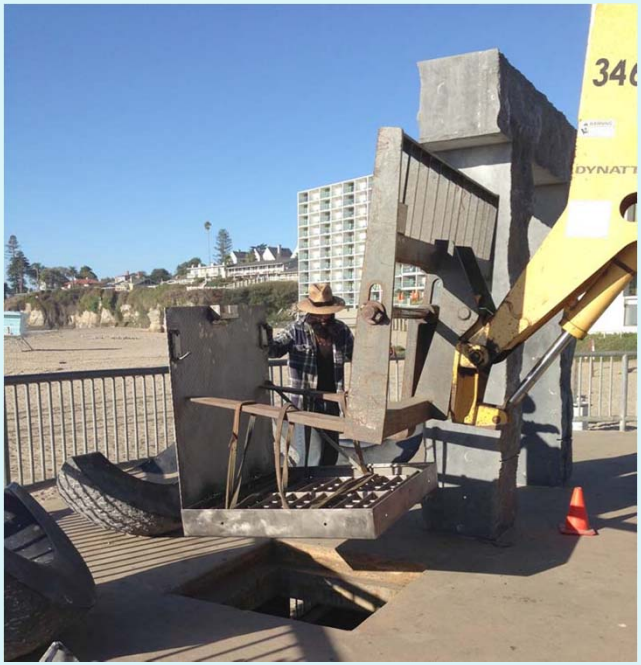
Neary Lagoon

Gates closed in Summer & opened in Winter

Installed Spring 2014

Grants & Projects

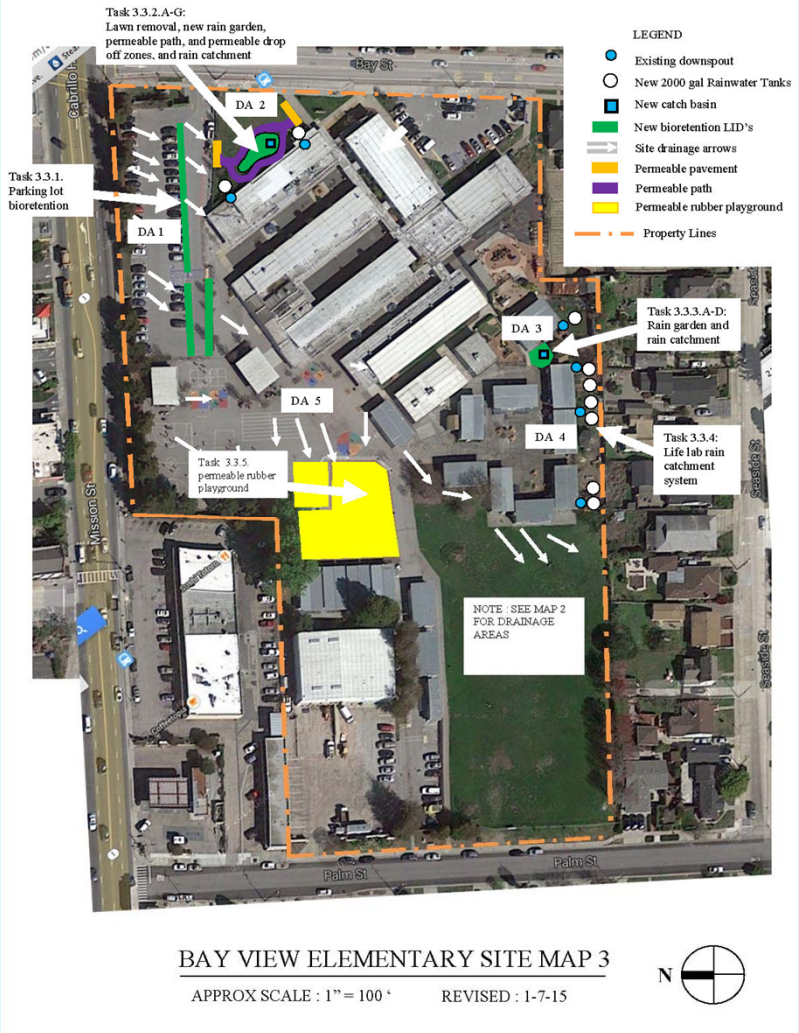
- New hatch at beach outlet vault
- Temp steel plate on gravity pipe opening at beach during summer
- Neary pump station & storm drain lines now cleaned late Spring & Fall



Grants & Projects

State DROPS Grant: Low Impact Design for Schools

- City partnered w/Santa Cruz City Schools and UCSC IDEASS
- $486,000 Grant Awarded to SC City Schools for Bay View Elementary
- Retrofit LID project: Bio-swales, pervious playground, and rain water catchment/cisterns
- City cost $15,000 (FY16) towards large rain garden and educational signage



The End

ATTACHMENT I-4

News

Palo Alto proceeds with storm water management fee increase

By **JACQUELINE LEE** | jlee1@bayareanewsgroup.com |
PUBLISHED: August 30, 2016 at 2:48 pm | UPDATED: August 31, 2016 at 7:56 am

PALO ALTO — Money from a proposed increase in storm water management fees would be spent more on operating costs than capital improvements, Palo Alto City Council decided on Monday, reversing a decision made earlier this year.

The council previously approved a resolution calling for a monthly fee of $13.65, up from $13.03.

The breakdown of the increased bill was going to be $6.62 as the base amount and $7.03 for capital improvements. Now, the allocation is reversed so that $7.48 is the base and $6.17 is for improvements.

City staff told council members that initial calculations were off because they were based on fiscal year 2016, rather than 2017, and more money is needed for operating costs.

A public protest hearing on the rate hike is set for Oct. 24. Property owners can file written opposition to the fee increase until then. If a majority does so, then the council has to terminate the fee increase process.

If there is no majority opposition, then the city will conduct a mail ballot election on the fee increase between Jan. 11 and Feb. 28.

If approved, the new fees would go into effect June 1 and generate about $6.9 million in revenue annually for the next 15 years.

In early 2015, the city identified about $37 million worth of capital improvements that are needed.

Property owners currently pay about $12.63 per month in storm drain bills.

Current fees will expire in June. If no action is taken to approve updated fees, then the rates will revert to $4.25, an amount property owners approved in 2005, which city leaders say is not enough to maintain operations.

Email Jacqueline Lee at jlee1@bayareanewsgroup.com or call her at 650-391-1334; follow her at twitter.com/jleenews.

Jacqueline Lee Jacqueline Lee is a reporter covering Palo Alto for the Bay Area News Group. Lee is an LA native and alum of USC Annenberg.

Follow Jacqueline Lee @jleenews

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ATTACHMENT I-5

Environment

Commercial Sewer Service Charge

Residential Sewer Service Charge

Contact Us

City of San José
Revenue Management – Sewer Billing Unit

200 East Santa Clara Street
4th Floor
San José, CA 95113

Phone: (408) 535-7055

Home > Environment > Utility Services > Stormwater > Storm Sewer Service Charge

Storm Sewer Service Charge

Storm Sewer Service Charge Rate

The Storm Sewer Service Charge rate structure charges users of the storm sewerage system in San José based on the relative quality and quantity of stormwater runoff contributed by residential, commercial, institutional, and industrial properties. The rate structure apportions the costs of storm sewer service to properties in proportion to their relative contribution of flow and pollution to the storm sewer system.

Rates are computed to recover projected costs of the following:

- Stormwater pollution control and permit compliance
- Management, operation, maintenance, and rehabilitation of the storm sewer system
- Improvements to the storm sewer system
- Street sweeping
- Administrative services

Storm Sewer Service Charge rates are reviewed and adjusted annually, as cost and service demand levels change. The current rate structure for storm sewerage services described below became effective July 1, 2011, with San José City Council adoption of Resolution No. 75857 on June 14, 2011. The rates are structured for the estimated cost recovery requirements and the service demand levels of Fiscal Year 2011-12. View the current residential rates and commercial rates.

For Fiscal Years 2013-14, 2014-15, and 2015-16, no rate increases were adopted. Rates maintain at the same level as Fiscal Year 2011-12.

If you have questions regarding rates for storm sewerage service, please call us at (408) 535-7055.

ATTACHMENT I-6

Sewer and Storm Water Fees

The charts below provide information on Sewer Fees and Storm Water Fees in the City of Alameda.

SEWER SERVICE FEE, CITY OF ALAMEDA

	FY2016	FY2017 % Increase 3.0%	FY2018 % Increase 3.0%	FY2019 % Increase 3.0%	FY2020 % Increase 3.0%
Single Family ($/month)	**$23.93**	$24.65	$25.39	$26.15	$26.93
Multi-Family ($/month)	**$21.54**	$22.19	$22.86	$23.55	$24.26
Commercial Fixed Charge ($/month) (includes first 730 cubic feet)	**$21.54**	$22.19	$22.86	$23.55	$24.26
Flow-Based Rate ($ per Hundred cubic feet)	**$2.96**	$3.05	$3.14	$3.23	$3.33

STORM WATER FEE, CITY OF ALAMEDA

The Fee is based on the amount of pollution that the City estimates enters the municipal storm water system as a result of the installation or maintenance of impervious surfaces.
2,000 square feet of impervious surface = 1 Impervious Surface Unit (ISU)

The Fee is calculated according to the following formula:
Number of Impervious Surface Units **(ISU)**
multiplied by
Fee per Equivalent Residential Unit **(ERU)**

	Storm Water Fee
Typical Single Family Residential Parcel A typical residential parcel has 5,000 square feet of surface area. 40 percent, or 2,000 square feet, is comprised of impervious surface (1 ISU).	**$56.15** (1 Equivalent Residential Unit fee)
Condominium (per unit) A typical condo unit has 600 square feet of impervious surface area (0.3 ISU).	**$16.85** (0.3 x 1 ERU)

Other parcels with Impervious Surfaces are subject to the Fee based upon stated formula Fee: Number of ISUs **multiplied by** Fee per ERU.

DECLARATION OF SERVICE BY EMAIL

I, the undersigned, declare as follows:

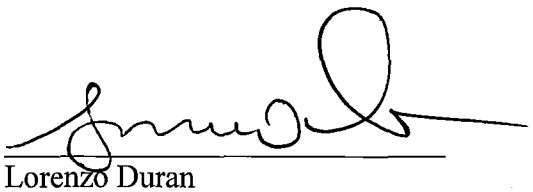
I am a resident of the County of Sacramento and I am over the age of 18 years, and not a party to the within action. My place of employment is 980 Ninth Street, Suite 300, Sacramento, California 95814.

On September 27, 2017, I served the:

- **SWRCB and SDRWQCB Comments on the Test Claim filed September 22, 2017**

  California Regional Water Quality Control Board, San Diego Region, Order No. R9-2010-0016, 11-TC-03
  County of Riverside, Riverside County Flood Control and Water Conservation District, Cities of Murrieta, Temecula, and Wildomar, Co-Claimants

By making it available on the Commission's website and providing notice of how to locate it to the email addresses provided on the attached mailing list.
I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on September 27, 2017 at Sacramento, California.



Lorenzo Duran
Commission on State Mandates
980 Ninth Street, Suite 300
Sacramento, CA 95814
(916) 323-3562

COMMISSION ON STATE MANDATES

Mailing List

Last Updated: 9/21/17

Claim Number: 11-TC-03

Matter: California Regional Water Quality Control Board, San Diego Region, Order No. R9-2010-0016

Claimants: City of Murrieta
City of Temecula
City of Wildomar
County of Riverside
Riverside County Flood Control and Water Conservation District

TO ALL PARTIES, INTERESTED PARTIES, AND INTERESTED PERSONS:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.3.)

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ATTACHMENT I-7

MEASURE CW

The Clean Water, Clean Beach Parcel Tax

During the November 8, 2016 Special Municipal Election, Culver City residents voted on Measure CW, the Clean Water, Clean Beach Parcel Tax. The results are as follows: YES - 73.82%; NO - 26.18%. Funds raised by Measure CW will be used for improvements in water quality in Ballona Creek, Marina del Rey, Santa Monica Bay, and the Pacific Ocean. Measure CW required approval by 2/3 of those voting on the measure to pass.

Need for Measure CW

Dangerous bacteria, pesticides, toxic chemicals, oil and grease, trash and other pollutants are deposited on our roadways and flow into Ballona Creek, Marina del Rey, and the ocean through our storm drains, by rain, and other runoff water. These pollutants harm fish and wildlife, cause illness and infections for swimmers and surfers, and make beaches unsafe and unsightly for families and visitors. The State and Regional Water Quality Control Boards have implemented very strict pollution reduction regulations for storm water runoff. These regulations require the City of Culver City to develop and implement programs to reduce and prevent water pollution.

Purpose of Measure CW

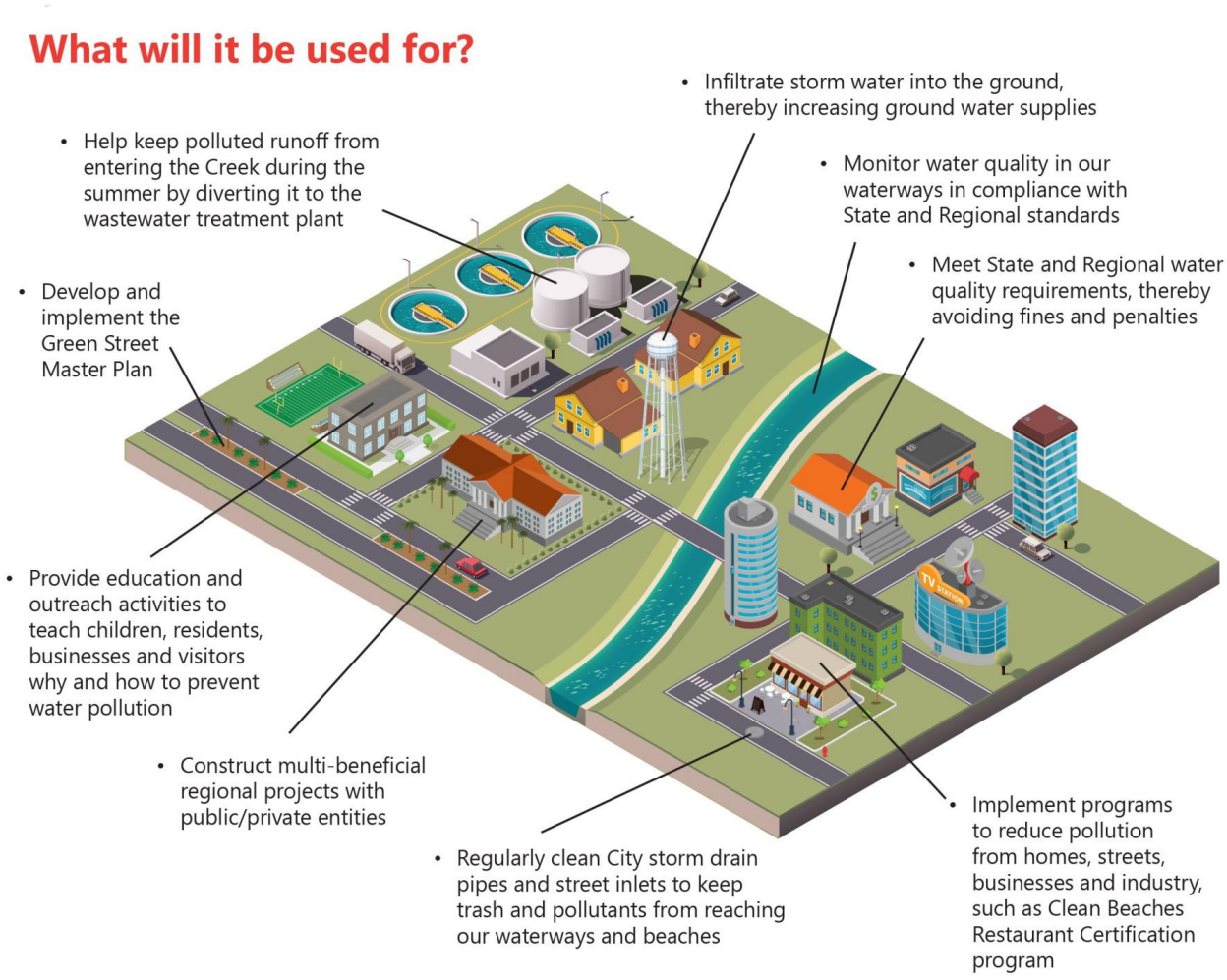
Measure CW establishes an annual Clean Water, Clean Beaches Parcel Tax in the City of Culver City. Measure CW was placed on the ballot by the City Council of the City of Culver City to create a dedicated source of funding to pay for water quality programs that will prevent pollution from reaching our waterways, beaches and the Ballona Creek Estuary. Measure CW required approval by 2/3 of those voting on the measure.

Cost of Measure CW

- $99 annually per single family residential parcel
- $69 annually per multi-family residential dwelling unit
- $1,096 annually per acre of land or portion thereof for non-residential

Each parcel owner of a non-residential property will be taxed $1,096 per acre of land (or portion thereof) annually. The $1,096 will be pro-rated for non-residential parcels less than one acre. For example, a non-residential parcel of one-half acre will be taxed $548. Land owners are taxed, not individual businesses located on the non-residential property. For larger parcels with multiple tenants, the land owner will receive one bill based on the size of the parcel, not the tenants.

Tax-exempt parcels will not be charged. Charges will first appear on the tax statements in fall 2017. Measure CW is expected to generate about $2 million per year. All Measure CW money will be used here in Culver City to reduce water pollution.



Use of Measure CW Funds

Measure CW funds will be placed in a special Clean Water, Clean Beaches Fund, and funds must be used exclusively for reducing and preventing water pollution and managing storm water and urban runoff. The Financial Advisory Committee will oversee how the funds are spent.

What you need to know about Measure CW.

View the quick Fact Guide on Measure CW.

Click below for important information on Measure CW

- Full Ballot Measure Text
- Argument in Favor
- Impartial Analysis

Click Below for the Enhanced Watershed Management Programs and Coordinated Integrated Monitoring Plans

Ballona Creek

Enhanced Watershed Management Program for the Ballona Creek Watershed

Coordinated Integrated Monitoring Program (CIMP) for the Ballona Creek Watershed

Marina Del Rey

Marina del Rey Enhanced Watershed Management Program Plan

Marina del Rey Coordinated Integrated Monitoring Program

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ATTACHMENT I-8

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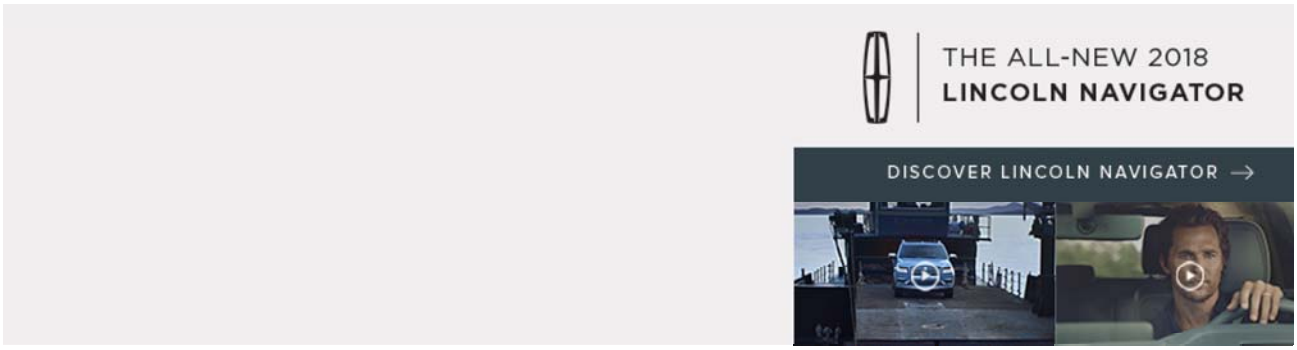

L.A. NOW LOCAL

L.A. County votes to put new property tax before voters to clean storm water

By NINA AGRAWAL JUL 17, 2018 | 6:05 PM

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Rainwater collects in 2017 on Klump Avenue in Sun Valley, an area prone to street flooding in stormy weather. (Luis Sinco / Los Angeles Times)

Los Angeles County supervisors voted Tuesday to place a property tax before voters in November to raise money for projects to capture and clean storm water.

The measure would allow the county to levy a tax of 2.5 cents per square foot of “impermeable space” on private property.

Government buildings, public schools and nonprofit organizations would be exempt.

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Revenue from the tax, estimated to amount to $300 million annually, would fund the construction, operation and maintenance of projects that collect, clean and conserve storm water. The average tax for a single-family house would be $83.

Advocates of the Safe, Clean Water Program say it would improve water quality, enabling cities across the county to comply with federal clean water regulations as well as increase the local water supply.

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“Can we ensure an adequate water supply for the future? Can we improve water quality? Can we make sure beaches are clean? The answer, happily, thanks to all of your work, is yes,” said Supervisor Sheila Kuehl, who has led the effort.

“L.A. County is heavily reliant on imported water and faces an uncertain future,” Department of Public Works Director Mark

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FOR THE RECORD

JUL 17, 2018 | 9:45 PM

A previous version of this story said fines for failing to clean up water discharged into local waterways would total $20 billion over 20 years. That is L.A. County's estimated cost of compliance with the regulations.

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Pestrella said in a presentation before the board Tuesday. “Storm water capture systems are a sound investment in our water security efforts.”

More than 100 billion gallons of storm water is lost to the ocean from L.A. County every year, carrying with it 4,200 tons of trash and pollutants.

With the Safe, Clean Water Program in place, the county could capture up to 42 billion of those gallons, Pestrella said.

Though benefits to the water supply have been a major selling point for Kuehl and Pestrella, the primary goal of the program is to help cities meet costly water-quality mandates.

Under the federal Clean Water Act and related permits given out by the state, cities must clean up the water they discharge into local waterways or face possible costly fines and lawsuits. Compliance with the regulations is estimated to cost L.A. County a total of $20 billion over 20 years.

“We’ve got 88 cities in the county who have been unable to fully address water quality issues because there is no source of funding,” Kuehl said. “And the deadline to meet the requirements is getting closer and closer.”

More than 100 people spoke at Tuesday’s hearing, most in support of the proposed ballot measure.

Some cited the potential for job creation and benefits for disadvantaged communities, which are identified as a priority under the program.

“We support [this measure],” said Luis Melliz of the Council of Mexican Federations, an L.A.-based nonprofit. “Our most vulnerable communities suffer disproportionately from high flood risk, poor air quality, poor water quality, extreme heat ... and lack of green space.”

Others cited concerns about fairness to those who have already taken measures to mitigate storm water runoff and about the lack of a sunset date for the tax.

The program would grant credits to parcel owners who can show they already capture or treat storm water or have reduced the amount of runoff from their property, but they would have to recertify their eligibility every two years.

The proposed ordinance would reevaluate the need for the program after 30 years and possibly reduce the tax at that time, but it makes no guarantees.

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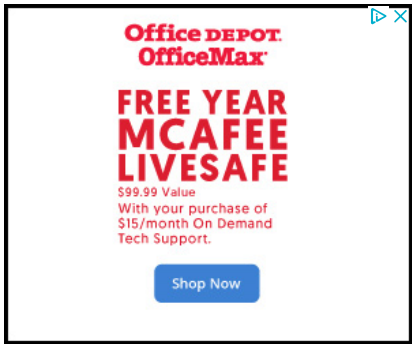

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Although the L.A. Chamber of Commerce formally adopted a neutral position on the measure at the last minute, other business groups continue to oppose it.

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Mike Lewis of BizFed called the credit provisions burdensome, costly and "designed to discourage people from applying."

Peter Herzog of NAIOP, a commercial real estate organization, said attention had been diverted from the fact that the measure is "a brand new, permanent tax" with no implementing regulations yet attached.

Supervisor Kathryn Barger cast the lone dissenting vote.

"If this were a parcel tax that dealt strictly with the [storm water discharge] permit on compliance, I would be a yes vote today," she said. "I just can't vote for something that goes above and beyond at a time when I feel we need to be fiscally responsible."

The tax, which will appear on the Nov. 6 ballot, will need approval from two-thirds of voters.

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ATTACHMENT J-1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

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ORDER NO. R9-2014-0009
AS AMENDED BY ORDER NOS. R9-2014-0094 and R9-2017-0024
NPDES NO. CA0108928

WASTE DISCHARGE REQUIREMENTS FOR THE UNITED STATES SECTION OF THE INTERNATIONAL BOUNDARY AND WATER COMMISSION, SOUTH BAY INTERNATIONAL WASTEWATER TREATMENT PLANT, DISCHARGE TO THE PACIFIC OCEAN VIA THE SOUTH BAY OCEAN OUTFALL

The following Discharger is subject to waste discharge requirements (WDR's) set forth in this Order:

Table 1. Discharger Information

Discharger	United States Section of the International Boundary and Water Commission (USIBWC)
Name of Facility	South Bay International Wastewater Treatment Plant
Facility Address	2995 Clearwater Way
	San Diego, CA 92154
	San Diego County

Table 2. Discharge Location

Discharge Point No.	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Secondary treated wastewater	32° 32' 15" N	117° 11' 00" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted on:	**June 26, 2014**
This Order shall become effective on:	**August 1, 2014**
This Order shall expire on:	**July 31, 2019**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**180 days prior to the Order expiration date**
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, San Diego Region have classified this discharge as follows:	**Major**

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, San Diego Region, on June 26, 2014, and amended on November 12, 2014 and December 13, 2017.

David W. Gibson, Executive Officer

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I. FACILITY INFORMATION

General information about the South Bay International Wastewater Treatment Plant (Facility) is summarized in Table 1. More detailed information describing the Facility, five canyon collectors, two pump stations, the South Bay Land Outfall (SBLO), the South Bay Ocean Outfall (SBOO), and other associated infrastructure (collectively referred to as Facilities) is contained in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Discharger's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), finds:

A. **Legal Authorities.** This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. **Background and Rationale for Requirements.** The San Diego Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E, G, and H are also incorporated into this Order.

C. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, VI.A.2, VI.C.1.b, and VI.C.1.c are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. **Notification of Interested Parties.** The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet (Attachment F).

E. **Consideration of Public Comment.** The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F).

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order No. 96-50 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified in the order granting stay, the Discharger shall comply with the analogous portions of the previous Order. This action in no way prevents the San Diego Water Board from taking enforcement action for past violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of waste from the Facilities to a location other than Discharge Point No. 001, unless specifically regulated by this Order or separate WDR's, is prohibited.

B. The Discharger must comply with Discharge Prohibitions contained in the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan), incorporated into this Order as if fully set forth herein and summarized in Attachment G, as a condition of this Order.

C. The Discharger must comply with Discharge Prohibitions contained in chapter 4 of the Water Quality Control Plan for the San Diego Basin (Basin Plan), incorporated into this Order as if fully set forth herein and summarized in Attachment G, as a condition of this Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations and Performance Goals – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (Attachment E):

Table 4. Effluent Limitations at EFF-001[1]

Parameter	Units[1,2]	Effluent Limitations[1,3]			
		Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	25	--		--
Carbonaceous Biochemical Oxygen Demand (5-Day at 20°C) ($CBOD_5$)	mg/L	25	40		--
	lbs/day	5,213	8,340		--
Total Suspended Solids (TSS)	mg/L	30	45		--
	lbs/day	6,255	9,383		--
Oil and Grease	mg/L	25	40		75
	lbs/day	5,213	8,340		15,012
Settleable Solids	mL/L	1.0	1.5		3.0
Turbidity	NTU	75	100		225
pH	standard units	--	--	6.0	9.0
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
		6-Month Median	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Mercury, Total Recoverable	µg/L	3.78E+00	1.52E+01		3.82E+01
	lbs/day	7.87E-01	3.18E+00		7.96E+00
Zinc, Total Recoverable	µg/L	1.16E+03	6.89E+03	--	1.84E+04
	lbs/day	2.41E+02	1.44E+03	--	3.83E+03
Chronic Toxicity	TUc	--	95.6	--	--
Acute Toxicity	TUa	--	3.2	--	--
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH					
		30-Day Average			
Thallium, Total Recoverable	µg/L	1.91E+02			
	lbs/day	3.99E+01			
Tributyltin	µg/L	1.34E-01			
	lbs/day	2.79E-02			
Benzidine	µg/L	6.60E-03			
	lbs/day	1.38E-03			
Chlordane[1]	µg/L	2.20E-03			
	lbs/day	4.58E-04			
Chlorodibromomethane (dibromochloromethane)	µg/L	8.22E+02			
	lbs/day	1.71E+02			
DDT[1]	µg/L	1.63E-02			
	lbs/day	3.39E-03			
Heptachlor Epoxide	µg/L	1.91E-03			
	lbs/day	3.99E-04			
Hexachlorobenzene	µg/L	2.01E-02			
	lbs/day	4.19E-03			
PCBs[1]	µg/L	1.82E-03			
	lbs/day	3.79E-04			
TCDD Equivalents[1]	µg/L	3.73E-07			
	lbs/day	7.77E-08			
Toxaphene	µg/L	2.01E-02			
	lbs/day	4.19E-03			

[1] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

[2] The mass emission rate (MER) limit, in pounds per day, was calculated based on the following equation: MER (lb/day) = 8.34 x Q x C, where Q is the maximum allowable flow rate (in MGD) and C is the concentration (in mg/L).

[3] Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates the position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

b. **Percent Removal.** The average monthly percent removal[1] of $CBOD_5$ and TSS shall not be less than 85 percent.

2. Performance Goals – Discharge Point No. 001

Parameters that do not have reasonable potential to cause or contribute to an exceedance of water quality objectives, or for which reasonable potential to cause or contribute to an exceedance of water quality objectives cannot be determined, are referred to as performance goal parameters and are assigned the performance goals listed in the following table. Performance goal parameters shall be monitored at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E. The San Diego Water Board will use the results for informational purposes only, not compliance determinations.

Table 5. Performance Goals[1]

Parameter	Unit[1,2]	Performance Goals[1,3]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	4.81E+02	2.78E+03	7.36E+03	--
	lbs/day	1.00E+02	5.79E+02	1.54E+03	--
Cadmium, Total Recoverable	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Chromium VI, Total Recoverable[4]	µg/L	1.91E+02	7.65E+02	1.91E+03	--
	lbs/day	3.99E+01	1.59E+02	3.99E+02	--
Copper, Total Recoverable	µg/L	9.76E+01	9.58E+02	2.68E+03	--
	lbs/day	2.03E+01	2.00E+02	5.59E+02	--
Lead, Total Recoverable	µg/L	1.91E+02	7.65E+02	1.91E+03	--
	lbs/day	3.99E+01	1.59E+02	3.99E+02	--
Nickel, Total Recoverable	µg/L	4.78E+02	1.91E+03	4.78E+03	--
	lbs/day	9.97E+01	3.99E+02	9.97E+02	--
Selenium, Total Recoverable	µg/L	1.43E+03	5.74E+03	1.43E+04	--
	lbs/day	2.99E+02	1.20E+03	2.99E+03	--
Silver, Total Recoverable	µg/L	5.18E+01	2.53E+02	6.54E+02	--
	lbs/day	1.08E+01	5.27E+01	1.36E+02	--

[1] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

Parameter	Unit[1,2]	Performance Goals[1,3]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Cyanide, Total Recoverable[5]	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Total Chlorine Residual[6]	µg/L	1.91E+02	7.65E+02	5.74E+03	--
	lbs/day	3.99E+01	1.59E+02	1.20E+03	--
Ammonia (expressed as nitrogen)	µg/L	5.74E+04	2.29E+05	5.74E+05	--
	lbs/day	1.20E+04	4.78E+04	1.20E+05	--
Phenolic Compounds (non-chlorinated)[1]	µg/L	2.87E+03	1.15E+04	2.87E+04	--
	lbs/day	5.98E+02	2.39E+03	5.98E+03	--
Chlorinated Phenolics[1]	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Endosulfan[1]	µg/L	8.60E-01	1.72E+00	2.58E+00	--
	lbs/day	1.79E-01	3.59E-01	5.38E-01	--
Endrin	µg/L	1.91E-01	3.82E-01	5.74E-01	--
	lbs/day	3.99E-02	7.97E-02	1.20E-01	--
HCH[1]	µg/L	3.82E-01	7.65E-01	1.15E+00	--
	lbs/day	7.97E-02	1.59E-01	2.39E-01	--
Radioactivity	pCi/l	Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations, Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	2.10E+04
	lbs/day	--	--	--	4.39E+03
Antimony, Total Recoverable	µg/L	--	--	--	1.15E+05
	lbs/day	--	--	--	2.39E+04
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	4.21E+02
	lbs/day	--	--	--	8.77E+01
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	1.15E+05
	lbs/day	--	--	--	2.39E+04
Chlorobenzene	µg/L	--	--	--	5.45E+04
	lbs/day	--	--	--	1.14E+04
Chromium (III) , Total Recoverable[4]	µg/L	--	--	--	1.82E+07
	lbs/day	--	--	--	3.79E+06
Di-n-butyl Phthalate	µg/L	--	--	--	3.35E+05
	lbs/day	--	--	--	6.98E+04

Dichlorobenzenes[1]	µg/L	--	--	--	4.88E+05
	lbs/day	--	--	--	1.02E+05
Diethyl Phthalate	µg/L	--	--	--	3.15E+06
	lbs/day	--	--	--	6.58E+05
Dimethyl Phthalate	µg/L	--	--	--	7.84E+07
	lbs/day	--	--	--	1.63E+07
4,6-dinitro-2-methylphenol	µg/L	--	--	--	2.10E+04
	lbs/day	--	--	--	4.39E+03
2,4-dinitrophenol	µg/L	--	--	--	3.82E+02
	lbs/day	--	--	--	7.97E+01
Ethylbenzene	µg/L	--	--	--	3.92E+05
	lbs/day	--	--	--	8.17E+04
Fluoranthene	µg/L	--	--	--	1.43E+03
	lbs/day	--	--	--	2.99E+02
Hexachlorocyclopentadiene	µg/L	--	--	--	5.54E+03
	lbs/day	--	--	--	1.16E+03
Nitrobenzene	µg/L	--	--	--	4.68E+02
	lbs/day	--	--	--	9.77E+01
Toluene	µg/L	--	--	--	8.13E+06
	lbs/day	--	--	--	1.69E+06
1,1,1-trichloroethane	µg/L	--	--	--	5.16E+07
	lbs/day	--	--	--	1.08E+07
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH - CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	9.56E+00
	lbs/day	--	--	--	1.99E+00
Aldrin	µg/L	--	--	--	2.10E-03
	lbs/day	--	--	--	4.39E-04
Benzene	µg/L	--	--	--	5.64E+02
	lbs/day	--	--	--	1.18E+02
Beryllium, Total Recoverable	µg/L	--	--	--	3.15E+00
	lbs/day	--	--	--	6.58E-01
Bis(2-chloroethyl) Ether	µg/L	--	--	--	4.30E+00
	lbs/day	--	--	--	8.97E-01
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	3.35E+02
	lbs/day	--	--	--	6.98E+01
Carbon Tetrachloride	µg/L	--	--	--	8.60E+01
	lbs/day	--	--	--	1.79E+01
Chloroform	µg/L	--	--	--	1.24E+04
	lbs/day	--	--	--	2.59E+03

1,4-dichlorobenzene	µg/L	--	--	--	1.72E+03
	lbs/day	--	--	--	3.59E+02
3,3'-dichlorobenzidine	µg/L	--	--	--	7.74E-01
	lbs/day	--	--	--	1.61E-01
1,2-dichloroethane	µg/L	--	--	--	2.68E+03
	lbs/day	--	--	--	5.58E+02
1,1-dichloroethylene	µg/L	--	--	--	8.60E+01
	lbs/day	--	--	--	1.79E+01
Dichlorobromomethane	µg/L	--	--	--	5.93E+02
	lbs/day	--	--	--	1.24E+02
Dichloromethane (Methylene Chloride)	µg/L	--	--	--	4.30E+04
	lbs/day	--	--	--	8.97E+03
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	--	--	--	8.51E+02
	lbs/day	--	--	--	1.77E+02
Dieldrin	µg/L	--	--	--	3.82E-03
	lbs/day	--	--	--	7.97E-04
2,4-dinitrotoluene	µg/L	--	--	--	2.49E+02
	lbs/day	--	--	--	5.18E+01
1,2-diphenylhydrazine	µg/L	--	--	--	1.53E+01
	lbs/day	--	--	--	3.19E+00
Halomethanes[1]	µg/L	--	--	--	1.24E+04
	lbs/day	--	--	--	2.59E+03
heptachlor	µg/L	--	--	--	4.78E-03
	lbs/day	--	--	--	9.97E-04
Hexachlorobutadiene	µg/L	--	--	--	1.34E+03
	lbs/day	--	--	--	2.79E+02
Hexachloroethane	µg/L	--	--	--	2.39E+02
	lbs/day	--	--	--	4.98E+01
Isophorone	µg/L	--	--	--	6.98E+04
	lbs/day	--	--	--	1.46E+04
N-nitrosodimethylamine	µg/L	--	--	--	6.98E+04
	lbs/day	--	--	--	1.46E+04
N-nitrosodi-N-propylamine	µg/L	--	--	--	3.63E+01
	lbs/day	--	--	--	7.57E+00
N-nitrosodiphenylamine	µg/L	--	--	--	2.39E+02
	lbs/day	--	--	--	4.98E+01
PAH[1]	µg/L	--	--	--	8.41E-01
	lbs/day	--	--	--	1.75E-01
1,1,2,2-tetrachloroethane	µg/L	--	--	--	2.20E+02
	lbs/day	--	--	--	4.58E+01

Tetrachloroethylene (Tetrachloroethene)	µg/L	--	--	--	1.91E+02
	lbs/day	--	--	--	3.99E+01
Trichloroethylene (Trichloroethene)	µg/L	--	--	--	2.58E+03
	lbs/day	--	--	--	5.38E+02
1,1,2-trichloroethane	µg/L	--	--	--	8.99E+02
	lbs/day	--	--	--	1.87E+02
2,4,6-trichlorophenol	µg/L	--	--	--	2.77E+01
	lbs/day	--	--	--	5.78E+00
Vinyl Chloride	µg/L	--	--	--	3.44E+03
	lbs/day	--	--	--	7.18E+02

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2 The mass emission rate (MER) limit, in pounds per day, was calculated based on the following equation: MER (lb/day) = 8.34 x Q x C, where Q is the maximum allowable flow rate (in MGD) and C is the concentration (in mg/L).

3 Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

4 The Discharger may, at their option, apply this performance goal as a total chromium performance goal.

5 If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in title 40 Code of Federal Regulations (CFR) part 136, as revised May 14, 1999.

6 The water quality objectives for total chlorine residual applicable to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

log y = -0.43 (log x) + 1.8,

where y = the water quality objective (in µg/l) to apply when chlorine is being discharged;

x = the duration of uninterrupted chlorine discharge in minutes.

Actual effluent limitations for total chlorine, when discharging intermittently, shall then be determined according to Implementation Procedures for Table 1 from the Ocean Plan, using a minimum probable initial dilution factor of 94.6 and a flow rate of 25 MGD.

3. Interim Effluent Limitations - Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitation

The receiving water limitations set forth below for ocean waters are based on water quality objectives contained in the Basin Plan and Ocean Plan and are a required part of this Order. The discharge of waste shall not cause or contribute to violation of these limitations in the Pacific Ocean. Compliance with these limitations shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.

1. **Bacterial Characteristics**

   a. Within a zone bounded by the shoreline and a distance of three nautical miles from the shoreline, including all kelp beds, the following bacterial objectives shall be maintained throughout the water column. The zone of initial dilution for the ocean outfall is excluded.

      i. 30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

         a) Total coliform density shall not exceed 1,000 per 100 mL;

         b) Fecal coliform density shall not exceed 200 per 100 mL; and

         c) Enterococcus density shall not exceed 35 per 100 mL.

      ii. Single Sample Maximum:

         a) Total coliform density shall not exceed 10,000 per 100 mL;

         b) Fecal coliform density shall not exceed 400 per 100 mL;

         c) Enterococcus density shall not exceed 104 per 100 mL; and

         d) Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

   b. The Initial Dilution Zone of wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

   c. At all areas where shellfish may be harvested for human consumption, as determined by the San Diego Water Board, the median total coliform density shall not exceed 70 per 100 mL throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

2. **Physical Characteristics**

   a. Floating particulates and grease and oils shall not be visible.

   b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

   c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as a result of the discharge of waste.

d. The rate of deposition of inert solids and the characteristics of inert solids in the ocean sediments shall not be changed such that benthic communities are degraded.

3. **Chemical Characteristics**

a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

d. The concentration of substances set forth in Chapter II, Table 1 of the Ocean Plan, shall not be increased in marine sediments to levels that would degrade indigenous biota.

e. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

f. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

g. Numerical water quality objectives established in Chapter II, Table 1 of the Ocean Plan apply to all discharges within the jurisdiction of the Ocean Plan. Unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations.

4. **Biological Characteristics**

a. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.

b. The natural taste, odor, color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

c. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

5. **Radioactivity**

Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply.

a. The Facility shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to title 23, division 3, chapter 26 of the California Code

of Regulations (CCR). The Facility shall be provided with a sufficient number of qualified personnel to operate the Facility effectively so as to achieve the required level of treatment at all times.

b. All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Discharger shall submit a certification report for each new canyon collector, treatment facility, expansion of an existing treatment facility, and design capacity re-ratings. The certification report shall be prepared by the design engineer. For design capacity re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility design capacity. The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction.

   i. The certification report shall:

      a) Identify the design capacity of the treatment facility, including the daily and 30-day design capacity;

      b) Certify the adequacy of each component of the treatment facility; and

      c) Contain a requirement-by-requirement analysis, based on acceptable engineering practices, of the process and physical design of the facility to ensure compliance with this Order.

   ii. The Discharger shall not initiate a discharge from an existing treatment facility at a daily flow rate in excess of its previously approved design capacity until:

      a) The certification report is received by the San Diego Water Board;

      b) The San Diego Water Board has received written notification of completion of construction (new treatment facilities and expansions only);

      c) An inspection of the facility has been made by the San Diego Water Board or its designated representatives (new treatment facilities and expansions only); and

      d) The San Diego Water Board has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.

c. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

d. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event.

e. This Order expires on July 31, 2019, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR section 122.6 and the

State's regulations at title 23, division 3, chapter 9, article 3, section 2235.4 of the CCR regarding the continuation of expired permits and waste discharge requirements are met.

f. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a performance goal(s) set forth in section IV.A.2, Table 5, of this Order or as otherwise described in Ocean Plan Table 1. (40 CFR section 122.44(d)(1))

b. This Order may be reopened for modification of the monitoring and reporting requirements and/or special studies requirements, at the discretion of the San Diego Water Board. Such modification(s) may include, but is (are) not limited to, revision(s) (i) to implement recommendations from Southern California Coastal Water Research Project (SCCWRP), (ii) to develop, refine, implement, and/or coordinate a regional monitoring program, (iii) to develop and implement improved monitoring and assessment programs in keeping with San Diego Water Board Resolution No. R9-2012-0069, *Resolution in Support of a Regional Monitoring Framework*, and/or (iv) to add provisions to require the Discharger to evaluate and provide information on cost and values of the monitoring and reporting program.

c. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

i. Violation of any terms or conditions of this Order. (Water Code section 13381(a))

ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts. (Water Code section 13381(b))

iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge. (Water Code section 13381(c))

d. The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes or anticipated noncompliance with this Order does not stay any condition of this Order. (40 CFR section 122.41(f))

e. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke

and reissue the Order to conform to the toxic effluent standard or prohibition. (40 CFR section 122.4(b)(1))

f. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR parts 122 and 124.

g. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load (TMDL) for the receiving water. (40 CFR section 122.62(a)(2))

h. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the San Diego Water Board, to provide for dilution credits or a mixing zone, as may be appropriate. (40 CFR section 122.62(a)(2))

i. This Order may also be reopened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, and 125.62. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Spill and Transboundary Wastewater Flow Event Prevention and Response Plan**.

i. **Spill and Transboundary Wastewater Flow Event Types.** For purposes of section VI.C.2, spill and transboundary wastewater flow event types are defined and categorized as set forth below. Event types do not include waste discharges to the Pacific Ocean at SBOO Discharge Point No. 001 or discharges of waste from the Facilities specifically regulated by separate waste discharge requirements or an NPDES permit.

a) **Spill from the Facilities (Facilities Spill Event).** A discharge of treated or untreated wastewater or other material to the environment that occurs from the Discharger's Facilities, including, but not limited to, the entire wastewater conveyance, storage, treatment, and disposal system (wastewater system) that is owned and operated by the Discharger. The wastewater system includes all devices and system components used such as pipes, pump stations, force mains, Junction Box 1, Junction Box 2, the five canyon collector systems, the treatment works, SBLO, and SBOO.

b) **Transboundary Wastewater Flow Past the Canyon Collector System (Flow Event Type A).** A dry weather transboundary treated or untreated wastewater or other flow through a conveyance structure owned and operated by the United States Government into Smuggler Gulch, Goat Canyon, Canyon del Sol, Stewart's Drain, or Silva Drain and not diverted into the canyon collector system for treatment at the Facility.

c) **Transboundary Wastewater Flow Event or Other Spill/Wastewater Flow Event in Mexico (Flow Event Type B).** A dry weather spill or dry weather transboundary wastewater or other flow (not categorized in other Event Types above) that creates, or threatens to create, pollution or nuisance conditions in waters of the United States and/or State including the Tijuana River (main channel), Yogurt Canyon drainage, other unnamed

drainages and nearby coastal marine waters. These spills or transboundary flows include, but are not limited to the following:

1) A dry weather transboundary treated or untreated wastewater flow in waters of the Tijuana River (main channel) as described in Commitment No. 16 of IBWC Minute No. 283 (*Conceptual Plan for the International Solution to the Border Sanitation Problem in San Diego, California/Tijuana, Baja California, July 2, 1990*).

2) A dry weather transboundary treated or untreated wastewater flow through a conveyance structure owned and operated by the United States Government into Yogurt Canyon.

3) Spills or wastewater flows occurring in Mexico that the Discharger has knowledge of.

ii. **Development and Submittal**. The Discharger shall prepare and submit a *Spill and Transboundary Wastewater Flow Prevention and Response Plan* (Prevention/Response Plan) to the San Diego Water Board, via the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site, no later than 180 days after the adoption of this Order. The Prevention/Response Plan shall be developed in consultation with the Comisión Internacional de Limites y Aguas (CILA, the Mexican Section of the IBWC), the San Diego Water Board, the County of San Diego Department of Environmental Health (DEH), and other interested stakeholders. At a minimum, the Prevention/Response Plan shall address the three types of events identified above in section VI.C.2.a.i of this Order and shall include the following elements:

a) **Goal.** The goal of the Prevention/Response Plan shall be described and consistent with the following criteria:

1) Reduce, eliminate and prevent the recurrence of spills and transboundary wastewater flows;

2) Protect public health and safety; and

3) Prevent adverse impacts to the environment from spills and transboundary wastewater flows, including but not limited to, adverse impacts to waters of the United States and/or State.

b) **Desired Outcomes.** The Prevention/Response Plan shall be consistent with the following desired outcomes:

1) Prompt notification and reporting of spills and transboundary wastewater flows to appropriate regulatory agencies, municipalities, and other potentially affected entities is ensured;

2) Effective measures are identified, documented and implemented to prevent, reduce, and eliminate spills and transboundary wastewater flows;

3) Compliance with the requirements of this Order is achieved and maintained;

4) Effective remedial measures are implemented to 1) control or limit the spill and/or transboundary wastewater flow volume, 2) terminate the spill and/or transboundary wastewater flow, and 3) recover as much of the spill and/or transboundary wastewater flow volume as possible for proper disposal, including any wash down water; and

5) A framework for binational actions and cooperation in achieving the goals and desired outcomes of the Prevention/Response Plan is established and followed by the Discharger and CILA and the following agencies to the extent that these agencies are willing and able to participate, Secretaría de Protección al Ambiente (SPA), Comisión Estatal de Servicios Públicos de Tijuana (CESPT), Procuraduría Federal de Protección al Ambiente (PROFEPA), Comisión Nacional del Agua (CONAGUA), and the City of Tijuana's Secretaría de Desarrollo Urbano y Ecología (SDUE).

c) **Roles and Responsibilities.** The Prevention/Response Prevention/Response Plan shall:

1) Identify the duly authorized individual(s) or position(s) having overall responsibility for the development and implementation of the Prevention/Response Plan on behalf of the Discharger as described in Attachment D of this Order, Special Provisions, section V.B;

2) Identify the names of all key individuals, associated position titles, e-mail addresses and telephone numbers, including management, administrative, contractor and maintenance positions, responsible for implementing specific measures described in the Prevention/Response Plan, on behalf of the Discharger; *and*

3) Provide a complete description of the roles and responsibilities, and lines of authority for implementation of the Prevention/Response Plan with respect to the Discharger, including organization chart(s) or similar document(s).

4) Provide a complete description of the roles and responsibilities, and lines of authority for implementation of the Prevention/Response Plan with respect to CILA, SPA, CESPT, PROFEPA, CONAGUA, and SDUE, including organization chart(s) or similar document(s) to the extent that they are available. The Discharger shall request in writing this information to assist the Discharger in implementing the Prevention/Response Plan. The Discharger shall include a copy of the request and CILA's response to the request in the Prevention/Response Plan. If CILA refuses or does not confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

d) **Communication and Coordination with Mexico.** The Prevention/Response Plan shall document the framework and procedures for coordination between the Discharger, CILA, SPA, CESPT, the San Diego Water Board, and interested parties through regular meetings and written or oral communication to:

1) Develop procedures for reducing, eliminating, and preventing recurrence of transboundary wastewater flows resulting from an emergency or unanticipated outages of wastewater infrastructure on either side of the international border;

2) Develop binational emergency response and notification procedures for loss of wastewater infrastructure capacity on either side of the international border;

3) Review existing plans, specifications and reports of key wastewater infrastructure on both sides of the international border;

4) Assist CILA and local agencies in Mexico, as requested by these entities through IBWC, in preventing, reducing, terminating, and recovering transboundary wastewater flows;

5) Provide a framework for binational actions and cooperation in achieving the goals and desired outcomes of the Prevention/Response Plan; and

6) Optimize use of available wastewater infrastructure capacity on both sides of the international border. This topic shall include, but is not limited to, use of an emergency connection to the City of San Diego sewage collection system, increases in available sewage collection and treatment capacity in Tijuana, and increase in wastewater flow diversion to the IWTP.

e) **Inspection and Preventative Maintenance Program.** The Prevention/Response Plan shall provide a program for routine inspection and preventative maintenance of the entire wastewater system that is owned and operated by the Discharger including backup power and electrical systems. The inspection and preventative maintenance program shall include the following components:

1) **Map, Flow Diagrams, and Design Capacity Documentation.** The Prevention/Response Plan shall provide an accurate map and flow diagram, and the design capacity for each key component of the entire Discharger's wastewater system as well as the main wastewater conveyance and treatment system in Mexico. The information shall address key pipes, force mains, pump stations, treatment plant capacities, and all discharge point(s).

2) **Inspection and Preventative Maintenance Program.** The Prevention/Response Plan shall provide a description of the routine inspection and preventative maintenance program for the Discharger's

wastewater system. The description shall include schedules, protocols, documentation procedures, and associated activities for inspection, preventative maintenance, and cleaning. The documentation procedures shall include the system used to document the inspection and preventive maintenance activities, such as work orders. The Prevention/Response Plan shall include exercising and testing of all key systems and components to verify adequate operation of the system and associated backup alarms.

Each canyon collector shall be inspected daily. The Prevention/Response Plan shall also provide a description of the specific circumstances, mechanisms, and frequency of occurrence whereby the hydraulic capacity of the canyon collector systems is reduced below its design capacity from stoppage, blockage, debris obstructions, vandalism or other causes that impact or limit the flow of wastewater into and through the canyon collector systems. The Prevention/Response Plan shall identify the best practices and procedures employed by the Discharger to reduce, prevent, or eliminate the severity and impact of these mechanisms and to restore the system's functional capacity to handle transboundary wastewater flows at the design capacity flow rate as quickly as possible. These practices and procedures shall also address the steps taken or planned to ensure adequate clearing and removal of accumulated sand/silt and blockages and correction of all capacity deficiencies in the canyon collector systems within 96 hours following a storm event of 0.1 inches or greater (i.e. 24 hours after wet weather, as defined in Attachment A).

3) **Replacement Components.** The Prevention/Response Plan shall also describe practices for identifying key replacement components and maintaining an adequate inventory of critical replacement components.

4) **Log Maintenance and Retention of Records.** The Prevention/Response Plan shall provide for maintaining a log of all pertinent inspection, cleaning, maintenance and repair records for at least five (5) years for use in identifying and prioritizing system deficiencies in order to devise a corrective action strategy to prevent future spills.

f) **Rehabilitation and Replacement.** The Prevention/Response Plan shall describe a rehabilitation and replacement program to detect, identify, and address any structural deficiencies, or other system devices or components that have caused or are likely to cause spills from the Discharger's wastewater system. Structural deficiencies include, but are not limited to, major pipe breaks and cracks, inadequate pipe slopes, internal corrosion areas, areas of significant root intrusion, and inadequate hydraulic capacity. The rehabilitation and replacement program shall provide for identification, ranking and prioritizing of system deficiencies and implementation of short-term and long-term rehabilitation or replacement actions to address each identified deficiency. Rehabilitation and replacement activities should focus on infrastructure that is older and at risk or prone to more frequent blockage

due to sediment or debris. The Prevention/Response Plan shall also describe a capital improvement program which manages and preserves infrastructure assets, identifies and ranks infrastructure rehabilitation and replacement capital projects, provides a planning and implementation schedule, and identifies options for obtaining the funding needed to implement the program.

g) **Training**. The Prevention/Response Plan shall describe a program for providing training to ensure that the Discharger's employees, contractors, and other representatives are adequately trained and possess adequate knowledge, skills and abilities to implement the Prevention/Response Plan.

h) **Facilities Spill and Transboundary Wastewater Spill Containment and Cleanup**. This section of the Prevention/Response Plan shall apply to Facilities Spill Event and Flow Event Type A.

The Prevention/Response Plan shall describe guidelines and procedures for taking all feasible steps and necessary remedial actions to 1) control or limit the spill and/or transboundary wastewater flow volume, 2) terminate the spill and/or transboundary wastewater flow, and 3) recover as much of the spill and/or transboundary wastewater flow volume as possible for proper disposal, including any wash down water. The Prevention/Response Plan shall incorporate the following components:

1) **Investigation and Assessment.** The Prevention/Response Plan shall describe procedures for spill and/or transboundary wastewater flow investigation and assessment including volume estimation, adequate monitoring to determine the nature and impact of the event, identification of receiving waters impacted, calls for additional backup support, and notification of appropriate agencies as required under section VI.C.2.d of this Order.

2) **Containment.** Procedures for containment of the spill and/or transboundary wastewater flow volume including but not limited *to* the following actions:

i) Use of sand bags or containment barriers;

ii) Containment in downstream storm drains and plugging downstream storm drain outlets to capture the spill and/or transboundary wastewater flow if possible; and

iii) Excavation as necessary to establish containment of spill and/or transboundary wastewater flow.

3) **Cleanup.** Procedures for cleanup of the spill and/or transboundary wastewater flow including but not limited to the following actions:

i) Collection of solid and liquid material and other debris;

ii) Vacuum truck recovery of wastewater or polluted water and wash down water;

iii) Cleanup of debris within the affected area(s); and

iv) Clean-up of impacted storm drains in accordance with NPDES storm water permit.

i) **Notifications and Reporting.** This section of the Prevention/Response Plan shall apply to Facilities Spill Event and Flow Event Type A. The Prevention/Response Plan shall describe procedures for prompt notification and reporting of these spills to appropriate parties as described in section VI.C.2.d of this Order. The Prevention/Response Plan shall provide for maintenance of a regularly updated notification and reporting contact list (emails and phone numbers) and adequate public notification to protect the public from exposure to spills and/or transboundary wastewater flows. Written notifications and reports should be provided to appropriate regulatory agencies, municipalities, and other potentially affected entities to the extent required by this Order, other permits and licenses, state and federal laws, local ordinances or as otherwise described in the Prevention/Response Plan. These organizations shall include, but are not be limited to:

1) California Governor's Office of Emergency Services (Cal OES);

2) DEH;

3) San Diego Water Board;

4) California Department of Fish and Wildlife;

5) U.S. Fish and Wildlife Service;

6) City of Imperial Beach;

7) City of San Diego;

8) USEPA

9) Local water agencies if a water supply has been affected;

10) Interested non-governmental organizations (NGOs); and

11) Other interested parties.

j) **Documentation.** The Prevention/Response Plan shall include procedures for documentation of each event as required under section VI.C.2.d of this Order including, but not limited to, a description of the spill event and its cause; exact dates and times for when the event started, when the Discharger responded, when the event stopped, when containment and cleanup occurred, the volume recovered, the volume released to the

environment, notifications made, and the steps taken or planned to mitigate and prevent recurrence of the event.

k) **Notifications and Reporting of Transboundary Wastewater Flows or Other Spills within Mexico**. This section of the Prevention/Response Plan shall apply to Flow Event Type B. The Prevention/Response Plan shall describe procedures for notification and reporting of Flow Event Type B. These events should be reported within 24 hours of the time the Discharger becomes aware of the event. The procedures shall provide for notification and reporting of such events to governmental agencies, municipalities, and other organizations as described in section VI.C.2.a.ii.i) above. (The Discharger is not responsible for the investigation, assessment, containment, cleanup, or documentation of such events, but only for the reporting of such events for which the Discharger becomes aware.)

iii. **Prevention/Response Plan Implementation.** Upon receipt, the San Diego Water Board will issue a public notice and release the Prevention/Response Plan for public review and comment for a minimum of 30 days. The Discharger must consider revisions to the Prevention/Response Plan based on written comments received during the specified comment period. The Discharger must submit a revised Prevention/Response Plan, with responses to written comments received, to the San Diego Water Board no later than 60 days after the close of the comment period. The Discharger shall commence with implementation of the Prevention/Response Plan immediately upon submission of the revised Prevention/Response Plan unless otherwise directed in writing by the San Diego Water Board Executive Officer.

a) **Prevention/Response Plan Amendment.** The Discharger shall conduct regular review and assessment of the Prevention/Response Plan to identify improvements and modify it as necessary to reduce, eliminate, and prevent the recurrence of spills and/or transboundary wastewater flows. The Discharger shall keep the Prevention/Response Plan in an up-to-date condition and shall amend the Prevention/Response Plan whenever there is a change (e.g., in the design, construction, operation, or maintenance of the Facilities) which materially affects the potential for spill and/or transboundary wastewater flow events; or which materially affects the response required for each event. The Discharger shall include any modifications as an amendment to the Prevention/Response Plan submittal in CIWQS within 30 days of making the amendment.

b) **Prevention/Response Plan Posting.** A copy of the most current Prevention/Response Plan shall be posted at a prominent location at or near the Facility and shall be readily available to Discharger's employees, contractors, and other representatives at all times. The Discharger shall also post a publically available internet accessible copy of the most current Prevention/Response Plan on the Discharger's website.

b. **Sharing Transboundary Wastewater Flow Information with Mexico**

i. The Discharger shall meet with CILA to share the approved Prevention/Response Plan and answer any questions about its content within one year of the adoption of this Order. The Discharger shall request in writing that CILA share the approved Prevention/Response Plan with SPA, CESPT, PROFEPA, CONAGUA, and SDUE. If CILA refuses or does not confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner. A copy of the written request to CILA and written confirmation from CILA shall be included as an amendment to the Prevention/Response Plan submittal in CIWQS.

ii. The Discharger shall conduct binational technical committee meetings, with simultaneous translation services, if needed, on transboundary wastewater flow prevention and response in the international border region periodically but no less than two times per year. The Discharger shall invite CILA, the San Diego Water Board, and USEPA to attend. In consultation with CILA, the Discharger shall consider inviting additional stakeholders including, but not limited to, the County of San Diego, the City of San Diego, the City of Imperial Beach, California State Parks, U.S. Fish and Wildlife, California Department of Fish and Wildlife, SPA, CESPT, PROFEPA, CONAGUA, SDUE, and NGOs, such as Tijuana-based Tijuana Calidad de Vida and Proyecto Fronterizo de Educación Ambiental, WILDCOAST, Surfrider Foundation San Diego, and San Diego Coastkeeper. The Discharger shall prepare an agenda with input from invited stakeholders and shall prepare a meeting summary after the meeting and distribute it to all invited stakeholders. The binational technical committee meetings for the transboundary wastewater flows can be combined with the binational technical committee meetings for the pretreatment required in section VI.C.5.b.i. The Discharger shall promote discussion of binational interests, including but not limited to the following:

a) Development and improvement of binational prevention, response, and notification procedures of spills and/or transboundary wastewater flows due to loss of wastewater infrastructure capacity on either side of the international border or other problems;

b) Review of existing and proposed plans, specifications, and reports for key wastewater infrastructure on both sides of the international border;

c) Assist CILA and local agencies in Mexico, as requested by these entities through IBWC, in identifying, preventing, reducing, terminating, and recovering spills and/or transboundary wastewater flows;

d) Optimizing use of available wastewater infrastructure capacity on both sides of the international border to reduce, eliminate, and prevent the recurrence of spills and/or transboundary wastewater flows. This topic shall include, but is not limited to, use of an emergency connection to the City of San Diego sewage collection system, increases in available sewage collection and treatment capacity in Tijuana, and increase in wastewater flow diversion to the IWTP;

e) Share and discuss the current version of the Prevention/Response Plan;

f) Share and discuss Tijuana River, transboundary canyons, and coastal water quality data, and discuss possible sources of contamination; *and*

g) Development and improvement of binational actions and cooperation in achieving the goals and desired outcomes of the Prevention/Response Plan.

iii. In the event Mexico fails to prevent a discharge of treated or untreated wastewaters into waters of the Tijuana River that cross the international boundary as described in Commitment No. 16 of IBWC Minute No. 283, the Discharger's Commissioner or designee shall, within 24 hours of becoming aware of the event, notify the Commissioner of CILA or designee in writing that such a discharge has occurred and request that special measures be taken to immediately stop such discharges and make any necessary repairs in accordance with Commitment No. 16 of IBWC Minute No. 283. If CILA refuses or does not confirm within one day, the Discharger will communicate the same in writing to the San Diego Water Board in a timely manner.

iv. The Discharger shall share the monthly self-monitoring report (SMR) required in Attachment E of this Order with CILA on or before the due date for submittal to the San Diego Water Board. The monthly SMR shall include the monthly transboundary wastewater flow report as required in section VII.B.4 of Attachment E of this Order.

v. The Discharger shall prepare technical presentations which clearly summarize transboundary wastewater flows and compares the flows with the flows occurring during the previous year for the same time periods and year to date. The presentations shall include the information listed in section VI.B.4 of Attachment E of this Order, as well as any other information on the circumstances and impacts of the transboundary wastewater flows and ways to improve the prevention of, and response to, transboundary wastewater flows. The presentation may be combined with the pretreatment technical presentation required in section VI.C.5.b.iv of this Order.

a) The Discharger shall meet with CILA each quarter to share the approved presentations and answer any questions about its content. If no transboundary flows occurred during any given quarter, the Discharger is not required to prepare a technical presentation for that quarter. If there is no technical presentation for that quarter, the Discharger is not required to meet with CILA for that quarter.

b) The Discharger shall request in writing that CILA share the approved presentations at venues hosted by the regulated community at least once, if appropriate venues are available. If CILA refuses or fails to confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in a timely manner.

c) The Discharger shall request in writing that CILA share the approved presentations with SPA and CESPT. If CILA refuses or does not confirm

within one month, the Discharger will communicate the same to the San Diego Water Board in a timely manner.

d) The presentations shall be processed in accordance with the following schedule unless the Discharger is otherwise directed in writing by the San Diego Water Board:

Table 6. Sharing Transboundary Wastewater Information with Mexico

Quarterly Presentation Period[1]	Presentations Due to the San Diego Water Board for approval	Discharger Share Presentations with CILA	Discharger Request for CILA to Share Presentations with CESPT and SPA
January 1 through March 31	May 15	June 1	June 15
April 1 through June 30	August 15	September 1	September 15
July 1 through September 30	November 15	December 1	December 15
October 1 through December 31	February 15	March 1	March 15

1 If no transboundary flows occurred during any given quarter, the Discharger is not required to prepare a technical presentation for that quarter. If there is no technical presentation for that quarter, the Discharger is not required to meet with CILA for that quarter.

vi. The Discharger may, for reasons of international protocol, submit the agenda, meeting summary, monthly SMR, technical presentation, and other documents described in section VI.C.2.b to CILA in English. If the documents are submitted in English, the Discharger shall request in writing that CILA translate the documents into Spanish prior to distribution to the stakeholders in Mexico. If CILA does not translate the documents as requested, the Discharger shall do the translation.

c. **Other Transboundary Wastewater Flow Requirements**

i. The Discharger shall work through CILA to coordinate with SPA and/or CESPT in preventing, reducing, terminating, and recovering transboundary wastewater flows. Efforts to achieve this goal shall include, but are not limited to, improved communication between the Discharger, CILA, SPA, and CESPT; and providing training, available funding, and other assistance to SPA and CESPT.

ii. Annually, the Discharger shall request in writing from CILA the information listed below for the previous calendar year. If CILA refuses or fails to provide this information by March 1, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

a) A brief description of any programs CILA and local agencies in Mexico implements to prevent, reduce, terminate, and recover transboundary wastewater flows;

b) A brief description of any significant changes in transboundary wastewater flow prevention and response activities which differ from the previous year including, but not limited to, changes concerning administrative structures, monitoring programs or monitoring frequencies, legal authority, enforcement policies, funding levels, or staffing levels;

c) A summary of the annual transboundary wastewater flow prevention and response budget, including the cost of program functions and equipment purchases; and

d) A summary of all activities undertaken to educate the public on how to prevent wastewater discharges (e.g. reducing discharges of fats, oils, and grease into the sewage collection system).

d. **Spill and Transboundary Wastewater Flow Event Notification and Reporting Requirements**

The Discharger shall report spills and transboundary wastewater flows in accordance with the following procedures for Facilities Spill Events and Flow Events Type A. The San Diego Water Board requests that the Discharger apply this section of the Prevention/Response Plan to Flow Events Type B.

i. Facilities Spill Events and Flow Events Types A and B, as defined in section VI.C.2.a.i above, shall be categorized for notification and reporting purposes as follows:

a) Category 1 include discharges that contain wastewater of any volume that: 1) Reach surface water and/or reach a drainage channel tributary to a surface water; or 2) Reach a Municipal Separate Storm Sewer System (MS4), and are not fully captured and returned to the Facilities or not otherwise captured and disposed of properly. Any volume not recovered from the MS4 is considered to have reached surface water unless the MS4 discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).

b) Category 2 includes discharges that contain wastewater of 1,000 gallons or greater that do not reach surface water, a drainage channel, or a MS4.

c) Category 3 includes all other discharges that contain wastewater.

d) Category 4 includes discharges of hazardous substances.

e) Category 5 includes discharges of oil or petroleum products.

f) Category 6 includes discharges of other materials related to the facilities that may endanger health or the environment.

ii. Within two hours of becoming aware of any Category 1 Event greater than or equal to 1,000 gallons discharged to surface water or a spill or flow to a location where it probably will be discharged to surface water, the Discharger shall notify the Cal OES and obtain a notification control number. The Discharger shall

provide the information requested by Cal OES before receiving a control number. Spill/flow information requested by Cal OES may include:

a) Name of person notifying Cal OES and direct return phone number.

b) Estimated spill/flow volume (gallons).

c) If ongoing, estimated spill/flow rate (gallons per minute).

d) Spill/flow incident description including a brief narrative, on-scene point of contact for additional information (name and cell phone number); date and time Discharger became aware of the spill/flow; location of discharge; cause of the spill/flow (if known).

e) Indication of whether the spill/flow has been contained.

f) Indication of whether surface water is impacted.

g) Name of surface water impacted by the spill/flow, if applicable.

h) Indication of whether a drinking water supply is or may be impacted by the spill/flow.

i) Any other known spill/flow impacts.

j) Spill/flow incident location (address, city, state, and zip code).

Following the initial notification to Cal OES and until such time that the Discharger submits a certified report, the Discharger shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated wastewater discharged and any substantial change(s) to known impact(s).

iii. For Category 1 and 2 Events, the Discharger shall submit a preliminary report within three business days of becoming aware of the spill/flow by email to the San Diego Water Board (RB9Spill_Report@waterboards.ca.gov), DEH, local municipalities, and other interested parties. At a minimum, the following mandatory information shall be included in the preliminary report:

a) Spill/flow contact information. (Name and telephone number of the Discharger contact person who can answer specific questions about the spill/flow being reported).

b) Spill/flow location name.

c) Global Positioning System (GPS) coordinates for the spill/flow location. If a single spill event results in multiple appearance points, provide GPS coordinates for each appearance point.

d) Whether or not the spill/flow reached surface water, a drainage channel, or entered and was discharged from a drainage structure.

e) Whether or not the spill/flow reached a MS4. If known, provide the name of the jurisdiction that owns or operates the MS4 and estimate the spill/flow volume that may have entered the MS4.

f) Whether or not the total spill/flow volume that reached a MS4 was fully recovered. If not, estimate the volume that was recovered from the MS4 (if applicable).

g) Estimate of the spill/flow volume, inclusive of all discharge point(s).

h) Estimate of the spill/flow volume that reached surface water, a drainage channel, or was not recovered from an MS4. If known, provide the name of the surface water body, drainage channel, or drainage structure.

i) Estimate of the spill/flow volume recovered from all sources and media (if applicable).

j) Number of spill/flow appearance point(s).

k) Description and location of spill/flow appearance point(s). If a single sewage collection system failure results in multiple spill appearance points, each appearance point must be described.

l) Spill/flow start date and time.

m) Date and time the Discharger was notified of, or self-discovered, the spill/flow.

n) Estimated operator arrival time.

o) Spill/flow end date and time or expected end date and time.

p) Date and time when cleanup was completed (if applicable);

q) Probable cause of the spill/flow (if known)

r) For spills/flows greater than or equal to 1,000 gallons, the date and time Cal OES was called.

s) For spills/flows greater than or equal to 1,000 gallons, the Cal OES control number.

iv. For Category 1 and 2 Events, the Discharger shall submit a certified report within 15 calendar days of spill/flow end date by email to the San Diego Water Board (RB9Spill_Report@waterboards.ca.gov), DEH, local municipalities, and interested parties. The report shall be signed and certified as required in Attachment D, section V.B At a minimum, the following mandatory information shall be reported for the certified report, in addition to all fields in subsection iii above :

a) Description of spill/flow destination(s).

b) Spill/flow end date and time.

c) Spill/flow cause(s) (e.g. pipe blockage; fats, oil, and grease; root intrusion; pipe break; pump station failure; power outage; component failure; inadequate hydraulic capacity; inflow and infiltration; or vandalism).

d) Spill/flow failure point (pump station, junction point, etc.).

e) Whether or not the spill/flow was associated with a storm event.

f) Description of spill/flow corrective actions, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill/flow; and a schedule of major milestones for those steps.

g) Description of spill/flow response activities.

h) Spill/flow response completion date.

i) Whether or not there is an ongoing investigation, the reasons for the investigation, and the expected date of completion.

j) Whether or not health warnings were posted as a result of the spill/flow.

k) Name of beach(es) closed and/or impacted.

l) Name of surface water(s) impacted.

m) Location and number of water quality samples collected or reason why no samples collected.

n) Parameters for which the water quality samples (if any) were analyzed.

o) Regulatory agencies that received sample results (if any).

p) Description of methodology(ies) and data relied upon for estimations of the spill/flow volume and amount recovered.

v. For Category 4 Events, as soon as (A) the Discharger has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, the Discharger shall immediately notify the Cal OES of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to article 3.7 (commencing with section 8574.16) of chapter 7 of division 1 of title 2 of the Government Code. (Water Code section 13271)

vi. For Category 5 Events, as soon as (1) the Discharger has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, the Discharger shall immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the California oil spill contingency plan adopted pursuant to article 3.5 (commencing with section 8574.1) of chapter 7 of division 1 of title 2 of the Government Code. This section

shall not apply to spills of oil into marine waters as defined in Subdivision (f) of section 8670.3 of the Government Code. (Water Code section 13272)

vii. For Category 6 Events, the Discharger shall notify the San Diego Water Board (RB9Spill_Report@waterboards.ca.gov), DEH, local municipalities, and interested parties within 24 hours of becoming aware of the discharge.

viii. For all Facilities Spill Events, the Discharger shall include a detailed summary of spills in the monthly self-monitoring report for the month in which the spill occurred, as required in section VI.A of Attachment E of this Order.

ix. The spill/flow reporting requirements contained in this Order do not relieve the Discharger of responsibilities to report spills/flows to other agencies, such as the Cal OES and DEH.

e. **Toxicity Reduction Evaluation (TRE)**

i. **TRE Workplan Development and Submittal.** The Discharger shall develop and submit a TRE workplan to the San Diego Water Board, via the State Water Board's CIWQS Program Web site, within 180 days of the adoption of this Order. The TRE workplan shall incorporate TRE procedures established in available USEPA guidance documents[2], including, but not limited to, the following information:

a) Criteria for determining that the discharge consistently exceeds a toxicity effluent limitation;

b) Roles and responsibilities of the team conducting the TRE;

c) A description of reasonable anticipated actions to be undertaken by the Discharger to investigate, identify and correct the causes of toxicity;

d) Provisions and criteria for implementation of a Toxicity Identification Evaluation (TIE), as necessary, based upon the magnitude and persistence of toxicity effluent limitation exceedances;

e) Provisions for data evaluation and interpretation;

f) Provision for follow-up actions and communications, including communications with CILA, SPA, PROFEPA, and CESPT, to reduce toxicity in instances where the probable cause of the toxicity effluent limitation exceedances is attributable to sources in Mexico; and

g) Provisions for development of a schedule for completion of all activities and submission of a final report within 30 days of completion of the TRE.

[2] See (a) TRE Guidance for Municipal Wastewater Treatment Plants (EPA 833-B-99-002, 1999); (b) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070); Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F); (c) Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080); (d) Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081); and (e) Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96-054,1996).

ii. **TRE Workplan Approval and Implementation.** The Discharger shall implement the TRE Workplan (60) days after submission unless otherwise directed in writing to modify it by the San Diego Water Board. The Discharger shall post and maintain an up-to-date copy of the TRE Workplan on the Discharger's website.

iii. **Requirement to Conduct TRE.** If the effluent limitation for acute or chronic toxicity is exceeded in any one test, the Discharger shall conduct a TRE if the toxicity is exceeded in any of the next six (6) succeeding tests performed at 14-day intervals and notify the San Diego Water Board. After the acute or chronic toxicity exceedance, the Discharger shall continue to conduct the routine weekly monitoring for both acute and chronic toxicity as required in Attachment E of this Order.

The TRE shall be conducted in accordance with the approved TRE workplan and available USEPA guidance documents[3]. Within 30 days of completion of the TRE, the Discharger shall submit a TRE Final Report on the results of the TRE to the San Diego Water Board. The TRE Final Report shall include the following:

a) A description of the probable source and cause of the toxicity effluent limitation exceedances (if known);

b) A summary of the findings including a tabulation, evaluation, and interpretation of the data generated;

c) Copies of any written request to CILA for assistance and any responses received;

d) A list of corrective actions taken or planned by the Discharger and/or CILA to reduce toxicity so that the Discharger can achieve consistent compliance with the toxicity effluent limitation of this Order and prevent recurrence of exceedances of the limitation; and

e) If the exceedances of the toxicity effluent limitation have not been corrected, the anticipated time it is expected to continue and a time schedule for the steps planned to reduce, eliminate, and prevent recurrence of the exceedances.

The Discharger shall implement any planned corrective actions assigned to the Discharger in the TRE Final Report in accordance with the specified time schedule, unless otherwise directed in writing by the San Diego Water Board. The corrective actions and time schedule shall be modified at the direction of the San Diego Water Board.

iv. **Sharing TRE Information with Mexico**

a) ***TRE Workplan*.** Sixty days after submitting the TRE Workplan, or as otherwise directed in writing by the San Diego Water Board, the Discharger shall a) provide a copy of the approved TRE Workplan to CILA; and b) meet

[3] Ibid

with CILA to answer any questions about its content. The Discharger shall request in writing that CILA share the approved TRE Workplan with SPA and CESPT and shall provide a copy of the request to the San Diego Water Board. If CILA refuses or does not confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

b) ***TRE Final Report*.** If the TRE Final Report, described in section VI.C.2.e.iii of this Order, determines that the toxicity effluent limitation exceedances were, or likely were, attributable to the introduction of pollutants into the Facility from Mexico, then the Discharger shall provide a copy of the TRE Final Report to CILA within 30 days after completion of the TRE Final Report. The TRE Final Report shall be provided to CILA. The Discharger also shall meet with CILA and answer any questions about the content of the TRE Final Report. The Discharger shall request in writing that CILA share the TRE Final Report with SPA and CESPT and request their assistance in addressing the probable sources and causes of the toxicity effluent limitation exceedances. The Discharger shall provide a copy of the request to the San Diego Water Board. If CILA refuses or does not confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

c) The Discharger may, for reasons of international protocol, submit the TRE Workplan, TRE Final Report, and other documents described in section VI.C.2.e.iv to CILA in English. If the documents are submitted in English, the Discharger shall request in writing that CILA translate the documents into Spanish prior to distribution to the stakeholders in Mexico. If CILA does not translate the documents as requested, the Discharger shall do the translation.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (Wastewater Facilities Only)

a. **Influent Limitations**

i. In consultation with CILA the Discharger shall develop and comply with mass emission rates and concentration limitations for the influent to the Facility (influent limitations), or Maximum Allowable Headworks Allocations (MAHA), for pollutants that may cause or contribute to interference, pass through, or the other problems described at 40 CFR section 403.5. The influent limitations shall prevent violations of the Ocean Plan and this Order. At a minimum, the following information shall be considered in developing the influent limitations:

a) ***Wastewater characteristics*** -- Monthly average plant operational data from the Facility and other wastewater monitoring data after secondary treatment was completed.

b) ***Effluent limitations and discharge specifications*** -- The analysis shall be conducted using the effluent limitations and discharge specifications contained in this Order.

c) ***Inhibition/interference data*** -- Literature from USEPA guidance or other sources. The analysis shall include, but is not be limited to, inhibition/inference from litter, sand, and sediment.

d) ***Process removal data*** -- If influent and effluent values are available, actual removal rates from advanced primary and secondary treatment operating data at the Facility shall be calculated. If sufficient data are not available, literature values from the USEPA Water Engineering Research Laboratory (WERL) Treatability Database may be used. A mass balance (input-output) approach shall be conducted to convert criteria into allowable headworks loadings. This includes tracing the routes of each pollutant through the treatment process, taking into account pollutant removals in treatment units.

e) ***Background data*** -- Values for domestic/background levels from USEPA guidance or other sources.

f) ***Safety factor*** – The Discharger, in consultation with CILA, shall recommend and evaluate appropriate approaches regarding growth, slug loadings, and data uncertainty.

The Discharger shall submit the report with the proposed influent limitations to the San Diego Water Board via the State Water Board's CIWQS Program Web site, no later than one year after the adoption of this Order, for approval and incorporation into this Order.

ii. Until the San Diego Water Board approves the influent limitations developed by the Discharger pursuant to section VI.C.5.a.i of this Order, the Discharger shall comply with the interim limitations for the influent to the Facility set forth in Table 6 below. Compliance with these interim influent limitations shall be measured at Monitoring Location INF-001 as described in the Monitoring and Reporting Program, Attachment E. The final influent limitations developed under section VI.C.5.a.i of this Order and approved by the San Diego Water Board will be incorporated into this Order and will supersede the interim limitations set forth in Table 6 below.

Table 7. Interim Influent Limitations

Parameter	Units	Influent Limitation		
		Average Monthly	Instantaneous Maximum	Six-Month Median
Arsenic, Total Recoverable	ug/L	24		
	lbs/day	5.0		
Beryllium, Total Recoverable	ug/L	2.5		
	lbs/day	0.52		
Cadmium, Total Recoverable	ug/L	61		
	lbs/day	13		
Chromium, Total Recoverable	ug/L	1100		
	lbs/day	230		
Copper, Total Recoverable	ug/L			150
	lbs/day			32
Cyanide, Total Recoverable	ug/L			75
	lbs/day			16
Lead, Total Recoverable	ug/L	160		
	lbs/day	34		
Mercury, Total Recoverable	ug/L		5.4	
	lbs/day		1.1	
Nickel, Total Recoverable	ug/L			440
	lbs/day			93
Silver, Total Recoverable	ug/L			52
	lbs/day			11
Zinc, Total Recoverable	ug/L	1100		
	lbs/day	220		
Total HCH (Lindane)	ug/L			0.42
	lbs/day			0.88

iii. Any exceedance of an interim or final influent limitation, as applicable, is inconsistent with IBWC Minute No. 283 of July 2, 1990. The Discharger shall take all actions available under U.S. law and international treaty and agreement to achieve compliance with those limitations. If the Discharger is unable to achieve compliance with the influent limitations, the Discharger shall formally elevate the matter in writing within the U.S. Department of State regarding the reasons for lack of progress and offer strategies for addressing the difficulties. The Discharger shall encourage elevated diplomatic attention by the U.S. Department of State to issues that the Discharger has been unable to resolve. Similarly, USEPA shall elevate discussion within the Office of Water and the Office of International Activities. A copy of the written request to the U.S. Department of State shall be submitted to the San Diego Water Board in a timely manner.

b. **Sharing Pretreatment Information with Mexico**

i. The Discharger shall conduct binational technical committee meetings periodically but no less than twice per year, with simultaneous translation services, if needed. The Discharger shall invite CILA, the San Diego Water Board, and USEPA to attend. In consultation with CILA, the Discharger shall consider inviting additional stakeholders including, but not limited to, SPA, CESPT, PROFEPA, and other local authorities in the United States and Mexico. The Discharger shall prepare an agenda with input from invited stakeholders

and shall prepare a meeting summary after the meeting and distribute to all invited stakeholders. The binational technical committee meetings for pretreatment can be combined with the binational technical committee meetings for transboundary wastewater flows required in section VI.C.2.b.ii. The Discharger shall promote discussion of binational interests, including but not limited to the following information:

(1) influent monitoring data;

(2) a comparison of influent monitoring data compared to the influent limitations, including identification of any exceedances of influent limitations;

(3) an analysis of the influent monitoring data, including an evaluation and interpretation of the influent data and a discussion of any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works, including but not limited to interference as defined in 40 CFR section 403.3(k), pass through of pollutants as defined in 40 CFR section 403.3(p), or acute worker health and safety problems or other problems as defined in 40 CFR section 403.5(b); and

(4) a description of the steps taken or planned by the Discharger and/or the government of Mexico to reduce, eliminate, and prevent the reoccurrence of noncompliance with influent limitations or any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works.

ii. In the event of an exceedance of an influent limitation, the Commissioner of the Discharger or designee shall notify the Commissioner of CILA or designee in writing within 24 hours of becoming aware of the exceedance.

iii. The Discharger shall share the monthly SMR required in Attachment E of this Order with CILA on or before the due date for submittal to the San Diego Water Board. The monthly SMR shall include at a minimum the following information:

(1) influent monitoring data;

(2) a comparison of influent monitoring data compared to the influent limitations, including identification of any exceedances of influent limitations;

(3) an analysis of the influent monitoring data, including an evaluation and interpretation of the influent data and a discussion of any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works, including but not limited to interference as defined in 40 CFR section 403.3(k), pass through of pollutants as defined in 40 CFR section 403.3(p), or acute worker health and safety problems or other problems as defined in 40 CFR section 403.5(b); and

(4) a description of the steps taken or planned by the Discharger and/or the government of Mexico to reduce, eliminate, and prevent the reoccurrence of noncompliance with influent limitations or any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works.

iv. Each quarter, the Discharger shall prepare technical presentations which clearly do the following:

(1) summarizes influent monitoring data for the Facility;

(2) compares the influent monitoring data to the influent limitations, identifying any exceedances of influent limitations

(3) compares the current influent monitoring data with the influent monitoring data from the previous year for the same time periods;

(4) analyses the influent monitoring data, including an evaluation and interpretation of the influent data and a discussion of any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works, including but not limited to interference as defined in 40 CFR section 403.3(k), pass through of pollutants as defined in 40 CFR section 403.3(p), or acute worker health and safety problems or other problems as defined in 40 CFR section 403.5(b); and

(5) describes of the steps taken or planned by the Discharger and/or the government of Mexico to reduce, eliminate, and prevent the reoccurrence of noncompliance with influent limitations or any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works.

The presentation may be combined with the technical presentation required in section VI.C.2.b.v of this Order. With each presentation, the Discharger shall also prepare a one-page information sheet which highlights any challenges associated with the Facility influent.

a) The Discharger shall meet with CILA each quarter to share the approved presentations and one-page information sheets and answer any questions about its content. If there are (1) no influent limitation exceedances; and (2) no instances of any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works, including, but not limited to, interference as defined in 40 CFR section 403.3(k), pass through of pollutants as defined in 40 CFR section 403.3(p), or acute worker health and safety problems or other problems as defined in 40 CFR section 403.5(b), during any given quarter, the Discharger is not required to prepare a technical presentation or information sheet for that quarter. If there is no technical presentation or information sheet for that quarter, the Discharger is not required to meet with CILA for that quarter.

b) The Discharger shall request in writing that CILA share the approved presentations at venues hosted by the regulated community at least once, if appropriate venues are available. If CILA refuses or fails to confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

c) The Discharger shall request in writing that CILA share the approved presentations with SPA and CESPT. If CILA refuses or does not confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

d) The Discharger shall request in writing that CILA provide the approved one-page information sheets to SPA and CESPT for inclusion in billing for industrial customers. If CILA refuses or does not confirm within one month, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

e) If there is an exceedance of allocated loadings for a given constituent during a quarter, the Discharger shall request in writing that CILA host a pretreatment workshop focused on the associated contaminant(s) within 60 days following the calendar month in which the exceedance occurred. If needed, a minimum of one workshop will be hosted per year. If CILA refuses to cooperate or does not confirm, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

f) The presentations and one-page information sheets shall follow the schedule below, unless the Discharger is otherwise directed in writing by the San Diego Water Board:

Table 8. Sharing Pretreatment Information with Mexico

Quarterly Presentation and Information Sheet Period[1]	Presentations and Information Sheets Due to the San Diego Water Board	Discharger Share with Presentations and Information Sheets with CILA	Discharger Request for CILA to Share Presentations and Information Sheets
January 1 through March 31	May 15	June 1	June 15
April 1 through June 30	August 15	September 1	September 15
July 1 through September 30	November 15	December 1	December 15
October 1 through December 31	February 15	March 1	March 15

1 If there are(1) no influent limitation exceedances; and (2) no instances of any actual or potential adverse effect(s) attributable to the influent on the Facility treatment works, including, but not limited to, interference as defined in 40 CFR section 403.3(k), pass through of pollutants as defined in 40 CFR section 403.3(p) , or acute worker health and safety problems or other problems as defined in 40 CFR section 403.5(b), during any given quarter, the Discharger is not required to prepare a technical presentation or information sheet for that quarter. If there is no technical presentation or information sheet for that quarter, the Discharger is not required to meet with CILA for that quarter.

v. The Discharger may, for reasons of international protocol, submit the agenda, meeting summary, monthly SMR, technical presentation, one-page information sheet, and other documents described in section VI.C.5.b to CILA in English. If the documents are submitted in English, the Discharger shall request in writing that CILA translate the documents into Spanish prior to distribution to the stakeholders in Mexico. If CILA does not translate the documents as requested, the Discharger shall do the translation.

c. **Pretreatment Conditions for the Discharger**

The Discharger shall take the following measures to achieve the influent limitations contained in section VI.C.5.b and compliance with pretreatment program requirements within the communities that contribute wastewater to the Facility.

i. Consistent with the *Treaty for the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande* (Treaty of 1944) and IBWC Minute No. 283, the Discharger shall work with CILA to take all appropriate actions to

prevent the discharge of untreated industrial wastewater into the Tijuana sewage collection system which would in turn discharge into the Facility. In particular, the Discharger shall work with CILA to encourage and enhance the ability of CILA, SPA, SDUE, and/or CESPT to prevent the introduction of pollutants into the Tijuana sewage collection system that a) inhibit or disrupt the Facility, its treatment processes or operations, or its sludge processes, use, or disposal; or b) pass through the Facility in quantities or concentrations that cause or contribute to an exceedance of an applicable water quality standard in the receiving water.

ii. The Discharger shall monitor and limit the pollutants in the influent from Mexico to the Facility and report the monitoring results as specified in Attachment E of this Order.

iii. The Discharger shall work with CILA to

a) Improve communication between CILA, SPA, SDUE and CESPT with respect to influent quality and effluent quality at the Facility;

b) Provide training to SPA, SDUE, and CESPT and the business community in Tijuana, Mexico regarding pretreatment requirements and the impacts of influent limitation exceedances;

c) Provide funding, if available, and/or assistance to SPA, SDUE, and CESPT to improve monitoring capabilities, to improve laboratory analytical capabilities (including lab certification for the Tijuana water quality laboratory), and to assist in providing educational programs to the regulated community.

iv. Annually, the Discharger shall request in writing from CILA the information listed below for the previous calendar year. If CILA refuses or fails to provide this information by March 1, the Discharger shall communicate the same to the San Diego Water Board in writing in a timely manner.

a) A brief description of any programs CILA (and/or other agencies) implements to reduce pollutants from non-domestic users that are not classified as Significant Industrial Users (SIUs) (a non-domestic user would be any commercial or industrial user);

b) A brief description of the development and implementation of any local limits and enforcement programs.

c) A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning the program's administrative structure, local limits, monitoring program or monitoring frequencies, legal authority, enforcement policy, funding levels, or staffing levels;

d) A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases;

e) A summary of all activities undertaken to involve and inform the public of the pretreatment program and pretreatment requirements including a copy of any notices provided;

f) A list of the industries that could discharge to the Facility including the name, location, activity, type of waste, applicable local limits (if any), and any enforcement activities (if any); and

g) Industrial and/or wastewater collection system monitoring in Tijuana conducted by CILA, CESPT, SPA, SDUE, and/or CESPT.

v. By March 31 of each year, the Discharger shall submit an annual report to USEPA Region 9 and the San Diego Water Board for the previous calendar year. The report shall contain the following:

a) A discussion of upset, interference, or pass through incidents at the Facility, if any, which the Discharger knows or suspects were caused by the influent to the Facility;

b) Influent limitation exceedances, if any;

c) A discussion of any coordination with CILA to determine the reasons why the incidents above occurred and any corrective actions (if applicable);

d) A description of all activities undertaken during the previous calendar year working with CILA and any other entities in Mexico to address any upset, interference, or pass through incidents described in section VI.C.5.d.v.a), to address any influent limitation exceedances, and to meet the requirements in section VI.C.5.d.iii;

e) A description of any changes in sludge disposal methods;

f) A description of any significant changes in the influent limitations or implementation plan;

g) A discussion of any concerns not described elsewhere in this report.

h) The annual report provided by CILA as per section VI.C.5.d.iv, if any; and

i) A copy of the agenda and meeting summary required in section VI.C.5.c.i; the notification required in section VI.C.5.c.ii (if any); and the written requests to CILA required in sections VI.C.5.c.iii.b), VI.C.5.c.iii.c), VI.C.5.c.iii.d), VI.C.5.c.iii.e), and VI.C.5.c.iv.

The Discharger shall submit this annual report to the USEPA Region 9 and San Diego Water Board at the following addresses:

USEPA Region 9 Pretreatment Coordinator 75 Hawthorne Street San Francisco, CA 94105	California Regional Water Quality Control Board, San Diego Region Pretreatment Coordinator 2375 Northside Drive San Diego, CA 92108

If either agency relocates its offices, the annual report shall be submitted to the new office address provided by the San Diego Water Board.

vi. If, after one year of the effective date of this permit, the requirements in this Order are not sufficient to achieve the goals described in section VI.C.5.d.i, the Discharger shall submit a proposal for additional action(s) that will be taken to achieve these goals, and the permit may be amended to incorporate the proposed actions. The proposal must be received by the San Diego Water Board by 18 months after the effective date of this permit.

d. **Sludge (Biosolids) Requirements**[4]

i. The handling, treatment, use, management, and disposal of sludge and solids derived from wastewater treatment must comply with applicable provisions of section 405 of the CWA and USEPA regulations at 40 CFR parts 257, 258, 501, and 503, including all monitoring, record keeping, and reporting requirements.

ii. The discharge of sludge from the Facility in the United States or at a location where the sludge or sludge constituents could be conveyed to the United States by surface or ground water is prohibited.

iii. All sludge generated at the Facility shall be removed from the Facility within 6 months of being generated. Any site in the United States where sludge generated by the Discharger is stored for more than two years will be classified by USEPA as a surface disposal site pursuant to 40 CFR part 503 Subpart C. The Discharger must ensure that the USEPA receives from the operator of any such surface disposal site, the notification required in 40 CFR section 122.21, 180 days before the site becomes a surface disposal site. The Discharger must also ensure that the site operator begins complying fully with the requirements in 40 CFR part 503 Subpart C for surface disposal sites at the two-year start date. If the Discharger wants to store sludge for over two years, or allow a contractor to store sludge for over two years, the Discharger must submit the information in 40 CFR section 503.20(b) to USEPA in writing. The notification must be received by the USEPA 180 days prior to the date at which the site becomes a surface disposal site.

iv. All requirements of 40 CFR part 503 and title 23, division 3, chapter 15 of the CCR are enforceable whether or not the requirements of those regulations are stated in an NPDES permit or any other permit issued to the Discharger.

[4] See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

v. The Discharger shall take all reasonable steps to prevent and minimize any solids and sludge treatment, storage, and transfer in violation of this Order that has a likelihood of adversely affecting human health or the environment in the United States.

vi. Solids and sludge treatment, storage, and transfer shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination in the United States. The Discharger shall use a tarp to cover the sludge during any storage or during transportation to the international border.

vii. The solids and sludge treatment and storage site in the United States shall have adequate facilities to divert surface water runoff from adjacent areas to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection, at the minimum, from a 100-year 24-hour storm event, 100-year peak stream flows as defined by the San Diego County Flood Control Agency, and protection from the highest possible tidal stage that may occur.

viii. The Discharger shall develop a Sludge Spill Prevention and Response Plan.

ix. In the event that the Government of Mexico is unable to truck the processed sludge and solids to Mexico for disposal, the Discharger shall develop a Sludge and Solids Contingency Plan to dispose of, or temporarily store, the processed sludge and solids in the United States. Any disposal site or temporary storage site identified in the Sludge and Solids Contingency Plan shall comply with applicable provisions of section 405 of the CWA and USEPA regulations at 40 CFR parts 257, 258, 501, and 503, including all monitoring, record keeping, and reporting requirements. The Discharger shall submit the Sludge and Solids Contingency Plan to the San Diego Water Board and USEPA, no later than 180 days after the adoption of this Order.

x. **Monitoring Requirements**

a) The sludge shall be tested for all priority pollutants as specified in 40 CFR section 131.38 and for Total Threshold Limit Concentration/ Soluble Threshold Limits Concentrations (TTLC/STLC) constituents. This testing shall be done at a frequency dependent on the nature and effect of the sludge storage or disposal practices and at a minimum shall be as required by 40 CFR part 503.

b) If the sludge is stored in the United States for more than 24 hours, the sludge shall be sampled and tested for pH to ensure that the pH remains between 12 and 12.5 for the first two hours and greater than 11.5 for an additional 22 hours.

c) The Discharger shall develop a sampling plan for collection of representative samples for monitoring pollutants and constituents described in subsection a) above. The plan should include number and location of sampling points.

d) Samples of sludge shall be collected according to the procedures for compositing samples outlined in *Test Methods for Evaluating Solid Waste Physical/Chemical Methods* (EPA Publication SW-846, Second Edition, as updated). Samples shall be split, and a portion of the sample preserved, in the event that the results show concentrations of waste constituents that exceed 10 times the STLC listed in title 22 CCR.

e) Results of analyses shall be reported in mg/kg, wet weight and 100 percent dry weight. If the results indicate that the total concentration of any waste constituent is greater than 10 times the STLC value for the constituent listed in title 22 CCR, then the Discharger shall also perform a Waste Extraction Test on the sludge sample pursuant to title 22 CCR requirements.

xi. **Reporting Requirements**. The Discharger shall submit an annual report to USEPA and the San Diego Water Board by March 30 of each year for the period from January 1 through December 31 of the preceding year. The report shall include:

a) Amount of sludge generated that year at the Facility, in dry metric tons, and amount of sludge leaving the Facility;

b) Certification that all sludge was transferred to Mexico and no sludge was stored for more than 6 months in the United States or permanently disposed of in the United States;

c) A description or certification of the ultimate destination of the sludge in Mexico to the best of the Discharger's knowledge; and

d) Results of all monitoring required in Sludge (Biosolids) Requirements, section VI.C.5.d.x of this Order.

e. **Requirements for Receipt of Anaerobically Digestible Material**

If the Discharger proposes to receive hauled-in anaerobically digestible material for injection into an anaerobic digester, the Discharger shall notify the San Diego Water Board and develop and implement standard operating procedures (SOPs) for this activity. If hauled-in waste for digestion is already ongoing, the SOPs shall be developed within 90 days. Otherwise, the SOPs shall be developed prior to initiation of the hauling. The SOPs shall address material handling, including unloading, screening, or other processing prior to anaerobic digestion; transportation; spill prevention; and spill response. In addition, the SOPs shall address avoidance of the introduction of materials that could cause interference, pass-through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from introduction to the digester. The Discharger shall provide training to its staff on the SOPs and shall maintain records for a minimum of three years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of three years for the disposition, location, and quantity of cumulative pre-digestion-segregated solid waste hauled off-site.

6. Other Special Provisions - Responsibilities, Liabilities, Legal Action, Penalties – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. Compliance with Average Monthly Effluent Limitation

If the average of daily discharges over a calendar month exceeds the average monthly effluent limitation (AMEL) for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for the month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

B. Compliance with Average Weekly Effluent Limitation

If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the average weekly effluent limitation (AWEL) for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of noncompliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

C. Compliance with Maximum Daily Effluent Limitation

The maximum daily effluent limitation (MDEL) shall apply to flow weighted 24-hour composite samples, or grab samples, as specified in the MRP (Attachment E). If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

D. Compliance with Instantaneous Minimum Effluent Limitation

The instantaneous minimum effluent concentration limitation shall apply to grab sample analytical results. If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that are both lower than the instantaneous minimum effluent limitation would result in two instances of noncompliance with the instantaneous minimum effluent limitation.)

E. Compliance with Instantaneous Maximum Effluent Limitation

The instantaneous maximum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of noncompliance with the instantaneous maximum effluent limitation).

F. Compliance with 6-Month Median Effluent Limitation

If the median concentration of daily discharges over any 180-day period exceeds the 6-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the 6-month median, the Discharger will be considered out of compliance for the 180-day period. For any 180-day period during which no sample is taken, no compliance determination can be made for the 6-month median limitation.

G. Compliance with 30-Day Average Effluent Limitation

If the arithmetic mean of daily discharges over any thirty consecutive day period exceeds the 30-day average effluent limitation, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 30-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 30-day period and the analytical result for that sample exceeds the 30-day average effluent limitation, the Discharger will be considered out of compliance for the 30-day period. For any 30-day period during which no sample is taken, no compliance determination can be made for the 30-day average effluent limitation.

H. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be “Not Detected” (ND) or “Detectable but not quantifiable” (DNQ), the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as “ND” or “DNQ”.

I. Percent Removal

Compliance with percent removal requirements for average monthly percent removal of BOD5 and TSS shall be determined separately for each wastewater treatment facility discharging through an outfall. For each wastewater treatment facility, the monthly average percent removal is the average of the calculated daily discharge percent removals only for days on which the constituent concentration is monitored in both the influent and effluent of the wastewater treatment facility at the locations specified in the MRP (Attachment E) within a calendar month.

The percent removal for each day shall be calculated according to the following equation:

$$\text{Daily discharge percent removal} = \frac{\textit{Influent concentration} - \textit{Effluent concentration}}{\textit{Influent concentration}} \times 100\%$$

J. **Ocean Plan Provisions for Table 1 Parameters**

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitations.

1. **Compliance with Single-constituent Effluent Limitations**

The Discharger shall be deemed out of compliance with an effluent limitation or discharge specification if the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the Minimum Level (ML).

2. **Compliance with Effluent Limitations Expressed as a Sum of Several Parameters**

The Discharger is out of compliance with an effluent limitation that applies to the sum of a group of chemicals (e.g., PCBs) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

3. **Multiple Sample Data Reduction**

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported ML). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

4. **Mass Emission Rate (MER)**

The MER, in pounds per day, shall be obtained from the following calculation for any calendar day:

Mass Emission Rate (lbs/day) = 8.34 x Q x C

In which Q and C are the flow rate in million gallons per day and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lbs/gallon of water). If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

K. **Bacteriological Standards and Analysis**

1. The geometric mean used for determining compliance with bacteriological standards is calculated with the following equation:

Geometric Mean = $(C1 \times C2 \times \ldots \times Cn)1/n$

Where n is the number of days samples were collected during the period and C is the density of bacteria (colony forming units (CFU)/100 mL) found on each day of sampling.

2. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 CFU. The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for coliforms (total and fecal) shall be those listed in 40 CFR part 136 or any improved method determined by the San Diego Water Board (and approved by USEPA) to be appropriate. Detection methods used for enterococcus shall be those presented in USEPA publication USEPA

600/4-85/076, Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure, listed under 40 CFR part 136, and any other method approved by the San Diego Water Board.

L. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations or more than one pollutant parameter shall be treated as a single violation, and limits the Discharger's liability in accordance with the following conditions:

1. A SOU is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
2. The Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in section I.H of Attachment D.
3. For purposes outside of Water Code sections 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for the Discharger to assert the SOU limitation of liability, and the manner of counting violations, shall be in accordance with the USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).
4. For purposes of Water Code sections 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for the Discharger to assert the SOU limitation of liability, and the manner of counting violations shall be in accordance with Water Code section 13385(f)(2).

M. Chronic Toxicity

Chronic toxicity is used to measure the acceptability of waters for supporting a healthy marine biota until approved methods are developed to evaluate biological response. Compliance with the chronic toxicity effluent limitation, established in section IV.A.1 of this Order for Discharge Point No. 001, shall be determined using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan and restated in the MRP (Attachment E). Chronic toxicity shall be expressed as Toxic Units Chronic (TUc), where:

TUc = 100 / NOEL

NOEL is the No Observed Effect Level and is expressed as the maximum percent of effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test.

N. Acute Toxicity

Acute toxicity is used to measure the acceptability of waters for supporting a healthy marine biota until approved methods are developed to evaluate biological response. Compliance with the acute toxicity effluent limitation established in section IV.A.1 of this Order for Discharge Point No. 001 shall be determined using the following formula:

TUa (Toxic Units Acute) = 100 / 96-hr LC 50

where LC 50 (percent waste giving 50 percent survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III of the Ocean Plan. If specific identifiable substances in wastewater can be demonstrated by the Discharger to be rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When the Discharger cannot measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

TUa = (log[100 – S])/1.7

where S is the percent survival in 100 percent waste. If S is greater than 99, TUa shall be reported as zero.

ATTACHMENT A – Abbreviations and Glossary

Part 1. – Abbreviations

Abbreviation	Definition
AMEL	Average Monthly Effluent Limitation
ASBS	Areas of Special Biological Significance
AWEL	Average Weekly Effluent Limitation
Basin Plan	Water Quality Control Plan for the San Diego Basin
Cal OES	California Office of Emergency Services
$CBOD_5$	Carbonaceous Biochemical Oxygen Demand (5-Day at 20°C)
CCR	California Code of Regulations
CESPT	Comisión Estatal de Servicios Públicos de Tijuana (or equivalent agency)
CFR	Code of Federal Regulations
CFU	Colony Forming Units
CILA	Comision Internacional de Límites y Aguas, Mexican Section of the International Boundary and Water Commission
CONAGUA	Comisión Nacional del Agua (or equivalent agency)
CWA	Clean Water Act
DEH	County of San Diego Department of Environmental Health
DDT	Dichlorodiphenyltrichloroethane
Dm	Initial Dilution
DNQ	Detected, but Not Quantified
GPS	Global Positioning System
HCH	Hexachlorocyclohexane
IBWC	International Boundary and Water Commission
IWTP	International Wastewater Treatment Plant
µg	Microgram
µg/L	Micrograms per Liter
lbs/day	Pounds per Day
LC	Lethal Concentration
LC 50	Percent Waste Giving 50 Percent Survival of Test Organisms
mg/L	Milligrams per Liter
ml/L	Milliliters per Liter
MDEL	Maximum Daily Effluent Limitation
MDL	Method Detection Limit
MGD	Million Gallons per Day
ML	Minimal Level
MPN	Most Probable Number
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
ND	Not Detected
NR	Not Reported
NTU	Nephelometric Turbidity Unit
NPDES	National Pollutant Discharge Elimination System
NOEL	No Observed Effect Level

Abbreviation	Definition
Ocean Plan	California Ocean Plan, Water Quality Control Plan Ocean Waters Of California
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PMP	Pollutant Minimization Program
Prevention/Response Plan	Spill and Transboundary Wastewater Flow Prevention and Response Plan
PROFEPA	Procuraduría Federal de Protección al Ambiente (or equivalent agency)
RL	Reporting Level
RPA	Reasonable Potential Analysis
SABWWTP	San Antonio de los Buenos Wastewater Treatment Plant
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SBLO	South Bay Land Outfall
SBOO	South Bay Ocean Outfall
SBWRP	South Bay Water Reclamation Plant
SCCWRP	Southern California Coastal Waters Research Project
SDUE	City of Tijuana's Secretaría de Desarrollo Urbano y Ecología (or equivalent agency)
SPA	Secretaría de Protección al Ambiente (or equivalent agency)
State Water Board	State Water Resources Control Board
STLC	Soluble Threshold Limit Concentration
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
TUa	Toxic Units Acute
TUc	Toxic Units Chronic
USEPA	United Stated Environmental Protection Agency
USIBWC	United States Section of the International Boundary and Water Commission
U.S.	United States
WERL	USEPA Water Engineering Research Laboratory
WET	Whole Effluent Toxicity
ZID	Zone of Initial Dilution

Part 2. – Glossary of Common Terms

30-day average
The arithmetic mean of pollutant parameter values of samples collected in a period of 30 consecutive days.

Acute Toxicity
The ability of a substance to cause severe biological harm or death soon after a single exposure or dose. The term acute toxicity also encompasses any poisonous effect resulting from a single short-term exposure to a toxic substance. The Ocean Plan determines acute toxicity through the use of the following equations.

a. Acute Toxicity (TUa)
Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{96\text{-hr LC } 50}$$

where:

LC 50 = Lethal Concentration 50% (see below)

When the 96-hour LC 50 cannot be measured due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100 percent waste. If S > 99, TUa shall be reported as zero.

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50 percent survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III of the Ocean Plan. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

Anaerobically Digestible Material
Inedible kitchen grease as defined in section 19216 of the Food and Agricultural Code and food material as defined in Title 14, CCR, Division 7, Chapter 3.1, Article 1, Section 17582(a)(20).

Areas of Special Biological Significance (ASBS)
Those areas designated by the State Water Resources Control Board (State Water Board) as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All ASBS are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Biosolids
Nutrient-rich organic materials resulting from the treatment of sewage sludge. When treated and processed, sewage sludge becomes biosolids which can be safely recycled and applied as fertilizer to sustainably improve and maintain productive soils and stimulate plant growth.

Bypass
The intentional diversion of waste streams from any portion of a treatment facility. (40 CFR Part 122.41(m)(1)(i).)

Chlordane
The sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity
The capacity of a substance to cause long-term poisonous health effects in humans, animals, fish, and other organisms. This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response. The Ocean Plan determines chronic toxicity through the use of the following equations.

a. Chronic Toxicity (TUc)
   Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

   The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

Chlorinated phenolic compounds
The sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

DDT
The sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade
Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ)
Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dichlorobenzenes
The sum of 1,2- and 1,3-dichlorobenzene.

Downstream Ocean Waters
Waters downstream with respect to ocean currents.

Dredged Material
Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil."

Dry Weather
Weather is considered dry if the preceding 72 hours have been without precipitation greater than 0.1 inch (>0.1 inch), based on the Goat Canyon Pump Station rain gauge.

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan
The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons
Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by of Water Code section 12220, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Facility
South Bay International Wastewater Treatment Plant.

Facilities
South Bay International Wastewater Treatment Plant, five canyon collectors, two pump stations, the South Bay Land Outfall (SBLO), the South Bay Ocean Outfall (SBOO), and other associated infrastructure

Halomethanes
The sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH
The sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution (Dm)
The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the San Diego Water Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Interference
A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Kelp Beds
For purposes of the bacteriological standards of the Ocean Plan, kelp beds are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Litter
Encompasses all improperly discarded waste material, including, but not limited to convenience food, beverage, and other product packages, or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the State.

Mariculture
The culture of plants and animals in marine waters independent of any pollution source.

Material
(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)
The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR part 136, Attachment B.

Minimum Level (ML)
The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Natural Light
Reduction of natural light may be determined by the San Diego Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the San Diego Water Board.

Not Detected (ND)
Those sample results less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

Pass Through
A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation.

Percent Removal
A percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the average values of the raw wastewater influent pollutant concentrations to the facility and the average values of the effluent pollutant concentrations for a given time period.

Polynuclear Aromatic Hydrocarbons (PAHs)
The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

Polychlorinated Biphenyls (PCBs)
The sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Phenolic Compounds (non-chlorinated)
The sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,3-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitropheneol, 4-nitrophenol, and phenol.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table 1 pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The San Diego Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Rehabilitation
Repair, renewal, and replacement of components to return the system to near-original condition and performance

Reported Minimum Level (also known as the Reporting Level or RL)
The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the San Diego Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a of the Ocean Plan, or established in accordance with section III.C.5.b of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, thditional factor must be applied to the ML in the computation of the reported ML.

Severe Property Damage
Substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR Part 122.41(m)(1)(ii))

Shellfish
Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams, and oysters).

Significant Difference
A statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-Month Median Effluent Limitation
The highest allowable moving median of all daily discharges for any 180-day period.

Sludge
Any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.

State Water Quality Protection Areas (SWQPAs)
Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents
The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Thirty-Day Average
See 30-day average above for definition of this term.

Toxicity Identification Evaluation (TIE)
A set of procedures conducted to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Toxicity Reduction Evaluation (TRE)
A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Transboundary Flows
Wastewater and other flows that cross the international border from Mexico into the United States.

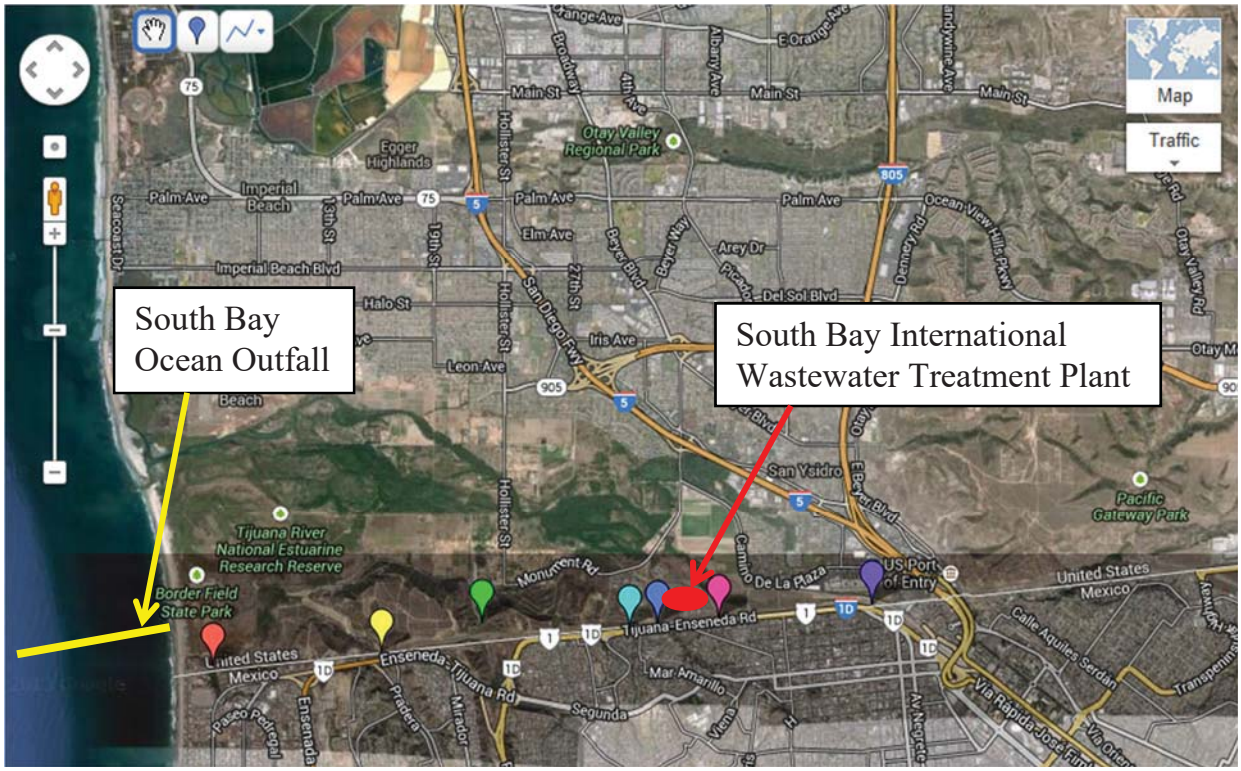
Waste
As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Recycling
The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

Wet Weather
Wet weather is the period of time of a storm event of 0.1 inches or greater plus 72 hours after cessation of precipitation, based on the Goat Canyon Pump Station rain gauge, unless otherwise defined by another regulatory mechanism (e.g. a TMDL).

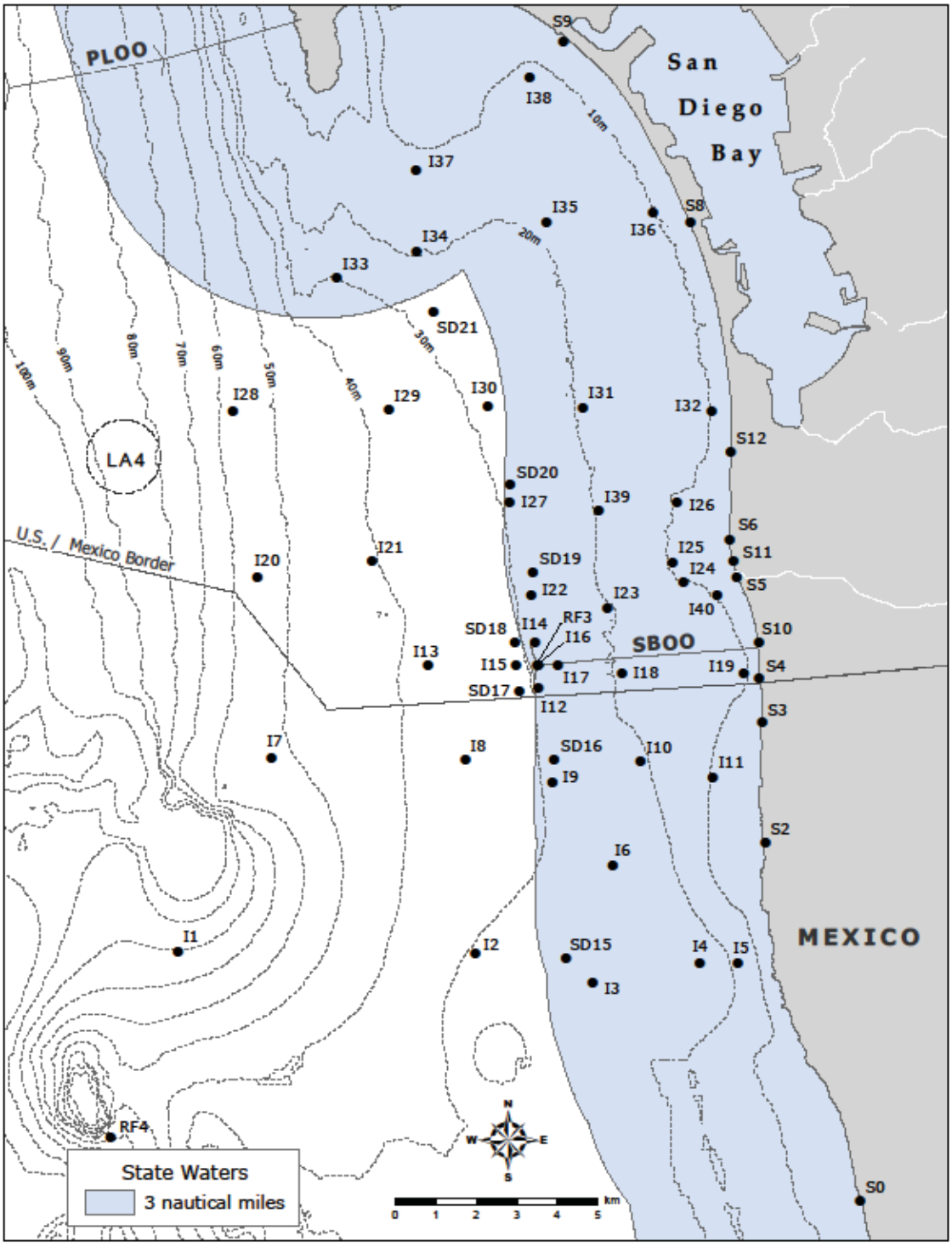
ATTACHMENT B – MAP

Map of the South Bay International Wastewater Treatment Plant, South Bay Ocean Outfall, Tijuana River, and Tributary Canyons



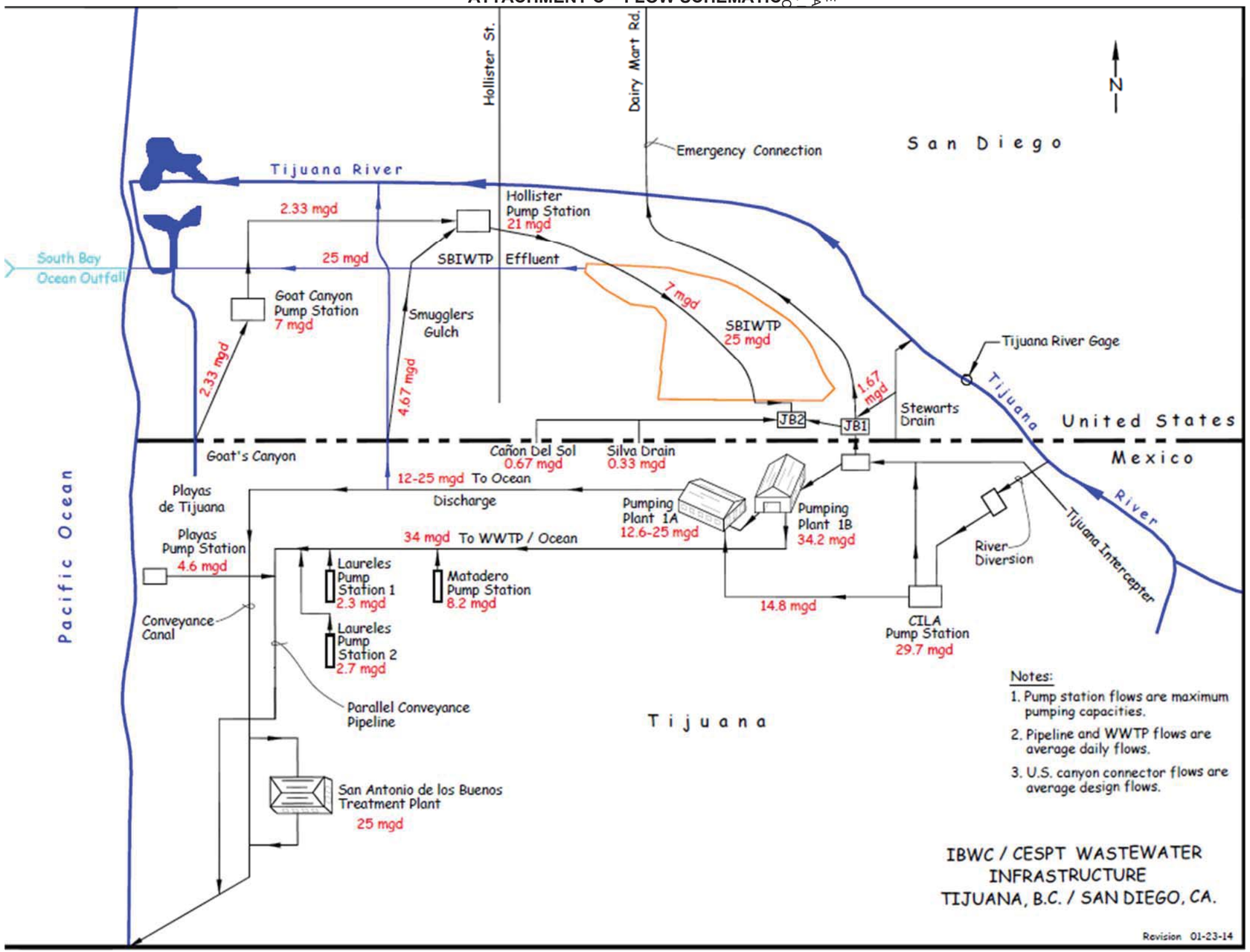
- Stewart's Drain Canyon Collector Inlet
- Canyon del Sol Collector
- Silva Drain Canyon Collector
- Smuggler's Gulch Canyon Collector
- Yogurt Canyon - no diversion structure
- Goat Canyon Collector
- Tijuana River

Map of Shoreline, Offshore, Trawl, and Rig Fishing Stations

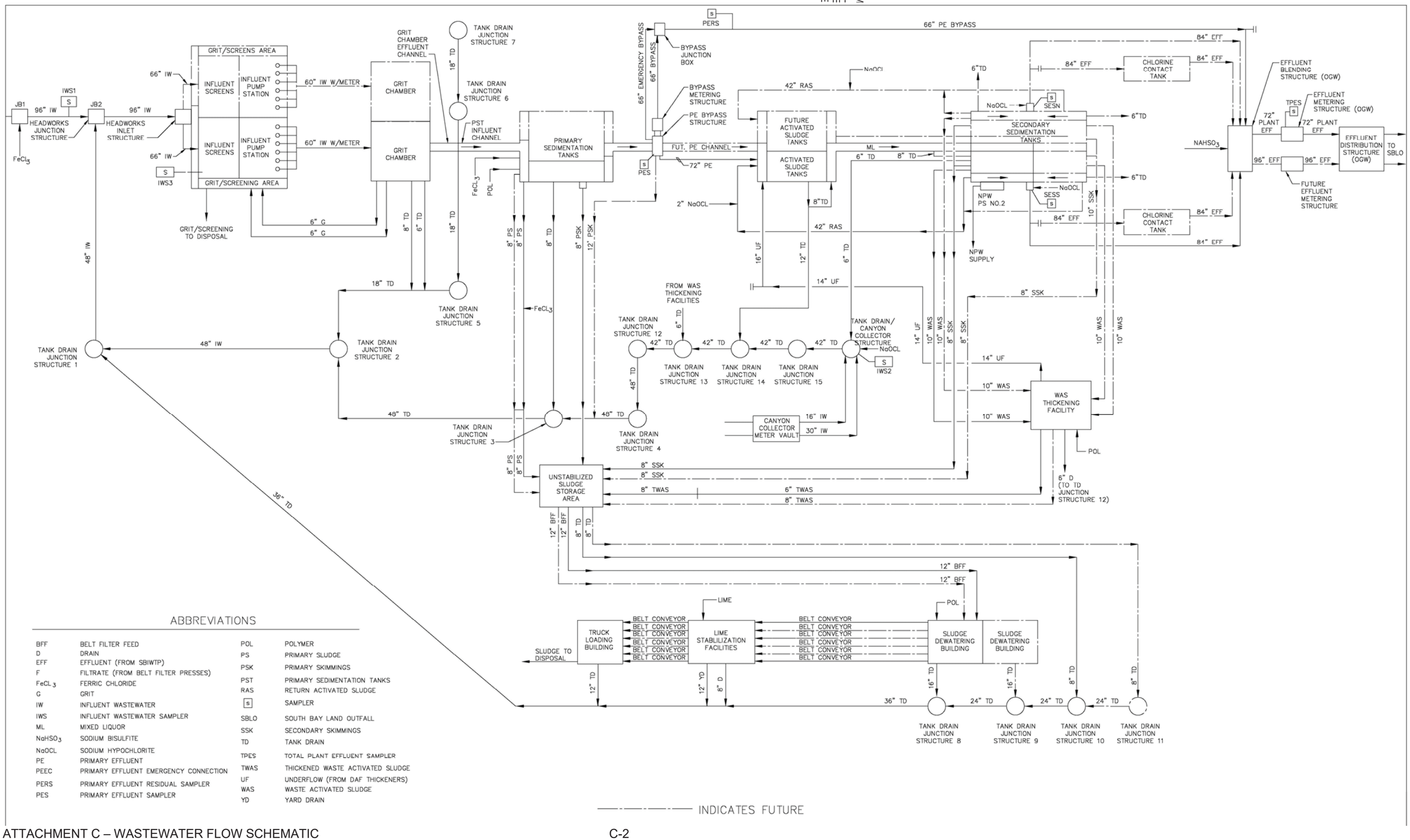


PERMITTEE
FACILITY NA
ORDER NO.
NPDES NO.C

ATTACHMENT C – FLOW SCHEMATIC



PERM
FACIL
ORDE
NPDE



ABBREVIATIONS

BFF	BELT FILTER FEED
D	DRAIN
EFF	EFFLUENT (FROM SBIWTP)
F	FILTRATE (FROM BELT FILTER PRESSES)
$FeCl_3$	FERRIC CHLORIDE
G	GRIT
IW	INFLUENT WASTEWATER
IWS	INFLUENT WASTEWATER SAMPLER
ML	MIXED LIQUOR
$NaHSO_3$	SODIUM BISULFITE
NaOCL	SODIUM HYPOCHLORITE
PE	PRIMARY EFFLUENT
PEEC	PRIMARY EFFLUENT EMERGENCY CONNECTION
PERS	PRIMARY EFFLUENT RESIDUAL SAMPLER
PES	PRIMARY EFFLUENT SAMPLER
POL	POLYMER
PS	PRIMARY SLUDGE
PSK	PRIMARY SKIMMINGS
PST	PRIMARY SEDIMENTATION TANKS
RAS	RETURN ACTIVATED SLUDGE
S	SAMPLER
SBLO	SOUTH BAY LAND OUTFALL
SSK	SECONDARY SKIMMINGS
TD	TANK DRAIN
TPES	TOTAL PLANT EFFLUENT SAMPLER
TWAS	THICKENED WASTE ACTIVATED SLUDGE
UF	UNDERFLOW (FROM DAF THICKENERS)
WAS	WASTE ACTIVATED SLUDGE
YD	YARD DRAIN

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR section 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

The Discharger shall not use as a defense in an enforcement action that halting or reducing the permitted activity would have been necessary in order to maintain compliance. (40 CFR section 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge, or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR section 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR section 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort, or any exclusive privileges. (40 CFR section 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property, or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the San Diego Water Board, State Water Board, USEPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR section 122.41(i); Water Code section 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR section 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR section 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR section 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR section 122.41(i)(4).)

G. Bypass

1. Definitions
   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 122.41(m)(1)(i).)
   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR section 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR section 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR section 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR section 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR section 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the San Diego Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR section 122.41(m)(4)(i)(C).)
4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR section 122.41(m)(4)(ii).)
5. Notice
   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR section 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR section 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR section 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR section 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR section 122.41(n)(3)):
   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR section 122.41(n)(3)(i));
   b. The permitted facility was, at the time, being properly operated (40 CFR section 122.41(n)(3)(ii));
   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR section 122.41(n)(3)(iii)); and
   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR section 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR section 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR section 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR sections 122.41(l)(3) and 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR section 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503; or unless other test procedures have been specified in this Order. (40 CFR sections 122.41(j)(4) and 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board Executive Officer at any time. (40 CFR section 122.41(j)(2).)

B. **Records of monitoring information shall include:**

1. The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR section 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR section 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR section 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR section 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR section 122.41(j)(3)(vi).)

C. **Claims of confidentiality for the following information will be denied (40 CFR section 122.7(b)):**

1. The name and address of any permit applicant or Discharger (40 CFR section 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order, or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the San Diego Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR section 122.41(h); Water Code section 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the San Diego Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR section 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR section 122.22(a)(3).).
3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
    a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR section 122.22(b)(1));
    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR section 122.22(b)(2)); and
    c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR section 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board

and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR section 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 CFR section 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR section 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR section 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 CFR section 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR section 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR section 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR section 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR section 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(B).)

3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR section 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in part 122.29(b) (40 CFR section 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR section 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order’s requirements. (40 CFR section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR section 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

All Publicly-Owned Treatment Works (POTWs) shall provide adequate notice to the San Diego Water Board of the following (40 CFR section 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR section 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR section 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR section 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code or CWC) sections 13267 and 13383 also authorize the San Diego Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Pursuant to this authority this Monitoring and Reporting Program (MRP) establishes conditions for the Discharger to conduct routine or episodic self-monitoring of the discharges regulated under this Order at specified influent, internal operations, effluent, transboundary wastewater flow, and receiving water monitoring locations. The MRP requires the Discharger to report the results to the San Diego Water Board with information necessary to evaluate discharge characteristics and compliance status.

The purpose of the MRP is to determine and ensure compliance with effluent limitations and other requirements established in this Order, assess treatment efficiency, characterize effluents, characterize transboundary wastewater flows, and characterize the receiving water and the effects of the discharge on the receiving water. The MRP also specifies requirements concerning the proper use, maintenance, and installation of monitoring equipment and methods, and the monitoring type intervals and frequency necessary to yield data that are representative of the activities and discharges regulated under this Order.

Each monitoring section contains an introductory paragraph summarizing why the monitoring is needed and the key management questions the monitoring is designed to answer. In developing the list of key management questions the San Diego Water Board considered four basic types of information for each question:

(1) Management Information Need – Why does the San Diego Water Board need to know the answer?

(2) Monitoring Criteria – What monitoring will be conducted for deriving an answer to the question?

(3) Expected Product – How should the answer be expressed and reported?

(4) Possible Management Actions – What actions will be potentially influenced by the answer?

The framework for this monitoring program has three components that comprise a range of spatial and temporal scales: 1. core monitoring, 2. regional monitoring, and 3. special studies.

1. Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.
2. Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. In the event that a regional monitoring effort takes place during the permit cycle in which the MRP does not specifically address regional monitoring, the San Diego Water Board may allow relief from aspects of core monitoring components in order to encourage participation pursuant to section V.B of this MRP.
3. Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitoring discharge. All samples shall be taken at the monitoring points specified in Section II Table E-1 below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board. Samples shall be collected at times representative of "worst case" conditions with respect to compliance with the requirement of this Order.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±5 percent from true discharge rates throughout the range of expected discharge volumes.

C. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act as amended, or unless other test procedures are specified in this Order and attachments thereof or otherwise specified by the San Diego Water Board. Alternative test procedures not specified in this order are also subject USEPA approval.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health (CDPH) or a laboratory approved by the San Diego Water Board. The laboratory must be accredited under the CDPH Environmental Laboratory Accreditation Program (ELAP) to ensure the quality of analytical data used for regulatory purposes to meet the requirements of this Order. Additional information on ELAP can be accessed at http://www.cdph.ca.gov/certlic/labs/Pages/ELAP-CAInformation.aspx.

E. Records of monitoring information shall include information required under Attachment D, Standard Provisions, section IV.

F. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices.

G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by USEPA or the San Diego Water Board, the Discharger shall participate in a NPDES discharge monitoring report QA performance study. The Discharger shall have a success rate equal to or greater than 80 percent.

H. Analysis for toxic pollutants, with effluent limitations or performance goals based on water quality objectives of the California Ocean Plan, shall be conducted in accordance with procedures described in the California Ocean Plan and restated in this MRP.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point No.	Monitoring Location Name	Monitoring Location Description
--	INF-001	At a location where all influent wastestream flows to South Bay International Wastewater Treatment Plant (IWTP or Facility) are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected before any process or treatment that could alter the properties of the influent. Latitude: 32° 32’ 29.94’’N; Longitude:117°03’ 33.75”W
001	EFF-001	Downstream of any in-plant return flows at the Facility where representative samples of effluent treated at the Facility can be collected, prior to commingling with other discharges contributing to the South Bay Ocean Outfall (SBOO). Latitude: 32° 32’ 37.68”N; Longitude:117° 03’ 54.83”W
TRANSBOUNDARY STATIONS		
	C1	Goat Canyon Diversion Structure; Approximate Location at Latitude: 32° 32' 13.1994"N; Longitude: 117° 5' 57.516"’W
	C2	Smugglers Gulch Diversion Structure; Approximate Location at Latitude: 32° 32' 23.2794"N; Longitude: 117° 5' 12.8394"W
	C3	Silva Drain Canyon Collector; Approximate Location at Latitude: 32° 32' 22.0554"N; Longitude: 117° 3' 55.4394"W
	C4	Canyon del Sol Collector; Approximate Location at Latitude: 32° 32' 21.0114"N; Longitude: 117° 4' 7.1754"W
	C5	Stewart’s Drain Canyon Collector; Approximate Location at Latitude: 32° 32' 25.6914"N; Longitude: 117° 3' 28.1874"W
SHORELINE STATIONS		
--	S-0	Latitude: 32° 25.148’N; Longitude:117°05.837’W Mexico (Southernmost location)
--	S-2	Latitude: 32° 29.922’N; Longitude:117°07.380’W Mexico (Beach south of El Vigia Restaurant)
--	S-3	Latitude: 32° 31.542’N; Longitude:117°07.440’W Mexico (Beach at end of existing road of Playas de Tijuana)
--	S-4	Latitude: 32° 32.118’N; Longitude:117°07.500’W United States (Beach just north of the border fence)
--	S-5	Latitude: 32° 33.468’N; Longitude:117°07.860’W United States (Beach north of mouth of estuary)
--	S-6	Latitude: 32° 33.978’N; Longitude:117°07.980’W United States (Beach at end of Seacoast Drive)
--	S-8	Latitude: 32°38.208’N; Longitude:117°08.640’W United States (Silver Strand State Beach, Area 4 West of Coronado Cays)
--	S-9	Latitude: 32°40.620’N; Longitude:117°10.680’W United States (Beach at end of Avenida Del Sol seaward of Hotel Del Coronado)

Discharge Point No.	Monitoring Location Name	Monitoring Location Description
--	S-10	Latitude: 32°32.598'N; Longitude:117°07.500'W United States (Beach at the terminus of Monument Road)
--	S-11	Latitude: 32°33.678'N; Longitude:117°07.920'W United States (Beach approximately ¾ miles north of the mouth of the Tijuana River)
	S-12	Latitude: 32°35.142'N; Longitude:117°07.980'W United States (Beach at the end of Carnation Street)
OFFSHORE STATIONS[1,2]		
--	I-1	Latitude: 32°28.400'N; Longitude:117°16.620'W; DEPTH 198 ft (60 m)
--	I-2	Latitude: 32°28.400'N; Longitude:117°11.940'W; DEPTH 106 ft (32 m)
--	I-3	Latitude: 32°28.020'N; Longitude:117°10.080'W; DEPTH 89 ft (27 m)[3]
--	I-4	Latitude: 32°28.300'N; Longitude:117°08.400'W; DEPTH 59 ft (18 m)
--	I-5	Latitude: 32°28.300'N; Longitude:117°07.800'W; DEPTH 46 ft (14 m)[4]
--	I-6	Latitude: 32°29.610'N; Longitude:117°09.780'W; DEPTH 86 ft (26 m)
--	I-7	Latitude: 32°31.000'N; Longitude:117°15.180'W; DEPTH 172 ft (52 m)[5]
--	I-8	Latitude: 32°31.000'N; Longitude:117°12.120'W; DEPTH 118 ft (36 m)[6]
--	I-9	Latitude: 32°30.700'N; Longitude:117°10.740'W; DEPTH 96 ft (29 m)[3]
--	I-10	Latitude: 32°31.000'N; Longitude:117°09.360'W; DEPTH 63 ft (19 m)[7]
--	I-11	Latitude: 32°30.800'N; Longitude:117°08.220'W; DEPTH 43 ft (13 m)[4]
--	I-12	Latitude: 32°31.970'N; Longitude:117°10.980'W; DEPTH 92 ft (28 m)[3]
--	I-13	Latitude: 32°32.250'N; Longitude:117°12.720'W; DEPTH 125 ft (38 m)[6]
--	I-14	Latitude: 32°32.580'N; Longitude:117°11.040'W; DEPTH 92 ft (28 m)[3]
--	I-15	Latitude: 32°32.270'N; Longitude:117°11.340'W; DEPTH 102 ft (31 m)
--	I-16	Latitude: 32°32.270'N; Longitude:117°10.980'W; DEPTH 92 ft (28 m)[3]
--	I-17	Latitude: 32°32.270'N; Longitude:117°10.680'W; DEPTH 83 ft (25 m)
--	I-18	Latitude: 32°32.170'N; Longitude:117°09.660'W; DEPTH 63 ft (19 m)[7]
--	I-20	Latitude: 32°33.420'N; Longitude:117°15.420'W; DEPTH 182 ft (55 m)[8]
--	I-21	Latitude: 32°33.640'N; Longitude:117°13.620'W; DEPTH 135 ft (41 m)[6]
--	I-22	Latitude: 32°33.200'N; Longitude:117°11.100'W; DEPTH 92 ft (28 m)[3]
--	I-23	Latitude: 32°33.050'N; Longitude:117°09.900'W; DEPTH 69 ft (21 m)[7]
--	I-27	Latitude: 32°34.450'N; Longitude:117°11.460'W; DEPTH 92 ft (28 m)
--	I-28	Latitude: 32°35.630'N; Longitude:117°15.840'W; DEPTH 182 ft (55 m)
--	I-29	Latitude: 32°35.670'N; Longitude:117°13.380'W; DEPTH 125 ft (38 m)
--	I-30	Latitude: 32°35.720'N; Longitude:117°11.820'W; DEPTH 92 ft (28 m)[3]
--	I-31	Latitude: 32°35.730'N; Longitude:117°10.320'W; DEPTH 63 ft (19 m)
--	I-33	Latitude: 32°37.430'N; Longitude:117°14.220'W; DEPTH 99 ft (30 m)[3]
--	I-34	Latitude: 32°37.800'N; Longitude:117°12.960'W; DEPTH 63 ft (19 m)
--	I-35	Latitude: 32°38.200'N; Longitude:117°10.920'W; DEPTH 63 ft (19 m)
--	I-36	Latitude: 32°38.350'N; Longitude:117°09.240'W; DEPTH 36 ft (11 m)[4]
--	I-37	Latitude: 32°38.880'N; Longitude:117°12.980'W; DEPTH 40 ft (12 m)[4]
--	I-38	Latitude: 32°40.130'N; Longitude:117°11.200'W; DEPTH 36 ft (11 m)[4]
KELP/NEARSHORE STATIONS		
--	I-19	Latitude: 32°32.180'N; Longitude:117°07.740'W; DEPTH 33 ft (10 m)[4]

Discharge Point No.	Monitoring Location Name	Monitoring Location Description
--	I-24	Latitude: 32°33.400'N; Longitude:117°08.700'W; DEPTH 36 ft (11 m)[4]
--	I-25	Latitude: 32°33.670'N; Longitude:117°08.880'W; DEPTH 30 ft (9 m)[9]
--	I-26	Latitude: 32°34.470'N; Longitude:117°08.820'W; DEPTH 30 ft (9 m)[9]
--	I-32	Latitude: 32°35.680'N; Longitude:117°08.280'W; DEPTH 33 ft (10 m)[9]
--	I-39	Latitude: 32°34.340'N; Longitude:117°10.050'W; DEPTH 59 ft (18 m)[7]
--	I-40	Latitude: 32°33.230'N; Longitude:117°08.170'W; DEPTH 33 ft (10 m)[9]
TRAWL STATIONS		
--	SD-15 (Zone 9)	Latitude: 32°28.350'N; 117°10.500'W; DEPTH: 89 ft (27 m)
--	SD-16 (Zone 8)	Latitude: 32°31.000'N; 117°10.720'W; DEPTH: 89 ft (27 m)
--	SD-17 (Zone 5)	Latitude: 32°32.200'N; 117°11.430'W; DEPTH: 99 ft (30 m)
--	SD-18 (Zone 5)	Latitude: 32°32.580'N; 117°11.350'W; DEPTH: 99 ft (30 m)
--	SD-19 (Zone 6)	Latitude: 32°33.500'N; 117°11.080'W; DEPTH: 92 ft (28 m)
--	SD-20 (Zone 6)	Latitude: 32°34.680'N; 117°11.450'W; DEPTH: 96 ft (29 m)
--	SD-21 (Zone 7)	Latitude: 32°36.990'N; 117°12.690'W; DEPTH: 96 ft (29 m)
RIG FISHING STATIONS		
--	RF-3	Latitude: 32°32.270'N; 117°11.000'W; DEPTH: 89 ft (27 m)
--	RF-4	Latitude: 32°25.910'N; 117°17.655'W; DEPTH: 89 ft (27 m)

1. All 40 offshore and kelp/nearshore stations designated I-1 to I-40 are monitored for visual observations, temperature, depth, pH, salinity, dissolved oxygen, light transmittance, and chlorophyll-a as indicated in Table E-7.
2. A total of 28 of the above offshore and kelp/nearshore stations are also monitored for total coliforms, fecal coliforms, and Enterococcus as indicated in Table E-7. These stations include I-3, I-5, I-7 to I-14, I-16, I-18 to I-26, I-30, I-32, I-33, and I-36 to I-40.
3. Discrete depths for fecal indicator bacteria samples include: 2m, 18m, and 27m.
4. Discrete depths for fecal indicator bacteria samples include: 2m, 6m, and 11m.
5. Discrete depths for fecal indicator bacteria samples include: 2m, 18m, and 52m.
6. Discrete depths for fecal indicator bacteria samples include: 2m, 18m, and 37m.
7. Discrete depths for fecal indicator bacteria samples include: 2m, 12m, and 18m.
8. Discrete depths for fecal indicator bacteria samples include: 2m, 18m, and 55m.
9. Discrete depths for fecal indicator bacteria samples include: 2m, 6m, and 9m.

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

A map of the shoreline stations, offshore stations, trawl stations, and rig fishing stations monitoring locations is provided in Attachment B of this Order.

III. CORE MONITORING REQUIREMENTS

A. Influent Monitoring Requirements

Influent monitoring is the collection and analysis of samples or measurements of wastewater prior to the treatment processes. Influent monitoring of a wastewater stream prior to entering the treatment plant is necessary to address the following questions:

(1) Is the pretreatment program effectively controlling pollutant loads from industrial facilities?

(2) What is the frequency of unexpected industrial discharges (or pollutants loads) which can cause or contribute to an upset in the wastewater process?

(3) Is the influent inhibiting or disrupting the IWTP, its treatment processes or operations, or its sludge processes, use, or disposal?

(4) Is the influent complying with influent limitations prescribed in the Order?

(5) Is the Facility complying with permit conditions, including but not limited to carbonaceous biochemical oxygen demand (CBOD5) and total suspended solids (TSS) percent removal limitations?

The Discharger shall monitor the influent at Monitoring Location Name INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units[1]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Carbonaceous Biochemical Oxygen Demand (5-Day at 20°C) ($CBOD_5$)	mg/L	24-hr Composite	1/Day[3,4]	[2]
Biochemical Oxygen Demand (5-day @ 20°C) (BOD_5)	mg/L	24-hr Composite	1/Day[3,4]	[2]
Total Suspended Solids (TSS)	mg/L	24-hr Composite	1/Day[3,4]	[2]
Volatile Suspended Solids	mg/L	24-hr Composite	1/Day[3,4]	[2]
Total Dissolved Solids (TDS)	mg/L	24-hr Composite	1/Week[4,5]	[2]
Temperature	°F	Grab	1/Day[3,4]	[2]
Floating Particulates	mg/L	24-hr Composite	1/Week[5]	[2]
Grease and Oil	mg/L	Grab	1/Week[4,5]	[2]
Settleable Solids	ml/L	Grab	1/Week[5]	[2]
Turbidity	NTU	24-hr Composite	1/Week[5]	[2]
pH	pH Units	Grab	1/Week[5]	[2]
Arsenic, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Cadmium, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Chromium (VI) , Total Recoverable[6]	µg/L	24-hr Composite	1/Week[4,5]	[2]
Copper, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Lead, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Mercury, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Nickel, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Selenium, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Silver, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Zinc, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Cyanide, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	[2]
Ammonia (as N)	µg/L	24-hr Composite	1/Month[4,5]	[2]
Phenolic Compounds (nonchlorinated)[1]	µg/L	24-hr Composite	1/Month[4,5]	[2]
Phenolic Compounds (chlorinated)[1]	µg/L	24-hr Composite	1/Month[4,5]	[2]
Endosulfan[1]	µg/L	24-hr Composite	1/Month[4,5]	[2]
Endrin	µg/L	24-hr Composite	1/Month[4,5]	[2]

Parameter	Units[1]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
HCH[1]	µg/L	24-hr Composite	1/Month[4,5]	[2]
Radioactivity	µg/L	24-hr Composite	1/Month[4,5]	[2]
Acrolein	µg/L	Grab	1/Quarter[4,5]	[2]
Antimony, Total Recoverable	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Bis (2-chloroisopropyl) Ether	µg/L	Grab	1/Quarter[4,5]	[2]
Chlorobenzene	µg/L	Grab	1/Quarter[4,5]	[2]
Chromium (III), Total Recoverable[6]	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Di-n-butyl Phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Dichlorobenzenes[1]	µg/L	Grab	1/Quarter[4,5]	[2]
Diethyl Phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Dimethyl Phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
2,4-dinitrophenol	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Ethylbenzene	µg/L	Grab	1/Quarter[4,5]	[2]
Fluoranthene	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Hexachlorocyclopentadiene	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Nitrobenzene	µg/L	Grab	1/Quarter[4,5]	[2]
Thallium, Total Recoverable	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Toluene	µg/L	Grab	1/Quarter[4,5]	[2]
Tributyltin	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
1,1,1-trichloroethane	µg/L	Grab	1/Quarter[4,5]	[2]
Acrylonitrile	µg/L	Grab	1/Quarter[4,5]	[2]
Aldrin	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Benzene	µg/L	Grab	1/Quarter[4,5]	[2]
Benzidine	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Beryllium, Total Recoverable	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Bis(2-chloroethyl) ether	µg/L	Grab	1/Quarter[4,5]	[2]
Bis(2-ethylhexyl) phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Carbon tetrachloride	µg/L	Grab	1/Quarter[4,5]	[2]
Chlordane[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Chlorodibromomethane (dibromochloromethane)	µg/L	Grab	1/Quarter[4,5]	[2]
Chloroform	µg/L	Grab	1/Quarter[4,5]	[2]
DDT[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
1,4-Dichlorobenzene	µg/L	Grab	1/Quarter[4,5]	[2]
3,3'-Dichlorobenzidine	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
1,2-Dichloroethane	µg/L	Grab	1/Quarter[4,5]	[2]
1,1-Dichloroethylene	µg/L	Grab	1/Quarter[4,5]	[2]
Dichlorobromomethane	µg/L	Grab	1/Quarter[4,5]	[2]
Dichloromethane (Methylene Chloride)	µg/L	Grab	1/Quarter[4,5]	[2]
1,3-Dichloropropene (1,3-Dichloropropylene)	µg/L	Grab	1/Quarter[4,5]	[2]
Dieldrin	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
2,4-Dinitrotoluene	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
1,2-Diphenylhydrazine	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Halomethanes[1]	µg/L	Grab	1/Quarter[4,5]	[2]

Parameter	Units[1]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Heptachlor	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Heptachlor Epoxide	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Hexachlorobenzene	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Hexachlorobutadiene	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Hexachloroethane	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Isophorone	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
N-nitrosodimethylamine	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
N-nitrosodiphenylamine	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
PAHs[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
PCBs[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
TCDD equivalents[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
1,1,2,2-Tetrachoroethane	µg/L	Grab	1/Quarter[4,5]	[2]
Tetrachloroethylene (Tetrachloroethene)	µg/L	Grab	1/Quarter[4,5]	[2]
Toxaphene	µg/L	24-hr Composite	1/Quarter[4,5]	[2]
Trichloroethylene (Trichloroethene)	µg/L	Grab	1/Quarter[4,5]	[2]
1,1,2-Trichloroethane	µg/L	Grab	1/Quarter[4,5]	[2]
2,4,6-Trichlorophenol	µg/L	Grab	1/Quarter[4,5]	[2]
Vinyl Chloride	µg/L	Grab	1/Quarter[4,5]	[2]

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. As required under 40 CFR part 136.
3. Five days per week except seven days per week for at least one week during July or August of each year.
4. The Discharger shall calculate and report the mass emission rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.4 of this Order.
5. The minimum frequency shall be increased from 1/Week to 5/Week, 1/Month to 1/Week, or 1/Quarter to 1/Month, as appropriate, if any result for this parameter exceeds the applicable interim or final influent limitation specified in this Order, as appropriate. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this parameter are below all applicable interim or final influent limitation specified in this Order, as appropriate.
6. The Discharger may, at their option, monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).

B. Effluent Monitoring Requirements

Effluent monitoring is the collection and analysis of samples or measurements of effluents, after all treatment processes, to determine and quantify contaminants and demonstrate compliance with applicable effluent limitations, standards, and other requirements of this Order.

Effluent monitoring is necessary to address the following questions:

(1) Does the effluent comply with permit effluent limitations, performance goals, and other requirements of this Order, thereby ensuring that water quality standards are achieved in the receiving water?

(2) What is the mass of constituents that are discharged daily, monthly or annually?

(3) Is the effluent concentration or mass changing over time?

(4) Is the Facility being properly operated and maintained to ensure compliance with the conditions of the Order?

The Discharger shall monitor the effluent at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring

Parameter	Units[1]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous[2]	--
$CBOD_5$	mg/L	24-hr Composite	1/Day[3,4]	6
BOD_5	mg/L	24-hr Composite	1/Day[3,4]	6
TSS	mg/L	24-hr Composite	1/Day[3,4]	6
Volatile Suspended Solids	mg/L	24-hr Composite	1/Day[3]	6
Total Dissolved Solids	mg/L	24-hr Composite	1/Day[3]	6
Temperature	°C	Grab	1/Day[3]	6
Dissolved Oxygen	mg/L	Grab	1/Week[5]	
Floating Particulates	mg/L	24-hr Composite	1/Day[3]	6
Grease and Oil	mg/L	Grab	1/Week[4,5]	6
Settleable Solids	mL/L	Grab	1/Day[3]	6
Turbidity	NTU	24-hr Composite	1/Day[3]	6
pH	pH Units	Grab	1/Day[3]	6
TABLE 1 PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Cadmium, Total Recoverable	µg/L	24-hr Composite	1/ Week[4,5]	6
Chromium (VI), Total Recoverable[7]	µg/L	24-hr Composite	1/Week[4,5]	6
Copper, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Lead, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Mercury, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Nickel, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Selenium, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Silver, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Zinc, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6
Cyanide, Total Recoverable	µg/L	24-hr Composite	1/Week[4,5]	6,8
Total Chlorine Residual[9]	µg/L	Grab	1/Day[4]	6
Ammonia Nitrogen, Total (as N)	mg/L	24-hr Composite	1/Month[4,5]	6
Phenolic Compounds (nonchlorinated)[1]	µg/L	24-hr Composite	1/ Month[4,5]	6
Phenolic Compounds (chlorinated)[1]	µg/L	24-hr Composite	1/Month[4,5]	6
Endosulfan	µg/L	24-hr Composite	1/ Month[4,5]	6
Endrin	µg/L	24-hr Composite	1/ Month[4,5]	6
HCH[1]	µg/L	24-hr Composite	1/Month[4,5]	6
Radioactivity	pCi/L	24-hr Composite	1/ Month[4,5]	6
TABLE 1 PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS				
Acrolein	µg/L	Grab	1/Quarter[4,5]	6

Parameter	Units[1]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Antimony, Total Recoverable	µg/L	24-hr Composite	1/Quarter[4,5]	6
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	1/Quarter[4,5]	6
Bis (2-chloroisopropyl) Ether	µg/L	Grab	1/Quarter[4,5]	6
Chlorobenzene	µg/L	Grab	1/Quarter[4,5]	6
Chromium (III), Total Recoverable[7]	µg/L	24-hr Composite	1/Quarter[4,5]	6
Di-n-butyl Phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	6
Dichlorobenzenes[1]	µg/L	Grab	1/Quarter[4,5]	6
Diethyl Phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	6
Dimethyl Phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	6
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	1/Quarter[4,5]	6
2,4-dinitrophenol	µg/L	24-hr Composite	1/Quarter[4,5]	6
Ethylbenzene	µg/L	Grab	1/Quarter[4,5]	6
Fluoranthene	µg/L	24-hr Composite	1/Quarter[4,5]	6
Hexachlorocyclopentadiene	µg/L	24-hr Composite	1/Quarter[4,5]	6
Nitrobenzene	µg/L	Grab	1/Quarter[4,5]	6
Thallium, Total Recoverable	µg/L	24-hr Composite	1/Quarter[4,5]	6
Toluene	µg/L	Grab	1/Quarter[4,5]	6
Tributyltin	µg/L	24-hr Composite	1/Quarter[4,5]	6
1,1,1-trichloroethane	µg/L	Grab	1/Quarter[4,5]	6
TABLE 1 PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	Grab	1/Quarter[4,5]	6
Aldrin	µg/L	24-hr Composite	1/Quarter[4,5]	6
Benzene	µg/L	Grab	1/Quarter[4,5]	6
Benzidine	µg/L	24-hr Composite	1/Quarter[4,5]	6
Beryllium, Total Recoverable	µg/L	24-hr composite	1/Quarter[4,5]	6
Bis (2-chloroethyl) Ether	µg/L	Grab	1/Quarter[4,5]	6
Bis (2-ethlyhexyl) Phthalate	µg/L	24-hr Composite	1/Quarter[4,5]	6
Carbon Tetrachloride	µg/L	Grab	1/Quarter[4,5]	6
Chlordane[1]	µg/L	24-hr Composite	1/Quarter[4,5]	6
Chlorodibromomethane (dibromochloromethane)	µg/L	Grab	1/Quarter[4,5]	6
Chloroform	µg/L	Grab	1/Quarter[4,5]	6
DDT[1]	µg/L	24-hr Composite	1/Quarter[4,5]	6
1,4-dichlorobenzene	µg/L	Grab	1/Quarter[4,5]	6
3,3'-dichlorobenzidine	µg/L	24-hr Composite	1/Quarter[4,5]	6
1,2-dichloroethane	µg/L	Grab	1/Quarter[4,5]	6
1,1-dichloroethylene	µg/L	Grab	1/Quarter[4,5]	6
Dichlorobromomethane	µg/L	Grab	1/Quarter[4,5]	6
Dichloromethane (Methylene Chloride)	µg/L	Grab	1/Quarter[4,5]	6
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	Grab	1/Quarter[4,5]	6
Dieldrin	µg/L	24-hr Composite	1/Quarter[4,5]	6
2,4-dinitrotoluene	µg/L	24-hr Composite	1/Quarter[4,5]	6
1,2-diphenylhydrazine	µg/L	24-hr Composite	1/Quarter[4,5]	6
Halomethanes[1]	µg/L	Grab	1/Quarter[4,5]	6

Parameter	Units[1]	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Heptachlor	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
Heptachlor Epoxide	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
Hexachlorobenzene	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
Hexachlorobutadiene	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
Hexachloroethane	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
Isophorone	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
N-nitrosodimethylamine	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
N-nitrosodiphenylamine	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
PAHs[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
PCBs[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
TCDD equivalents[1]	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
1,1,2,2-tetrachloroethane	µg/L	Grab	1/Quarter[4,5]	[6]
Tetrachloroethylene (Tetrachloroethene)	µg/L	Grab	1/Quarter[4,5]	[6]
Toxaphene	µg/L	24-hr Composite	1/Quarter[4,5]	[6]
Trichloroethylene (Trichloroethene)	µg/L	Grab	1/Quarter[4,5]	[6]
1,1,2-trichloroethane	µg/L	Grab	1/Quarter[4,5]	[6]
2,4,6-trichlorophenol	µg/L	Grab	1/Quarter[4,5]	[6]
Vinyl Chloride	µg/L	Grab	1/Quarter[4,5]	[6]

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order

2 Report the total daily effluent flow and the monthly average effluent flow.

3 The minimum sampling frequency shall be five days per week and shall increase to seven days per week for at least one week during July or August of each year.

4 The Discharger shall calculate and report the mass emission rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.4 of this Order.

5 The minimum frequency shall be increased from 1/Week to 5/Week, 1/Month to 1/Week, or 1/Quarter to 1/Month, as appropriate , if any result for this parameter exceeds the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this parameter are below all applicable effluent limitations or performance goals specified in this Order.

6 The analytical test methods for compliance determinations shall use minimum levels specified in Appendix II of the Ocean Plan used as required under 40 CFR part 136. The Discharger shall select minimum levels that are below the effluent limitation or performance goal. If no minimum level value is below the effluent limitation or performance goal, the Discharger shall select the lowest minimum level value and its associated analytical method.

7 The Discharger may, at their option, apply this performance goal as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI).

8 If a Discharger can demonstrate to the satisfaction of the USEPA and the State Water Board that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136.

9 Monitoring of total chlorine residual is required at the frequency specified when any of the treatment units that are the subject of this Order use chlorine for disinfection. Monitoring of total chlorine residual is not required on days when none of the treatment units that are subject to this Order use chlorine for disinfection. If only one sample is collected for total chlorine residual analysis on a particular day, that sample must be collected at the time when the concentration of total chlorine residual in the discharge would be expected to be greatest. The times of chlorine discharges on the days that samples are collected, and the time at which samples are collected, shall be reported.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) refers to the overall aggregate toxic effect of an effluent measured directly by an aquatic toxicity test(s). The control of WET is one approach this Order uses to control the discharge of toxic pollutants. WET tests evaluate the 1) aggregate toxic effects of all chemicals in the effluent including additive, synergistic, or antagonistic toxicity effects; 2) the toxicity effects of unmeasured chemicals in the effluent; and 3) variability in bioavailability of the chemicals in the effluent.

Monitoring to assess the overall toxicity of the effluent is required to answer the following questions:

(1) Does the effluent comply with permit effluent limitations for toxicity thereby ensuring that water quality standards are achieved in the receiving water?

(2) If the effluent does not comply with permit effluent limitations for toxicity, are unmeasured pollutants causing risk to aquatic life?

(3) If the effluent does not comply with permit effluent limitations for toxicity, are pollutants in combinations causing risk to aquatic life?

The Discharger shall monitor the effluent at Monitoring Location EFF-001 as follows:

Table E-4. Whole Effluent Toxicity Testing

Monitoring Location	Test	Unit	Sample Type	Minimum Test Frequency
EFF-001	Screening period for chronic toxicity	TU_c	24-hr Composite	Every other year for 3 months, beginning with the calendar year 2014
	Chronic Toxicity	TU_c	24-hr Composite	1/Week
	Acute Toxicity	TUa	24-hr Composite	1/Week

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition, October 2002 (EPA-821-R-02-012).

Critical life stage toxicity tests shall be performed to measure chronic toxicity. Testing shall be performed using methods outlined in Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project (State Water Board, 1996).

A screening period for chronic toxicity shall be conducted every other year, beginning with the calendar year 2014. Each screening period shall consist of 3 WET tests, conducted once per month for three consecutive months, with each WET test using a minimum of three test species with approved test protocols, from the following list (from the Ocean Plan). Repeat screening periods may be terminated after the first month if the most sensitive species is the same as the species previously found to be most sensitive. Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used for the weekly testing. The regular minimum test frequency for chronic toxicity of once per week shall continue prior to, during, and after each screening period. Control and dilution water should be receiving water or lab water as appropriate. If the dilution water is different from the culture water, then culture water should be used in a second control. The sensitivity of the test organisms to a reference toxicant shall be determined

concurrently with each bioassay test and reported with test results. The Discharger shall follow the requirements under Special Provisions, section VI.C.2.e of this Order if any effluent limitations for toxicity are exceeded.

Table E-5. Approved Test for Chronic Toxicity

Species	Test	Tier [1]	Reference[2]
giant kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	a, c
red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
oyster, *Crassostrea gigas*; mussels, *Mytilus spp*.	abnormal shell development; percent survival	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent normal development	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent fertilization	1	a, c
Mysid shrimp, *Holmesimysis costata*	percent survival; growth	1	a, c
Mysid shrimp, *Mysidopsis bahia*	percent survival; fecundity	2	b, d
topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silversides, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the San Diego Water Board.

[2] Protocol References:

a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. USEPA Report No. EPA/600/R-95/136.

b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. USEPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler 9eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

D. Land Discharge Monitoring Requirements – Not Applicable

E. Recycling Monitoring Requirements – Not Applicable

IV. RECEIVING WATER MONITORING REQUIREMENTS

The receiving water and sediment monitoring requirements set forth below are designed to measure the effects of the SBOO discharge on the receiving ocean waters. The overall receiving water monitoring program is intended to answer the following questions:

(1) Does the receiving water meet water quality standards?

(2) Are the receiving water conditions getting better or worse over time?

(3) What is the relative contribution of the Facility discharge to pollution in the receiving water?

Receiving water and sediment monitoring in the vicinity of the SBOO shall be conducted as specified below. This program is intended to document conditions within the waste field in the vicinity of the zone of initial dilution (ZID) boundary, at reference stations, and at areas beyond

the ZID where discharge impacts might be reasonably expected. Station location, sampling, sample preservation and analyses, when not specified, shall be by methods approved by the San Diego Water Board. The monitoring program may be modified by the San Diego Water Board at any time. The Discharger may also submit a list of proposed changes with supporting rationale to these monitoring requirements that it considers to be appropriate to the San Diego Water Board for approval.

The receiving water and sediment monitoring program for the SBOO may be conducted jointly with other dischargers to the SBOO.

During monitoring events sample stations shall be located using a land-based microwave positioning system or a satellite positioning system such as global positioning system (GPS). If an alternate navigation system is proposed, its accuracy should be compared to that of microwave and satellite based systems, and any compromises in accuracy shall be justified.

In the event that the Discharger is unable to obtain a sample from a monitoring station(s) located in Mexico, due to safety, legal, or other reasons, collection of samples at such station(s) can be omitted. In the event that a monitoring location is omitted, the Discharger shall submit a statement to the San Diego Water Board containing, at a minimum, the following information:

1. The monitoring station(s) that was omitted;
2. The date the monitoring station was omitted; and
3. A description of the circumstances for omitting the collection of data at the monitoring station.

A. Shoreline Water Quality Monitoring Requirements

As ocean surface waves come closer to shore they break, forming the foamy, bubbly surface called surf. The region of breaking waves defines the shoreline.

Monitoring of the shoreline is intended to answer the following questions:

(1) Does the effluent cause or contribute to an exceedance of the water quality standards in the receiving water?

(2) Does the effluent reach water contact zones or commercial shellfish beds?

(3) Are densities of bacteria in water contact areas below levels protective of public health?

All shoreline stations shall be monitored as follows:

Table E-6. Shoreline Monitoring Requirements[2]

Parameter	Units	Stations	Sample Type	Sampling Frequency
Visual Observations	--	S0, S2-S6, S8-S12	Visual	[1]
Temperature	°C	S0, S2-S6, S8-S12	Grab	1/Week
Total and Fecal Coliforms; Enterococcus[3]	colony forming units (CFU)/100 mL	S0, S2-S6, S8-S12	Grab	1/Week

1 Visual observations of the surface water conditions at the designated receiving water stations shall be conducted in such a manner as to enable the observer to describe and report the presence, if any, of floatables of sewage origin. Observations of wind (direction and speed), weather (cloudy, sunny, or rainy), direction of current, tidal conditions (high or low), water color, discoloration, oil and grease, turbidity, and odor shall be recorded. These observations shall be taken whenever a sample is collected. Visual observations shall also be conducted for repeat sampling.

2. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

3. If a single sample exceeds any of the single sample maximum (SSM) bacterial standards contained in section V.A.1.a.ii of this Order, repeat sampling at that location shall be conducted to determine the extent and persistence of

the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard or until a sanitary survey is conducted to determine the source of the high bacterial densities.

When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean. Repeat sampling is not required for the stations located in Mexico.

Sample Station Omission Due to Storm Condition (including required repeat sampling). In the event of stormy weather which makes sampling hazardous at certain shoreline stations, collection of samples at such stations can be omitted, provided that such omissions do not occur more than 5 days in any calendar year or occur at consecutive sampling times, or provided that a written request from the Discharger is approved by the Executive Officer in writing. The visual observations listed in footnote no. 1 above shall still be recorded and reported to the San Diego Water Board for these stations at the time the sample was attempted to be collected. If practicable, an effort should be made to return to the sampling station that was omitted and collect the sample during calmer conditions within the same reporting period.

B. Offshore Water Quality Monitoring Requirements

Offshore monitoring extends from south of the international border to Point Loma. See Attachment B for a map of the offshore monitoring stations.

Offshore monitoring is necessary to answer the following questions:

(1) Is natural light significantly reduced at any point outside the ZID as a result of the discharge?

(2) Does the discharge cause a discoloration of the ocean surface?

(3) Does the discharge of oxygen demanding waste cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally outside the ZID?

(4) Does the discharge of waste cause the pH to change at any time more than 0.2 units from that which occurs naturally outside the ZID?

(5) Is the wastewater plume encroaching upon receiving water areas used for swimming, surfing, diving and shellfish harvesting?

(6) What is the fate of the discharge plume?

1. Offshore receiving water monitoring shall be conducted as follows:

Table E-7. Offshore and Kelp/Nearshore Monitoring Requirements

Parameter	Units	Sample Type	Sampling Frequency[1,2]	
			Offshore	Kelp/Nearshore
Visual Observations	--	Visual	[3]	[3]
Temperature and Depth[4]	°C, feet	Profile	1/Quarter	1/Week
pH[4]	units	Profile	1/Quarter	1/Week
Salinity[4]	parts per thousand	Profile	1/Quarter	1/Week
Dissolved Oxygen[4]	mg/L	Profile	1/Quarter	1/Week
Light Transmittance[4]	Percent	Profile	1/Quarter	1/Week
Chlorophyll a[4]	ug/L	Profile	1/Quarter	1/Week
Total Coliforms	CFU/100 mL	Grab	1/Quarter	1/Week
Fecal Coliforms	CFU/100 mL	Grab	1/Quarter	1/Week
Enterococcus	CFU/100 mL	Grab	1/Quarter	1/Week

1 Quarterly receiving water monitoring results shall be submitted within the monthly SMR for the month in which the monitoring was conducted.

2 Shall be monitored at all applicable discrete depths specified for bacterial monitoring in Table E-1 of this MRP.

3 Visual observations of the surface water conditions at the designated receiving water stations shall be conducted in such a manner as to enable the observer to describe and report the presence, if any, of floatables of sewage origin. Observations of wind (direction and speed), weather (cloudy, sunny, or rainy), direction of current, tidal conditions (high or low), water color, oil and grease, turbidity, and odor shall be recorded. These observations shall be taken whenever a sample is collected.

4 Temperature, depth, pH, salinity, dissolved oxygen, light transmittance, and chlorophyll a profile data shall be measured throughout the entire water column during the quarterly and weekly sampling events.

Sample Station Omission Due to Storm Condition. In the event of stormy weather which makes sampling hazardous at certain offshore stations, collection of samples at such stations can be omitted, provided that such omissions do not occur more than 5 days in any calendar year or occur at consecutive sampling times, or provided that a written request from the Discharger is approved by the Executive Officer in writing. The visual observations listed in footnote no. 1 above shall still be recorded and reported to the San Diego Water Board for these stations at the time the sample was attempted to be collected. If practicable, an effort should be made to return to the sampling station that was omitted and collect the sample during calmer conditions within the same reporting period.

2. Plume Tracking

   a. Plume Tracking Monitoring Plan (PTMP). By March 30, 2018, the Discharger shall, in consultation with the San Diego Water Board, prepare and submit a PTMP to implement an ongoing program designed to map dispersion and fate of the wastewater plume discharged from the SBOO. The PTMP shall include, but is not limited to, the following elements.

      i. Installation and operation by the Discharger of a permanent, real-time oceanographic mooring system located near the terminal diffuser wye structure of the SBOO. The mooring system shall be designed to measure, at minimum, direction and velocity of subsurface currents, and ocean stratification.

      ii. Development of a work plan or pilot study (special study) for implementation of the SBOO real-time mooring system, including data acquisition and processing.

      iii. Networking the SBOO system to be compatible with a similar system being deployed by the Discharger near the Point Loma Ocean Outfall (PLOO) discharge site, as well as a third system operated by the University of California San Diego, Scripps Institution of Oceanography in the coastal waters off the City of Del Mar.

      iv. Development of a work plan or pilot study (special study) for utilizing advanced oceanographic sampling technologies such as an autonomous underwater vehicle (AUV) or remotely operated towed vehicle (ROTV) in conjunction with the SBOO real-time mooring system to enhance collection of water quality data in real-time and provide higher resolution maps of plume location and movement.

   b. Plume Tracking Implementation. The Discharger shall implement the PTMP within sixty (60) days after submission in accordance with the scheduled contained in the PTMP unless otherwise directed by the San Diego Water Board.

c. Plume Tracking Reporting. The Discharger shall submit reports to the San Diego Water Board on the SBOO real-time mooring system and associated pilot studies (e.g., AUV/ROTV surveys) biennially in accordance with the due dates specified in Table E-11 for the Biennial Receiving Waters Monitoring and Assessment Report. These reports shall include in-depth discussion, evaluation, interpretation, and tabulation of the real-time mooring and other project data. Report interpretations and conclusions shall include the state of the receiving waters into which the SBOO discharges and the estimated location of the SBOO plume throughout the reporting period, Additional project progress reports may also be required per approved work plan schedules.

C. Benthic Monitoring Requirements

Seafloor sediments integrate constituents that are discharged to the ocean. Most particles that come from the SBOO discharge, and any associated contaminants, will eventually settle to the seafloor where they are incorporated into the existing sediments. Sediments can accumulate these particles over the years until the point where sediment quality is degraded and beneficial uses are impaired.

Benthic organisms are strongly affected by sediment contaminant exposure because these organisms often live in continual direct contact with sediment/pore water, and many species ingest significant quantities of sediment as a source of nutrition. Because the benthos are dependent on their surroundings, they serve as a biological indicator that reflects the overall conditions of the aquatic environment.

The assessment of sediment quality with respect to sediment chemistry, sediment toxicity and benthic community condition is necessary to answer the following questions:

(1) Is the dissolved sulfide concentration of waters in sediments significantly increased above that present under natural conditions?

(2) Is the concentration of substances, set forth in Table 1 of the Ocean Plan for protection of marine aquatic life, in marine sediments at levels which would degrade the benthic community?

(3) Is the concentration of organic pollutants in marine sediments at levels that would degrade the benthic community?

(4) Are benthic communities degraded as a result of the discharge?

(5) Is the sediment quality changing over time?

The assessment of sediment quality to evaluate potential effects of the SBOO discharge and compliance with narrative water quality standards specified in the Ocean Plan consist of the measurement and integration of three lines of evidence: 1) physical and chemical properties of seafloor sediments, 2) seafloor sediment toxicity to assess bioavailability and toxicity of sediment contaminants, and 3) ecological status of the biological communities (benthos) that live in or on the seafloor sediments.

1. Sediment Assessment for Physical and Chemical Properties

a. ***Sediment Sampling Stations and Monitoring Frequency***. The core sediment monitoring program is designed to assess spatial and temporal trends at 27 of the offshore stations listed in Table E-1, including 12 primary stations located along the outfall discharge depth contour (i.e., stations I2, I3, I6, I9, I12, I14, I15, I16, I22, I27, I30, I33) and 15 secondary stations located at other depths (i.e., stations I1, I4, I7, I8, I10, I13, I18, I20, I21, I23, I28, I29, I31, I34, I35). At the discretion of the San Diego

Water Board, the requirement for sampling the secondary stations may be relaxed to allow Discharger participation in Southern California Bight Regional Monitoring efforts, or to reallocate resources to accommodate approved Strategic Process Studies. Sediment samples shall be collected twice per year during the Winter (e.g., January) and Summer (e.g., July) at each of the 27 offshore stations described above and in Table E-1 in order to assess benthic habitat condition in terms of physical and chemical composition (e.g., grain-size distribution, sediment chemistry).

b. ***Sediment Sample Collection Methods***. Sediment samples shall be taken using a 0.1-square meter modified Van Veen grab sampler. Samples for grain-size and chemical analyses shall be collected from within the upper two centimeters of the surface sediment. Bulk sediment chemical analysis shall include at a minimum the set of constituents listed in Table E-8 below.

c. **Sediment Chemistry.** Sediment chemistry is the measurement of the concentration of chemicals of concern in sediments. The chemistry line of evidence is used to assess the potential overall exposure risk to benthic organisms from pollutants in surficial sediments. Chemical analysis of sediment shall be conducted using USEPA approved methods, methods developed by the National Oceanic and Atmospheric Administration's (NOAA's) *National Status and Trends for Marine Environmental Quality*, or methods developed in conjunction with the Southern California Bight Regional Monitoring Program. For chemical analysis of sediment, samples shall be reported on a dry weight basis.

Sediment monitoring for physical and chemical properties shall be conducted at the 27 offshore benthic stations listed above in Section IV.C.1.a of this MRP as follows:

Table E-8. Sediment Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Sediment grain size	µm	Grab	2/Year
Total Organic Carbon	Percent	Grab	2/Year
Total Nitrogen	Percent	Grab	2/Year
Acid Volatile Sulfides	mg/kg	Grab	2/Year
Aluminum	mg/kg	Grab	2/Year
Antimony	mg/kg	Grab	2/Year
Arsenic	mg/kg	Grab	2/Year
Cadmium	mg/kg	Grab	2/Year
Chromium	mg/kg	Grab	2/Year
Copper	mg/kg	Grab	2/Year
Iron	mg/kg	Grab	2/Year
Lead	mg/kg	Grab	2/Year
Manganese	mg/kg	Grab	2/Year
Mercury	mg/kg	Grab	2/Year
Nickel	mg/kg	Grab	2/Year
Selenium	mg/kg	Grab	2/Year
Silver	mg/kg	Grab	2/Year
Tin	mg/kg	Grab	2/Year
Zinc	mg/kg	Grab	2/Year
PCBs	ng/kg	Grab	2/Year
2,4-DDD	ng/kg	Grab	2/Year
4,4-DDD	ng/kg	Grab	2/Year
2,4-DDE	ng/kg	Grab	2/Year
4,4-DDE	ng/kg	Grab	2/Year
2,4-DDT	ng/kg	Grab	2/Year

Determination	Units	Type of Sample	Minimum Frequency
4,4-DDT	ng/kg	Grab	2/Year
Aldrin	ng/kg	Grab	2/Year
Alpha-Chlordane	ng/kg	Grab	2/Year
Dieldrin	ng/kg	Grab	2/Year
Endosulfan	ng/kg	Grab	2/Year
Endrin	ng/kg	Grab	2/Year
Gamma-BHC	ng/kg	Grab	2/Year
Heptachlor	ng/kg	Grab	2/Year
Heptachlor Epoxide	ng/kg	Grab	2/Year
Hexachlorobenzene	ng/kg	Grab	2/Year
Mirex	ng/kg	Grab	2/Year
Trans-Nonachlor	ng/kg	Grab	2/Year
Acenapthene	µg/kg	Grab	2/Year
Acenaphthylene	µg/kg	Grab	2/Year
Anthracene	µg/kg	Grab	2/Year
Benzo(a)anthracene	µg/kg	Grab	2/Year
Benzo(o)fluoranthene	µg/kg	Grab	2/Year
Benzo(k)fluoranthene	µg/kg	Grab	2/Year
Benzo(ghi)pyrelene	µg/kg	Grab	2/Year
Benzo(a)pyrene	µg/kg	Grab	2/Year
Benzo(e)pyrene	µg/kg	Grab	2/Year
Biphenyl	µg/kg	Grab	2/Year
Chrysene	µg/kg	Grab	2/Year
Dibenz(ah)anthraces	µg/kg	Grab	2/Year
Fluoranthene	µg/kg	Grab	2/Year
Fluorene	µg/kg	Grab	2/Year
Ideno(123cd)pyrene	µg/kg	Grab	2/Year
Naphthalene	µg/kg	Grab	2/Year
1-Methylnaphthalene	µg/kg	Grab	2/Year
2-Methylnaphthalene	µg/kg	Grab	2/Year
2,6-Dimethylnaphthalene	µg/kg	Grab	2/Year
2,3,5-Trimethylnaphthale	µg/kg	Grab	2/Year
Perylene	µg/kg	Grab	2/Year
Phenanthrene	µg/kg	Grab	2/Year
1-Methylphenanthene	µg/kg	Grab	2/Year
Pyrene	µg/kg	Grab	2/Year

2. **Sediment Toxicity**

a. ***Sediment Toxicity Monitoring Plan.*** Sediment toxicity is a measure of the response of invertebrates exposed to surficial sediments under controlled laboratory conditions. The sediment toxicity line of evidence is used to assess both pollutant related biological effects and exposure. Within 180 days of the effective date of this permit, the Discharger shall, in consultation with the City of San Diego, the San Diego Water Board, and the State Water Board, prepare and submit a Sediment Toxicity Monitoring Plan to implement an on-going acute sediment toxicity monitoring program in conformance with the requirements of Ocean Plan Appendix III, Standard Monitoring Procedures, Aquatic Life Toxicity. The Monitoring Plan shall include the following elements:

i. Quality Assurance Project Plan. An ELAP approved Quality Assurance Project Plan (QAPP) describing the project objectives and organization, functional activities, and quality assurance/quality control protocols for the sediment monitoring.

ii. Toxicity Testing Protocols. The Ocean Plan requires that acute toxicity testing be conducted utilizing alternative amphipod species (*Eohaustorius estuarius, Leptocheirus plumulosus, Rhepoxynius abronius*).

iii. Spatial Representation. The Sediment Toxicity Monitoring Plan shall be designed to ensure that the sample stations are spatially representative of the sediment within the region of interest. The locations, type, and number of samples shall be identified and shown on a map

iv. Existing Data and Information. The Sediment Toxicity Monitoring Plan design shall take into consideration existing data and information of appropriate quality.

v. Monitoring Frequency. The Sediment Toxicity Monitoring Plan shall include a schedule for all sample collection and analysis and reporting of results to the San Diego Water Board.

vi. Analysis. The Sediment Toxicity Monitoring Plan shall provide for evaluation, interpretation and tabulation of the sediment monitoring data including interpretations and conclusions as to whether applicable Receiving Water Limitations in this Order have been attained at each sample station**.**

b. ***Sediment Toxicity Monitoring Plan Implementation***. The Discharger shall implement the Sediment Toxicity Monitoring Plan sixty (60) days after submission in accordance with the schedule contained in the Sediment Toxicity Monitoring Plan unless otherwise directed in writing by the San Diego Water Board. Before beginning sample collection activities, the Discharger shall comply with any conditions set by the San Diego Water Board.

3. **Benthic Community Condition**

a. ***Benthic Community Sampling Stations and Frequency*****.** Sediment samples for assessment of benthic community structure shall be collected twice per year during Winter (e.g., January) and Summer (e.g., July) at each of the 27 offshore stations described above for sediments. One sample per station shall be collected for analysis of benthic community structure.

b. ***Benthic Community Sample Collection Methods.*** Benthic community samples shall be collected using the guidance specified in the most recent field manual developed for the Southern California Bight Regional Monitoring Program. The benthic samples shall be collected using a 0.1-square meter modified Van Veen grab sampler. These grab samples shall be separate from (but adjacent to as much as possible) samples collected for sediment grain-size and chemistry analyses. The samples shall be sieved using a 1.0-millimeter mesh screen. The benthic organisms retained on the sieve shall be fixed in 10 percent buffered formalin, and transferred to at least 70 percent ethanol within two to seven days of storage. Benthic organisms, obtained during benthic monitoring shall be counted and identified to as low a taxon as possible.

c. ***Benthic Community Analysis.*** Analysis of benthic community structure shall include determination of the number of species, number of individuals per species,

and total numerical abundance present. The following parameters or metrics shall be calculated for each 0.1-square meter grab sample and summarized by station as appropriate.

i. Number of species

ii. Total numerical abundance

iii. Benthic Response Index (BRI)

iv. Swartz's 75 percent dominance index

v. Shannon-Weiner's diversity index (H)

vi. Pielou eveness index (J)

In addition to summarizing the above community structure parameters at each station, a more rigorous assessment shall be performed as detailed in this MRP, section IV.E.

d. ***Benthic Random Sampling.*** This MRP, the MRP for the PLOO, and the MRP for the South Bay Water Reclamation Plant (SBWRP)[1] require the City of San Diego and the Discharger to sample and analyze annually for sediment chemistry and benthic community conditions at an additional array of 40 randomly selected stations. The same sampling and processing procedures must be followed as outlined above for core benthic sediment and benthic community condition monitoring. These stations shall be reselected each year by USEPA or their designee to meet the requirements for this MRP, the MRP for the PLOO, and the MRP for the SBWRP using the USEPA probability-based Environmental Monitoring and Assessment Program (EMAP) design. The area of coverage shall extend from the mouth of the San Dieguito River south to the USA/Mexico border.

The random benthic sampling requirement may be suspended as part of a resource exchange agreement to allow for participation in the Southern California Bight Regional Monitoring Surveys at the discretion of the Executive Officer as specified in section II.R of this Order.

[1] Order No. R9-2017-0007, NPDES No. CA0107409, Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for the City of San Diego E.W. Blom Point Loma Wastewater Treatment Plant Discharge to the Pacific Ocean through the Point Loma Ocean Outfall, Monitoring and Reporting Program (Attachment E)
Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045, Waste Discharge Requirements for the City of San Diego South Bay Water Reclamation Plant, Discharge to the Pacific Ocean via the South Bay Ocean Outfall, Monitoring and Reporting Program (Attachment E)

D. Fish and Invertebrate Monitoring Requirements

Many pollutants discharged into receiving waters have the potential to bioaccumulate and persist in tissues of aquatic organisms, including marine fishes. Chemical pollutants that bioaccumulate tend to magnify in concentration as they pass through the aquatic food chain. Therefore, fish monitoring data is required to assess the human health risks for individuals who may consume fish and to assess trends of contaminants levels in the receiving water over time.

Aquatic invertebrates are excellent indicators of ecosystem health because they are ubiquitous, abundant, diverse, and typically sedentary. The growth, survival, and reproduction of many species of aquatic invertebrates are all sensitive to changes in environmental health, making analysis of assemblage structure a good ecosystem monitoring tool.

Fish and invertebrate monitoring is necessary to answer the following questions:

(1) Does the concentration of pollutants in fish, shellfish, or other marine organisms used for human consumption bioaccumulate to levels that are harmful to human health?

(2) Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

(3) Are the concentrations of pollutants in fish and other marine organisms changing over time?

(4) Is the health of fish changing over time?

(5) Are the populations of selected species of fish and invertebrates changing over time?

1. Fish and Invertebrate Trawls

a. **Fish and Invertebrate Trawl Frequency and Monitoring Stations.** Epibenthic trawls shall be conducted to assess the structure of demersal fish and megabenthic invertebrate communities, while the presence of priority pollutants in fish will be analyzed from species captured using both trawling and rig fishing techniques (see section IV.D.2 for more information). Single community trawls for fish and invertebrates shall be conducted semi-annually in the winter (e.g., January) and summer (e.g., July) at seven trawl stations designated SD15–SD21 at the locations specified in Table E-1. These stations represent two areas near Discharge Point No. 001 (stations SD-17 and SD-18), two areas up coast of Discharge Point No. 001 (stations SD-19, SD-20, and SD-21), and two areas down coast of Discharge Point No. 001 (stations SD 15 and SD-16). Trawls shall be conducted using a Marinovich 7.62 m (25 ft) head rope otter trawl, using the guidance specified in the most recent field manual developed for the Southern California Bight Regional Monitoring Program. All trawl-captured fishes and megabenthic invertebrates shall be identified at each station.

In order to minimize negative impacts that may occur due to unsuccessful trawling efforts associated with unusual environmental conditions, the requirement to conduct trawls during any given period may be postponed or waived at the discretion of the Executive Officer of the San Diego Water Board, in concurrence with USEPA, upon receipt of written justification provided by the Discharger. Examples of such unusual events include the presence of large populations of pelagic red crabs (*Pleuroncodes planipes*) associated with El Niño and the occurrence of large squid egg masses that prevent hauling in the trawl nets.

b. **Fish and Invertebrate Community Structure Analysis.** All fish and megabenthic invertebrates collected by trawls should be identified to species if possible. For fish, community structure analysis shall consist of determining the standard length and total wet weight, total number of individuals per species, the total numerical abundance of all fish, species richness, species diversity (H'), and multivariate pattern analyses (e.g., ordination and classification analyses). The presence of any physical abnormalities or disease symptoms (e.g., fin erosion, external lesions, tumors) or external parasites shall also be recorded. For invertebrates, community structure shall be summarized as the total number of individuals per species, the total numerical abundance of all invertebrates, species richness, and species diversity (H').

c. **Fish Tissue Chemical Analysis.** Chemical analyses of fish tissues shall be performed annually (e.g., during October) on target species collected at or near the trawl stations. The seven stations are classified into five zones for the purpose of collecting sufficient numbers of fish for tissue analyses. Trawl Zone 5 represents the nearfield zone, defined as the area within a 1-km radius of stations SD-17 and/or SD-18; Trawl Zone 6 represents the north farfield zone, defined as the area within a 1-km radius of stations SD-19 and/or SD-20; Trawl Zone 7 represents the far-north farfield zone, defined as the area within a 1-km radius of station SD-21; Trawl Zone 8 represents the south farfield zone, defined as the area within a 1-km radius of station SD-16; Trawl Zone 9 represents the far-south farfield zone, defined as the area within a 1-km radius of station SD-15. There are no depth requirements for these five zones with regards to the collection of fishes for tissue analysis.

Liver tissues shall be analyzed during each survey from fishes collected in each of the above five trawl zones. No more than a maximum of five 10-minute (bottom time) trawls shall be required per zone in order to acquire sufficient numbers of fish for composite samples; these trawls may occur anywhere within a defined zone. If sufficient numbers of trawl zone target species cannot be, or are unlikely to be, captured by trawling, fish for tissue analysis from these areas may be collected using alternative methods such as those described below under Rig Fishing in section IV.D.2.b of this MRP (e.g., hook and line, baited lines). Three replicate composite samples shall be prepared from each trawl zone, with each composite consisting of tissues from at least three individual fish of the same species. These liver tissues shall be analyzed for the constituents listed in Table E-9 below.

Table E-9. Fish Tissue Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Total Lipids	µg/kg	Composite	Annual
Aluminum	mg/kg	Composite	Annual
Antimony	mg/kg	Composite	Annual
Arsenic	mg/kg	Composite	Annual
Cadmium	mg/kg	Composite	Annual
Chromium	mg/kg	Composite	Annual
Copper	mg/kg	Composite	Annual
Iron	mg/kg	Composite	Annual
Lead	mg/kg	Composite	Annual
Manganese	mg/kg	Composite	Annual
Mercury	mg/kg	Composite	Annual
Nickel	mg/kg	Composite	Annual
Selenium	mg/kg	Composite	Annual

Determination	Units	Type of Sample	Minimum Frequency
Silver	mg/kg	Composite	Annual
Tin	mg/kg	Composite	Annual
Zinc	mg/kg	Composite	Annual
PCBs	µg/kg	Composite	Annual
2,4-DDD	µg/kg	Composite	Annual
4,4-DDD	µg/kg	Composite	Annual
2,4-DDE	µg/kg	Composite	Annual
4,4-DDE	µg/kg	Composite	Annual
2,4-DDT	µg/kg	Composite	Annual
4,4-DDT	µg/kg	Composite	Annual
Aldrin	µg/kg	Composite	Annual
Alpha-Chlordane	µg/kg	Composite	Annual
Dieldrin	µg/kg	Composite	Annual
Endosulfan	µg/kg	Composite	Annual
Endrin	µg/kg	Composite	Annual
Gamma-BHC	µg/kg	Composite	Annual
Heptachlor	µg/kg	Composite	Annual
Heptachlor Epoxide	µg/kg	Composite	Annual
Hexachlorobenzene	µg/kg	Composite	Annual
Mirex	µg/kg	Composite	Annual
Trans-Nonachlor	µg/kg	Composite	Annual
Acenapthene	µg/kg	Composite	Annual
Acenaphthylene	µg/kg	Composite	Annual
Anthracene	µg/kg	Composite	Annual
Benzo(a)anthracene	µg/kg	Composite	Annual
Benzo(o)fluoranthene	µg/kg	Composite	Annual
Benzo(k)fluoranthene	µg/kg	Composite	Annual
Benzo(ghi)pyrelene	µg/kg	Composite	Annual
Benzo(a)pyrene	µg/kg	Composite	Annual
Benzo(e)pyrene	µg/kg	Composite	Annual
Biphenyl	µg/kg	Composite	Annual
Chrysene	µg/kg	Composite	Annual
Dibenz(ah)anthraces	µg/kg	Composite	Annual
Fluoranthene	µg/kg	Composite	Annual
Fluorene	µg/kg	Composite	Annual
Ideno(123cd)pyrene	µg/kg	Composite	Annual
Naphthalene	µg/kg	Composite	Annual
1-Methylnaphthalene	µg/kg	Composite	Annual
2-Methylnaphthalene	µg/kg	Composite	Annual
2,6-Dimethylnaphthalene	µg/kg	Composite	Annual
2,3,5-Trimethylnaphthale	µg/kg	Composite	Annual
Perylene	µg/kg	Composite	Annual
Phenanthrene	µg/kg	Composite	Annual
1-Methylphenanthene	µg/kg	Composite	Annual
Pyrene	µg/kg	Composite	Annual

d. **Fish Targeted for Analysis.** The species of fish targeted for tissue analysis from the trawl sites shall be primarily flatfish, including, but not limited to, Pacific sanddab (*Citharichthys sordidus*), longfin sanddab (*Citharichthys xanthostigma*), bigmouth

sole (*Hippoglossina stomata*), and hornyhead turbot (*Pleuronichthys verticalis*). If sufficient numbers of these primary flatfish species are not present in a zone, secondary candidate species such as the California scorpionfish (*Scorpaena guttata*) and halfbanded rockfish (*Sebastes semicinctus*) may be collected as necessary.

2. **Rig Fishing**

a. **Rig Fishing Frequency.** Muscle tissues shall be analyzed annually (e.g., during October) from fishes collected in each of the two rig fishing zones described below in order to monitor the uptake of pollutants in species and tissues that are consumed by humans.

b. **Rig Fishing Method and Location.** The fish shall be collected by hook and line or by setting baited lines from within zones surrounding rig fishing stations RF-3 and RF-4 listed in Table E-1. Rig Fishing Zone 3 is the nearfield (near ZID) area centered within a 1-km radius of station RF-3; Rig Fishing Zone 4 is considered the farfield area centered within a 1-km radius of station RF-4. There are no depth requirements for these two zones with regards to the collection of fishes for tissue analysis. The species targeted for muscle tissue analysis in the rig fishing stations shall be representative of those caught by recreational and/or commercial fishery activities in the region. The species targeted for muscle tissue analysis shall be primarily rockfish, which may include, but are not limited to, the vermilion rockfish (*Sebastes miniatus*) and the copper rockfish (*Sebastes caurinus*). If sufficient numbers of these primary species are not present or cannot be caught in a particular zone, secondary target species (e.g., other rockfish, scorpionfish) may be collected and analyzed as necessary. Fish samples shall be identified to species, with number of individuals per species, standard length and wet weight recorded. Physical abnormalities and disease symptoms shall be recorded and itemized (e.g., fin rot, lesions, and tumors).

c. **Rig Fishing Collection.** Three replicate composite samples of the target species shall be obtained from each zone, with each composite consisting of a minimum of three individual fish. Muscle tissue shall be chemically analyzed for the same set of constituents as trawl-caught fish specified in Table E-9 above.

E. Receiving Water Monitoring Reports

1. The Discharger shall submit Interim and Biennial Receiving Water Monitoring Reports to the San Diego Water Board. The Interim Receiving Water Monitoring Reports will cover only one year of receiving water monitoring (e.g., separate reports for calendar years 2016, 2018, and 2020), will only cover even numbered years, and shall be submitted every other year. The Biennial Receiving Water Monitoring Reports will provide a more thorough discussion, evaluation (e.g., detailed statistical analyses), and interpretation than the Interim Receiving Water Monitoring Reports, will cover two years of receiving water monitoring (e.g., biennial reports for calendar years 2016-2017, 2018-2019, and 2020-2021), and shall be submitted the opposite years as the Interim Receiving Water Monitoring Reports. These reports are described below under sections VIII.E.2 and VIII.E.3 and cover the following monitoring requirements:

a. Shoreline, offshore, and kelp monitoring (sections IV.A and IV.B.1 of this MRP);

b. Sediment chemistry (section IV.C.1 of this MRP);

c. Sediment toxicity (section IV.C.2 of this MRP);

d. Benthic community (section IV.C.3 of this MRP);

e. Fish and invertebrate trawls (section IV.D.1 of this MRP);

f. Rig fishing (section IV.D.2 of this MRP); and

g. Plume tracking (section IV.B.2 of this MRP).

2. The Discharger shall submit Interim Receiving Water Monitoring Reports (Interim Reports, executive summary) as specified in Table E-11, section IV.B of this MRP. The Interim Reports will cover the first "even" year in each biennial reporting cycle as described below in section IV.E.3 (e.g., separate reports for calendar years 2016, 2018, and 2020). The Interim Reports may be submitted as an integrated report covering both the receiving water monitoring required in this MRP, the MRP for the PLOO, and the MRP for the SBWRP (as required under separate waste discharge requirements (WDRs)). The Interim Reports shall include, as a minimum, the following information:

   a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.);

   b. A description of sampling stations, including, if such information is available, differences unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.);

   c. A description of the sample collection and preservation procedures used in the survey;

   d. A description of the specific method used for laboratory analysis;

   e. A tabulation of the data; and

   f. A narrative summary of general observations, including any abnormal conditions.

3. The Discharger shall submit Biennial Receiving Water Monitoring and Assessment Reports (Biennial Reports, full assessment) as specified in Table E-11, section VIII.B of this MRP. These Biennial Reports will each cover a full 2-year monitoring cycle beginning with even-numbered years (e.g., biennial reports for calendar years 2016-2017, 2018-2019, 2020-2021). The Biennial Reports may be submitted as an integrated report covering both the receiving water monitoring required in this MRP, the MRP for the PLOO, and the MRP for the SBWRP (as required under separate WDRs). The Biennial Reports shall include, as a minimum, the following information:

   a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.);

   b. A description of sampling stations, including, if such information is available, differences unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.);

   c. A description of the sample collection and preservation procedures used in the survey;

   d. A description of the specific method used for laboratory analysis; and

   e. An in-depth discussion, evaluation (e.g., detailed statistical analyses), interpretation and tabulation of the data including interpretations and conclusions as to whether applicable receiving water limitations in this Order have been attained at each station.

4. During the same year that the Biennial Reports are submitted, the Discharger shall provide a Biennial State of the Ocean Report (an oral report) to the San Diego Water Board

summarizing the conclusions of the Biennial Report over the 2-year monitoring period. If an oral report cannot be scheduled for a San Diego Water Board meeting, the San Diego Water Board may approve submission of a written Biennial State of the Ocean Report instead. The Biennial State of the Ocean Report shall include, as a minimum, a description of the monitoring effort completed during the past two years, the status and trends of receiving waters quality conditions, and plans for future monitoring efforts.

V. REGIONAL MONITORING REQUIREMENTS

Regional ocean water monitoring provides information about the sources, fates, and effects of anthropogenic contaminants in the coastal marine environment necessary to make assessments over large areas. The large scale assessments provided by regional monitoring describe and evaluate cumulative effects of all anthropogenic inputs and enable better decision making regarding protection of beneficial uses of ocean waters. Regional monitoring data assists in the interpretation of core monitoring studies by providing a more accurate and complete characterization of reference conditions and natural variability. Regional monitoring also leads to methods standardization and improved quality control through intercalibration exercise. The coalitions implementing regional monitoring enable sharing of technical resources, trained personnel and associated costs. Focusing these resources on regional issues and developing a broader understanding of pollutants effects in ocean waters enables the development of more rapid and effective response strategies. Based on all of these considerations the San Diego Water Board supports regional approaches to monitoring ocean waters.

The Discharger shall, as directed by the San Diego Water Board, participate with other regulated entities, other interested parties, and the San Diego Water Board in development and implementation of new and improved monitoring and assessment programs for ocean waters in the San Diego Region and discharges to those waters. These programs shall be developed and implemented so as to:

(1) Determine the status and trends of conditions in ocean waters in the San Diego Region with regard to beneficial uses, e.g.,

   i. Are fish and shellfish safe to eat?

   ii. Is water quality safe for swimming?

   iii. Are ecosystems healthy?

(2) Identify the primary stressors causing or contributing to conditions of concern;

(3) Identify the major sources of the stressors causing or contributing to conditions of concern; and

(4) Evaluate the effectiveness (i.e., environmental outcomes) of actions taken to address such stressors and sources.

Development and implementation of new and improved monitoring and assessment programs for ocean waters will be guided by the following:

1. Water Quality Control Plan Ocean Waters of California (Ocean Plan);
2. San Diego Water Board Resolution No. R9-2012-0069, “Resolution in Support of A Regional Monitoring Framework;”
3. San Diego Water Board staff report entitled “A Framework for Monitoring and Assessment in the San Diego Region;” and

4. Other guidance materials, as appropriate.

A. Kelp Bed Canopy Monitoring Requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (Macrocystis pyrifera) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of coastal and island communities in southern California, providing food and habitat for numerous animals. Monitoring of the kelp beds is necessary to answer the following questions:

(1) What is the maximum areal extent of the coastal kelp bed canopies each year?

(2) What is the variability of the coastal kelp bed canopy over time?

(3) Are coastal kelp beds disappearing? If yes, what are factors that could contribute to the disappearance?

(4) Are new coastal kelp beds forming?

The Discharger shall participate with other southern California ocean dischargers in an ongoing regional survey of coastal kelp beds in the Southern California Bight. The intent of these surveys is to provide an indication of the health of these kelp beds, recognizing that the extent of kelp bed canopies may change due to variety of influences.

Kelp beds shall be monitored by means of vertical aerial infrared photography to determine the maximum areal extent of the canopies of coastal kelp beds each year. Surveys shall be conducted as close as possible to when kelp bed canopies are at their greatest extent during the year. The entire San Diego Region coastline, from the international boundary to the San Diego Region/Santa Ana Region boundary shall be photographed on the same day.

The maximum areal extent of kelp bed canopies each year shall be compared to that observed in previous years. Any significant losses that persist for more than one year shall be investigated by divers to document benthic and understory conditions.

The data, analyses, assessment, and images produced by the surveys shall be made available in a user-friendly format on a website that is readily available to the public. In addition to the kelp bed canopies, the images shall show onshore reference points, locations of all ocean outfalls and diffusers, artificial reefs, areas of known hard-bottom substrate (i.e., rocky reefs), and depth contours at intervals of 30-feet mean lower low water (MLLW).

The surveys shall be conducted on a “continuous improvement” basis, i.e., each year improvements shall be made in monitoring, analysis, assessment, and/or documentation. For example, these could include:

1. More sophisticated analysis of patterns, correlations, and cycles that may be related to the extent of kelp bed canopies; or
2. Projects to improve understanding of influences on kelp beds or of how the extent of the canopies of various kelp beds has changed since the early 20th century.

B. Southern California Bight Monitoring Program Participation Requirements

The Discharger is required to participate in the, Southern California Bight Regional Monitoring Program coordinated by the Southern California Coastal Water Research Project (SCCWRP), or any other coordinator named by the Executive Officer, pursuant to CWC 13267, 13383, and 40 CFR 122.48. The intent of the Southern California Bight Regional Monitoring Program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the Southern California Bight.

During these coordinated sampling efforts, the Discharger's receiving water sampling and analytical effort, as defined in section IV of this MRP, may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. In that event, the Executive Officer shall notify the Discharger in writing that the requirement to perform the receiving water sampling and analytical effort defined in section IV of this MRP is suspended for the duration of the reallocation. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The level of resources in terms of sampling and analytical effort redirected from the receiving water monitoring program required under section IV this MRP shall approximately equal the level of resources provided to implement the regional monitoring and assessment program, unless the Executive Officer, the Discharger and City of San Diego agree otherwise. The specific scope and duration of the receiving water monitoring program reallocation and redirection shall be determined in writing by the Executive Officer in consultation with the Discharger and City of San Diego.

VI. SPECIAL STUDIES REQUIREMENTS

Compliance with Bacteriological Standards

By letter dated January 10, 2013, the City of San Diego provided a tabulation and interpretation of the SBOO receiving water monitoring data for the past 17 years. From 1999 to 2010, the Discharger (USIBWC) discharged advanced primary treated wastewater from the Facility into the Pacific Ocean through the SBOO. During this same time period, sample results at the three offshore receiving water stations closest to the SBOO ranged from 72 to 94 percent in compliance with bacterial water quality objectives and samples at all the offshore receiving water stations for SBOO ranged from 90 to 95 percent in compliance with bacterial water quality objectives. After USIBWC commenced discharging secondary treated effluent from the Facility to meet secondary treatment requirements in January, 2011, sample results at the three offshore stations closest to the SBOO were 99 percent in compliance and sample results at all the offshore stations for SBOO were also 99 percent in compliance.

A new analysis of the receiving water bacterial data is necessary to demonstrate if the SBOO discharge is attaining full compliance with bacteriological receiving water limitations described in section V.A.1 of this Order at all times. The data set used for this analysis must be sufficient to provide statistically defensible conclusions and shall include all receiving water bacterial data collected after July 31, 2012, when the Facility discharge attained substantial compliance with secondary treatment standards, through December 31, 2015. Primary questions to be addressed include the following:

(1) Does the Facility effluent cause or contribute to an exceedance of bacteriological receiving water limitations described in section V.A.1 of this Order in ocean waters outside the zone of initial dilution?

(2) What is the extent and magnitude of any identified exceedance of bacteriological receiving water limitations described in section V.A.1 of this Order?

(3) Do any identified exceedances impact any marine water contact recreation zones?

(4) If noncompliance with bacteriological receiving water limitations is identified, and if the noncompliance has not been corrected, what is the anticipated time it is expected to continue; and what are the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance?

Bacteriological Standards Compliance Assessment Report. The Discharger shall prepare and submit a technical report, no later than July 1, 2016, based on a study design consistent with the criteria described above. The technical report shall include an evaluation, interpretation and tabulation of the bacterial data used in the analysis. The report shall include interpretations and conclusions as to whether compliance with bacteriological receiving water limitations described in section V.A.1 of this Order has been attained at each sample station. If noncompliance with bacteriological receiving water limitations is identified, and if the noncompliance has not been corrected, the report shall also indicate the anticipated time it is expected to continue; and describe the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

VII. OTHER MONITORING REQUIREMENTS

A. Facilities Spills

For all Facilities Spill Events, as defined in section VI.C.2.a.i, the Discharger shall include a detailed summary of spills in the monthly self-monitoring report for the month in which the spill occurred. All Facilities Spill Events shall be tabulated on a monthly basis and summarized in the monthly self-monitoring report. If no spills occurred during the calendar month, the Discharger shall report no Facilities Spill Events in the monthly self-monitoring report for that calendar month. The following information shall be included for each event:

1. A description of the event and its cause (if known);
2. The location(s) where the event occurred, including the location;
3. The duration of the event (i.e., flow start and stop time, or expected stop time if ongoing due to repairs and maintenance);
4. The volume of the event including a description of any methodology, standardized templates, tables, or pictures used to provide the volume estimate (or flow rate if ongoing);
5. The results of any sampling conducted;
6. The amount of precipitation that occurred in the 72 hours prior to the event start time or during the event (if applicable);
7. Corrective actions taken or planned (if applicable); and
8. A description of any modifications made or planned to the Spill and Transboundary Wastewater Flow Prevention and Response Plan (if applicable).

B. Transboundary Wastewater Flows

The term transboundary wastewater flow is used in this Order to refer to a variety of flows containing pollutants from Tijuana, Mexico that have historically flowed into the United States via the north-draining canyons and ravines identified in this Order as Goat Canyon, Smugglers Gulch, Silva Drain, Canyon del Sol, and Stewart's Drain that empty into the Tijuana River Valley and Estuary. These wastewater flows from Tijuana are attributed to a variety of sources and causes including, but not limited to, treated wastewater effluent discharges, potable water leaks, sewer line leaks and spills, discharges from unsewered areas, and other failures and breakdowns of the wastewater collection infrastructure in

Mexico. The transboundary wastewater flows consist of treated and untreated municipal and industrial wastewater, potable water, and other miscellaneous flows depending on the source of the flow. These transboundary wastewater flows have adversely impacted the Tijuana River Valley and Estuary as well as adjacent coastal marine waters and beaches.

Monitoring of dry-weather transboundary wastewater flows that pass any one of the five Discharger's canyon collector systems is necessary to answer the following questions:

(1) What is the frequency and volume of dry weather transboundary wastewater flows?

(2) What are the sources of dry weather transboundary wastewater flows?

(3) What pollutants are present in dry weather transboundary wastewater flows and what is their concentration?

(4) Do pollutants in dry weather transboundary wastewater flows affect beneficial uses of the Tijuana River and Estuary?

(5) What is the mass loading of pollutants on the Tijuana River and Estuary from dry weather transboundary wastewater flows over time?

(6) Are the canyon collector systems being properly operated and maintained to ensure compliance with the conditions of the Order?

1. **Scope of Monitoring.** The Discharger shall conduct the monitoring and reporting program set forth below for the following event type:

   a. Transboundary Wastewater Flow Past the Canyon Collector System (Flow Event Type A) A dry weather transboundary treated or untreated wastewater or other flow through a conveyance structure owned and operated by the United States Government into Smuggler Gulch, Goat Canyon, Canyon del Sol, Stewart's Drain, or Silva Drain and not diverted into the canyon collector system for treatment at the Facility.

   b. Transboundary Wastewater Flow Event or Other Spill/Wastewater Flow Event in Mexico (Flow Event Type B). A dry weather spill or dry weather transboundary wastewater or other flow (not categorized in other Event Types) that creates, or threatens to create, pollution or nuisance conditions in waters of the United States and/or State including the Tijuana River (main channel), Yogurt Canyon drainage, other unnamed drainages and nearby coastal marine waters. These spills or transboundary flows include, but are not limited to the following:

      i. A dry weather transboundary treated or untreated wastewater flow in waters of the Tijuana River (main channel) as described in Commitment No. 16 of IBWC Minute No. 283 (*Conceptual Plan for the International Solution to the Border Sanitation Problem in San Diego, California/Tijuana, Baja California, July 2, 1990*).

      ii. A dry weather transboundary treated or untreated wastewater flow through a conveyance structure owned and operated by the United States Government into Yogurt Canyon.

      iii. Spills or wastewater flows occurring in Mexico that the Discharger has knowledge of.

2. **Inspections.** The Discharger shall conduct daily inspections of the international border areas at Smugglers Gulch, Goat Canyon, Canyon del Sol, Stewart's Drain, and Silva

Drain for the transboundary wastewater flows described in section VI.B.1.b above (see Table E-1 for Transboundary Station Locations). The inspections shall be documented, recorded, and contain the following information:

a. The monitoring location name and/or GPS coordinates, date, and time of inspection;

b. The weather conditions at the time of inspection;

c. The operational condition of the canyon collector system; and

d. If a flow is observed passing the Discharger's canyon collector system, the approximate date/time and amount of the last precipitation event, the estimated total volume diverted into the Discharger's canyon collector system, the estimated total volume that passes the Discharger's canyon collector system, and a description of the flow estimate methodology, including any standardized templates, tables, or pictures used to provide the estimates.

e. If no flow is observed that observation shall be recorded.

In the event that the Discharger is unable to inspect a location due to safety, legal, or other reasons, the inspection can be omitted. The Discharger shall record the circumstances for omitting the inspection.

3. **Monitoring.** If there is a transboundary flow that passes the Discharger's canyon collector system observed at the time of inspection, the Discharger shall monitor the flow for the parameters set forth below:

Table E-10. Spills and Transboundary Wastewater Flow Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Monitoring Location Name and/or GPS coordinates	--	--	--	--
Flow	MGD	Estimate[1]	1/day	--
BOD_5	mg/L	Grab	[2]	[3]
TSS	mg/L	Grab	[2]	[3]
TDS	mg/L	Grab	[2]	[3]
Turbidity	NTU	Grab	[2]	[3]
pH	pH Units	Grab	[2]	[3]
Total Nitrogen	mg/L	Grab	[2]	[3]
Total Phosphorus	mg/L	Grab	[2]	[3]
Enterococcus	number/100mL	Grab	[2]	[3]
Fecal Coliform	number/100mL	Grab	[2]	[3]
Total Coliform	number/100mL	Grab	[2]	[3]
Dissolved Oxygen	mg/L	Grab	[2]	[3]
Pesticides[4]	ug/L	Grab	[2]	[3]
Surfactants (MBAS)	ug/L	Grab	[2]	[3]
Priority Pollutants[5]	ug/L	Grab	[2]	[3]
Chronic Toxicity	TUc	Grab	[2]	[3]

1 A description of any methodology, standardized templates, tables or pictures used to provide the flow estimate shall be included in the report.

2 For transboundary wastewater flows that occur during dry weather (as defined in Attachment A of this Order), monitoring for these parameters is required once per Dry Weather flow event.

3. As required under 40 CFR part 136.

4 CWA section 301(h) pesticides listed at 40 CFR section 125.58(p).

5 California Toxics Rule; Priority pollutants as specified in 40 CFR section 131.38.

The reported results shall also include daily mass loading for BOD, TSS, TDS, total nitrogen, total phosphorus, pesticides, surfactants, and priority pollutants.

4. **Monthly Report.** All transboundary wastewater flow events shall be tabulated on a monthly basis and summarized in the monthly self-monitoring report. For Flow Event Type A, as defined in section VI.C.2.a.i of this Order, the monthly report shall include all the information set forth below. For Flow Event Type B, as defined in section VI.C.2.a.i of this Order, the monthly report shall include at a minimum the information set forth in items a-d, g, h, l, and m below to the extent such information is available. If no transboundary wastewater flows occurred within the calendar month, the Discharger shall report "no transboundary wastewater flows" for that calendar month in the monthly self-monitoring report. Each monthly report shall also include the rain gauge data from the Goat Canyon ALERT station and any other applicable rain gauge station, regardless of whether there was a transboundary flow event or not.

   a. A description of the event and its cause (if known);

   b. The location(s) where the event occurred, including the Transboundary Station location name (if applicable);

   c. The duration of the event (i.e., flow start and stop time, or expected stop time if ongoing due to repairs and maintenance);

   d. The volume of the event including a description of any methodology, standardized templates, tables, or pictures used to provide the volume estimate (or flow rate if ongoing);

   e. The results of any sampling conducted pursuant to section VI.A.3 of Attachment E, Table E-10 above;

   f. The reported results, if any, shall also include daily mass loading for BOD, TSS, TDS, total nitrogen, total phosphorus, pesticides, surfactants, and priority pollutants;

   g. The amount of precipitation that occurred in the 72 hours prior to the event start time or during the event at the Goat Canyon ALERT station and any other applicable rain gauge station (if applicable);

   h. The location and approximate volume of any related sewage spills that occurred in Tijuana, Mexico that may be contained in the reported transboundary wastewater flow (if known);

   i. If applicable, the reason why the canyon collector(s) did not capture the flow, or the date and time the canyon collector(s) were closed (if the transboundary wastewater flow ran past one or more of the canyon collectors);

   j. The most recent inspection, operation, and maintenance records for the applicable canyon collector(s) (if the transboundary wastewater flow ran past one or more of the canyon collectors);

   k. Corrective actions taken or planned (if applicable) (if the transboundary wastewater flow ran past one or more of the canyon collectors); and

   l. A description of any modifications made or planned to the Spill and Transboundary Wastewater Flow Prevention and Response Plan (if applicable); and

m. Any coordination with CILA to determine the reasons why the event occurred and any corrective actions planned or taken.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D of this Order) related to monitoring, reporting, and recordkeeping.
2. The Discharger shall report all instances of noncompliance not reported under Attachment D, Sections V.E, V.G, and V.H, of this Order at the time monitoring reports are submitted.

B. Self-Monitoring Report (SMR) Submittal

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/ciwqs/index.html). SMRs must be signed and certified as required by the Standard Provisions (Attachment D). The CIWQS website will provide additional information for SMR submittal in the event of a planned or unplanned service interruption for electronic submittal. The Discharger shall maintain sufficient staffing and resources to ensure it submits SMRs that are complete and timely. This includes provision for training and supervision of individuals on how to prepare and submit SMRs.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through X. The Discharger shall submit SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. When CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
3. Unless otherwise noted in the MRP, monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency/ Report Type	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	First day of the calendar month following the permit effective date or on permit effective date if that date is first day of the month.	All	First day of second calendar month following month of sampling.
1/Day	First day of the calendar month following the permit effective date or on permit effective date if that date is first day of the month.	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling.
1/Week	First Sunday of the calendar month following the permit effective date or on permit effective date if that date is on the first Sunday of the calendar month.	Sunday through Saturday	First day of second calendar month following month of sampling.

Sampling Frequency/ Report Type	Monitoring Period Begins	Monitoring Period	SMR Due Date
1/Monthly[1,2]	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month.	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date.	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Interim Receiving Water Monitoring Report (executive summary)[3]	January 1 following (or on) the Order effective date.	One calendar year	July 1 of the year following the even years (e.g., separate reports for calendar years 2016 (due 7/1/2017), 2018 (due 7/1/2019), and 2020 (due 7/1/2021))
Biennial Receiving Water Monitoring and Assessment Report (full assessment) [4]	January 1 following (or on) the Order effective date.	Two calendar years	July 1 of the year following the odd years (e.g., biennial reports for calendar years 2016-2017 (due 7/1/2018), 2018-2019 (due 7/1/2020), and 2020-2021(due 7/1/2022))
Oral/Written Biennial State of the Ocean Report[5]	January 1 following (or on) the Order effective date.	Two calendar years	By December 31 of the year following the odd years (e.g., biennial reports for calendar years 2016-2017 (due 12/2018), 2018-2019 (due 12/2020), and 2020-2021(due 12/2022))

1 Include the Monthly Report as required by sections VI.A and VI.B.4 of this Attachment E of Order No. R9-2014-0009.

2 Include monitoring results for offshore stations (section IV.B of this MRP) in the monthly SMRs

3 As specified in sections IV.E.1 and IV.E.2 of this MRP.

4 As specified in sections IV.B.2.c, IV.E.1, and IV.E.3 of this MRP.

5 As specified in section IV.E.4 of this MRP.

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (reported ML, also known as the Reporting Level, or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136. For each numeric effluent limitation or performance goal for a parameter identified in Table 1 of the Ocean Plan, the Discharger shall not use a ML greater than that specified in Appendix II of the Ocean Plan.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

b. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

6. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

7. **Violations.** The SMRs shall clearly identify violations of the WDR's; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMR's)

1. At any time during the term of this permit, the State or San Diego Water Board may notify the Discharger to electronically submit DMR's. Until such notification is given

specifically for the submittal of DMR's, the Discharger shall submit DMR's in accordance with the requirements described below.

2. DMR's must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1) or on self-generated forms that follow the exact same format of EPA Form 3320-1.

4. If either agency relocates its offices, the reports shall be submitted to the new office address provided by the San Diego Water Board.

D. Other Reports

The following reports are required under Special Provisions (section VI.C), Attachment E section IX, and the California Code of Regulations and shall be submitted to the San Diego Water Board, signed and certified as required by the Standard Provisions (Attachment D):

Table E-12. Other Reports

Report	Location of requirement	Due Date
Prevention/Response Plan	Section VI.C.2.a.ii	180 days after adoption of this Order
Prevention/Response Plan Amendment	Section VI.C.2.a.iii.a)	As Needed
Request to CILA to share Prevention/Response Plan and written confirmation from CILA	Section VI.C.2.b.i	1 year after adoption of this Order
Agenda and Meeting Summary for binational technical committee meetings on transboundary wastewater flow prevention and response	Section VI.C.2.b.ii	• January 1 through March 31 Report Due May 1 • April 1 through June 30 Report Due August 1 • July 1 through September 30 Report Due November 1 • October 1 through December 31 Report Due February 1
Presentation on transboundary wastewater flows	Section VI.C.2.b.v	See Table 6 of this Order
Preliminary Spill and Transboundary Wastewater Flow Report	Section VI.C.2.d.iii	As Needed
Certified Spill and Transboundary Wastewater Flow Report	Section VI.C.2.d.iv	As Needed
Toxicity Reduction Evaluation Workplan	Section VI.C.2.e.i	180 days after adoption of this Order
Results of any Toxicity Reduction Evaluation (TRE) Evaluation	Section VI.C.2.e.iii	Within 30 days of completion of the TRE
Bacteriological Standards Compliance Assessment Report.	Section VI of Attachment E	July 1, 2016
Influent Limitations	Section VI.C.5.a.i	Within one year of the adoption of this Order
Agenda and Meeting Summary for binational technical committee meetings on transboundary wastewater flow prevention and response	Section VI.C.5.b.i	• January 1 through March 31 Report Due May 1 • April 1 through June 30 Report Due August 1 • July 1 through September 30 Report Due November 1 • October 1 through December 31 Report Due February 1
Presentation and one-page summary information sheet on pretreatment information	Section VI.C.5.b.iv	See Table 8 of this Order
Annual Pretreatment Report	Section VI.C.5.c.v	March 31
Annual Sludge Report	Section VI.C.5.d.xi	March 30
Plume Tracking Monitoring Plan (PTMP)	Section IV.B.2 of this MRP	March 30, 2018
Report of Waste Discharge (for reissuance)	Title 23, California Code of Regulations	180 days before the Order expiration date

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section I, the San Diego Water Board incorporates this Fact Sheet as findings of the San Diego Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "Not Applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "Not Applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	9 000000732
Discharger	International Boundary and Water Commission, United States Section
Name of Facility	South Bay International Wastewater Treatment Plant
Facility Address	2995 Clearwater Way
	San Diego, CA 92154
	San Diego County
Facility Contact, Title and Phone	Steven J. Smullen, Area Operations Manager, 619-662-7600
Authorized Person to Sign and Submit Reports	Dawi Dakhil, Civil Engineer, 619-662-7600
Mailing Address	4171 N. Mesa, C-100, El Paso, TX 79902
Billing Address	Same as mailing address
Type of Facility	Federally Owned Treatment Works (FOTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Pretreatment Program administered by the Government of Mexico
Recycling Requirements	No
Facility Permitted Flow	25 million gallons per day (MGD)
Facility Design Flow	25 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

A. The United States section of the International Boundary and Water Commission (hereinafter Discharger or USIBWC) is the owner of the South Bay International Wastewater Treatment Plant (Facility or IWTP), five canyon collectors, two pump stations, the South Bay Land Outfall (SBLO) , South Bay Ocean Outfall (SBOO), and other associated infrastructure (collectively referred to as Facilities). The Discharger contracts with an entity to operate and maintain the Facilities. The SBLO is jointly owned by the Discharger and City of San Diego and operated and maintained by the Discharger. The SBOO is jointly owned and operated by the Discharger and City of San Diego. The City of San Diego discharges secondary effluent from

its South Bay Water Reclamation Plant (SBWRP) to the SBOO via the SBLO under separate waste discharger requirements (Order No. R9-2013-0006, NPDES Permit No. CA0109045).

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The discharge was previously regulated by Order No. 96-50 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0108928 adopted on November 14, 1996 and expired on October 10, 2001. In accordance with Title 40, Code of Federal Regulations (CFR) section 122.6 and the State's regulations at title 23, division 3, chapter 9, article 3, section 2235.4 of the California Code of Regulations (CCR), the terms of the existing Order were administratively extended and continued in effect after the permit expiration date until the adoption of Order No. R9-2014-0009. Attachment B provides a map of the area around the Facilities. Attachment C provides a flow schematic of the Facilities.

C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application of renewal for its Waste Discharge Requirements (WDR's) and NPDES permit in 2001. Because of ongoing litigation, finally concluded in 2013, the NPDES permit was not reissued at that time. The Discharger filed an updated ROWD and application for renewal of WDR's and NPDES permit in June 3, 2010.

II. FACILITY DESCRIPTION

After periods of tremendous population growth and a long history of inadequate sewerage facilities in Tijuana, Mexico and associated transboundary raw sewage flows, the governments of the United States and Mexico in 1990 agreed to build the Facility on the United States side of the border as part of a bilateral program to address environmental pollution in the international border region (IBWC Minute No. 283 between the United States and Mexican sections of the International Boundary and Water Commission). The Facility was built on a 75-acre site in San Ysidro, a community of the City of San Diego, near the international border in the U.S. immediately north of Tijuana's main wastewater pumping station. The Facility treats sewage flows exceeding the capacity of Tijuana's sewage treatment and conveyance facilities and also treats some transboundary flows in canyons and gullies that empty from Tijuana into the Tijuana River Estuary on the United States side of the international border. The Facility was originally planned as a secondary treatment facility; however, due to financial constraints, the plant was initially constructed as an advanced primary treatment facility in 1996.

In February 2001, the San Diego Water Board filed a complaint in U.S. District Court, Southern District of California (Court) against the Discharger, alleging violations of the federal Clean Water Act and the California Porter-Cologne Water Quality Control Act at the Facility. The complaint alleged the Discharger violated the terms of its NPDES Permit (San Diego Water Board Order No. 96-50/ NPDES Permit CA0108928) by failing to treat the Facility effluent to secondary treatment standards and by violating other effluent limitations.

On December 6, 2004, the Court issued a final judgment setting a compliance schedule for the Discharger to meet federal and state requirements for secondary treatment standards through construction of an activated sludge secondary treatment process at the Facility to improve effluent quality. Construction of the Facility upgrade was completed in late 2010; however, the Facility had an adjustment period of about one and a half years and did not start to consistently achieve substantial compliance with the NPDES Permit secondary treatment effluent limitations until mid-2012. On June 20, 2013, after about a year of substantial compliance with the secondary

treatment effluent limitations, the San Diego Water Board informed the Court of its opinion that the Discharger had complied with the Court's 2004 judgment.

A. Description of Wastewater Collections

The Facility receives flow from the City of Tijuana's municipal collection system which includes domestic and industrial sources, and receives flow from five canyon collectors used to capture transboundary dry weather flows. Approximately 25 MGD of sewage from Tijuana's 72-inch diameter line, at a location upstream of Tijuana's Pumping Plant (Pump Station 1/1A), is conveyed to Junction Box 1 in the U.S. by gravity flow. Then the sewage flows from Junction Box 1 to Junction Box 2 in the U.S. via gravity.

All dry weather flow in the Tijuana River that would otherwise flow into the United States is currently diverted from the river bed at the international border using the River Diversion Structure located on the Mexican side of the border. During low flow/ dry weather conditions, the Tijuana River water is conveyed by the CILA Pump Station, through a line parallel to the 72-inch diameter sewage line, to Tijuana's Pumping Plant (Pump Station 1/1A). From Tijuana's Pumping Plant (Pump Station 1/1A), Tijuana River water is sent south and discharged directly to the Pacific Ocean at Punta Bandera, located approximately 5.6 miles south of the international border. No Tijuana River water is currently diverted to the Facility. During high flow/ wet weather conditions (greater than 1000 liters per second of flow in the Tijuana River), the River Diversion Structure screens cannot be cleaned; the flow in the Tijuana River is not diverted and continues across the international border into the United States.

Canyon collectors are concrete channels and basins designed to capture transboundary dry weather flows from Mexico in canyons and ravines draining north across the international border into the United States. There are five canyon collector systems: Goat Canyon Diversion Structure, Smugglers Gulch Diversion Structure, Silva Drain Canyon Collector, Canyon del Sol Collector, and Stewarts Drain Canyon Collector. Captured dry weather flows from these collectors are diverted to the Facility for treatment and disposal through the SBOO. Any quantity of flows in the canyons exceeding the maximum design capacity of the canyon collectors overflows the structure and continues flowing north, potentially polluting the Tijuana River, the Tijuana River Valley and Estuary, and Pacific Ocean waters at south San Diego beaches. The canyon collector at Goat Canyon Diversion Structure conveys diverted flow to Goat Canyon Pump Station via gravity. From Goat Canyon Pump Station, flow is pumped to Hollister Street Pump Station. The canyon collector at Smugglers Gulch Diversion Structure conveys diverted flow to Hollister Street Pump Station via gravity. From the Hollister Street Pump Station, the diverted flow is pumped to Junction Box 2. The remaining three canyon collectors (Silva Drain Canyon Collector, Canyon del Sol Collector, and Stewarts Drain Canyon Collector) convey flow to Junction Box 2 by gravity flow.

Combined flows gathered at Junction Box 2 are conveyed via gravity to the Facility's headworks. Junction Box 1 contains valves to control the amount of Tijuana sewage flowing into the Facility. The Discharger has the capacity to increase influent flows in the event that an interruption of service were to occur in Tijuana's sewage treatment system.

The City of Tijuana operates several wastewater treatment plants in Mexico, including the San Antonio de los Buenos Treatment Plant. The San Antonio de los Buenos Treatment Plant operates in parallel to the Facility, possesses a design capacity of 25 MGD, and receives influent flows from the City of Tijuana conveyance system. Pumping Station 1 consists of a 42-inch force main and a conveyance canal possessing an operational capacity of 36 MGD.

A schematic illustrating the described wastewater collections is included in Attachment C to this Order

B. Description of Wastewater and Solids Treatment and Controls

Wastewater treatment unit operations and processes at the Facility consist of three mechanical bar screens, one grit removal unit, six primary sedimentation tanks with ferric chloride injection capabilities, polymer injections, seven aeration basins, and 10 secondary clarifiers. During the winter when the discharge (or outfall) plume is most likely to surface, the Discharger also chlorinates the effluent with sodium hypochlorite. Treated wastewater is discharged to the Pacific Ocean through the SBOO, via the SBLO. Attachment C provides a flow schematic of the Facility.

The advanced primary treatment facility has a peak hydraulic capacity of 100 MGD, a peak design flow rate of 75 MGD, and an average design flow rate of 25 MGD. The secondary treatment design capacity is 25 MGD with a peaking factor of approximately 2. If flow from the primary treatment units to the secondary treatment units exceeds 49.85 MGD, primary effluent flows exceeding 49.85 MGD bypass the polymer addition and activated sludge processes and discharge directly to the SBOO. Bypasses are prohibited unless they meet the requirements contained in Attachment D of this Order, section I.G The annual average daily discharge flow between the years 2008 through 2012 are summarized below:

Year	Annual Average Daily Flow
2008	23.92 MGD
2009	22.76 MGD
2010	22.95 MGD
2011	24.50 MGD
2012	23.98 MGD
2013	24.44 MGD

Solids from secondary sedimentation tanks are conveyed to three dissolved air flotation units for thickening. Thickened sludge from the dissolved air flotation units and solids collected from the primary sedimentation tanks are sent to an on-site solids handling facility for dewatering using belt-filter presses and lime stabilization. Processed solids are collected on-site and trucked to Mexico for disposal.

C. Discharge Points and Receiving Waters

The SBLO was completed in March 1994. The SBLO is 12,300 feet long. The SBLO starts at the Facility and ends at the mouth of Goat Canyon, where it connects to the SBOO. The diameter of the SBLO is 144 inches. The SBLO and SBOO were constructed for use by the Discharger and the City of San Diego's SBWRP. The SBOO extends westward approximately 23,600 feet from SBLO and the mouth of the Tijuana River. The outfall terminates in a wye diffuser with two 1,980-foot diffusers. The terminus of the ocean outfall and diffusors was placed within the territorial marine waters of the State as defined by California law.

Each diffuser leg contains 82 diffuser riser assemblies, and one at the wye structure for a total of 165 diffuser riser assemblies. The SBOO was constructed with a total average design capacity of 174 MGD and a peak hydraulic capacity of 233 MGD. The Facility is permitted to discharge up to 25 MGD of secondary treated wastewater to the outfall and the SBWRP is permitted to discharge up to 15 MGD. The effluent from the SBWRP is combined with the effluent from the Facility within the SBOO prior to discharge to the Pacific Ocean. To achieve proper effluent velocity and dilution levels, 18 diffuser risers (72 open ports) are in use on the

South leg of the diffuser. The North leg of the diffuser is closed with no open ports. The terminus of the diffuser is located at Latitude 32° 32' 15" North, Longitude 117° 11' 00" West.

The San Diego Water Board, with assistance from the State Water Board, determined the minimum initial dilution factor to be 94.6 for the discharge of up to 40 MGD of combined effluent through the SBOO using the U.S. Environmental Protection Agency (USEPA)-approved computer modeling package Visual Plumes with the UM3 model. The computer modeling was performed based on characteristics of the SBOO, the effluent, and the receiving water, subject to the input limitations of Visual Plumes. Monthly profiles for the receiving water were developed using receiving water data provided by the Discharger for the time period between June 2002 and April 2005. Initial dilution factors were determined for each monthly profile; the most conservative and minimum initial dilution factor was determined using the May profile. Section IV.C.3 of this Fact Sheet includes additional discussion of initial dilution. Additional details of the initial dilution computer modeling performed are provided in Attachment H and in the San Diego Water Board records.

D. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Influent limitations, effluent limitations, and discharge specifications contained in Order No. 96-50 for discharges from the Facility and representative monitoring data from July 2012 – October 2013 are as follows:

Table F-2. Historic Influent Limitations and Monitoring Data

Parameter	Units[1]	Influent Limitation			Monitoring Data[2] (July 2012 – October 2013)		
		Average Monthly	6-Month Median	Maximum At Anytime	Highest Average Monthly	Highest Average 6-Month Median	Highest Maximum At Anytime
Arsenic, Total Recoverable	mg/L	0.024	--	--	0.153	--	--
	lbs/day	5.0	--	--	37,093.9	--	--
Beryllium	mg/L	0.0025	--	--	<0.0018	--	--
	lbs/day	0.52	--	--	<544.9	--	--
Cadmium, Total Recoverable	mg/L	0.061	--	--	0.0121	--	--
	lbs/day	13	--	--	3,016.3	--	--
Chromium, Total Recoverable	mg/L	1.1	--	--	0.0227	--	--
	lbs/day	230	--	--	5,556.5	--	--
Copper, Total Recoverable	mg/L	--	0.15	--	--	0.955	--
	lbs/day	--	32	--	--	214.7	--
Cyanide	mg/L	--	0.075	--	--	<0.02	--
	lbs/day	--	16	--	--	<6.055	--
Lead, Total Recoverable	mg/L	0.16	--	--	0.027	--	--
	lbs/day	34	--	--	6.4	--	--
Mercury	mg/L	--	--	0.0054	--	--	0.0167
	lbs/day	--	--	1.1	--	--	4.027
Nickel, Total Recoverable	mg/L	--	0.44	--	--	0.236	--
	lbs/day	--	93	--	--	53.06	--
Silver, Total Recoverable	mg/L	--	0.052	--	--	0.012	--
	lbs/day	--	11	--	--	2.698	--

Parameter	Units[1]	Influent Limitation			Monitoring Data[2] (July 2012 – October 2013)		
		Average Monthly	6-Month Median	Maximum At Anytime	Highest Average Monthly	Highest Average 6-Month Median	Highest Maximum At Anytime
Zinc, Total Recoverable	mg/L	--	1.1	--	--	49.8	--
	lbs/day	--	220	--	--	2,296.43	--
HCH[1]	mg/L	--	0.00042	--	--	<0.000014	--
	lbs/day	--	0.088	--	--	<0.00151	--

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2 ND = Not Detected and NR = Not Reported

Table F-3. Historic Effluent Limitations and Monitoring Data (Major Constituents and Properties of Wastewater)

Parameter	Units[1]	Effluent Limitation			Monitoring Data[2] (July 2012 – October 2013)		
		Average Monthly	Average Weekly	Maximum At Anytime	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Maximum At Anytime
Flow	MGD	--	--	25	--	--	[3]
Carbonaceous Biochemical Oxygen Demand (5-Day at 20°C) ($CBOD_5$)	mg/L	25	40	45	18.8	33.1	140
	lbs/day	5,200	8,300	9,400	3896.6	7093.6	31,724
$CBOD_5$ percent removal	%	85	--	--	NR	--	--
Total Suspended Solids (TSS)	mg/L	30	45	50	26.2	61.7	339
	lbs/day	6,300	9,400	10,000	5570	13,573.9	76,817
TSS percent removal	%	85	--	--	NR	--	--
Oil & Grease	mg/L	25	40	75	0.1	0.1	39.6
	lbs/day	5,200	8,300	16,000	493.5	1,454.4	8,973.3
Settleable Solids	mL/L	1.0	1.5	3.0	NR	NR	6.2
Turbidity	NTU	75	100	225	8	24.9	155
pH	S.U.	Within limits of 6.0 - 9.0 at all times.			--	--	6.2-7.6[3]
Acute Toxicity	TUa	1.5	2.0	2.5	3.1	NR	8

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2 ND = Not Detected and NR = Not Reported

3 Represents range of monitoring results

Table F-4. Historic Effluent Limitations and Monitoring Data (Protection of Marine Aquatic Life)

Parameter	Units[1]	Effluent Limitation[2]			Monitoring Data[3] (July 2012 – October 2013)		
		6-Month Median	Maximum Daily	Instantaneous Maximum	Highest 6-month Median	Highest Maximum Daily	Highest Instantaneous Maximum
Arsenic, Total Recoverable	mg/L	0.51	2.9	7.8	NR	NR	0.216
	lbs/day	110	600	1,600	NR	NR	50.15
Cadmium, Total Recoverable	mg/L	0.10	0.40	1.0	NR	NR	0.0124
	lbs/day	21	83	210	NR	NR	2.7
Chromium (VI)	mg/L	0.20	0.81	2.0	NR	NR	0.158
	lbs/day	42	170	420	NR	NR	32.46

Parameter	Units[1]	Effluent Limitation[2]			Monitoring Data[3] (July 2012 – October 2013)		
		6-Month Median	Maximum Daily	Instantaneous Maximum	Highest 6-month Median	Highest Maximum Daily	Highest Instantaneous Maximum
Copper, Total Recoverable	mg/L	0.10	1.0	2.8	NR	NR	0.0517
	lbs/day	21	210	580	NR	NR	12.94
Lead, Total Recoverable	mg/L	0.20	0.81	2.0	NR	NR	0.12
	lbs/day	42	170	420	NR	NR	25.31
Mercury	mg/L	4.0	16	40	NR	NR	0.0133
	lbs/day	0.83	3.3	8.3	NR	NR	3.01
Nickel, Total Recoverable	mg/L	0.51	2.0	5.1	NR	NR	0.0295
	lbs/day	100	420	1,000	NR	NR	6.1
Selenium	mg/L	1.5	6.1	15	NR	NR	0.0546
	lbs/day	310	1,300	3,100	NR	NR	11.97
Silver, Total Recoverable	mg/L	0.055	0.27	0.69	NR	NR	<0.0007
	lbs/day	11	56	140	NR	NR	0.2119
Zinc, Total Recoverable	mg/L	1.2	7.3	19	NR	NR	1.4
	lbs/day	250	1,500	4,000	NR	NR	344.79
Cyanide	mg/L	0.10	0.40	1.0	NR	NR	<0.00002
	lbs/day	21	83	210	NR	NR	6.054
Total Chlorine Residual	mg/L	0.20	0.81	6.1	NR	NR	0.0002
	lbs/day	42	170	1,300	NR	NR	45.3
Ammonia (as N)	mg/L	61	240	610	NR	NR	0.0394
	lbs/day	13,000	50,000	130,000	NR	NR	8927.95
Chronic Toxicity	TUc	--	--	100	--	400	200
Phenolic Compounds[1] (Non-Chlorinated)	mg/L	3.0	12	30	NR	NR	<0.0249
	lbs/day	630	2,500	6,300	NR	NR	5.15
Chlorinated Phenolics[1]	mg/L	0.10	0.40	1.0	NR	NR	<0.011
	lbs/day	21	83	210	NR	NR	2.185
Endosulfan[1]	µg/L	0.91	1.8	2.7	NR	NR	<0.034
	lbs/day	0.19	0.38	0.56	NR	NR	NR
Endrin	µg/L	0.20	0.40	0.61	NR	NR	<0.002
	lbs/day	0.042	0.083	0.13	NR	NR	0.00052
HCH[1]	µg/L	0.40	0.81	1.2	NR	NR	<0.014
	lbs/day	0.083	0.17	0.25	NR	NR	0.0031
Radioactivity	Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations.						

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2 Effluent limits determined using the 2012 California Ocean Plan, an initial dilution factor of 94.6, and a flow rate of 25 MGD.

3 ND = Not Detected and NR = Not Reported

Table F-5. Historic Effluent Limitations and Monitoring Data (protection of Human Health)

Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Acrolein	mg/L	22	< 0.020
	lbs/day	4,600	NR
Antimony	mg/L	120	<0.023
	lbs/day	25,000	NR
Bis(2-chloroethoxy)methane	mg/L	0.44	<0.001
	lbs/day	92	NR

Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Bis(2-chloroisopropyl)ether	mg/L	120	<0.001
	lbs/day	25,000	NR
Chlorobenzene	mg/L	58	<0.001
	lbs/day	12,000	NR
Chromium (III)	g/L	19,000	0.026
	lbs/day	4,000,000	NR
Di-n-butyl Phthalate	mg/L	350	0.0069
	lbs/day	73,000	NR
Dichlorobenzenes[1]	g/L	0.52	$2.0x10^{-12}$
	lbs/day	110,000	NR
Diethyl Phthalate	g/L	3.3	$19x10^{-6}$
	lbs/day	690,000	NR
Dimethyl Phthalate	g/L	83	<0.001
	lbs/day	17,000,000	NR
4,6-dinitro-2-methylphenol	mg/L	22	<0.001
	lbs/day	4,600	NR
2,4-dinitrophenol	µg/L	0.40	22.75
	lbs/day	83	NR
Ethylbenzene	mg/L	400	0.0087
	lbs/day	83,000	NR
Fluoranthene	mg/L	1.5	<0.001
	lbs/day	310	NR
Hexachloro-cyclopentadiene	mg/L	5.9	<0.001
	lbs/day	1,200	NR
Nitrobenzene	mg/L	0.49	<0.001
	lbs/day	100	NR
Thallium	mg/L	1.4	<0.011
	lbs/day	290	NR
Toluene	g/L	8.6	0.11
	lbs/day	1,800,000	NR
Tributyltin	µg/L	0.14	0.003
	lbs/day	0.029	NR
1,1,1-trichloroethane	g/L	54	$<1x10^{-6}$
	lbs/day	11,000,000	NR
Acrylonitrile	µg/L	10	<20
	lbs/day	2.1	NR
Aldrin	ng/L	2.2	<75
	lbs/day	0.00046	NR
Benzene	mg/L	0.60	<0.001
	lbs/day	120	NR
Benzidine	ng/L	7.0	<1
	lbs/day	0.0015	NR
Beryllium	µg/L	3.3	<0.009
	lbs/day	0.69	NR
Bis(2-chloroethyl)ether	µg/L	4.5	<1
	lbs/day	0.94	NR
Bis(2-ethylhexyl) phthalate	µg/L	350	61
	lbs/day	73	NR
Carbon Tetrachloride	µg/L	0.91	<1
	lbs/day	19	NR
Chlordane[1]	ng/L	2.3	<50
	lbs/day	0.00048	NR
Chlorodibromomethane (dibromochloromethane)	NA	NA	
	NA	NA	

Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Chloroform	mg/L	13	0.015
	lbs/day	2,700	NR
DDT[1]	ng/L	17	<10
	lbs/day	0.0035	NR
1,4-dichlorobenzene	mg/L	1.8	<0.001
	lbs/day	380	NR
3,3-dichlorobenzidine	µg/L	0.82	1
	lbs/day	0.17	NR
1,2-dichlorothane	mg/L	13	<0.001
	lbs/day	2,700	NR
1,1-dichloroethylene	g/L	72	$<1x10^{-6}$
	lbs/day	150,000	NR
Dichlorobromomethane	NA	NA	
	NA	NA	
Dichloromethane (Methylene Chloride)	mg/L	45	<0.001
	lbs/day	9,400	NR
1,3-dichloropropene (1,3-Dichloropropylene)	mg/L	0.90	<0.001
	lbs/day	190	NR
Dieldrin	ng/L	4.0	<20
	lbs/day	0.00083	NR
2,4-dinitrotoluene	µg/L	260	< 1
	lbs/day	54	NR
1,2-diphenylhydrazine	µg/L	16	< 5
	lbs/day	3.3	NR
Halomethanes[1]	mg/L	13	0.0363
	lbs/day	2,700	NR
Heptachlor	ng/L	73	<0.01
	lbs/day	0.015	NR
Heptachlor Epoxide	NA	NA	
	NA	NA	
Hexachlorobenzene	ng/L	21	<1
	lbs/day	0.0044	NR
Hexachlorobutadiene	mg/L	1.4	<0.001
	lbs/day	290	NR
Hexachloroethane	µg/L	250	<1
	lbs/day	52	NR
Isophorone	g/L	15	<0.001
	lbs/day	3,100,000	NR
N-nitrosodimethylamine	mg/L	0.74	0.003
	lbs/day	150	NR
N-nitrosodi-N-propylamine	NA	NA	
	NA	NA	
N-nitrosodiphenylamine	µg/L	250	<1
	lbs/day	52	NR
PAHs[1]	µg/L	0.89	< 1
	lbs/day	0.19	NR
PCBs[1]	ng/L	1.9	<500
	lbs/day	0.00040	NR
TCDD Equivalents[1]	pg/L	0.39	<5
	lbs/day	$8.1x10^{-8}$	NR
1,1,2,2-tetrachlorothane	mg/L	120	<0.001
	lbs/day	25,000	NR
Tetrachloroethylene (Tetrachloroethene)	mg/L	1.0	0.005
	lbs/day	210	NR

Parameter	Units[1]	Effluent Limitation[2]	Monitoring Data[3] (July 2012 – October 2013)
		30-day Average	Highest 30-day Average
Toxaphene	ng/L	21	<1,000
	lbs/day	0.0044	NR
Trichloroethylene (Trichloroethene)	mg/L	2.7	0.012
	lbs/day	560	NR
1,1,2-trichloroethane	g/L	4.3	$<1x10^{-6}$
	lbs/day	900,000	NR
2,4,6-Trichlorophenol	µg/L	29	0.4
	lbs/day	6.0	NR
Vinyl Chloride	mg/L	3.6	<0.005
	lbs/day	750	NR

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2 Effluent limits determined using the 2012 California Ocean Plan, an initial dilution factor of 94.6, and a flow rate of 25 MGD.

3 ND = Not Detected and NR = Not Reported

E. Compliance Summary

The Facility first started to discharge advanced primary-treated effluent to the SBOO in January 1999, under Order No. 96-50. As explained in section II of this Fact Sheet, the Facility was initially planned as a secondary treatment facility; however, due to financial constraints, the plant was instead constructed as an advanced primary treatment facility in 1996. The primary-treated effluent could not comply with the secondary treatment effluent limitations contained in Order No. 96-50 and there were numerous exceedances of other effluent limitations as well. The effluent exceedances included acute toxicity, ammonia, $CBOD_5$, chronic toxicity, mercury, TCDD equivalents, TSS, 2,4,6-trichlorophenol, chlordane, copper, DDT, nickel, PAH, PCB, tributyltin, zinc, turbidity, and flow. From 1996 to 2001, the Facility was regulated under Cease and Desist Order No. 96-52, which contained a time schedule for achieving compliance with the secondary treatment effluent limitations contained in Order No. 96-50. The Cease and Desist Order also contained interim effluent limitations which would remain in effect until compliance with secondary treatment effluent limitations was achieved. From 2001 to approximately June 20, 2013, the Facility was subject to a federal court's judgment setting a compliance schedule for meeting federal and state secondary treatment requirements through construction of an activated sludge secondary treatment process at the Facility to improve effluent quality.

The Facility upgrade to secondary treatment became operational in November 2010; however, due to various operational problems the facility was unable to consistently achieve substantial compliance with secondary treatment effluent limitations until mid-2012. Since June 2013, the Discharger has reported the following influent and effluent limitation exceedances:

- Arsenic (two violations of the monthly average influent concentration limitation (mg/L) and two violations of the monthly average influent mass emission limitation (lb/day) on July 27, 2013 and October 20, 2013).
- Mercury (one violation of the monthly average influent concentration limitation (mg/L) and one violation of the monthly average influent mass emission limitation (lb/day) on August 6, 2013).

- $CBOD_5$ (two violations of the instantaneous maximum effluent concentration limitation (mg/L) and two violations of the instantaneous maximum effluent mass emission limitation (lb/day) on March 10 and 16, 2014).
- TSS (two violations of the instantaneous maximum effluent concentration limitation (mg/L) and two violations of the instantaneous maximum effluent mass emission limitation (lb/day) on March 10 and 16, 2014).
- Acute Toxicity (one violation of the instantaneous maximum effluent limitation and nine violations of the 30-day average effluent limitation on July 25 and 31, 2013; August 5, 8, 13, 15, and 19, 2013;, and March 26 and 27, 2014).
- TCDD (four violations of the 30-day average effluent concentration limitation (mg/L) on July 1, 2013; August 1, 2013; September 1, 2013; and October 1, 2013).

Under the Tentative Order, since June 2013, the Discharger would have only had the following violations:

- Arsenic (two violations of the monthly average influent concentration limitation (mg/L) and two violations of the monthly average influent mass emission limitation (lb/day) on July 27, 2013 and October 20, 2013).
- Mercury (one violation of the monthly average influent concentration limitation (mg/L) and one violation of the monthly average influent mass emission limitation (lb/day) on August 6, 2013).
- Acute Toxicity (one violation of the instantaneous maximum limitation on March 26, 2014).
- TCDD (four violations of the 30-day average concentration limitation (mg/L) on July 1, 2013; August 1, 2013; September 1, 2013; and October 1, 2013).

F. Planned Changes

The Discharger completed an upgrade to secondary treatment in November, 2010 and has not indicated that any plans exist to make additional upgrades or alterations to its system.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

B. California Environmental Quality Act

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of chapter 3 of the California Environmental Quality Act (CEQA), (commencing with section 21100) of division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Water Quality Control Plan for the San Diego Basin (Basin Plan) designates beneficial uses, establishes water quality objectives, and

contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The San Diego Water Board adopted, and the State Water Board approved the Basin Plan in 1975. A subsequent revision to the Basin Plan was adopted by the San Diego Water Board and approved by the State Water Board in 1994. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table F-6. Basin Plan Beneficial Uses

Discharge Point No.	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

In order to protect the beneficial uses, the Basin Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Basin Plan.

2. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, and 2012. The State Water Board adopted the latest amendment on October 16, 2012, and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

Table F-7. Ocean Plan Beneficial Uses

Discharge Point No.	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

3. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR section 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

4. **Antidegradation Policy.** 40 CFR section 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in Resolution No. 68-16

("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR section 131.12 and Resolution No. 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 USCA sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

D. Impaired Water Bodies on CWA 303(d) List

On November 12, 2010, USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to section 303(d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. The 303(d) list for waters in the vicinity of the Tijuana River, Tijuana River Estuary, and SBOO include:

1. Pacific Ocean Shoreline, Otay Valley HA, at Carnation Ave and Camp Surf Jetty for total coliform
2. Pacific Ocean Shoreline, Imperial Beach Pier for fecal coliform, total coliform, and PCBs (fish tissue)
3. Pacific Ocean Shoreline, Tijuana HU, at end of Seacoast Drive for enterococcus, fecal coliform, and total coliform
4. Pacific Ocean Shoreline, Tijuana HU, at 3/4 mile North of Tijuana River for enterococcus, fecal coliform, and total coliform
5. Pacific Ocean Shoreline, Tijuana HU, at Tijuana River mouth for enterococcus, fecal coliform, and total coliform
6. Pacific Ocean Shoreline, Tijuana HU, at Monument Road for fecal coliform and total coliform
7. Pacific Ocean Shoreline, Tijuana HU, at the U.S. Border for enterococcus, fecal coliform, and total coliform
8. Tijuana River, Tijuana HU, eutrophic, indicator bacteria, low dissolved oxygen, pesticides, phosphorus, sedimentation/ siltation, selenium, solids, surfactants (MBAS), synthetic organics, total nitrogen as N, toxicity, trace elements, and trash.
9. Tijuana River Estuary, Tijuana HU, eutrophic, indicator bacteria, lead, nickel, pesticides, thallium, trash, and turbidity.

Currently, there is no effective total maximum daily load (TMDL) for the Pacific Ocean near the SBOO. A draft TMDL is under development for the Tijuana River for solids, turbidity, and trash.

E. Other Plans, Polices and Regulations

1. **Secondary Treatment Regulations.** 40 CFR part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by the USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.
2. **Storm Water.** Sewage treatment works with a design flow of 1.0 MGD or greater are required to comply with Water Quality Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), *Waste Discharge Requirements for Dischargers of Storm Water Associated with Industrial Activities, Excluding Construction Activities*.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

This Order retains the discharge prohibitions from Order No. 96-50, as described below. Compliance determination language is included in section VII of this Order to accurately describe how violations of these prohibitions are determined. Discharges from the Facilities to surface waters of the United States in violation of prohibitions contained in this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facilities to land that are not discharges to waters of the United States are violations governed by the Water Code and are not subject to third party lawsuits under the CWA because the Water Code does not contain provisions allowing third party lawsuits.

Discharge Prohibitions III.A through III.C have been carried over from Order No. 96-50. Prohibition III.A clearly defines what types of discharges are prohibited. This prohibition is based on 40 CFR section 122.21(a), duty to apply, and CWC section 13260, which requires filing a ROWD before discharges can occur. Discharges not described in the ROWD, and subsequently in this Order, are prohibited. Prohibition III.B and III.C include discharge prohibitions of the Ocean Plan and the Basin Plan.

Order No. 96-50 prohibited bypassing of untreated wastes, except as provided for in 40 CFR section 122.41(m). Because this prohibition is expressly included in Attachment D of this Order, this requirement is not retained in section III of this Order.

Order No. 96-50 prohibited discharges to the Pacific Ocean through the SBOO in excess of a 25.0 MGD flow rate at any time unless the discharger obtains revised waste discharge requirements authorizing an increased flow rate. Because this prohibition is now included as an effluent limitation, this requirement is not retained in section III of this Order.

Order No. 96-50 prohibited discharges of waste to Areas of Special Biological Significance and the discharge of sludge to the ocean. Because these prohibitions are expressly included in the Ocean Plan prohibitions, which are included in this Order as Prohibition III.B and

incorporated in Attachment G of this Order, these specific requirements are not retained in section III of this Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR section 122.44(a)(1) require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards.

Regulations promulgated in 40 CFR section 125.3 require technology-based effluent limitations to be placed in NPDES permits.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements attainable through the application of secondary treatment [defined in 40 CFR section 304(d)(1)].

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR part 133. These technology-based regulations apply to all wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of Biochemical Oxygen Demand (5-day) (BOD_5), TSS, and pH. In lieu of effluent limitations for BOD_5 where BOD_5 may not provide a reliable measure of the oxygen demand of the effluent, 40 CFR section 133.102(a)(4) allows for effluent limitations for $CBOD_5$ to be applied.

The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Therefore, the discharge of wastewater to the Pacific Ocean at Discharge Point No. 001 is subject to the Ocean Plan. The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table 2 of the Ocean Plan establishes technology-based effluent limitations for publicly-owned treatment works (POTW) and industrial discharges for which Effluent Limitation Guidelines have not been established pursuant to sections 301, 302, or 306 of the CWA (summarized in Table F-6 below). Although this Facility does not meet the definition of a POTW, the Facility is a federally-owned treatment works that serves the same functions. Thus, this Order established numeric effluent limitations based on Table 2 of the Ocean Plan.

The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR part 133 and technology-based requirements contained in Table 2 of the Ocean Plan.

2. Applicable Technology-Based Effluent Limitations

This Order does not retain the “Maximum at Any Time” (instantaneous maximum) effluent limitations for $CBOD_5$ and TSS contained in Order No. 96-50 which were established using best professional judgment. Recent attempts to derive instantaneous maximum effluent limitations based on the secondary treatment standards at 40 CFR part 133 using appropriate statistical approaches did not yield results similar to the previous instantaneous maximum effluent limitations; therefore, based on this new information, retaining the previous instantaneous maximum effluent limitations for $CBOD_5$ and TSS in this Order is not supported.

Technology-based regulations, specified in 40 CFR part 133, are summarized in the table below.

Table F-8. Summary of Technology-Based Effluent Limitations Based on Secondary Treatment Standards

Parameter	Monthly Average	Weekly Average	30-day Percent Removal
$CBOD_5$	25 mg/L	40 mg/L	85%
TSS	30 mg/L	45 mg/L	85%
pH	Effluent values shall remain within the limits of 6.0 to 9.0 at all times		
Percent Removal	The 30-day average percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.		

Technology-based regulations, specified in Table 2 of the Ocean Plan, are summarized below:

Table F-9. Summary of Technology-Based Effluent Limitations Based on Table 2 of the Ocean Plan

Parameter	Unit	Average Monthly	Average Weekly	Instantaneous Minimum	Instantaneous Maximum
Grease and Oil	mg/L	25	40		75
TSS	mg/L	60[1]	--		--
Settleable Solids	mL/L	1.0	1.5		3.0
Turbidity	NTU	75	100		225
pH	standard units	--	--	6.0	9.0
Percent Removal	Dischargers shall, as a 30-day average, remove 75 percent of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.				

Because secondary treatment standards contain effluent limitations for TSS that are more stringent than Table 2 of the Ocean Plan, the more stringent effluent limitations for TSS will be applied to discharges from the Facility.

The current permitted flow is an instantaneous maximum of 25 MGD based on the Facility's design capacity. As discussed in section II of this Fact Sheet, the Facility was upgraded to provide secondary treatment. The advanced primary treatment facility has a peak hydraulic capacity of 100 MGD, peak design flow rate of 75 MGD, and an average design flow rate of 25 MGD. The secondary treatment design capacity is 25 MGD with a peaking factor of approximately 2. Therefore, the effluent limitation for flow is being modified to an average monthly flow rate of 25 MGD.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under section 304(a) of the CWA, supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan and Ocean Plan, and achieve applicable water quality objectives and criteria that are contained in the Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters.

a. Basin Plan. The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section III.C.1 of this Fact Sheet.

The Basin Plan water quality objective for dissolved oxygen applicable to ocean waters is stated as follows: “The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials”.

The Basin Plan includes water quality objectives for pH applicable to the receiving water.

The Basin Plan states, “The pH value shall not be changed at any time more than 0.2 pH units from that which occurs naturally.”

b. Ocean Plan. The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section III.C.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity.

Table 1 of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

i. 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total chlorine residual and chronic toxicity, for the protection of marine aquatic life.

ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.

iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.

iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

Order No. 96-50 contained effluent limitations for non-conventional and toxic pollutant parameters in Table B of the 1990 California Ocean Plan. For this Order, the need for effluent limitations based on water quality objectives in Table 1 of the 2012 Ocean Plan was re-evaluated in accordance with 40 CFR section 122.44(d) and guidance for statistically determining the “reasonable potential” for a discharged pollutant to exceed an objective, as outlined in the revised Technical Support Document for Water Quality-

Based Toxics Control (TSD; EPA/505/2-90-001, 1991) and the Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution) can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure). If no data was provided for a parameter, and an RPA could not be conducted for that parameter, reasonable potential for that parameter was carried over to this Order based on the requirements of federal and State anti-backsliding regulations. Data for all parameters was available to conduct an RPA.

The implementation provisions for Table 1 in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure.

Prior to issuance of Order No. 96-50, the State Water Board had determined the minimum initial dilution factor (Dm), expressed as parts seawater per part wastewater, for the SBOO to be 100. This determination was based on 660 diffuser ports being open and an average daily flow rate of 174 MGD, although, at the time, the total permitted flow rate through the SBOO was only 25 MGD. Prior to issuance of Order No. R9-2006-0067, NPDES Permit No. CA0109045, *Waste Discharge Requirements for the City of San Diego South Bay Water Reclamation Plant Discharge to the Pacific Ocean via the South Bay Ocean Outfall*, the Dm was recalculated in order to account for the maximum permitted effluent flow through the SBOO (25 MGD from the Facility and 15 MGD from SBWRP) and the current configuration of the diffuser (72 open ports). The new recalculated Dm was determined as 94.6 using the USEPA approved computer modeling application Visual Plumes with the UM3 model. There is insufficient data for the SBOO's effluent at this time to reevaluate Dm. Further, the Facility's upgrade to secondary treatment is expected to result in lower conductivity and thus more dilution. Therefore, the current Dm of 94.6 will be applied to WQBELs established herein.

Conventional pollutants were not considered as part of the RPA. Technology-based effluent limitations for these pollutants are included in this Order as described in section IV.B of this Fact Sheet.

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analyses, the San Diego Water Board has conducted the RPA for the parameters listed in Table F-10. For parameters that do not display reasonable potential, this Order includes desirable maximum effluent concentrations which were

derived using effluent limitation determination procedures described below and are referred to in this Order as "performance goals." A narrative limit statement to comply with all Ocean Plan objectives requirements is provided for those parameters not displaying reasonable potential. The Discharger is required to monitor for these parameters pursuant to the Monitoring and Reporting Program (MRP, Attachment E) in order to gather data for use in reasonable potential analyses for future permit reissuances.

Effluent data provided in the Discharger's monitoring reports for the Facility from July 2012[1] to October 2013 were used in the RPA. A minimum probable initial dilution of 94.6 was considered in this evaluation.

A summary of the RPA results is provided below:

Table F-10. RPA Results Summary

Parameter	Units[10]	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Arsenic	µg/L	61	216	8[5]	3[6]	2
Cadmium	µg/L	61	7.5	1[5]	0	2
Chromium, Total Recoverable	µg/L	61	158	2[5]	0	2
Copper	µg/L	61	42.8	3[5]	2[6]	2
Lead	µg/L	61	120	2[5]	0	2
Mercury	µg/L	61	13.3	0.04[5]	0.0005[6]	1
Nickel	µg/L	59	29.5	5[5]	0	2
Selenium	µg/L	60	54.6	15[5]	0	2
Silver	µg/L	57	<0.7	0.7[5]	0.16[6]	2
Zinc	µg/L	61	1400	20[5]	8[6]	1
Cyanide	µg/L	57	<0.02	1[5]	0	2
Total Chlorine Residual	µg/L	423	0.2	2[5]	0	2
Ammonia	µg/L	61	39.4	600[5]	0	2
Acute Toxicity	TUa	57	8	0.3[7]	0	1
Chronic Toxicity	TUc	50	200	1[7]	0	1
Phenolic Compounds[10]	µg/L	65	<1.26	30[5]	0	2
Chlorinated Phenolics[10]	µg/L	65	<2	1[5]	0	2
Endosulfan[10]	µg/L	56	<0.02	0.009[5]	0	2
Endrin	µg/L	57	<0.002	0.002[5]	0	2
HCH[10]	µg/L	57	<0.005	0.004[5]	0	2
Radioactivity	pCi/L	--	--	[8]	0	--
Acrolein	µg/L	16	<2.6	220[9]	0	2
Antimony	µg/L	61	278	1,200[9]	0	2
Bis(2-chloroethoxyl)methane	µg/L	30	<0.27	4.4[9]	0	2
Bis(2-chloroisopropyl)ether	µg/L	16	<0.38	1,200[9]	0	2
Chlorobenzene	µg/L	16	<0.31	570[9]	0	2
Chromium (III)	µg/L	61	158	190,000[9]	0	2
Di-n-butyl phthalate	µg/L	16	<0.25	3,500[9]	0	2
Dichlorobenzenes[10]	µg/L	16	<0.55	5,100[9]	0	2
Diethyl phthalate	µg/L	16	<1	33,000[9]	0	2
Dimethyl phthalate	µg/L	32	<0.22	820,000[9]	0	2
4,6-Dinitro-2-methylphenol	µg/L	16	<1	220[9]	0	2
2,4-Dinitrophenol	µg/L	16	<1	4.0[9]	0	2

[1] This time frame corresponds to the dates that the Discharger started to come into substantial compliance with NPDES Permit effluent limitations, as explained in section II of this Fact Sheet.

Parameter	Units[10]	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Ethylbenzene	µg/L	16	<0.38	4,100[9]	0	2
Fluoranthene	µg/L	16	<0.13	15[9]	0	2
Hexachlorocyclopentadiene	µg/L	16	<1	58[9]	0	2
Nitrobenzene	µg/L	16	<0.23	4.9[9]	0	2
Thallium	µg/L	61	565	2[9]	0	1
Toluene	µg/L	16	1.4	85,000[9]	0	2
Tributyltin	µg/L	16	<0.004	0.0014[9]	0	3
1,1,1-Trichloroethane	µg/L	16	<0.23	540,000[9]	0	2
Acrylonitrile	µg/L	16	<1.5	0.10[9]	0	2
Aldrin	µg/L	53	<0.002	0.000022[9]	0	2
Benzene	µg/L	16	<0.47	5.9[9]	0	2
Benzidine	µg/L	16	<1	0.000069[9]	0	3
Beryllium	µg/L	69	<1.8	0.033[9]	0	2
Bis(2-chloroethyl) ether	µg/L	16	<0.42	0.045[9]	0	2
Bis(2-ethylhexyl) phthalate	µg/L	16	9	3.5[9]	0	2
Carbon tetrachloride	µg/L	16	<0.38	0.90[9]	0	2
Chlordane[10]	µg/L	138	<10	0.000023[9]	0	3
Chlorodibromomethane (dibromochloromethane)	µg/L	16	<0.36	8.6[9]	0	3
Chloroform	µg/L	16	6.9	130[9]	0	2
DDT[10]	µg/L	69	<3.007	0.00017[9]	0	3
1,4-Dichlorobenzene	µg/L	16	<0.26	18[9]	0	2
3,3-Dichlorobenzidine	µg/L	16	<0.0062	0.0081[9]	0	2
1,2-Dichloroethane	µg/L	16	<0.25	28[9]	0	2
1,1-Dichloroethylene	µg/L	16	<0.07	0.9[9]	0	2
Dichlorobromomethane	µg/L	16	4.1	6.2[9]	0	2
Dichloromethane (Methylene Chloride)	µg/L	16	<0.43	450[9]	0	2
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	16	<0.32	8.9[9]	0	2
Dieldrin	µg/L	69	<0.002	0.00004[9]	0	2
2,4-Dinitrotoluene	µg/L	16	<0.45	2.6[9]	0	2
1,2-Diphenylhydrazine	µg/L	16	<1	0.16[9]	0	2
Halomethanes[10]	µg/L	16	<2.43	130[9]	0	2
Heptachlor	µg/L	69	<0.002	0.00005[9]	0	2
Heptachlor Epoxide	µg/L	69	<0.003	0.00002[9]	0	3
Hexachlorobenzene	µg/L	16	<0.35	0.00021[9]	0	3
Hexachlorobutadiene	µg/L	16	<0.56	14[9]	0	2
Hexachloroethane	µg/L	16	<0.25	2.5[9]	0	2
Isophorone	µg/L	16	<0.64	730[9]	0	2
N-nitrosodimethylamine	µg/L	69	<1	7.3[9]	0	2
N-nitrosodi-N-propylamine	µg/L	69	<0.58	0.38[9]	0	2
N-nitrosodiphenylamine	µg/L	69	<0.12	2.5[9]	0	2
PAHs[10]	µg/L	60	<0.34	0.0088[9]	0	2
PCBs[10]	µg/L	65	<2.8	0.000019[9]	0	3
TCDD equivalents[10]	pg/L	14	0.0001736	0.0000039[9]	0	1
1,1,2,2-Tetrachoroethane	µg/L	16	<0.42	2.3[9]	0	2
Tetrachloroethylene (Tetrachloroethene)	µg/L	16	<0.31	2.0[9]	0	2
Toxaphene	µg/L	69	<0.5	0.00021[9]	0	3

Parameter	Units[10]	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Trichloroethylene (Trichloroethene)	µg/L	16	<0.23	27[9]	0	2
1,1,2-Trichloroethane	µg/L	16	<0.34	9.4[9]	0	2
2,4,6-Trichlorophenol	µg/L	69	<1	0.29[9]	0	2
Vinyl Chloride	µg/L	16	<0.47	36[9]	0	2

1 Number of data points available for the RPA.
2 If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3 End Point 1 – Reasonable Potential (RP) determined, limit required, monitoring required.
End Point 2 – Discharge determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring.
4 Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present a RP (i.e. Endpoint 2).
5 Based on the 6-Month Median in the Table 1 of the Ocean Plan.
6 Background concentrations contained in Table 3 of the Ocean Plan.
7 Based on the Daily Maximum in Table 1 of the Ocean Plan.
8 Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations. Levels of radioactivity that exceed the applicable criteria are not expected in the discharge.
9 Based on 30-Day Average in Table 1 of the Ocean Plan.
10 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

Reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (i.e. Endpoint 1) was determined for zinc, mercury, acute toxicity, chronic toxicity, TCDD equivalents, and thallium. Thus effluent limitations for these parameters have been retained.

For parameters for which the RPA was inconclusive (Endpoint 3), reasonable potential was not determined and effluent limitations are retained. Endpoint 3 applied to tributyltin, benzidine, chlordane, chlorodibromomethane, DDT, heptachlor epoxide, hexachlorobenzene, PCBs, and toxaphene. Thus effluent limitations for these parameters were retained.

Consistent with 40 CFR section 122.44(l)(2)(i)(B), effluent limitations from Order No. 96-50 were not retained for parameters for which there was no RP (Endpoint 2). Instead, performance goals have been assigned for these parameters.

The monitoring requirements in Attachment E of this Order are designed to obtain additional information for these constituents to determine if reasonable potential exists for these parameters in future permit renewals and/or updates.

4. WQBEL Calculations

a. From the Table 1 water quality objectives of the Ocean Plan, effluent limitations and performance goals are calculated according to the following equations:

For all pollutants, except for acute toxicity (if applicable) and radioactivity:

Ce = Co + Dm (Co – Cs) where,
Ce = the effluent limitation (µg/L)

Co = the water quality objective to be met at the completion of initial dilution (µg/L)

Cs = background seawater concentration (µg/L), from Table 3 of the Ocean Plan

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater

For acute toxicity (if applicable):

Ce = Ca + (0.1) Dm (Ca) where,
Ce = the effluent limitation

Ca = the concentration (water quality objective) to be met at the edge of the acute mixing zone

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater (This equation applies only when Dm > 24)

b. As discussed in section IV.C.3 above, the Dm has been determined to be 94.6 by the San Diego Water Board through the application of USEPA's dilution model, Visual Plumes.

c. Table 3 of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as "Cs"). In accordance with Table 1 implementing procedures, Cs equals zero for all pollutants not established in Table 3. The background concentrations provided in Table 3 are summarized below:

Table F-11. Pollutants Having Background Concentrations

Pollutant	Background Seawater Concentration
Arsenic	3 µg/L
Copper	2 µg/L
Mercury	0.0005 µg/L
Silver	0.16 µg/L
Zinc	8 µg/L

d. Section 122.45(f)(1) of 40 CFR requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. Section III.C.4.j of the Ocean Plan requires that mass emission rate limitations be established in addition to the effluent concentration limitations for all Table 1 parameters. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature. Exceptions to mass limitations are also allowable where effluent limitations are based on applicable standards expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation:

lb/day = Permitted Flow (MGD) x Pollutant Concentration (mg/L) x 8.34

e. The calculations for the effluent limitations for zinc are shown below as an example of how effluent limitations and performance goals have been calculated.

Table F-12. Water Quality Objectives from the Ocean Plan for Zinc

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
zinc	µg/L	20	80	200

Using the equations in sections IV.C.4.a and d above, effluent limitations are calculated for zinc as follows.

Ce = Co + Dm (Co – Cs)

Ce = 2 + 94.6 (20 – 0) = 1,155.2 µg/L (6-Month Median)

Ce = 8 + 94.6 (80 – 0) = 6,891.2 µg/L (Daily Maximum)

Ce = 60 + 94.6 (200 – 0) = 18,363.2 µg/L (Instantaneous Maximum)

lb/day = Permitted Flow (MGD) x Pollutant Concentration (mg/L) x 8.34

lb/day = 25 MGD x 1.1552 mg/L x 8.34 = 241 lb/day

lb/day = 25 MGD x 6.8912 mg/L x 8.34 = 1437 lb/day

lb/day = 25 MGD x 1.83632 mg/L x 8.34 = 3829 lb/day

Due to a decrease in the minimum probable initial dilution (explained in section IV.C.3 above), the calculated effluent limitations for zinc are less than those in the previous Order.

Based on the implementing procedures described above, effluent limitations and performance goals have been calculated for all pollutants in Table 1 of the Ocean Plan and incorporated into this Order.

f. A summary of the WQBELs established in this Order is provided below:

Table F-13. Summary of Water Quality-based Effluent Limitations, Discharge Point No. 001

Parameter	Unit[1]	Water Quality-Based Effluent Limitations[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Mercury, Total Recoverable	µg/L	3.78E+00	1.52E+01	3.82E+01	--
	lbs/day	7.87E-01	3.18E+00	7.96E+00	--
Zinc	µg/L	1.16E+03	6.89E+03	1.84E+04	
	lbs/day	2.41E+02	1.44E+03	3.83E+03	
Acute Toxicity	TUa	--	3.2	--	--
Chronic Toxicity	TUc	--	95.6	--	--

BASED ON OCEAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Thallium, Total Recoverable	µg/L	--	--	--	1.91E+02
	lbs/day	--	--	--	3.99E+01
Tributyltin	µg/L	--	--	--	1.34E-01
	lbs/day	--	--	--	2.79E-02
Benzidine	µg/L	--	--	--	6.60E-03
	lbs/day	--	--	--	1.38E-03
Chlordane[1]	µg/L	--	--	--	2.20E-03
	lbs/day	--	--	--	4.58E-04
Chlorodibromomethane (dibromochloromethane)	µg/L	--	--	--	8.22E+02
	lbs/day	--	--	--	1.71E+02
DDT[1]	µg/L				1.63E-02
	lbs/day				3.39E-03
Heptachlor Epoxide	µg/L	--	--	--	1.91E-03
	lbs/day	--	--	--	3.99E-04
Hexachlorobenzene	µg/L	--	--	--	2.01E-02
	lbs/day	--	--	--	4.19E-03
PCBs[1]	µg/L	--	--	--	1.82E-03
	lbs/day	--	--	--	3.79E-04
TCDD equivalents[1]	µg/L	--	--	--	3.73E-07
	lbs/day	--	--	--	7.77E-08
Toxaphene	µg/L	--	--	--	2.01E-02
	lbs/day	--	--	--	4.19E-03

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2 Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

g. Parameters that do not have reasonable potential (as determined in section IV.C.3 of this Fact Sheet) are listed as performance goals in this Order. Performance goals serve to ensure existing treatment levels and effluent quality is sufficient to support State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit, but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the San Diego Water Board to reopen and amend the permit to replace performance goals for parameters of concern with effluent limitations, or the San Diego Water Board may coordinate such actions with the next permit renewal.

The following table lists the performance goals established by this Order. A minimum probable initial dilution factor of 94.6:1 was used in establishing the performance goals.

Table F-14. Summary of Performance Goals

Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	4.81E+02	2.78E+03	7.36E+03	--
	lbs/day	1.00E+02	5.79E+02	1.54E+03	--
Cadmium, Total Recoverable	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Chromium VI, Total Recoverable [3]	µg/L	1.91E+02	7.65E+02	1.91E+03	--
	lbs/day	3.99E+01	1.59E+02	3.99E+02	--
Copper, Total Recoverable	µg/L	9.76E+01	9.58E+02	2.68E+03	
	lbs/day	2.03E+01	2.00E+02	5.59E+02	
Lead, Total Recoverable	µg/L	1.91E+02	7.65E+02	1.91E+03	--
	lbs/day	3.99E+01	1.59E+02	3.99E+02	--
Nickel, Total Recoverable	µg/L	4.78E+02	1.91E+03	4.78E+03	--
	lbs/day	9.97E+01	3.99E+02	9.97E+02	--
Selenium, Total Recoverable	µg/L	1.43E+03	5.74E+03	1.43E+04	--
	lbs/day	2.99E+02	1.20E+03	2.99E+03	--
Silver, Total Recoverable	µg/L	5.18E+01	2.53E+02	6.54E+02	--
	lbs/day	1.08E+01	5.27E+01	1.36E+02	--
Cyanide, Total Recoverable [4]	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Total Chlorine Residual[5]	µg/L	1.91E+02	7.65E+02	5.74E+03	
	lbs/day	3.99E+01	1.59E+02	1.20E+03	
Ammonia (expressed as nitrogen)	µg/L	5.74E+04	2.29E+05	5.74E+05	--
	lbs/day	1.20E+04	4.78E+04	1.20E+05	--
Phenolic Compounds (non-chlorinated)[1]	µg/L	2.87E+03	1.15E+04	2.87E+04	--
	lbs/day	5.98E+02	2.39E+03	5.98E+03	--
Chlorinated Phenolics[1]	µg/L	9.56E+01	3.82E+02	9.56E+02	--
	lbs/day	1.99E+01	7.97E+01	1.99E+02	--
Endosulfan[1]	µg/L	8.60E-01	1.72E+00	2.58E+00	--
	lbs/day	1.79E-01	3.59E-01	5.38E-01	--
Endrin	µg/L	1.91E-01	3.82E-01	5.74E-01	
	lbs/day	3.99E-02	7.97E-02	1.20E-01	
HCH[1]	µg/L	3.82E-01	7.65E-01	1.15E+00	
	lbs/day	7.97E-02	1.59E-01	2.39E-01	

Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Radioactivity	pCi/l	Not to exceed limits specified in title 17, division 1, chapter 5, subchapter 4, group 3, article 3, section 30253 of the California Code of Regulations, Reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	2.10E+04
	lbs/day	--	--	--	4.39E+03
Antimony	µg/L	--	--	--	1.15E+05
	lbs/day	--	--	--	2.39E+04
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	4.21E+02
	lbs/day	--	--	--	8.77E+01
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	1.15E+05
	lbs/day	--	--	--	2.39E+04
Chlorobenzene	µg/L	--	--	--	5.45E+04
	lbs/day	--	--	--	1.14E+04
Chromium (III), Total Recoverable[3]	µg/L				1.82E+07
	lbs/day				3.79E+06
Di-n-butyl Phthalate	µg/L	--	--	--	3.35E+05
	lbs/day	--	--	--	6.98E+04
Dichlorobenzenes[1]	µg/L	--	--	--	4.88E+05
	lbs/day	--	--	--	1.02E+05
Diethyl Phthalate	µg/L	--	--	--	3.15E+06
	lbs/day	--	--	--	6.58E+05
Dimethyl Phthalate	µg/L	--	--	--	7.84E+07
	lbs/day	--	--	--	1.63E+07
4,6-dinitro-2-methylphenol	µg/L	--	--	--	2.10E+04
	lbs/day	--	--	--	4.39E+03
2,4-dinitrophenol	µg/L	--	--	--	3.82E+02
	lbs/day	--	--	--	7.97E+01
Ethylbenzene	µg/L	--	--	--	3.92E+05
	lbs/day	--	--	--	8.17E+04

Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Fluoranthene	µg/L	--	--	--	1.43E+03
	lbs/day	--	--	--	2.99E+02
Hexachlorocyclopentadiene	µg/L	--	--	--	5.54E+03
	lbs/day	--	--	--	1.16E+03
Nitrobenzene	µg/L	--	--	--	4.68E+02
	lbs/day	--	--	--	9.77E+01
Toluene	µg/L	--	--	--	8.13E+06
	lbs/day	--	--	--	1.69E+06
1,1,1-trichloroethane	µg/L	--	--	--	5.16E+07
	lbs/day	--	--	--	1.08E+07
BASED ON OCEAN PLAN OBJECTIVES FOR PROTECTION OF HUMAN HEALTH - CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	9.56E+00
	lbs/day	--	--	--	1.99E+00
Aldrin	µg/L	--	--	--	2.10E-03
	lbs/day	--	--	--	4.39E-04
Benzene	µg/L	--	--	--	5.64E+02
	lbs/day	--	--	--	1.18E+02
Beryllium	µg/L	--	--	--	3.15E+00
	lbs/day	--	--	--	6.58E-01
Bis(2-chloroethyl) Ether	µg/L	--	--	--	4.30E+00
	lbs/day	--	--	--	8.97E-01
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	3.35E+02
	lbs/day	--	--	--	6.98E+01
Carbon Tetrachloride	µg/L	--	--	--	8.60E+01
	lbs/day	--	--	--	1.79E+01
Chloroform	µg/L	--	--	--	1.24E+04
	lbs/day	--	--	--	2.59E+03
1,4-dichlorobenzene	µg/L	--	--	--	1.72E+03
	lbs/day	--	--	--	3.59E+02
3,3'-dichlorobenzidine	µg/L	--	--	--	7.74E-01
	lbs/day	--	--	--	1.61E-01
1,2-dichloroethane	µg/L	--	--	--	2.68E+03
	lbs/day	--	--	--	5.58E+02
1,1-dichloroethylene	µg/L	--	--	--	8.60E+01
	lbs/day	--	--	--	1.79E+01
Dichlorobromomethane	µg/L	--	--	--	5.93E+02
	lbs/day	--	--	--	1.24E+02

Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Dichloromethane (Methylene Chloride)	µg/L	--	--	--	4.30E+04
	lbs/day	--	--	--	8.97E+03
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	--	--	--	8.51E+02
	lbs/day	--	--	--	1.77E+02
Dieldrin	µg/L	--	--	--	3.82E-03
	lbs/day	--	--	--	7.97E-04
2,4-dinitrotoluene	µg/L	--	--	--	2.49E+02
	lbs/day	--	--	--	5.18E+01
1,2-diphenylhydrazine	µg/L	--	--	--	1.53E+01
	lbs/day	--	--	--	3.19E+00
Halomethanes[1]	µg/L	--	--	--	1.24E+04
	lbs/day	--	--	--	2.59E+03
heptachlor	µg/L	--	--	--	4.78E-03
	lbs/day	--	--	--	9.97E-04
Hexachlorobutadiene	µg/L	--	--	--	1.34E+03
	lbs/day	--	--	--	2.79E+02
Hexachloroethane	µg/L	--	--	--	2.39E+02
	lbs/day	--	--	--	4.98E+01
Isophorone	µg/L	--	--	--	6.98E+04
	lbs/day	--	--	--	1.46E+04
N-nitrosodimethylamine	µg/L	--	--	--	6.98E+04
	lbs/day	--	--	--	1.46E+04
N-nitrosodi-N-propylamine	µg/L	--	--	--	3.63E+01
	lbs/day	--	--	--	7.57E+00
N-nitrosodiphenylamine	µg/L	--	--	--	2.39E+02
	lbs/day	--	--	--	4.98E+01
PAH[1]	µg/L	--	--	--	8.41E-01
	lbs/day	--	--	--	1.75E-01
1,1,2,2-tetrachloroethane	µg/L	--	--	--	2.20E+02
	lbs/day	--	--	--	4.58E+01
Tetrachloroethylene (Tetrachloroethene)	µg/L	--	--	--	1.91E+02
	lbs/day	--	--	--	3.99E+01
Trichloroethylene (Trichloroethene)	µg/L	--	--	--	2.58E+03
	lbs/day	--	--	--	5.38E+02
1,1,2-trichloroethane	µg/L	--	--	--	8.99E+02
	lbs/day	--	--	--	1.87E+02
2,4,6-trichlorophenol	µg/L	--	--	--	2.77E+01
	lbs/day	--	--	--	5.78E+00

Parameter	Unit[1]	Performance Goals[2]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Vinyl Chloride	µg/L	--	--	--	3.44E+03
	lbs/day	--	--	--	7.18E+02

1 See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.

2 Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

3 The Discharger may, at their option, apply this performance goal as a total chromium performance goal.

4 If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by (or performance goals may be evaluated with) the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136, as revised May 14, 1999.

5 The water quality objectives for total chlorine residual applicable to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

log y =-0.43 (log x) + 1.8,

where y =the water quality objective (in µg/l) to apply when chlorine is being discharged;

x =the duration of uninterrupted chlorine discharge in minutes.

Actual effluent limitations for total chlorine, when discharging intermittently, shall then be determined according to Implementation Procedures for Table 1from the Ocean Plan, using a minimum probable initial dilution factor of 94.6 and a flow rate of 25 MGD.

5. Whole Effluent Toxicity (WET)

a. Implementing provisions at section III.C.4.c.(4) of the Ocean Plan state that the Discharger shall conduct chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors that fall below 100:1. In addition, the RPA for chronic toxicity resulted in Endpoint 1 and the effluent limitation was carried over from Order No. 96-50. Thus monitoring is required to determine compliance with the effluent limitation. Based on methods of the Ocean Plan, a maximum daily effluent limitation of 95.6 TUc is established in the Order and weekly monitoring is carried over from Order No. 96-50.

b. Order No. 96-50 required acute toxicity monitoring in addition to chronic toxicity monitoring. The Ocean Plan does not require acute toxicity monitoring for dischargers with a minimum initial dilution factor less than 100:1.The RPA, however, resulted in Endpoint 1 for acute toxicity and monitoring is required to determine compliance with the effluent limitation. Thus, the effluent limitation and weekly monitoring for acute toxicity from Order No. 96-50 has been carried over to this Order.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits (see section III.C.5 of this Fact Sheet). These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent

limitations in the previous Order (Order No. 96-50), with the exception of a) “Maximum at Any Time”(instantaneous maximum) effluent limitations for $CBOD_5$ and TSS and b) other effluent limitations that were not retained for parameters for which there was no RP (Endpoint 2). The removal of these effluent limitations from this Order is consistent with the federal anti-backsliding requirements for the reasons set forth below.

As explained in section IV.B.2 of this Fact Sheet, the instantaneous maximum effluent limitations for $CBOD_5$ and TSS of 45 mg/L and 50 mg\L respectively were not carried over to this Order. These limitations were established by the San Diego Water Board based on best professional judgment (BPJ). Recent attempts to derive instantaneous maximum effluent limitations based on USEPA secondary treatment standards at 40 CFR part 133 using appropriate statistical approaches demonstrated that retaining the previous instantaneous maximum effluent limitations for $CBOD_5$ and TSS in this Order was not supported. This Order does retain average monthly and average weekly effluent limitations (AMEL and AWEL) for $CBOD_5$ and TSS which are based on USEPA secondary treatment standards for POTWs practicing a combination of physical and biological treatment to remove biodegradable organic matter and suspended solids. The AMEL and AWEL for $CBOD_5$ and TSS are expected to ensure the Discharger maintains the same level of treatment required in the previous Order and no degradation of the effluent quality is expected. Anti-backsliding regulations found at 40 CFR 122.44(l) prohibit reissuing or modifying an NPDES permit to include effluent limitations less stringent than in the previous permit, unless one of the exceptions described in 40 CFR 122.44(l) are met. In this instance, the San Diego Water Board has determined that removal of the instantaneous maximum effluent limitations for $CBOD_5$ and TSS effluent limitations is appropriate under the exception described in 40 CFR 122.44(l)(2)(i)(B)(2) because these effluent limitations were based on a technical mistake.

As discussed in section IV.C.3 of this Fact Sheet, effluent limitations from Order No. 96-50 are not retained for parameters for which RPA results indicated Endpoint 2; instead performance goals have been assigned for these parameters. Parameters for which Endpoint 2 was indicated are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. Effluent limitations have been removed for parameters for which new data is available, and a reasonable potential analysis determined that reasonable potential does not exist, as allowed under 40 CFR section 122(l)(2)(i)(B). Performance goals have been established in their place. The monitoring requirements in Attachment E of this Order are designed to obtain additional information for these parameters to determine if reasonable potential exists for these parameters in future permit renewals and/or updates. The removal of the effluent limitations for parameters where Endpoint 2 is appropriate under the exceptions described in 40 CFR 122.44(l)(2)(i)(A) and (B)(1),.which specify that permits may include a less stringent effluent limitation than the previous permit, if 1) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation; or 2) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

Based on all of these considerations, this permit (Order) complies with all applicable federal and State anti-backsliding regulations.

2. Antidegradation Policies

WDRs for the Discharger must conform with antidegradation requirements discussed in section III.C.4 of this Fact Sheet.

As explained in section IV.B.2 of this Fact Sheet, this Order does not retain the instantaneous maximum effluent limitations for $CBOD_5$ and TSS contained in Order No. 96-50. The AMEL and AWEL for $CBOD_5$ and TSS, however, have been retained in this Order. The AMEL and AWEL are expected to ensure the Discharger maintains the same level of treatment and no degradation of the receiving water is expected. Thus, the removal of the instantaneous maximum effluent limitations for $CBOD_5$ and TSS is consistent with State and federal antidegradation policy.

This Order has been modified from Order No. 96-50, to replace WQBELs for some parameters with performance goals based on an RPA. The procedures for conducting the RPA are explained in section IV.C.3 of this Fact Sheet. Performance goals were included in the Order for parameters determined not to have reasonable potential to exceed the water quality objectives, and thus, for which WQBELs were not included. Performance goals will indicate the level of discharge at which possible water quality impacts may be significant. The removal of WQBELs by itself is not expected to cause a change in the physical nature of the effluent discharged and is not expected to impact beneficial uses nor cause a reduction of the water quality of the receiving water. Coupled with the inclusion of performance goals and retention of the monitoring program for parameters without WQBELs, the existing water quality is expected to be maintained. For these reasons, an antidegradation analysis is not required to consider the possible impacts resulting from the removal of WQBELs following an RPA.

This permit complies with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution No. 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on $CBOD_5$, TSS, oil and grease, settleable solids, turbidity, and pH, which are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on August 19, 2013. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations of this Order are derived from the water quality objectives for ocean waters established by the Basin Plan and the Ocean Plan.

Prior to 2009, the San Diego Water Board interpreted the Bacterial Characteristics Water-contact Standards of the Ocean Plan (Receiving Water Limitations section V.A.1) to apply only in the zone bounded by the shoreline and a distance 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and within kelp beds. The Ocean Plan provides that these Bacteriological Standards also apply in designated areas outside this zone used for water contact sports, as determined by the Regional Water Boards (i.e., all waters designated with the REC-1 beneficial use). These designated areas must be specifically defined in the Basin Plan. Because the San Diego Water Board has designated the ocean waters with the REC-1 beneficial use in the Basin Plan, the Ocean Plan Bacterial Standards apply throughout State of California territorial marine waters in the San Diego Region, which extend from surface to bottom, out to three nautical miles from the shoreline. This interpretation has been confirmed by the USEPA.

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in Attachment D of this Order.

Sections 122.41(a)(1) and (b) through (n) of 40 CFR establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 CFR allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

This Order may be reopened and modified, revoked and reissued, or terminated in accordance with the provisions of 40 CFR parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include, but are not limited to, increased/ modified receiving water requirements and participation in the Southern California Coastal Water Research Project (SCCWRP) model monitoring program; the promulgation of new regulations; modification in sludge use or disposal practices; or adoption of new regulations by the State Water Board or the San Diego Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Spill and Transboundary Wastewater Flow Prevention and Response Plan

i. Discharges of Wastewater and Other Materials

The CWA largely prohibits any discharge of pollutants from point sources to waters of the United States except as authorized under an NPDES permit. In

general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. The unpermitted discharge of wastewater to waters of the United States is illegal under the CWA. Further, the Basin Plan prohibits discharges of waste to land, except as authorized by WDR's or the terms described in Water Code section 13264. The Basin Plan also prohibits the unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system. Further, Discharge Prohibition III.A of the Order prohibits the discharge of waste from the Facilities to a location other than Discharge Point No. 001.

Sanitary collection and treatment systems experience periodic failures resulting in discharges that may affect waters of the State and the environment. There are many factors which may affect the likelihood of a spill. To ensure appropriate funding, management, and planning to reduce the likelihood of a spill, and increase the spill preparedness, this Order requires the Discharger to maintain and implement a *Spill and Transboundary Wastewater Flow Prevention and Response Plan* (Prevention/Response Plan).

ii. **Transboundary Flows Containing Wastewater**

IBWC Minute No. 283 states, "[t]he Government of Mexico will assure that there are no discharges of treated or untreated domestic or industrial wastewaters into waters of the Tijuana River that cross the international boundary, and that in the event of a breakdown in collection or other detention facilities designed to prevent such discharges, the Government of Mexico will take special measures to immediately stop such discharges and make repairs. Should Mexico request it through the Commission, the United States Section will attempt to assist with equipment and other resources in the containment of such discharges and temporary repairs under the supervision of the Commission."

The 1944 Water Treaty (*Treaty for the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande*), states that the government of the U.S. and Mexico shall share the responsibility of border sanitation problems.

This Order requires the Prevention/Response Plan to contain provisions to maximize treatment capacity utilization on both sides of the international border and minimize transboundary wastewater flows to fulfill the agreements contained in the 1944 Water Treaty and IBWC Minute No. 283. These requirements shall serve as an indicator to the San Diego Water Board of the Discharger's ability to adequately coordinate flows between the facilities on both sides of the international border and to better respond to emergencies on either sides of the international border. Emergencies include, but are not limited to, reduction or catastrophic loss of service, which could cause or contribute to a degradation of water quality in the Tijuana River and its tributaries or present an elevated risk to public health and safety in the South Bay region.

iii. **Canyon Collectors**

On July 2, 1990, the United States and Mexican sections of the IBWC signed IBWC Minute No. 283 titled *Conceptual Plan for the International Solution to the Border Sanitation Problem in San Diego, California/Tijuana, Baja California*. IBWC Minute No. 283 states the following: "Should Mexico request [help] through the Commission, the United States Section will attempt to assist with equipment and other resources in the containment of [discharges of treated or untreated domestic or industrial wastewaters into waters of the Tijuana River that cross the international boundary] and temporary repairs under the supervision of the Commission." Mexico has the primary responsibility for preventing the discharge of wastewater to receiving waters in the Tijuana River Valley; but, per IBWC Minute No. 283, the U.S. also has a role assisting with equipment, maintenance, and resources in the containment of wastewater discharges through utilization of the canyon collectors, which collect and divert untreated sewage and other dry weather transboundary flows to the Facility for treatment. These flows have great potential to cause or contribute to degradation of water quality in the receiving water and, therefore, must be contained.

As defined by section 212 of the CWA, a treatment works includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. Treatment works also includes any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and sanitary sewer systems. Consistent with this definition, the canyon collectors are considered part of the treatment works of the Facility regulated by this Order.

The CWA largely prohibits any discharge of pollutants from point sources to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. The unpermitted discharge of wastewater to waters of the United States is unlawful.

The Basin Plan prohibits discharges of waste to land, except as authorized by WDR's or the terms prescribed in Water Code section 13264. The Basin Plan also prohibits the unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system.

Discharge Prohibition III.A of the Order prohibits the discharge of waste from the Facilities to a location other than Discharge Point No. 001, unless specifically regulated by this Order or separate WDR's. This prohibition also applies to any dry weather discharge of waste overflowing the canyon collectors.

This Order requires the Prevention/Response Plan to mandate that the Discharger operate and maintain the canyon collectors as part of the treatment works and in a manner consistent with the IBWC Minutes between Mexico and the U.S., to prevent violations of the CWA, Basin Plan, and Prohibition III.A of this Order.

b. **Spill and Transboundary Wastewater Flow Reporting Requirements**

To determine compliance with Discharge Prohibition III.A and provide appropriate notification to the governmental agencies and general public for the protection of public health and the environment, spill and transboundary wastewater flow reporting requirements have been established in section VI.C.2.d of this Order.

c. **Toxicity Reduction Evaluation (TRE)**

Implementing provisions at section III.C.4.c.(4) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors less than 100:1 for the protection of beneficial uses of ocean waters. Based on methods of the Ocean Plan, an acute effluent limitation of 3.2 TUa and a chronic toxicity effluent limitation of 95.6 TUc are established in this Order. The weekly monitoring for acute and chronic toxicity from Order No. 96-50 has been carried over to this Order.

Section III.C.10. of the Ocean Plan requires a Toxicity Reduction Evaluation (TRE) if a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table 1 of the Ocean Plan.

In compliance with the Ocean Plan, this Order requires the Discharger to develop a TRE workplan, submit the TRE workplan within 180 days of the effective date of this Order, and share the TRE workplan with CILA. The workplan must describe steps the Discharger intends to follow if the effluent limitation for acute toxicity (3.2 TUa) is exceeded or if the effluent limitation for chronic toxicity (95.6 TUc) is exceeded.

If the effluent limitation for acute or chronic toxicity is exceeded in any one test, the Discharger must conduct a TRE if the toxicity is exceeded in any of the next six (6) succeeding tests performed at 14-day intervals and notify the San Diego Water Board. The requirement for a minimum of six (6) succeeding tests performed at 14-day intervals is based on the probability of encountering at least one toxicity exceedance assuming a true, but unknown level of occurrence. After the acute or chronic toxicity exceedance, the Discharger must continue to conduct the routine weekly monitoring for both acute and chronic toxicity as required in Attachment E of this Order. The TRE shall be conducted in accordance with the approved TRE workplan and available USEPA guidance documents2. The Discharger must also implement a Toxicity Identification Evaluation (TIE), as necessary, based upon the magnitude and persistence of toxicity effluent limitation exceedances. Once the source of toxicity is identified, the Discharger must take all reasonable steps to

[2] See (a) TRE Guidance for Municipal Wastewater Treatment Plants (EPA 833-B-99-002, 1999); (b) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070); Toxicity Identification Evaluation, Phase I (EPA/600/6-91/005F); (c) Methods for Aquatic Toxicity Identification Evaluations, Phase II (EPA/600/R-92/080); (d) Methods for Aquatic Toxicity Identification Evaluations, Phase III (EPA/600/R-92/081); and (e) Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96-054,1996)

reduce the toxicity to meet the acute and/or chronic toxicity effluent limitation identified in section IV.A of this Order, including working with the Government of Mexico as described further in section VI.C.2.e.

Within 30 days of completion of the TRE, the Discharger must submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions taken or planned to achieve consistent compliance with all the toxicity limitations of this Order and prevent recurrence of exceedances of those limitations, and a time schedule for implementation of any planned corrective actions. The Discharger must implement any planned corrective actions assigned to the Discharger in the TRE Final Report in accordance with the specified time schedule, unless otherwise directed in writing by the San Diego Water Board. The corrective actions and time schedule must be modified at the direction of the San Diego Water Board.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (Wastewater Facilities Only)

a. **Influent Limitations and Pretreatment**

IBWC Minute No. 283 states "[t]he Government of Mexico in accordance with laws in force in that country, in order to assure efficient treatment of Tijuana sewage in the international plant, will require all industries to provide appropriate pretreatment of wastewater that those industries may discharge into the Tijuana sewage collection system which would in turn discharge into the international sewage treatment plant."

Requirement G. 1 of Order No. 96-50 states "[i]n consultation with the Government of Mexico, the discharger shall develop and implement mass emission rate and concentration limitations for the influent to the Facility (influent limitations) for pollutants that may cause or contribute to interference, pass through or other problems described at 40 CFR section 403.5. The influent limits shall prevent violations of the Ocean Plan and this Order."

Requirement G.4 of Order No. 96-50 requires the Discharger to submit a project report to include influent limitations, the basis for the influent limitations, a comparison of the influent limitations with the Facility influent and with any Mexican wastewater quality standards, a sensitivity analysis, and an achievability analysis by June 18, 1997.

On June 4, 1997, the San Diego Water Board received a report titled “Development of Headworks Allocations for the South Bay International Wastewater Treatment Plant - Final Report”. The Final Report identified 16 primary pollutants of concern, including arsenic, beryllium, cadmium, chromium, copper, cyanide, lead, mercury, nickel, silver, zinc, total HCH (Lindane), Aldrin, DDTs, PAHs, and carbon disulfide.

On September 17, 1997, the San Diego Water Board adopted Addendum No. 1 to Order No. 96-50 which established advanced primary treatment influent limitations for 12 of the 16 primary pollutants of concern which were identified in the June 1997 Final Report (including arsenic, beryllium, cadmium, chromium, copper, cyanide,

lead, mercury, nickel, silver, zinc, total HCH (Lindane)). Influent limitations could not be developed for Aldrin, DDTs, PAHs, and carbon disulfide, but these parameters were monitored according to Monitoring and Reporting Program No. 96-50.

Influent limitations are necessary to prevent the introduction of pollutants into the Facility that a) inhibit or disrupt the Facility, its treatment processes or operations, or its sludge processes, use or disposal; b) pass through the Facility in quantities or concentrations that cause or contribute to an exceedance of an applicable water quality standard in the receiving water or otherwise be incompatible with the treatment works; or c) cause other problems as described at 40 CFR section 403.5.

Influent limitations are based on the specific treatment and operational capacity of the Facility and are therefore essential to ensure that all aspects of the treatment works are protected from pass through or interference in accordance with the Clean Water Act and NPDES pretreatment regulations at 40 CFR part 403. Influent limitations impose conditions on the quality of influent discharged into the sewage treatment plant located in the United States. They do not establish water quality or discharge requirements that must be attained in Mexico.

The influent limitations in this Order have been carried over from Order No. 96-50. Section VI.C.5.a.i of this Order requires the Discharger to develop and implement updated influent limitations no later than one year after the adoption of this Order, for approval and incorporation into this Order. In consultation with the San Diego Water Board and the government of Mexico, the Discharger must review and update influent limitations, as necessary, to take into account (1) the Facility's recent treatment upgrade from advanced primary treatment capabilities to secondary treatment capabilities; and (2) any changes that may have occurred in the make-up or quantity of industrial users contributing loadings to the Facility via the City of Tijuana's wastewater conveyance system.

This Order contains provisions to address exceedances of influent limitations, including a requirement to formally communicate with Mexico about the quality of the influent to the Facility and any issues regarding the influent quality. These requirements are consistent with and further efforts to attain the goals of IBWC Minute No. 283 to prevent pollutants from entering the Facility that may cause or contribute to interference, pass through or other problems described at 40 CFR section 403.5 and to prevent violations of effluent limitations.

b. **Sludge (Biosolids) Requirements**

The use and disposal of biosolids within the United States is regulated under federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR part 503. The Discharger is required to comply with the standards and time schedules contained in 40 CFR part 503 for biosolids used or disposed of within the United States.

Title 27, CCR, division 2, subdivision 1, section 20005 establishes approved methods for the disposal of collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes. Requirements to ensure the Discharger disposes of solids in compliance with State and federal regulations have been included in this Order.

In its NPDES application, the Discharger indicates that all biosolids produced at the Facility are trucked to Mexico for disposal. The use and disposal of any biosolids occurring within the United States shall be regulated under this Order.

Monitoring and reporting requirements have been included in this Order in the event of a sludge spill, to ensure proper handling and storage of sludge, and to certify the disposal of the sludge in Mexico.

In the event that the Government of Mexico is unable to truck the processed sludge and solids to Mexico for disposal, this Order requires the Discharger to develop a Sludge and Solids Contingency Plan to temporarily store or dispose of the processed sludge and solids in the United States.

c. **Requirements for Receipt of Anaerobically Digestible Material**

This provision implements an agreement between State Water Board; California Department of Resources Recycling and Recovery; the California Department of Food and Agriculture; and the California Association of Sanitation Agencies regarding the regulation of hauled-in anaerobically digestible material for injection into an anaerobic digester. With the addition of a standard provision in NPDES permits that requires the treatment works to develop and implement standard operating procedures from anaerobically digestible material acceptance and digestion operations, CalRecycle would exempt the operation from regulation under its requirements.

6. Other Special Provisions

7. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Core Monitoring Requirements

1. **Influent Monitoring Requirements**

Influent monitoring is required to determine the compliance with influent limitations, to assist with pretreatment investigations in Mexico, to evaluate compliance with effluent limitations, and to assess the performance of treatment facilities.

The influent monitoring for CBOD5, TSS, volatile suspended solids, and temperature has been increased from weekly to daily to match the effluent monitoring and thus to better evaluate compliance with effluent limitations and assess the performance of the new treatment facilities. Biochemical oxygen demand (5-day @ 20°C) (BOD5) has been added with a sampling frequency to match the effluent monitoring for the same reason.

The influent monitoring frequency for the other conventional pollutants (total dissolved solids, floating particulates, grease and oil, settleable solids, turbidity, and pH) have been carried over from Order No. 96-50. The influent monitoring frequency for parameters for protection of marine aquatic life has been reduced from weekly to monthly, with the

exception of Table B metals and radioactivity. Weekly monitoring for table B metals has been carried over from Order No. 96-50. Radioactivity was already monthly in Order No. 96-50. The influent monitoring frequency for parameters for human health has been reduced from weekly/monthly to quarterly.

The monitoring frequency for the influent set forth in this Order is sufficient to evaluate the highly variable wastewater from Tijuana, Mexico. If, however, any result for this parameter exceeds the applicable interim or final influent limitation specified in this Order, as appropriate, the minimum frequency shall be increased from 1/Week to 5/Week, 1/Month to 1/Week, or 1/Quarter to 1/Month, as appropriate. The increase monitoring along with consultation with Mexico may help determine the cause.

Refer to section III.A of Attachment E of this Order for a summary of influent monitoring requirements.

2. **Effluent Monitoring Requirements**

Effluent monitoring is required to determine compliance with the permit conditions, to identify operational problems, to improve plant performance, and to conduct reasonable potential analyses for subsequent Orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data.

Effluent monitoring for soluble BOD has been removed since monitoring of BOD and CBOD5 is sufficient for evaluating the secondary-treated effluent.

The sampling frequencies for the other conventional pollutants (CBOD5, BOD5, volatile suspended solids, total dissolved solids, temperature, floating particulates, total suspended solids, settleable solids, turbidity, and pH) have been carried over from Order No. 96-50, with the exception of grease and oil, which has been reduced from daily to weekly. Weekly sampling frequency for oil and grease is more common for secondary-treated effluent and the oil and grease has not been detected in the effluent from August 2012 to October 2013.

The effluent monitoring frequency for parameters for protection of marine aquatic life has been reduced from weekly to monthly, with the exception Table B metals, radioactivity and total chlorine residual. Monthly monitoring for radioactivity has been carried over from Order No. 96-50. The Facility currently monitors total chlorine residual on a daily basis. Daily monitoring for total chlorine residual has been included in this Order. Weekly monitoring for table B metals has been carried over from Order No. 96-50. Radioactivity was already monthly in Order No. 96-50. The effluent monitoring frequency for parameters for human health has been reduced from weekly/monthly to quarterly.

The Ocean Plan requires discharges greater than 10 MGD to monitor at least semiannually for Table 1 parameters. The monitoring frequency for the effluent set forth in this Order is greater than the Ocean Plan requirement to account for the highly variable wastewater from Tijuana, Mexico, but is reasonable for secondary-treated effluent.

For this Order, as amended by Order No. R9-2017-0024, the Discharger may apply the performance goal for both chromium (VI) and chromium (III) as a total chromium performance goal. The Ocean Plan allows dischargers to meet the objective for chromium (VI) as a total chromium objective (footnote a of Table 1 of the Ocean Plan). Total chromium includes both chromium (VI) and chromium (III) and the Clean Water Act

has no analytical method for chromium (III)[3]. Thus, this Order allows the Discharger to also meet the objective for chromium (III) as a total chromium objective. If the Discharger monitors for total chromium to meet the objective for both chromium (VI) and chromium (III), the total chromium data will be used to determine if reasonable potential exists for both chromium (VI) and chromium (III) in future permit reissuances and/or updates.

Refer to section III.B of Attachment E of this Order for a summary of effluent monitoring requirements.

3. **Whole Effluent Toxicity Testing Requirements**

This order contains both acute and chronic toxicity effluent limitation as described in section IV.C.3. Toxicity monitoring has been carried over from Order No. 96-50 to determine compliance with these toxicity effluent limitations.

4. **Land Discharge Monitoring Requirements – Not Applicable**

5. **Recycling Monitoring Requirements – Not Applicable**

B. Receiving Water Monitoring Requirements

The receiving water and sediment monitoring requirements set forth below are designed to measure the effects of the SBOO discharge on the receiving ocean waters. These monitoring requirements will remain in effect on an interim basis, pending development of a new and updated monitoring and assessment programs. The overall receiving water monitoring program is intended to answer the following questions:

(1) Does the receiving water meet water quality standards?

(2) Are the receiving water conditions getting better or worse over time?

(3) What is the relative contribution of the Facility discharge to pollution in the receiving water?

1. Shoreline Water Quality Monitoring Requirements

As ocean surface waves come closer to shore they break, forming the foamy, bubbly surface called surf. The region of breaking waves defines the shoreline.

Monitoring of the shoreline is intended to answer the following questions:

(1) Does the effluent cause or contribute to an exceedance of the water quality standards in the receiving water?

(2) Does the effluent reach water contact zones or commercial shellfish beds?

(3) Are densities of bacteria in water contact areas below levels protective of public health?

Shoreline Station S-1 (located in Mexico near Punta Bandera) was abandoned after August 6, 2002 as a result of legal restrictions that prevented access to this station beginning in July 2002. Consequently, shoreline Station S-0 was established to replace S-1 as the southernmost shoreline sampling site for SBOO. Sampling began at S-0 on August 13, 2002. This change was documented in the August 2002 monthly self-monitoring report.

[3] In order to obtain a value for chromium (III), two separate methods must be used: one for total chromium determination and one for chromium (VI) determination. The value for chromium (III) is obtained by subtracting the chromium (VI) value from the total chromium value.

Refer to section IV.A of Attachment E of this Order for a summary of shoreline water quality monitoring requirements.

2. Offshore Water Quality Monitoring Requirements

Offshore monitoring extends from south of international border to Point Loma. See Attachment B for a map of the offshore monitoring stations.

Offshore monitoring is necessary to answer the following questions:

(1) Is natural light significantly reduced at any point outside the zone of initial dilution as a result of the discharge?

(2) Does the discharge cause a discoloration of the ocean surface?

(3) Does the discharge of oxygen demanding waste cause the dissolved oxygen concentration to be depressed at any time more than 10 percent from that which occurs naturally?

(4) Does the discharge of waste cause the pH to change at any time more than 0.2 units from that which occurs naturally?

(5) Is the wastewater plume encroaching upon receiving water areas used for swimming, surfing, diving and shellfish harvesting?

(6) What is the fate of the discharge plume?

As commissioned by the USIBWC, staff at the University of California San Diego, Scripps Institution of Oceanography conducted a study to determine the characteristic fates of the wastewater plume from the SBOO. The results of the study were summarized in *the Final Report Coastal Observations Monitoring in South Bay San Diego*, dated February 25, 2009 (Plume Study). Recommendations from the Plume Study have been included in this Order.

Refer to section IV.B of Attachment E of this Order for a summary of off shore water quality monitoring requirements.

3. Benthic Community Protection Monitoring Requirements

Sediments integrate constituents that are discharged to the ocean. Most particles that come from the SBOO discharge, and any associated contaminants, will eventually settle to the seafloor where they are incorporated into the existing sediments. Sediments can accumulate these particles over the years until the point where sediment quality has degraded and beneficial uses are impaired.

The MRP requires periodic assessment of sediment quality to evaluate potential effects of the SBOO discharge and compliance with narrative water quality standards specified in the Ocean Plan. The required assessment consists of the measurement and integration of three lines of evidence: 1) physical and chemical properties of seafloor sediments, 2) seafloor sediment toxicity to assess bioavailability and toxicity of sediment contaminants and 3) ecological status of the biological communities (benthos) that live in or on the seafloor sediments.

The benthic community is strongly affected by sediment composition (e.g., sand, silt, and clay distributions), sediment quality (e.g., chemistry, toxicity), and water quality. Because benthic macroinvertebrates (e.g., infauna) are dependent on their surroundings, they often serve as important biological indicators that reflect the overall conditions of the marine environment.

Sediment and benthic community monitoring are necessary to answer the following question:

(1) Is the dissolved sulfide concentration of waters in sediments significantly increased above that present under natural conditions?

(2) Is the concentration of substances, set forth in Table 1 of the Ocean Plan for protection of marine aquatic life, in marine sediments at levels which would degrade the benthic community?

(1) Is the concentration of organic pollutants in marine sediments at levels that would degrade the benthic community?

(2) Are benthic communities degraded as a result of the discharge?

(3) Is the sediment quality changing over time?

Refer to section IV.C of Attachment E of this Order for a summary of sediment and benthic monitoring requirements.

4. Fish and Invertebrate Monitoring Requirements

Many pollutants discharged into receiving waters have the potential to bioaccumulate and persist in tissue of aquatic organisms, including fish. Chemical pollutants that bioaccumulate tend to magnify in concentration as they pass through the aquatic food chain. Fish monitoring data is required to assess the human health risks for individuals who may consume fish and to assess trends of contaminants levels in the receiving water over time.

Marine aquatic invertebrates are excellent indicators of ecosystem health because they are ubiquitous, abundant, diverse, and typically sedentary. The growth, survival, and reproduction of aquatic invertebrates are all sensitive to declines in environmental health, making analysis of assemblage structure a good ecosystem monitoring tool.

Fish and invertebrate monitoring is necessary to answer the following questions:

(1) Does the concentration of pollutants in fish, shellfish, or other marine organisms used for human consumption bioaccumulate to levels that are harmful to human health?

(2) Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

(3) Are the concentrations of pollutants in fish and other marine organisms changing over time?

(4) Is the health of fish changing over time?

(5) Is the population of selected species changing over time?

Refer to section IV.D of Attachment E of this Order for a summary of fish monitoring requirements.

5. Receiving Water Monitoring Reports

In a letter dated November 5, 2015, the City of San Diego requested modifications to the reporting requirements for the receiving water monitoring for the Point Loma Ocean Outfall (PLOO) and SBOO. Order No. R9-2009-0001 for the PLOO discharge from the E.W. Blom Point Loma Wastewater Treatment Plant and Order No. R9-2013-0006 as amended by Order No. R9-2014-0071 for SBOO discharge from the South Bay Water

Reclamation Plant[4] required the City of San Diego to submit annual full assessment reports, one annual report for PLOO and one annual report for SBOO. The City of San Diego also prepared a separate annual full assessment report for the Facility discharge to the SBOO as required by Order No. R9-2014-0009 as amended by Order No. R9-2014-0094. The recently adopted new MRP for the PLOO (Order No. R9-2017-0007)[5] authorizes the City of San Diego to replace the above three annual reports with Interim Receiving Water Monitoring Reports (Interim Reports, executive summary) and Biennial Receiving Water Monitoring Reports (Biennial Reports, full assessment) submitted in alternating years. The Interim Reports will cover a single monitoring calendar year (e.g., 2018, 2020), will only cover even numbered years, and shall be submitted every other year. The Biennial Receiving Water Monitoring Reports will provide a more thorough discussion, evaluation (e.g., detailed statistical analyses), and interpretation than the Interim Receiving Water Monitoring Reports; will cover two years of receiving water monitoring (e.g., biennial reports for calendar years 2016-2017, 2018-2019, and 2020-2021), and shall be submitted in the opposite years as the Interim Receiving Water Monitoring Reports. Under this approach, every two years, one integrated Interim Report and one integrated Biennial Report covering the receiving water monitoring requirements for both the SBOO and PLOO may be submitted to comply with NPDES Permit reporting requirements. The Discharger must collaborate with the City of San Diego in the submittal of the Interim Reports and the Biennial Reports required under this Order. The Discharger shall also collaborate with the City of San Diego in providing a Biennial State of the Ocean Report (an oral report) to the San Diego Water Board following each submittal of the Biennial Report. The oral report should focus on the effort completed during the past two years of monitoring, the status of the receiving waters, and plans for future monitoring efforts. If the oral report is not feasible (e.g., board meetings are cancelled or have too many items), a written Biennial State of the Ocean Report may be provided in lieu of an oral report.

Refer to section IV.E of Attachment E of this Order for a summary of fish monitoring requirements.

6. Groundwater – Not Applicable

C. Regional Monitoring Requirements

Regional ocean water monitoring provides information about the sources, fates, and effects of anthropogenic contaminants in the coastal marine environment necessary to make assessments over large areas. The large scale assessments provided by regional monitoring describe and evaluate cumulative effects of all anthropogenic inputs and enable better decision making regarding protection of beneficial uses of ocean waters. Regional monitoring data assists in the interpretation of core monitoring studies by providing a more accurate and complete characterization of reference conditions and natural variability. Regional monitoring also leads to methods standardization and improved quality control through intercalibration exercise. The coalitions implementing regional monitoring enable sharing of technical

[4] Order No. R9-2013-0006 as amended by Order Nos. R9-2014-0071 and R9-2017-0023, NPDES Permit No. CA0109045, *Waste* Discharge Requirements for the City of San Diego South Bay Water Reclamation Plant Discharge to the Pacific *Ocean via the South Bay Ocean Outfall,* Monitoring and Reporting Program (Attachment E)

[5] Order No. R9-2017-0007, NPDES Permit No. CA0107409, Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for the City of San Diego E.W. Blom Point Loma Wastewater Treatment Plant Discharge to the Pacific Ocean Through the Point Loma Ocean Outfall, Monitoring and Reporting Program (Attachment E)

resources, trained personnel and associated costs. Focusing these resources on regional issues and developing a broader understanding of pollutants effects in ocean waters enables the development of more rapid and effective response strategies. Based on all of these considerations the San Diego Water Board supports regional approaches to monitoring ocean waters.

The Discharger shall, as directed by the San Diego Water Board, participate with other regulated entities, other interested parties, and the San Diego Water Board in development and implementation of new and improved monitoring and assessment programs for ocean waters in the San Diego Region and discharges to those waters. These programs shall be developed and implemented so as to:

(1) Determine the status and trends of conditions in ocean waters in the San Diego Region with regard to beneficial uses, e.g.,

i. Are fish and shellfish safe to eat?

ii. Is water quality safe for swimming?

iii. Are ecosystems healthy?

(2) Identify the primary stressors causing or contributing to conditions of concern;

(3) Identify the major sources of the stressors causing or contributing to conditions of concern; and

(4) Evaluate the effectiveness (i.e., environmental outcomes) of actions taken to address such stressors and sources.

1. Kelp Bed Canopy Monitoring Requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (Macrocystis pyrifera) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of coastal and island communities in southern California, providing food and habitat for numerous animals. Monitoring of the kelp beds is necessary to answer the following questions:

(1) What is the maximum areal extent of the coastal kelp bed canopies each year?

(2) What is the variability of the coastal kelp bed canopy over time?

(3) Are coastal kelp beds disappearing? If yes, what are factors that could contribute to the disappearance?

(4) Are new coastal kelp beds forming?

Refer to section V.A of Attachment E of this Order for a summary of kelp bed canopy monitoring requirements.

2. Southern California Bight Monitoring Program Participation Requirements

The Discharger is required to participate in the Southern California Coastal Water Research Project (SCCWRP), Southern California Bight Regional Monitoring Program), or any other coordinator named by the Executive Officer, pursuant to CWC 13267, 13383, and 40 CFR 122.48. The intent of the Southern California Bight Regional Monitoring Program is to maximize the efforts of all monitoring partners using a more

cost-effective monitoring design and to best utilize the pooled scientific resources of the Southern California Bight.

During these coordinated sampling efforts, the Discharger's receiving water sampling and analytical effort, as defined in section IV of the MRP, may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. In that event, the receiving water sampling and analytical effort defined in section IV of the MRP will not be required for the duration of the reallocation. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The level of resources in terms of sampling and analytical effort redirected from the receiving water monitoring program required under section IV the MRP shall equal the level of resources provided to implement the regional monitoring and assessment program, unless the Executive Officer, the Discharger and City of San Diego agree otherwise. The specific scope and duration of the receiving water monitoring program reallocation and redirection shall be determined and set by the Executive Officer in consultation with the Discharger and City of San Diego.

D. Special Studies Requirements

Compliance with Bacteriological Standards

By letter dated January 10, 2013, the City of San Diego provided a tabulation and interpretation of the SBOO receiving water monitoring data for the past 17 years. From 1999 to 2010, the Discharger (USIBWC) discharged advanced primary treated wastewater from the Facility into the Pacific Ocean through the SBOO. During this same time period, sample results at the three offshore receiving water stations closest to the SBOO ranged from 72 to 94 percent in compliance with bacterial water quality objectives and samples at all the offshore receiving water stations for SBOO ranged from 90 to 95 percent in compliance with bacterial water quality objectives. After USIBWC commenced discharging secondary treated effluent from the Facility to meet secondary treatment requirements in January, 2011, sample results at the three offshore stations closest to the SBOO were 99 percent in compliance and sample results at all the offshore stations for SBOO were also 99 percent in compliance.

A new analysis of the receiving water bacterial data is necessary to demonstrate if the SBOO discharge is attaining full compliance with bacteriological receiving water limitations described in section V.A.1 of this Order at all times. The data set used for this analysis must be sufficient to provide statistically defensible conclusions and shall include all receiving water bacterial data collected after July 31, 2012 when the Facility discharge attained substantial compliance with secondary treatment standards through December 31, 2015. Primary questions to be addressed include the following:

(1) Does the Facility effluent cause or contribute to an exceedance of bacteriological receiving water limitations described in section V.A.1 of this Order in ocean waters outside the zone of initial dilution?

(2) What is the extent and magnitude of any identified exceedance of bacteriological receiving water limitations described in section V.A.1 of this Order?

(3) Do any identified exceedances impact any marine water contact recreation zones?

(4) If noncompliance with bacteriological receiving water limitations is identified, and if the noncompliance has not been corrected, what is the anticipated time it is expected to continue; and what are the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance?

E. Other Monitoring Requirements

Transboundary Wastewater Flows

Consistent with Water Code sections 13267 and 13383, this Order requires monitoring and reporting to evaluate international border sanitation problems and impacts to the beneficial uses of the Tijuana watershed and the coastal waters where the San Diego Water Board has legal authority to do so. In this Order, the San Diego Water Board has the legal authority to require the Discharger to monitor and assess dry-weather transboundary wastewater flows in Goat Canyon, Smugglers Gulch, Silva Drain, Canyon del Sol, and Stewart's Drain that pass the Discharger's canyon collector systems. The provision of the 1944 Water Treaty, article 3, expresses commitments by the governments of the United States and Mexico to give preferential attention to the solution of all international border sanitation problems. In addition, the 1944 Water Treaty article 2, 3, and 24, give the Discharger the authority to meet this obligation. Pollutant parameters required to be monitored were selected on the basis of their threat to impact REC-1 and other beneficial uses, the 303(d) list for waters in the vicinity of the Tijuana Watershed, and the probability that they may be present in the transboundary flows. This Order also requires the Discharger to provide appropriate notification of transboundary flows to the San Diego Water Board, other local, state, and federal authorities, and the general public for the protection of public health and the environment in the border region.

The term transboundary wastewater flow is used in this Order to refer to a variety of flows containing pollutants from Tijuana, Mexico that have historically flowed into the United States via the north-draining canyons and ravines identified in this Order as Goat Canyon, Smugglers Gulch, Silva Drain, Canyon del Sol, and Stewart's Drain, that empty into the Tijuana River Valley and Estuary. These wastewater flows from Tijuana are attributed to a variety of sources and causes including, but not limited to, treated wastewater effluent discharges, potable water leaks, sewer line leaks and spills, discharges from unsewered areas, and other failures and breakdowns of the wastewater collection infrastructure in Mexico. The transboundary wastewater flows consist of treated and untreated sewage and industrial wastewater, potable water, and other miscellaneous flows depending on the source of the flow. These transboundary wastewater flows have adversely impacted the Tijuana River Valley and Estuary as well as adjacent coastal marine waters and beaches.

Monitoring of dry-weather transboundary wastewater flows that pass any one of the five Discharger's canyon collector systems is necessary to answer the following questions:

(1) What is the frequency and volume of dry weather transboundary wastewater flows?

(2) What are the sources of dry weather transboundary wastewater flows?

(3) What pollutants are present in dry weather transboundary wastewater flows and what is their concentration?

(4) Do pollutants in dry weather transboundary wastewater flows affect beneficial uses of the Tijuana River and Estuary?

(5) What is the mass loading of pollutants on the Tijuana River and Estuary from dry weather transboundary wastewater flows over time?

(6) Are the canyon collector systems being properly operated and maintained to ensure compliance with the conditions of the Order?

VIII. PUBLIC PARTICIPATION

The San Diego Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the South Bay International Wastewater Treatment Plant. As a step in the WDR adoption process, the San Diego Water Board staff developed tentative WDR's and has encouraged public participation in the WDR adoption process and provided an opportunity for public review and comment on the tentative WDRs in accordance with title 40 CFR section 124.10 and Water Code section 13167.5.

A. Notification of Interested Parties

The San Diego Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the San Diego Union Tribune and San Diego Water Board's web site.

The public had access to the agenda and any changes in dates and locations through the San Diego Water Board's web site at:
http://www.waterboards.ca.gov/sandiego/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the San Diego Water Board at 2375 Northside Drive, Suite 100, San Diego, CA 92108.

To be fully responded to by staff and considered by the San Diego Water Board, the written comments were due at the San Diego Water Board office by 12:00 noon on May 27, 2014.

C. Public Hearing

The San Diego Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date:	Wednesday, June 26, 2014
Time:	9:00 AM
Location:	Regional Water Quality Control Board Regional Board Meeting Room 2375 Northside Drive, Suite 100 San Diego, CA 92108

Interested persons were invited to attend. At the public hearing, the San Diego Water Board heard testimony, pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

D. Appeal of Waste Discharge Requirements

Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050. The State Water Board must receive the petition by

5:00 p.m. 30 days after the San Diego Water Board's action at the following address:State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

Copies of the law and regulations applicable to filing petitions may be found on the Internet at: ·

http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling 619-516-1990.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the San Diego Water Board, reference this facility, and provide a name, address, and phone number or should sign up for the email subscription list for the "South Bay International Wastewater Treatment Plant – NPDES" at http://www.waterboards.ca.gov/resources/email_subscriptions/reg9_subscribe.shtml.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Joann Lim at 619-521-3362.

ATTACHMENT G – OCEAN PLAN AND BASIN PLAN PROHIBITIONS

I. Ocean Plan Discharge Prohibitions

1. The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

2. Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in chapter III.E of the Ocean Plan.

3. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.

4. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table 2 or Table 1 of the Ocean Plan is prohibited.

II. Basin Plan Discharge Prohibitions[1]

1. The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in Water Code section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by WDR's or the terms described in Water Code section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in Water Code section 13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

[1] Where the Basin Plan prohibitions refer specifically to discharges to waters of the state, the prohibitions.

7. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.

8. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR section 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR section 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from firefighting activities.] [section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.

10. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in Water Code section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.

14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the State or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

ATTACHMENT H – DILUTION MODEL INFORMATION

The dilution model used to determine the dilution factor of the South Bay Ocean Outfall (SBOO) was the USEPA-approved computer modeling application Visual Plumes (UM3 Model). The USEPA Visual Plumes website is located at <http://www.epa.gov/ceampubl/swater/vplume/index.htm>. The dilution model results are summarized in Table G.1 below.

Table 1: Summary of Visual Plumes dilution model results.

Ambient Profile[1]	Effluent Temperature (°C)	Dilution Factor at last Trap level	Dilution Factor at Surface
January	17.5[2]	159.0	159.0
February	17.5[2]	159.0	159.0
March	17.5[2]	123.2	142.9
April	17.5[2]	108.2	No result
May	17.5[2]	94.6	No result
June	17.5[2]	110.1	No result
July	17.5[2]	109.1	No result
August	17.5[2]	108.0	No result
September	17.5[2]	108.6	No result
October	17.5[2]	114.3	130.9
November	17.5[2]	124.1	142.7
December	17.5[2]	No result	155.4

[1] Ambient profiles developed from receiving water sampling location (I16) with data from June 2002 through December 2004.

[2] 17.5 °C is the most conservative effluent temperature within the effluent profile from June 2002 through December 2004.

Information about the SBOO and the outfall diffuser were obtained from the South Bay Water Reclamation Plant Report of Waste Discharge and correspondence with Facility representatives. The following description of the diffuser configuration was submitted by the Discharger and was used in making assumptions for the input into the model:

There are 82 diffuser riser assemblies (potential of four ports per riser assembly) per leg, and one at the wye structure for a total of 165 riser assemblies. The facility has three potential configurations per diffuser riser assembly: blind flanged with no ports (and no heads); heads (and no blind flanges) with four ports, which are temporarily closed; and heads (no blind flanges) with four open ports.

The naming convention of the assemblies is as follows: the wye is designated "W" and the south and north legs have either a "S" prefix or a "N" prefix, respectively. The numbering starts near the wye structure, with S82 and N82 located near the termini. There are 18 diffuser risers with open ports (72 open ports); they are W, S26, S52, and S68 through S82.

There are three different sizes of ports; with diameters of 2-3/8", 2-1/2", and 2-5/8". The smaller diameter ports are closer to the wye and including the wye. The larger diameter ports are located closer to the termini and the 2-1/2" are in between. There are 53 ports with a diameters of 2-3/8", 52 at 2-1/2", and 60 at 2-5/8".

Port diameter – 2.6 inches - Average diameter of the 72 open ports.

Port elevation – 0.0 meters – Ports are located on the ocean floor.

Vertical angle – 0 degrees.

Horizontal angle – 0 degrees – The diffuser ports alternated facing 0 degrees, 90 degrees, 180 degrees, and 270 degrees. This model does not have input abilities for a diffuser with ports facing various directions. A single direction for all ports was assigned. This will result in a conservative dilution factor.

Number of ports – 72 ports.

Port spacing – 6 feet – The dilution model does not have the ability to input the actual riser/port configuration of the diffuser. The 72 ports were evenly distributed along a length of diffuser representative of the length of diffuser of the south leg in which the majority of the open ports are concentrated (S68 through S82), with additional length included to account for ports located on risers W, S26, and S52.

Acute mix zone – Not relevant, value does not affect dilution factor as defined by the State Water Board.

Chronic mix zone – Not relevant, value does not affect dilution factor as defined by the State Water Board.

Port depth – 94 feet.

Effluent flow – 40 MGD – The total of permitted discharge flows through the SBOO. The actual operating capacity of the outfall is 174 MGD with all ports open.

Effluent salinity – 2.24 mmho/cm – This value was the most conservative salinity value within the effluent profile.

Effluent temp – 17.5 °C – This value was the most conservative temperature value within the effluent profile.

Pollutant concentration – Not relevant, input does not affect dilution factor.

Ambient data – Monthly ambient data for June 2002 through December 2004 obtained from the receiving water monitoring data (sample station I16) made available by SBWRP. Monthly salinity and temperature data taken at offshore monitoring station I16 were averaged at each depth to establish an ambient water profile for each month. The monthly profiles were used in Visual Plumes. For each month and for each Visual Plumes run, initial dilution was interpreted to occur either when the plume first reaches the surface, or at the last trapping level when the plume does not surface. The minimum initial dilution was the lowest dilution factor attained using the May 2004 ambient profile.

Far-field diffusion coefficient – 0.0003 m0.67/s2 - recommended in the Visual Plumes manual as a conservative value.

Special Settings Tab, Farfield Diffusivity Option - 4/3 Power Diffusivity was chosen based on the fact that the discharge is occurring in open water.

Special Settings Tab, Diffuser Port Contraction Coefficient - 0.61 - based on the use of cylindrical ports in the diffuser.

Special Settings Tab, Standard Light Adsorption Coefficient - 0.16 - recommended in the manual as a conservative value.

ATTACHMENT J-2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

APR 10 2008

Ms. Tam M. Doduc, Chair
Ms. Dorothy R. Rice, Executive Director
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Doduc and Ms. Rice:

I understand that certain specific provisions of the 2001 Municipal Separate Storm Sewer System ("MS4") permit for the County of Los Angeles have been called into question as going beyond what is required under section 402(p) of the CWA. (Commission on State Mandates, File Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21.) The permit conditions at issue are: 1) the requirements for conducting inspections at industrial and commercial facilities including, restaurants and automobile servicing, [Parts 4.C.2.a. and b.] and, 2) the requirement for permittees not subject to the Trash TMDL to locate and maintain trash receptacles at transit stops [Part 4.F.5.c.3.]. California RWQCB, Los Angeles Region, Order No. 01-182, NPDES No. CAS004001 (Dec. 13, 2001). This letter discusses these permit conditions in the context of EPA's expectations for MS4 permits.

Section 402(p) of the Clean Water Act, 33 U.S.C. 1342(p), requires EPA (or authorized states) to issue National Pollutant Discharge Elimination System ("NPDES") permits to regulate the discharge of stormwater from MS4s. Typically, these MS4s are owned and operated by cities and counties. Pursuant to the Clean Water Act, these permits must require the MS4 to: 1) "effectively prohibit" non-stormwater discharges, and 2)"reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." 33 U.S.C. 1342(p)(3)(B)(ii) and (iii).

The NPDES regulations require medium and large MS4s to develop stormwater management programs that the permitting authority will consider when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Stormwater permitting has generally relied on the use of best management practices ("BMPs"), including both structural and non-structural controls, for achieving compliance with these requirements. The EPA also expects stormwater permits to follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit. See, 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754 (Dec. 8, 1999) ("EPA envisions application of the MEP standard as an iterative process."); Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and

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expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards"). See also, "Evaluating the Effectiveness of Municipal Stormwater Programs" (January 2008) (http://www.epa.gov/npdes/pubs/region3_factsheet_swmp.pdf). While the standard of "maximum extent practicable" (MEP) allows for flexibility, that flexibility is not boundless and requires some level of vigor. EPA has created a national menu of stormwater BMPs to provide additional guidance concerning appropriate BMPs for stormwater management plans. Other factors to consider in ensuring appropriate controls include "technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness." Building Indus. Ass'n v. State Water Res. Control Bd., 124 Cal. App. 4th 866, 889 (2004). See also "In re Cities of Bellflower, et al.", SWRCB 2000-11.

At the outset, I note the Los Angeles MS4 permit is a third generation Phase I MS4 permit that should be building upon the experiences from previous permits. Both of the provisions at issue here seem well within a reasonable expectation of controls that reduce pollutants to the "maximum extent practicable." EPA regulations at 40 C.F.R. §122.26(d)(2)(iv) set forth the basic elements to be included in a Phase I MS4's stormwater management program. Subparagraph (A) requires a description of "source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the [MS4] that are to be implemented during the life of the permit." Subparagraph (B) requires a program for detection and removal of illicit discharges and improper disposal into the storm sewer, including a program for inspections and enforcement. A program for commercial and industrial facility inspection and enforcement that includes restaurants and automobile facilities, would appear to be both practicable and effective. Such an inspection program ensures that stormwater discharges from such facilities are reducing their contribution of pollutants and that there are no non-stormwater discharges or illicit connections. Thus these programs are founded in both 402(p)(3)(B)(ii) and (iii) and are well within the scope of 40 C.F.R. §122.26(d)(2)(iv)(A) and (B).[1]

Similarly, maintaining trash receptacles at all public transit stops is well within the scope of these regulations. Among the minimum controls required to reduce pollutants from runoff from commercial and residential areas are practices for "operating and maintaining public streets, roads, and highways . . . ." §122.26(d)(2)(iv)(A)(3). I believe these requirements are also practical and effective.[2] Moreover, this permit provision is consistent with EPA's national menu

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[1]EPA's "MS4 Program Evaluation Guidance" (January 2007) envisions that an MS4 permit would include a requirement for an inspection program for common industrial/commercial businesses, such as restaurants and gas stations, within the jurisdiction of the MS4. Id. at 76 - 77, 81. The inspection requirements of the LA MS4 permit are consistent with the recommended activities in the Guide.

[2]The provision applicable to the TMDL permittees is also clearly consistent with EPA's 2002 guidance on TMDLs and storm water permitting. "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit

of BMPs for stormwater management programs, which recommends a number of BMPs to reduce trash discharges. See http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=5. Among the recommendations is "improved infrastructure" for trash management when necessary, which includes the placement of trash receptacles at appropriate locations based on expected need. The requirements of the Los Angeles County MS4 permit are consistent with this recommendation. See also, "MS4 Program Evaluation Guidance" (January 2007) at pp. 50, 79. EPA's expectations of the programs to reduce pollutants to the maximum extent practicable specifically refer to control of litter and trash, regardless of whether the particular receiving water is already impaired for trash.

I hope that this explanation helps clarify EPA's expectations for MS4 permit requirements under the Clean Water Act. I look forward to continuing to work with the State on our shared goal of ensuring consistency and effectiveness in storm water permitting as a vital tool in protecting the quality of our waters. Should you have further questions about these issues, please have your staff contact Douglas Eberhardt of my staff at (415) 972-3420 or have your counsel's office contact Laurie Kermish of the Office of Regional Counsel at (415) 972-3917.

Sincerely,

Alexis Strauss 10 April 2008

Alexis Strauss
Director, Water Division

cc: Mr. Michael Lauffer, Chief Counsel
State Water Resources Control Board

Ms. Paula Higashi, Executive Director
Commission on State Mandates

Requirements Based on Those WLAs" (November 22, 2002) which is available at: http://cfpub.epa.gov/npdes/pubs.cfm?program_id=6

ATTACHMENT J-3

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July 31, 2008

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Dear Dr. Grey and Mr. Henderson:

This is in response to your July 1, 2008 letter to Alexis Strauss regarding the incorporation of Low Impact Development (LID) provisions into Municipal Separate Storm Sewer System (MS4) permits in southern California.

Your letter refers to your email communications with Ms. Strauss, as well as to testimony provided at the February 13, 2008 San Diego Regional Water Quality Control Board Hearing by Dr. Cindy Lin and to the April 1, 2008 comments to the Colorado River Basin Regional Water Quality Control Board by Mr. Doug Eberhardt. Your letter asks several questions about the U.S. EPA Region 9 Water Division's positions regarding the incorporation of LID provisions into southern California MS4 permits.

Nationally, U.S. EPA has formally recognized the benefits of LID (also termed "Green Infrastructure") in several policy documents. EPA is advocating green infrastructure as an approach to wet weather management that is cost-effective, sustainable, and environmentally-sound. On April 19, 2007, EPA and four national groups signed an agreement to promote green infrastructure as an environmentally preferable approach to storm water management, and on August 16, 2007 EPA issued a memo encouraging the incorporation of Green Infrastructure into NPDES storm water permits. Ongoing efforts are described in the January 17, 2008 Action Strategy for Managing Wet Weather with Green Infrastructure. All of these materials regarding EPA's policy on green infrastructure can be found at:
http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm#greenpolicy.

In EPA Region 9, we are promoting LID strategies that infiltrate, evapotranspire, capture, and reuse storm water to maintain or restore natural hydrologies and improve water

quality. We are encouraging permitting agencies across Region 9 to incorporate LID provisions into MS4 permits as clear, measurable and enforceable requirements.

The next round of MS4 permits in the coastal Regions of southern California will be the fourth generation of these permits. It is our expectation that these latest permits be strengthened to take advantage of lessons learned from previous permits, and to contribute to the restoration of impaired waters impacted by MS4s. These new MS4 permits should include quantitative requirements to enable all parties to clearly identify performance expectations for LID implementation.

Your letter asks several questions about our position regarding permit provisions which call for LID implementation to attain a standard of no more than 5% Effective Impervious Area (EIA). Such provisions are included in the current draft (April 29, 2008) MS4 permit for Ventura County proposed by the Los Angeles Regional Water Quality Control Board, and the February 15, 2008 guidelines provided by the Central Coast Regional Water Quality Control Board to those in the Central Coast Region enrolling under the State's Phase II general MS4 permit. We support the inclusion of the 5% EIA provisions for new development and redevelopment projects in both of these examples as clear, measurable, and enforceable requirements. Use of the 5% EIA requirement is not the only acceptable, quantitative approach for incorporating LID into renewed MS4 permits in southern California. As noted in Mr. Eberhardt's April 1, 2008 letter, and his May 13, 2008 follow-up letter to the Colorado River Basin Regional Water Quality Control Board, we are open to other quantitative means for measuring how LID tools reduce storm water discharges.

Your letter asks about our use of a paper by Dr. Richard Horner concluding that the achievement of a 3% EIA standard for development in Ventura County is feasible. Dr. Horner's paper is one of many we have before us. Our positions have been informed by many documents germane to the management of municipal storm water, including the January 21, 2008 paper by your organization entitled "Integration of Low Impact Development Measures and CEQA Approvals." EPA has also considered numerous publications, case studies and guidance manuals in its consideration of LID/Green Infrastructure as a cost-effective, preferable alternative to storm water management. A partial list of these materials may be found at http://cfpub.epa.gov/npdes/greeninfrastructure/research.cfm.

While we cannot attribute our position on future MS4 permits to a single report or analysis, our views on these permits have been most comprehensively informed by the nearly 50 audits of Region 9 MS4 permits we have conducted over the past seven years. These audit reports can be found on our website at http://epa.gov/region09/water/npdes/ms4audits.html#report. Twenty of our audits have been conducted in southern California. These audits have highlighted the need for quantitative, measurable requirements in MS4 permits to ensure effective implementation of storm water controls.

I hope this has answered the questions in your July 1, 2008 letter. If you would like to discuss this further, please call me, here in EPA's Southern California Field Office, at 213-244-1832

Sincerely,

John Kemmerer
Associate Director,
Water Division

cc: Executive Officers, RWQCBs Regions 1-9
Tam Doduc, Chair SWRCB
Dorothy Rice, Executive Director, SWRCB
(all cc's transmitted electronically)

DECLARATION OF SERVICE BY EMAIL

I, the undersigned, declare as follows:

I am a resident of the County of Sacramento and I am over the age of 18 years, and not a party to the within action. My place of employment is 980 Ninth Street, Suite 300, Sacramento, California 95814.

On October 16, 2018, I served the:

- **SWRCB's and SDRWQCB's Comments on the Test Claim filed October 15, 2018**

  California Regional Water Quality Control Board, San Diego Region, Order No. R9-2015-0100, Provisions A.4, B.2, B.3.a , B.3.b, B.4, B.5, B.6, D.1.c(6), D.2.a(2), D.3, D.4, E.3.c(2), E.3.c(3), E.3.d, E.5.a, E.5.c(1)a, E.5.c(2)a, E.5.c(3), E.5.e, E.6, F.1.a, F.1.b, F.2.a, F.2.b, F.2.c, F.3.b(3), and F.3.c, 16-TC-05
  County of Riverside, Riverside County Flood Control and Water Conservation District, and the Cities of Murrieta, Temecula, and Wildomar, Claimants

By making it available on the Commission's website and providing notice of how to locate it to the email addresses provided on the attached mailing list.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on October 16, 2018 at Sacramento, California.

Lorenzo Duran
Commission on State Mandates
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COMMISSION ON STATE MANDATES

Mailing List

Last Updated: 10/11/18

Claim Number: 16-TC-05

Matter: California Regional Water Quality Control Board, San Diego Region, Order No. R9-2015-0100, Provisions A.4, B.2, B.3.a, B.3.b, B.4, B.5, B.6, D.1.c(6), D.2.a(2), D.3, D.4, E.3.c(2), E.3.c(3), E.3.d, E.5.a, E.5.c(1)a, E.5.c(2)a, E.5.c(3), E.

Claimants: City of Murrieta
City of Temecula
City of Wildomar
County of Riverside
Riverside County Flood Control and Water Conservation District

TO ALL PARTIES, INTERESTED PARTIES, AND INTERESTED PERSONS:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.3.)

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